

# Annual Report

## 2018-2019

# Our Vision

“To emerge as a world class university in creating and disseminating knowledge and providing students a unique learning experience in their chosen field of scholarship, that would best serve the society. The quality of education and service provided will be of the highest order. The University is committed to the advancement of education across all spheres.”



# Our Mission

- Develop into an inter-disciplinary institute combining academic rigor, excitement of discovery, creativity, and entrepreneurship
- Deliver world class research based education, creating new knowledge and innovations
- Provide an inspiring and stimulating environment for diverse campus community of faculty and students.



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# SRM University, AP - Amaravati

## University Establishment

SRM University, AP - Amaravati is a multi-stream research university with focus on diverse fields. SRM's vision is to emerge as a world-class university that is globally connected, nationally relevant, and regionally transformative.

## Campus

SRM AP Amaravati is a 200 acres' home to its students and residential faculties and staff.

Green campus: Landscape details

## Facilities

Infra structure – designed by the reputed American architecture firm Perkins + Will, the University is an architectural delight. There are two fully centralised air conditioned wings in the main block – Academic and Administrative.

## Academic Environment

SRM University, AP - Amaravati offers a blend of traditional classrooms to active, problem-based environments for adaptive learning, cutting-edge research facilities and much more. Foreign faculty, flexible and dynamic curriculum, exciting research and global connections are the features on which we are building our University. With students in India seeking more inter-disciplinary programs and flexibility in learning, SRM University, AP - Amaravati has revamped the manner in which the programs are offered, and the curriculum is designed. There is also an increasing focus on experiential learning (learning through doing) and technology enabled active learning. To address these demands, SRM introduces 'Inter-Disciplinary Experiential Active Learning' (IDEAL). As a first step towards creating this IDEAL environment, SRM offers the option of pursuing minors and specializations to students joining B.Tech degree programme. This allows students to have additional knowledge in some focus areas, providing them a career edge, or pursue an area of higher study in their field of interest. This learning experience will be further enriched by providing 'Undergraduate Research Opportunities (UROP), capstone projects, industry internships and a technology-enabled active learning environment, for instance hybrid learning through MITx. Students have wide choice of cutting edge programs nanotechnology, bioinformatics, genetic engineering, blue economy, artificial intelligence, renewable energy, internet of things to choose from. Most of these programs are offered in close collaboration with foreign universities.

## Research Environment

SRM University, AP - Amaravati envisioned as a research-intensive University with a focus on interdisciplinary research. All the faculty members of SRM University, AP - Amaravati have significant research expertise. They have international experience as well as international exposure. The University currently focuses on two main themes: (i) issues that adversely affect humanity's current existence and (ii) breakthrough technology to transcend beyond our current reach. Keeping with these themes, our subjects of interests will be working on blue economy, alternate energy, bio computing, quantum computing, poverty alleviation, health and nutrition. SRM University, AP - Amaravati has invested in the commercialization process, directed towards propagating new ideas and invention by determining the map to seamless transfer from our laboratory to the industry.

## Students and Faculties

There are 238 students as the inaugural batch at SRM University, AP - Amaravati. The first batch students are from 15 different Indian states and also 36 students were from seven different countries. Among the first batch, 26% of students were females. In this first year of the University, a group of six students was sponsored to University of California, Berkeley. In the academic year 2018-2019, 1029 students were enrolled and started a weeklong orientation program from 25<sup>th</sup> June 2018.

## Hostel & Faculty Apartments

Four spacious and state of the art hostels have a capacity to accommodate 1200 students. Both AC and non-AC accommodation are available in a twin, tri and tetra sharing format. Every hostel is equipped with two elevators, two T.V sets, Tata Sky connection and 24 hours Wi-Fi. Besides, there are faculty apartments with 86 accommodations different categories: 1, 2 & 3 BHK. Additionally, the hostel also provided short stay to 450 guests including the parents of the students who came to visit the campus at various time. Almost 250 prospective job seekers who came for interview and recruitment process also stayed in a separate part of the hostel.

## Student Clubs and Societies

Clubs / Societies / Chapters or any student group enables young minds to invest their time beyond academics. Each club is to bring out the best in students and find ways to engage them in activities after college hours. The learners are cheered to participate and win accolades in all kind of art forms and are celebrated to have bring in accolades to the college through music, dance, art, hobbies, sports, etc.

General		Academic
<b>Groups</b>	The Student Council The SRMAP Houses The SRMAP Band "Diversity" The SRMAP Photography Club "Off-Timers" The SRMAP Newsletter "Aether" The Social Media Team The Debate Society The Literary Club	The Robotics Society The Innovation Society The Coding Society The Gaming Club
<b>Clubs/ Societies</b>	Music Club Gaming Club Photography Club Debate Club	Robotics Society Literary Society Innovation Society Coding Society

## Mess, Cafeteria & Tuck Shop

The fully air conditioned mess provides dining facility for the students, faculty members, staff and visiting guests. The mess caters a varied menu, keeping the diverse community in mind. There is a cafeteria within the mess provides munchies and beverages. One can purchase essential commodities, stationary and edibles at the Tuck shop located at the second level of the mess.

## Fitness & Sports

The University believes that knowledge and fitness walk hand in hand. The University has two gymnasiums with treadmills, spot cycles and dumbbells to spruce up physical agility. Besides these, there are three volley ball courts, a basketball court, an athletics track and a football field.

## Health Care

The University believes that healthy students create a healthy and a pleasant atmosphere. The infirmary has one doctor and one qualified nurse to take care of the medical concerns of its students, faculty and staff. This unit is equipped to administer first aid, treatment of minor ailments and has all basic medical equipment for treating medical emergencies. A round the clock ambulance service is also available. 10-15 patients are being treated on a daily basis. As an SRM University, AP activity, free clinical services are offered in the neighbouring villages of Kuragallu and Neerukonda.

Highlights: In last year, a Medical camp on Diabetic Awareness and Blood Sugar Estimation was conducted in Neerukonda. An awareness programme on Adolescence & Menstrual Hygiene for the Xth standard girl students was conducted at Needamaru Jilla Parishad High School. BP check of all SRM AP Amaravati staff and faculty members was conducted on, the International BP measurement month, May 2018. Random blood sugar testing and blood grouping are done from time to time. The University will soon inaugurate a new health centre which would have the facility for visual testing, nebulization and administration of IV fluids.

## Bank and ATMs

A branch of the Indian Bank operates along with its ATM facility to cater the needs of the university. There is also an ICICI bank ATM

## Transport

The University has its own transport service that includes, air-conditioned buses and cars to transport students, faculties and staffs from Vijayawada, Guntur and other neighboring regions.

## Security

The campus is completely secure with round the clock deployment of security personnel. The buildings are equipped to withstand natural calamities.

## Post & Courier

There are facilities of postal and courier services within the campus. The nearest post office is at Mangalgi.

Post box in the campus

## Loans

SRM University works closely with the leading banks in India to facilitate the loans to students pursuing studies at SRM University, AP – Amaravati.

## Scholarships

SRM scholarships are awarded based on academic accomplishments, sports, cultural excellence, and for economically challenged and differently abled students.

S. No	Scholarship name	Eligibility for the Scholarship	Percent of Scholarship		
			Tuition	Hostel	Mess
1	SRM Founder's scholarship	Top 100 in the SRMJEEE merit list CBSE or State Board District Topper in any district in India Exemplary sportspersons at National / International Level	100	100	100

<b>2</b>	SRM Merit Scholarship	SRMJEEE rank 101 to 500 SRMJEEE rank 501 to 1000 SRMJEEE rank 1001 to 2000 SRMJEEE rank 2001 to 3000	100% 75% 50% 25%		
<b>3</b>	Socio-Economic Scholarship	As determined by scholarship committee	25% to 100%		
<b>4</b>	Differently-abled Scholarship		25% to 100%		
<b>5</b>	SRM Arts and Culture scholarship	Possessing exemplary skills in literary and fine arts as assessed by the scholarship committee	25% to 100%		



# Schools & Degree Programs

The University offers its academic programs under two streams,

1) B.Tech., degree programs of various engineering courses through School of Engineering and Applied Sciences (SEAS) and

2) School of Liberal Arts and Basic Sciences (SLABS) offering BA, BBA, BCom and BSc programs across 12 departments (basic subjects) –Economics, English, History, Journalism, Psychology, Business Studies, Commerce, Physics, Chemistry, Mathematics, Biology and Computer Science.

## 1. School of Engineering and Applied Sciences (SEAS)

### **B.Tech., Bachelor of Technology (four years)**

- Civil Engineering
- Computer Science and Engineering
- Electronics and Communications Engineering
- Electrical and Electronics Engineering
- Mechanical Engineering

### **Ph.D.**

- Civil Engineering
- Computer Science and Engineering
- Electronics and Communication Engineering
- Electrical and Electronics Engineering
- Mechanical Engineering

## 2. School of Liberal Arts and Basic Sciences (SLABS)

The school was started from academic year 2018 and proposed to offer, B.A., B.B.A., B.Com. and B.Sc. programs across 12 departments at the Undergraduate level and Ph. D programs in 10 departments. The list of programs offered at SLABS are given in the following table

Program/Specialisation	Undergraduate Level	Graduate Level
Biology	B.Sc.	Ph. D
Business Studies	B.B.A	Ph. D
Chemistry	B.Sc.	Ph. D
Commerce	B.Com.	Ph. D
Computer science	B.Sc.	Ph. D
Economics	B.A.	Ph. D
English Studies	B.A.	Ph. D
History	B.A.	Ph. D
Journalism	B.A.	Ph.D
Mathematics	B.Sc.	Ph. D
Physics	B.Sc.	Ph. D
Psychology	B.A.	Ph.D

SLABS provides a choice to the students to get a diploma in their chosen field of study by spending one additional year.

# Leadership

## Board of Governors



Dr. P. Sathyanarayanan  
Founder, President & Chairman of the Board, SRM University - AP,  
Amaravati



Dr. Bertil Andersson  
President Emeritus, Nanyang Technological University, Sweden



Dr. Elizabeth H. Bradley  
President, Vassar College, US



Dr. Jamshed Bharucha  
Vice Chancellor, SRM University - AP, Amaravati



Dr. Nicholas Dirks  
Emeritus Chancellor, University of California, Berkeley, US



Dr. Pradeep Khosla  
Chancellor, University of California, San Diego, US



Dr. Prasant Mohapatra  
Vice Chancellor for Research, University of California, Davis, US



Mr. N. Ram  
Chairman, The Hindu Publishing Group, India



Prof. M. S. Ananth  
Former Director, IIT Madras



Prof. Krishna N Ganesh  
Founder Director, Indian Institute of Science Education and Research  
(IISER) Tirupati

## Board of Management



Dr. Jamshed Bharucha  
Vice Chancellor, SRM University - AP, Amaravati - Chairperson



Prof D Narayana Rao  
Pro Vice Chancellor, SRM University - AP, Amaravati - Member



Prof Damodar Acharya  
Former Director IIT Kharagpur - Member



Prof N Balakrishnan  
IISc Bangalore - Member



Prof B V R Chowdari  
NTU Singapore - Member



Dr D Gunasekaran  
Registrar, SRM University-AP, Amaravati - Member Secretary



Dr. C. Muthamizhchelvan  
Director, Faculty of Engineering & Technology, SRM Institute of Science and Technology (formerly known as SRM University) - Member

# Faculty & Staff

SRM University - AP, Amaravati, started in 2017, has been hiring top-notch intellectuals from across the world as its administrators and faculty members. The administration and teaching staff are adequately complemented by support staff both from SRM and Green Pearl Education Management.

## Founders

S No	Name	Designation
1	Dr. T. R. Paarivendar	Chancellor
2	Dr. P. Sathyanarayanan	Founder & President

## Leadership

No	Name	Designation
3	Prof. Jamshed Jal Bharucha	Vice Chancellor
4	Prof. D. Narayana Rao	Pro Vice Chancellor
5	Dr. D. Gunasekaran	Registrar
6	Prof. Vijaysekhar Chellaboina	Professor & Associate Dean - SEAS
7	Prof. Shailender Swaminathan	Professor & Associate Dean - SLABS
8	Prof. Kasthurirangan Gopalakrishnan	Professor & Associate Dean - Research
9	Dr. B. Sivakumar	Deputy Registrar
10	Ms. Suma Nulu	Chief Finance and Accounts Officer (CFO)
11	Dr. J.M. Franklin	Director, HR
12	Lt. Col. Praveen Srivastava	Director, Campus Life & Maintenance (CLM) (until 28 Sept. 2018)
13	Wg. Cdr. Venkataachalam Sekkappan	Director, Campus Life & Maintenance (CLM) (since 18 Dec. 2018)
14	Mr. Rupesh Bisht	Director, Admissions
15	Mr. Rana Vikram Singh	Director, Students Affairs (until 10 Aug. 2018)
16	Dr. M.K Jyothi	Director, Students Affairs (01 Mar. 2019 to 06 Jun. 2019)
17	Mr. Nalin Bakhle	Director, Media Communications
18	Mr. Prabhakar Chowdary	Director, IT
19	Mr. Sriram S. Padmanabhan	Director, Corporate Relations
20	Mr. M. P. Srinivas	Associate Director - IR & Placements (until 11 Jan 2019)
21	Mr. Ish Kumar Bagga	Associate Director- International Relations (since 20 Nov 2018)
22	Ms. Jessie Lee Papatolicas	Senior Strategy Advisor - International Relations and Women's Advancement

## Faculty Members- Listed Department Wise (Alphabetic order)

### Biology & Biotechnology

S No	Name	Designation
23	Prof. Jayaseelan Murugaiyan	Professor
24	Prof. Chilakalapudi Durga Rao	Professor
25	Dr. Anil K. Suresh	Assistant Professor
26	Dr. Krishna Priya Ganti	Assistant Professor
27	Dr. Tusar T Saha	Assistant Professor (until 19 Dec. 2018)
28	Dr. Manjunatha T	DST INSPIRE Faculty

### Business Administration

S No	Name	Designation
29	Dr. Sasikanta Tripathy	Assistant Professor
30	Dr. Aparna Choudhary	Assistant Professor
31	Ms. Ajitha S	Instructor

### Career Development

S No	Name	Designation
32	Dr. Srabani Basu	Assistant Professor
33	Dr. Ram Kulesh Thakur	Assistant Professor
34	Mr. Asghar Ahmed	Soft Skills Trainer
35	Mr. Laxmanan Angu Raju	Soft Skills Trainer
36	Mr. Ravindra Babu G	Trainer - Quantitative Aptitude

### Chemistry

S No	Name	Designation
37	Dr. Subhabratha Sen	Professor
38	Dr. Mannathan S	Associate Professor
39	Dr. Nimai Mishra	Assistant Professor
40	Dr. Sabyasachi Chakraborty	Assistant Professor
41	Dr. Mahesh Kumar Ravva	Assistant Professor
42	Dr. Pardha Saradhi Maram	Assistant Professor

### Civil Engineering

S No	Name	Designation
43	Prof. Kasthurirangan Gopalakrishnan	Professor & Associate Dean for Research

## Commerce

S No	Name	Designation
44	Dr. Ayyagari Lakshmana Rao	Assistant Professor
45	Dr. Shailender Singh	Associate Professor

## Computer Science and Engineering

S No	Name	Designation
46	Prof. T. Ragunathan	Professor
47	Dr. Vadivel	Associate Professor
48	Dr. Kazuhito Shida	Associate Professor
49	Dr. Pamulapati Krishna Prasad	Associate Professor
50	Dr. Ashok Kumar Pradhan	Assistant Professor
51	Dr. Priyanka	Assistant Professor
52	Dr. Jatindra Kumar Dash	Assistant Professor
53	Dr. Satish Anamalamudi	Assistant Professor
54	Dr. Murali Krishna Enduri	Assistant Professor
55	Dr. Sandeep Singh Sengar	Assistant Professor
56	Dr. Manikandan V M	Assistant Professor

## Electronics and Communication Engineering

S No	Name	Designation
57	Dr. Siva Sankar Yellampalli	Professor
58	Dr. Amitabh Chatterjee	Associate Professor
59	Dr. Usha Gogineni	Associate Professor
60	Dr. Ramesh Vaddi	Associate Professor
61	Dr. Sreenivasulu Tupakula	Assistant Professor
62	Dr. Sudhakar Tummala	Assistant Professor
63	Dr. V. Udaya Sankar	Assistant Professor
64	Dr. Sujith Kalluri	Assistant Professor
65	Dr. V Sateeshkrishna Dhuli	Assistant Professor
66	Dr. Pradyut Kumar Sanki	Assistant Professor
67	Dr. Amarjit Kumar	Assistant Professor
68	Dr. Anirban Ghosh	Assistant Professor
69	Dr. Anuj Deshpande	Assistant Professor
70	Dr. E. Karthikeyan	Assistant Professor
71	Dr. Sunil Chinnadurai	Assistant Professor

## Economics

S No	Name	Designation
72	Dr. Shailender Swaminathan	Professor in Economics and Associate Dean - SLABS
73	Prof. Amarendra Sahoo	Professor
74	Dr. Gitanjali Sen	Associate Professor
75	Dr. Sabina Yasmin	Assistant Professor
76	Dr. Sindhu Vasireddy	Assistant Professor

## Electrical & Electronics Engineering

S No	Name	Designation
77	Dr. Tousif Khan	Assistant Professor
78	Dr. Somesh Vinayak Tewari	Assistant Professor

## English

S No	Name	Designation
79	Prof. James West	Professor
80	Dr. Priyank Varma	Assistant Professor
81	Dr. Arijit Ghosh	Assistant Professor
82	Dr. Prateek	Assistant Professor
83	Dr. Vennela Rayavarapu	Assistant Professor
84	Dr. Nibedita Bandyopadhyay	Assistant Professor
85	Dr. Rajni	Assistant Professor
86	Dr. Marc Howard Rich	Associate Professor
87	Mr. Vaidyanath Nishant	Instructor (until 04 Feb. 2019)

## Environmental Science

S No	Name	Designation
88	Dr. Bhagyalakshmi Kalidass	Assistant Professor
89	Dr. Shoji D. Thottathil	Assistant Professor

## History

S No	Name	Designation
90	Prof. Krishna Ananth	Chair & Professor (until 15 Feb. 2019)
91	Dr. Maanvender Singh	Assistant Professor
92	Dr. Malavika Binny	Assistant Professor

## Journalism

S No	Name	Designation
93	Dr. Ugen Bhutia	Assistant Professor
94	Ms. Sangeetha Gopi	Instructor

## Mathematics

S No	Name	Designation
95	Prof. V. Kannan	Professor
96	Prof. Jesse Ira Deutsch	Professor
97	Dr. Jadav Ganesh	Assistant Professor
98	Dr. Fouzul Atik	Assistant Professor
99	Dr. Sayantan Mandal	Assistant Professor
100	Dr. Vijayakrishna Rowthu	Assistant Professor
101	Dr. Tapan Kumar Hota	Assistant Professor
102	Dr. Sivaramakrishnan	Assistant Professor
103	Dr. B Madhav Reddy	Assistant Professor
104	Dr. Subhashree Mohapatra	Assistant Professor

## Mechanical Engineering

S No	Name	Designation
105	Prof. Shivkumar Narayanaswamy	Professor
106	Prof. Vijaysekhar Chellaboina	Professor and Associate Dean of Engineering
107	Dr. Prakash Jadhav	Associate Professor
108	Dr. Venkata N Nori	Associate Professor
109	Dr. Sheela Singh	Associate Professor
110	Dr. G. S. Vinod Kumar	Associate Professor
111	Dr Febin Cyriac	Assistant Professor (until 17 Aug. 2018)
112	Dr. Satya Pramod Jammy	Assistant Professor
113	Dr. Surfaraz Hussain Halkarni	Assistant Professor
114	Dr. Jayaprakash Sharma Panchagnula	Assistant Professor
115	Dr. Lakshmi Sirisha Maganti	Assistant Professor
116	Dr. Janardhan Vistapalli	Assistant Professor

## Physics

S No	Name	Designation
117	Prof. Ranjit Thapa	Professor
118	Dr. Goutam Kumar Dalapati	Associate Professor
119	Dr. Vivek Kumar Anand	Associate Professor
120	Dr. Sabyasachi Mukhopadhyay	Assistant Professor



121	Dr. Jatis Kumar Dash	Assistant Professor
122	Dr. Gangi Reddy Salla	Assistant Professor
123	Dr. Pranab Mandal	Assistant Professor
124	Dr. Laxmi Narayana Patro	Assistant Professor
125	Dr. Mallikarjuna Rao Motapothula	Assistant Professor
126	Dr. Soumyajyoti Biswas	Assistant Professor
127	Dr. Siddhartha Ghosh	Assistant Professor

## Physical Education

S No	Name	Designation
1	Dr. Abdul Mohaimin	Assistant Director

## Medical

S No	Name	Designation
1	Dr. Lakshmi Rajyam	Medical Officer

# Students

S. No	Degree Program	2017-18		2018-19		Total
		Male	Female	Male	Female	
1	Computer Science and Engineering	103	36	428	244	811
2	Electronics and Communication Engineering	48	25	174	83	330
3	Mechanical Engineering	25	01	72	5	103
4	Civil Engineering	-	-	35	9	44
5	Electrical and Electronics Engineering	-	-	21	7	28
6	School of Liberal Arts & Basic Sciences	-	-	37	39	76
	Total	176	62	767	387	1,392

From 21 different Indian States



S. No	State	# Students
1	Andhra Pradesh	1,054
2	Bihar	03
3	Gujarat	06
4	Jharkhand	07
5	Karnataka	11
6	Kerala	03
7	Madhya Pradesh	12
8	Maharashtra	16
9	New Delhi	02
10	Rajasthan	07
11	Tamil Nadu	11
12	Telangana	181
13	Puducherry	02
14	Uttar Pradesh	19
15	Chhattisgarh	03
16	Daman & Diu	01
17	Haryana	03
18	Orissa	04
19	Himachal Pradesh	01
20	Tripura	01
21	West Bengal	01
	Total	1,348

## 40 Students from 08 different countries



S. No	Country	No. of Students
1	Afghanistan	02
2	Bangladesh	04
3	Cote d'Ivoire	03
4	Ghana	12
5	Mauritius	01
6	Nepal	16
7	Nigeria	01
8	Tanzania	02
9	Syria	02
<b>Total</b>		<b>43</b>

## State Board & CBSE Board Students

Name of State	State Board			CBSE		
	2018-19	2017-18	Total	2018-19	2017-18	Total
Andhra Pradesh	858	137	995	57	02	59
Telangana	127	37	165	13	01	14
Maharashtra	12	01	13	03	-	03
Uttar Pradesh	02	-	02	15	01	16
Karnataka	06	02	08	02	-	02
Madhya Pradesh	02	-	02	05	05	10
Tamil Nadu	05	03	08	02	01	03
Rajasthan	01	-	01	05	01	06
Gujarat	-	-	-	05	01	06
Jharkhand	-	-	-	04	03	07
Orissa	-	-	-	04	-	04
Haryana	-	-	-	03	-	03
Chhattisgarh	01	-	01	02	-	02
Puducherry	02	-	02	-	-	-
New Delhi	-	-	-	01	01	02
Himachal Pradesh	-	-	-	01	-	01
Bihar	-	01	01	01	01	02
Daman And Diu	01	-	01	-	-	-
Kerala	-	-	-	01	02	03
Tripura	-	-	-	-	01	01
West Bengal	-	-	-	-	01	01
<b>Total</b>	<b>1,017</b>	<b>181</b>	<b>1,199</b>	<b>124</b>	<b>21</b>	<b>145</b>

#### Board wise Distribution

S. No	Board	2017-18	2018-19	Grand Total
1	CBSE	21	124	145
2	State-Board	181	1,018	1,199
3	Foreign	36	12	48

# Academic Departments

## Department of Computer Science and Engineering(CSE)

The department offers B.Tech, M.Tech and Ph.D degree programmes. The curriculum of these programmes cover the topics related to computer hardware and software. Active learning is the pedagogy followed by the faculty to improve the quality of learning of the students. Technology enabled platform namely **“Minerva” is also used by the department to teach programming and algorithm subjects efficiently.** The department provides excellent state of the art laboratory facilities to the students in order to impart quality practical training. The department provides specialization streams such as (i) Data Science (ii) Artificial Intelligence and Machine Learning (iii) Cyber Security (iv) Distributed and Cloud Computing (v) Internet of Things (IoT) for the students. Faculty and students of the department are actively engaged in research activities in the specialization streams mentioned above. Students are also given opportunities to get international exposure through semester abroad programme. Students take up internships in the industries and institutes of eminence to get quality practical exposure. Overall, the department provides high quality research oriented education to the students in order to mould them to succeed in modern technological world.

Program name	Specialization	Number of semester & Years of study	Credits required
B.Tech	Computer Science and Engineering Specialization streams: Cyber Security, Artificial Intelligence and Machine Learning, Data Science, Distributed and cloud computing, Internet of Things	8 semesters (4 Years)	160
M. Tech	Data Science, Cyber Security, Artificial Intelligence and Machine Learning	4 Semesters (2 Years)	68
Ph. D	Distributed computing, Information retrieval, Video Analytics, Software Defined Network, Computer Vision, Data Science, Wireless Sensor Network, Digital Image Processing, Cloud computing, Internet of Things, Graph theory, Artificial Intelligence, Machine learning, Health informatics	3 Years (Minimum Period)	

## Faculty profiles: Computer Science and Engineering(CSE)

### Prof. Kasthurirangan Gopalakrishnan

Associate Dean - Research,  
Professor, Department of Computer Science and Engineering



Qualification: PhD (University of Illinois at Urbana-Champaign)

Specialization: Machine Learning and Data Science Applications to Civil Infrastructure Systems

Experience: 15 Years

Research: Deep learning in vision-based data-driven infrastructure distress detection; natural language processing (NLP) based text representation and mining; materials informatics; non-linear parameter identification of layered systems using inverse analysis; engineering applications of nature-inspired metaheuristic algorithms for global optimization; multiple-criteria decision analysis (MCDA)

### Prof. T. Ragunathan

Professor & Coordinator, Department of Computer Science and Engineering



Qualification: PhD (International Institute of Information Technology, Hyderabad)

Specialization: Distributed file system, Concurrency control protocols, Speculative processing, Cloud computing and Health informatics

Experience: 25 Years

Research: i) Improving performance of the distributed file system. 2) Cloud task scheduling and load balancing  
3) Health Informatics

### Dr. Krishna Prasad

Associate Professor, Department of Computer Science and Engineering



Qualification: PhD (Multimedia University, Malaysia)

Specialization: Algorithms, Soft Computing, Simulation and Modeling

Experience: 30 Years

Research: Evolutionary Programming applications

### Dr. A Vadivel

Associate Professor, Department of Computer Science and Engineering



Qualification: PhD. (Indian Institute of Technology IIT, Kharagpur)

Specialization: Information Retrieval, Video Analytics, Visual Object Tracking, Medical Image Analysis, Machine Learning

Experience: 20 Years

Research: Visual Object Tracking and Machine Learning

### Dr. Kazuhito Shida

Associate Professor, Department of Computer Science & Engineering



Qualification: , Ph.D. (Japan Advanced Institute of Science and Technology)

Specialization: Advanced Monte Carlo methods

Experience: 20 Years

Research: Acceleration of MCMC methods based on additional degrees of freedom and introduction of irreversibility of MC transition.

### Dr. Sandeep Singh Sengar

Assistant Professor, Department of Computer Science & Engineering



Qualification: Ph.D. (Indian Institute of Technology (ISM), Dhanbad)

Specialization: Image/Video Processing, Computer Vision, Machine Learning

Experience: 4 Years and 4 Months

Research: Motion segmentation and object tracking in different application areas like visual surveillance, traffic monitoring, scene analysis, and driver assistance.

### Dr. Manikandan V. M.

Assistant Professor, Department of Computer Science & Engineering



Qualification: PhD. (Indian Institute of Information Technology Design and Manufacturing Kancheepuram)

Specialization: Data Hiding Methods for Digital Image Security

Experience: 4 Years and 2 Months as Asst. Professor in Computer Science and Engineering

Research: Reversible data hiding (RDH) schemes on digital images. I am also interested to work on digital image forgery detection, especially, copy-move forgery detection.

### Dr. Jatindra Kumar Dash

Assistant Professor, Department of Computer Science and Engineering



Qualification: PhD. (IIT, Kharagpur)

Specialization: Image Retrieval, Machine Learning

Experience: 15 Years

Research: Design and development of novel algorithms for Medical Diagnosis System, Image retrieval, Video Analysis

### Dr. Ashok Kumar Pradhan

Assistant Professor, Department of Computer Science and Engineering



Qualification: PhD. (National Institute of Technology NIT, Durgapur)

Specialization: Optical Communication & Networks

Experience: 4 Years

Research: Cost optimization in optical networks, multicast traffic grooming & survivability in optical networks, elastic optical networks, IoT and machine learning in optical networks, 5G technology in optical networks, Secure communication of IoT using blockchain technology.



Dr. Satish Anamalamudi

Assistant Professor, Department of Computer Science and Engineering



Qualification: PhD. (Dalian University of Technology, Dalian, China)

Specialization: Cognitive Radio Adhoc Networks, Internet of Things(IoT)

Experience: 4 Years (Teaching and Industry)

My research focus is on designing the scheduling protocols, routing protocols for Cognitive Radio and IoT Networks.

Dr. Murali Krishna Enduri

Assistant Professor, Department of Computer Science and Engineering



Qualification: PhD. (Indian Institute of Technology IIT, Gandhinagar)

Specialization: Algorithms, Complex Networks

Experience: 2 Years

My research focus is on designing and analysing complexity of algorithms for graph problems.

Dr. Bhanukiran Perabathini	
Assistant Professor, Department of Computer Science and Engineering	
	Qualification: PhD Information & Communication Sciences, Université Paris Saclay
	Specialization: Next-Gen Wireless Communications, Optimization Algorithms, Information theory.
	Experience: 3 years
	Research: My research focus is on design and analysis of optimization techniques and their applications in wireless communications.

Dr. Priyanka	
Assistant Professor, Department of Computer Science and Engineering	
	Qualification: PhD. (Indian Institute of Technology (Indian School of Mines), IIT(ISM), Dhanbad)
	Specialization: Image Processing, Image/Video/3D Mesh Watermarking and Steganography
	Experience: 10 Years
	My present research focus is on digital image watermarking and biometric-based cattle recognition systems

## Department of Electronics and Communication Engineering (ECE)

Electronics devices have such an impact on everyday life that the present technological period is referred to as Digital age. Most of the commercial and consumer products are made with electronics and digital circuits. The modern discipline of Electronics and Communication Engineering (ECE) emerged from the development of Radio, telephone, television, radar, advanced defense and military communication system equipments in the late 1950s. ECE discipline utilizes active and nonlinear electronic components such as transistors, diodes and integrated circuits to design electronic circuits, VLSI devices, sensors and transceiver systems. It also involves designing of passive electrical components based on printed circuit boards (PCBs). Today, PCBs are found in most of the electronic devices such as computers, Smartphones, televisions, video and audio players and other portable and handheld devices. Subfields of ECE are Digital electronics, analog electronics, image and signal


processing, consumer electronics, embedded systems, high-frequency radio electronics and power electronics etc. The Institute of Electrical and Electronics Engineers (IEEE) is one of the most important organizations for electronics engineer professionals.

At SRM University- Amaravati, BTech course in ECE branch and PhD research studies are offered. As a BTech ECE course curriculum, subjects such as Network analysis, Electronic devices and circuits, Analog circuits, Digital circuits, Signals and systems, Electromagnetics, Control systems, analog and digital communication systems, analog and digital VLSI design, microwave and antenna engineering are taught as core electronics subjects. Thrust areas of research for PhD course in ECE department are signal and image processing, Photonics, Embedded Systems, VLSI, Radio Frequency and Microwaves, wireless communications and 5G RF technology. Internships and Projects are compulsory for all BTech students to obtain the degree in ECE discipline.

From the Jobs perspective, electronics engineers may be found in a research laboratory of a fabrication plant, the offices of an R & D company supervising a wide range of individuals including scientists, electricians, programmers and other engineers and in IT and software companies. Membership and participation in technical societies such as IEEE and IET, regular reviews of periodicals in the field and a habit of continued learning are therefore essential to maintaining proficiency for electronics engineers.

Program name	Specialization	Number of semester & Years of study	Credits required
B. Tech	Electronics and Communication Engineering	8 semesters (4 Years)	160
M. Tech		4 Semester (2 Years)	62
Ph. D	Signal Processing, Image and Video processing, Photonics, Embedded Systems, VLSI, Radio Frequency and Microwaves, 5G RF technology, wireless communications	----	

## Faculty profiles: Electronics and Communication Engineering (ECE)

Prof. Siva Sankar Yellampalli	
Professor, Department of Electronics and Communication Engineering.	
	Qualification: PhD. (Louisiana State University)
	Specialization: VLSI Design
	Experience: Principal, VTU Extension Centre, UTL Technologies Ltd., 2015-2019
	Professor, VTU Extension Centre, UTL Technologies Ltd., 2011-2015
	Associate Professor, VTU Extension Centre, UTL Technologies Ltd, 2010- 2011
	Assistant Professor, KCG College of Technology, 2009-2010
	Area of research is system level design for power optimization. Area of research encompasses different research fields such as Very Large Scale Integration (VLSI), mixed signal circuits/systems development, micro-electromechanical systems (MEMS)

Dr. Sujith Kalluri

Assistant Professor, Department of ECE



Qualification: Ph.D. (University of Wollongong, Australia)

Specialization: Nanoelectronics, Renewable Energy

Experience: 2 years research experience at Battery R&D Center, UNIST, South Korea

Research interests are into design and development of advanced rechargeable lithium-ion batteries for E-mobility applications.

Dr. V. Udaya Sankar

Assistant Professor, Department of ECE



Qualification: PhD. (IISc, Bangalore)

Specialization: Communication Systems

Experience: 4+ years of industry experience in the area of Signal processing for wireless communications and Machine learning

Research interests include Signal processing for advanced wireless communications, Game theory, and Machine Learning and Optimization.

Dr. V Sateeshkrishna Dhuli

Assistant Professor, Department of ECE



Qualification: PhD. (IIT, Kanpur)

Specialization: Wireless Sensor Networks, Communication Systems

Experience: Assistant Professor, ECED, SRM Amaravati

Research interests are into Analysis of Distributed Algorithms for Large-Scale Wireless Sensor Networks using Regular Graph Models.

Dr. Sunil Chinnadurai

Assistant Professor, Department of ECE

Qualification: Ph.D. (Chonbuk National University, South Korea)

Specialization: Wireless Communications, Signal Processing, Information theory and Channel Coding



Experience: 6 months PDF at Chonbuk National University and 1 year PDF at Hanyang University, South Korea

Research interests are to analyze the energy and spectral efficiency of future wireless communication systems.

#### Dr. Anirban Ghosh

Assistant Professor, Department of ECE



Qualification: PhD. (North Dakota State University, USA)

Specialization: Wireless Communication

Experience: 1 year 2 months as Assistant Professor at KIIT University, 4.5 years as Teaching Assistant at North Dakota State University, 1 year as Wireless System Engineer at Clifton Technologies LLC

My research interests mainly focuses on two areas - Information Theoretic Security and IoT Network designing, and IoT Application based solutions

#### Dr. AMARJIT KUMAR

Assistant Professor, Department of ECE



Qualification: PhD. (IIT Roorkee)

Specialization: Development of Microwave Passive and Active Circuits, RF Transceiver front-ends, RF Sensors

Experience: Assistant Professor, ECE Department, SRM University Amaravati, May 2019 to Present


Assistant Professor (Senior), ECE Dept., MITS Madanapalle, June 2018- May 2019

Teaching Assistant, IIT Roorkee, Jul 2013- April 2018


Assistant Professor, ECE Dept, MU Beswan, Uttar Pradesh, July 2012- July 2013

Area of research is in the design, analysis, fabrication, measurement and characterization of passive and active RF circuits with concurrent multiband, reconfigurable and multifunctional capabilities for next-generation (5G) wireless applications and Development of RF/microwave sensors for the wireless monitoring of pressure and temperature variations for Industrial Internet of Things (IIoT) applications.



Dr E. Karthikeyan	
Assistant Professor, Department of ECE	
	Qualification: PhD (IIT Delhi)
	Specialization: Signal Processing
	Experience: 1 year, at IISc, Bangalore
	My research area work is to estimate the <b>earth's</b> subsurface layer information from the recorded seismic data based on the signal processing and machine learning techniques.

Dr. Amitabh Chatterjee	
Associate Professor, Department of ECE	
	Qualification: PhD (University Of California)
	Specialization: Semiconductor Devices and Technology
	Experience: 22 years of Industry Experience
	My research interests include High Speed and High Voltage Semiconductor Devices, Opto-electronic Circuit using CMOS and Non-CMOS technology.

Dr. Anuj Deshpande	
Assistant Professor, Department of ECE	
	Qualification: Ph.D. (IIT Kharagpur)
	Specialization: Systems theory, Control systems
	Experience: 1 year teaching assistant at BITS-Pilani KK Birla Goa Campus 5 years teaching assistant at IIT Kharagpur
	About Research: Analysis of genetic diseases and their optimal therapeutic intervention.

Dr. Ramesh Vaddi	
Associate Professor, Department of ECE	
	Qualification: PhD. (IIT Roorkee)
	Specialization: Microelectronics and VLSI
	Experience: PDF at Nanyang Technological University, Singapore,



Penn State University, USA and  
National University of Singapore

About Research:

Research experience is in Energy Efficient Circuit Design, Hardware security, VLSI Accelerators for AI edge devices, In-memory Computing

Dr. Sreenivasulu Tupakula

Assistant Professor, Department of ECE



Qualification: PhD. (IISc, Bengaluru)

Specialization: Electronics and Communication

Experience: 5 years 6 Months

About Research:

THz Photonic crystals design and analysis for communication applications, DWDM and CWDM devices for optical communication using Photonic bandgap structures.

Dr. Pradyut Kumar Sanki

Assistant Professor, Department of ECE




Qualification: PhD. (IIT Kharagpur)

Specialization: Microelectronics & VLSI

Experience: 8.5 years

About Research:

**Embedded Back-end design for Photoacoustic Based Non-invasive Blood Glucose Measurement System. Embedded System design and implementation of Coherent Averaging Architecture on FPGA device for noise cleaning Data Visualization. Real Time Modified Decision Based Algorithm and its Architecture for Impulse Noise Removal.**

Dr. Sudhakar Tummala	
Assistant Professor, Department of ECE	
	Qualification: PhD. (University of Copenhagen)
	Specialization: Medical Image Analysis
	Experience: 2 years PDF at UCLA
	About Research: Development of MRI based markers for diagnosis and prognosis of musculoskeletal and neurological disorders. This will assist doctors to take better decisions in patient care.

## Department of Electrical And Electronics Engineering

The Electrical and Electronics Engineering program at SRM offers students an opportunity to gain mastery over the discipline through a hands-on approach to the design and engineering of hardware, software, and embedded systems. Our undergraduate program provides the student with a rigorous and balanced foundation in physics, mathematics and computing; core courses in electronics, information systems and digital systems; and the development of skills in the analysis and design of systems. Students are exposed to a wide range of applications and the challenges involved. Our curriculum prepares the student for the workplace or further study by gaining mastery of the concepts through projects and assignments, experience in real-world applications and practices through industry internships, and exposure to ongoing research problems and the methodology of research and innovation through the Undergraduate Research Opportunities Program (UROP).

Program name	Specialization	Number of semester & Years of study	Credits required
B. Tech	Electrical and Electronics Engineering	8 semesters (4 Years)	160
M. Tech	Energy Systems	4 Semester (2 Years)	62
Ph. D	Adaptive Control, Power Converters & Drives, Optimization Techniques, Pulse Power Systems, Insulation studies in gases, High Voltage Engineering, Underwater Electrical Wire Explosion	----	

### Faculty profiles: Electrical and Electronics Engineering (EEE)

Dr. Tousif Khan N	
Assistant Professor, Department of Electrical and Electronics Engineering	
	Qualification: Ph. D (IIT, Guwahati)
	Specialization: Control Systems, Optimization Techniques, Power Converters & Drives
	Experience: 02 Years





Design and Experimental Validation of Direct Adaptive Control Schemes for DC/DC Power Converters using Neural Networks.

Design and Implementation of Indirect Adaptive Control Schemes for DC/DC Power Converters using Finite Time Observer based Techniques.

Nature-Inspired Optimization Algorithms and their application towards Power Electronic/Drive Systems.

### Dr. Somesh Vinayak Tewari

Assistant Professor, Department of Electrical and Electronics Engineering



Qualification: PhD. (Homi Bhabha National Institute, Bhabha Atomic Research Centre )

Specialization: Pulse Power Systems, Insulation studies in gases, High Voltage Engineering, Underwater Electrical Wire Explosion

Experience: 3.6 years of PDF at Institute For Plasma Research, Gandhinagar and Technion Israel Institute of Technology, Israel.

Study of The Discharge Behaviour Along Gas Solid Interface Under Pulsed Conditions

Underwater Electrical Wire Explosion Studies Using Pulse Power Systems

## Department of Mechanical Engineering


Mechanical Engineering is one of the oldest disciplines, currently it offers B.Tech in Mechanical Engineering, Masters in Robotics and PhD in various areas of Mechanical Engineering as well as inter-disciplinary research aimed at computational sciences.

Program name	Specialization	Number of semester & Years of study	Credits required
<b>B. Tech</b>	Mechanical Engineering	8 semesters (4 Years)	160
<b>M. Tech</b>	Robotics	4 Semester (2 Years)	62
<b>Ph. D</b>	Composite Materials, Material sciences, Computational Fluid Mechanics, Thermal sciences	----	


## Faculty profiles: Mechanical Engineering (ME)

Prof. Vljayshekhkar Chellaboina	
Professor and Associate Dean, Department of Mechanical Engineering	
	Qualification: PhD. (Georgia Institute of technology, USA),
	Specialization:
	Experience: 1997-1999: Research Associate, Georgia Tech 1999-2004: Assistant Professor, Univ. of Missouri 2004-2008: Associate Professor, Univ. of Tennessee 2008-2014: Principal Scientist, TCS Research 2014-2018: Professor, Mahindra Ecole Centrale 2018+: Professor & Associate Dean, SRM Amaravati
	<b>Control Systems Theory &amp; Applications, Applied Mathematics, Financial Engineering</b>

Dr. Prakash Jadhav	
Associate Professor, Department of Mechanical Engineering	
	Qualification: PhD. (Univ of Mississippi, US),
	Specialization: Composite Structures
	Experience: 3 years PDF at University of Delaware 10 yrs in industries (GE and Cummins)
	Research is focused on Computational and experimental mechanics, Design/analysis/manufacturing/testing of composite structures, Impact, Vibration, Bird Strike..

Dr. Venkata Nori	
Associate Professor, Department of Mechanical Engineering	
	Qualification: Ph.D. (Georgia Inst. of Tech., USA)
	Specialization: Combustion, Fuel Chemistry, High-speed flows, Sensing and Diagnostics
	Experience: ~10 yrs in Industry (Air Liquide, Honeywell)
	Research interest: Propulsion, Engine Combustion/Cooling, Emission reduction, Development of reduced reaction mechanisms, Power Plant Optimization, Alternate/Hybrid energy technologies, Sustainable living

Dr. Sheela Singh	
Associate Professor, Department of Mechanical Engineering	
	Qualification: PhD. (IIT Kharagpur)
	Specialization: Powder Metallurgy
	Experience: 2 Years PDF at <b>Helmholtz Zentrum Berlin für Materialien und Energie (HZB), Germany.</b> 1Year : Associate Professor   SRM IST Kattankulathur, Chennai. India 5 Years : Assistant Professor, SRM IST Kattankulathur, Chennai. India 3 Years :Sr. Scientist, Non Ferrous Materials Technology Development Centre, Hyderabad, AP-India
	Research is focused on design and development of advanced materials for automotive and aerospace applications .

Dr. Satya Pramod Jammy	
Assistant Professor, Department of Mechanical Engineering	
	Qualification: PhD. (University of Surrey, England),
	Specialization: Turbulence, DNS, GPU computing, HPC
	Experience: 2014 - 2016: Research Fellow in CFD for future High Performance computing architectures, University of Southampton, UK 2016 - 2018: Research Fellow in Enabling Exascale fluid dynamics simulations (ExaFLOW), at University of Southampton 2018 - till date: Assistant Professor, SRM University AP
	His main research interests are into scale resolving numerical simulations, with application to space research.

Dr. Surfarazhussain S. Halkarni	
Assistant Professor, Department of Mechanical Engineering	
	Qualification: PhD. ( IIT Bombay)
	Specialization: Experimental Heat Transfer and Fluid Dynamics, Transport in Porous Media
	Experience: Jan to May 2018 - Senior Teaching Assistant - Indian Institute of Technology Dharwad, India (mentored by IIT Bombay) Mar 2011 to Dec 2012 - Assistant Professor - BVBCET, Hubli, India July 2009 to June 2010 - Research Intern (during M. Tech) - Computational and Theoretical Fluid Dynamics (CTFD) division, National Aerospace Laboratories, Bengaluru Feb 2007 to May 2008 - Graduate Engineer Trainee - Siemens VDO Automotive AG (presently Continental AG) R&D department, Bengaluru, India

Research focus areas are:

Experimental Fluid Dynamics, Experimental Heat transfer, Transport in Porous media (Fluid dynamics and Heat transfer perspective), Convective heat transfer, Thermal energy storage, Electronics Cooling etc

**Dr. Jayaprakash Sharma Panchagnula**

Assistant Professor, Department of Mechanical Engineering



Qualification: PhD. (IIT Hyderabad),

Specialization: Additive Manufacturing, CAD-CAM

Experience:

July 2017 to December 2018, Shiv Nadar University, Dadri, Uttar Pradesh

December 2009 to July 2012, Anurag Group of institutions, Hyderabad.

Additive Manufacturing of complex metallic objects with overhanging features using higher order kinematics and Feature recognition from slicing and reverse engineering.

**Dr. Lakshmi Sirisha Maganti**

Assistant Professor, Department of Mechanical Engineering



Qualification: PhD. (IIT Madras, Chennai).

Specialization: Thermo-Fluid Engineering

Experience: 1 year PDF at IIT Madras and State University of New York Binghamton, USA.

Developing effective cooling systems to address the cooling challenges of electronic components.

Also Interested in diverse areas like miniaturization of R&AC and desalination of water using Graphene sheets.

**Dr. G. S. Vinod Kumar**

Associate Professor, Department of Mechanical Engineering



Qualification: PhD (IIT Kharagpur)

Specialization: Metallurgical and Materials Engineering

Experience: Aug 2005 to Dec 2012 - PDF in Helmholtz Centre Berlin for Materials & Energy, Berlin, Germany

Jan 2013 to June 2019 - Associate Professor, Research Institute, SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu

Research Interest: Light alloys and composites, Metal foams, Solidification and processing of light alloys and structure property correlation.

Process development for hard Gold alloy, tarnish free Silver and high strength lead free Brass for Industry.

Dr. Janardhan Vistapalli	
Assistant Professor, Department of Mechanical Engineering	
	Qualification: PhD. (IIT Hyderabad)
	Specialization: Unconventional machining, Multibody dynamics, Robotics and automation, Manufacturing.
	Experience: Jan 2011 to June 2011 Assistant Professor at Aurora Engineering College, Bhongir. June 2011 to April 2012, Assistant Professor at GITAM University Hyderabad. Nov 2017 to May 2018 PDF at IIT Hyderabad. June 2018 to June 2019 Assistant Professor at Pandit Deendayal Petroleum University, Gandhinagar, Gujarat
	Research Interests: Unconventional Machining Process (Wire EDM, EDM, EDM Turning, Wire EDM Turning). Multibody Dynamics, Robotics, Aerial robots and Aerial Manipulation.

## Department of Biology (BIO)

Biology is a branch of science that involves studies on living organisms, origin of life, evolution, development and physiological process, physical and chemical process and molecular interactions. The department of biology consists of classroom teaching, understanding the concepts through practical training at the laboratories and research laboratories. Currently, the department of biology is offering Bachelor degree program (B.Sc., Biology) and research program leading to doctoral degree (PhD). The undergraduate students also choose chemistry and computer sciences as allied/ancillary subjects in addition to foundation courses. Our Bachelor of Science degree provides a strong foundation in biological topics needed to establish a career in biology related industries, health care, testing laboratories and further research on frontiers area of biology.

Program name	Specialization	Number of semester & Years of study	Credits required
B. Sc	Biology	6 Semester (3 Years)	120
Ph. D	Biochemistry, microbiology, genetics, nanobiotechnology, algal biochemistry	----	

## Faculty profiles: Biology (BIO)

Prof. Jayaseelan Murugaiyan	
Professor	
	Qualification: PhD (Proteomics) (University of Leipzig, Germany).
	Specialization: Biochemistry & Proteomics
	Experience:



Expertise in quantitative proteomics analysis and MALDI TOF MS based species identification of microorganisms and insects.

Dr. Anil K. Suresh

Associate Professor



Qualification: PhD. (National Chemical Laboratory, Pune University)

Specialization: NanoBiotechnology

Experience:

- 2013 - 2015, Ramalingaswami Fellow (Equivalent to Assistant Professor/Sn. Scientist), Department of Biotechnology, Pondicherry University, Pondicherry, India
- 2011 - 2013, Scientist, Beckmann Cancer Hospital and Research Center, Duarte, CA, USA
- 2009 - 2011, Post-Doctoral Research Associate, Biological and Nanoscale Systems Group, Oak Ridge National Laboratory, Oak Ridge, TN, USA
- 2007 - 2009, Post-Doctoral Fellow, Department of Biomedical Engineering, McGill University, Montreal, Canada

Our Research group mainly focus on Fabrication and characterization of nanoparticles for various biotechnology and biomedical applications, and their characterizations. Clinical medicine and targeted therapeutics for life threatening diseases (HIV, Cancer) using engineered nanoparticles. Cell and Microbiological toxicity assessments of engineered nanoparticles. Microbiome mediated fate and transformation of engineered nanoparticles. Engineered nanoparticles aided early diagnosis of cancer and other microbial based infections. Real Blood interactions of Nanomaterials.

Dr. Krishna Priya Ganti

Assistant Professor

Qualification: PhD IGBMC, University of Strasbourg, Strasbourg, France

Specialization:





**Experience:**

1. Postdoctoral Researcher, IGBMC, Strasbourg, France (2010-2011)
2. Asst. Professor, SRM University-AP, Amaravati. (since Aug. 2017)

To understand the molecular mechanism underlying the emergence of atopic diseases and to develop improved adjuvants to enhance the efficacy of vaccines.

**Dr. Manjunatha Thondamal**

DST INSPIRE faculty



Qualification: PhD. (ENS de Lyon, France)

Specialization: Genetics of Aging

Experience: 1.5 years PDF at University of Rochester Medical Center

Our research group mainly focuses on the genetics of aging; particularly in understanding the dietary restriction (DR) mediated longevity. We use *C. elegans* as our main model to study the biology of aging. We use combination of genetics, behavioral, and molecular approaches to study effects of DR on lifespan and, the cost (fitness) associated with it.

## Department of Business Administration

Business Administration degrees range from broad and comprehensive to highly specialized programs, spanning subjects including General Management, Accounting, Finance, Economics, Marketing and Human Resource management – each of which provides further opportunities for specialization.

The way a business is run is very important, as it can be make or break. If a business does not have effective management, it cannot perform at its best. Management is required across all departments, including marketing, human resources and accounting. A degree in business management will provide you with the skills to efficiently lead an organisation, no matter the size. You will develop skills in monitoring performance, activities and employees, as well as planning for all aspects of business.


The Department of Business Administration introduced at SRM University-AP with the objective of imparting comprehensive management education to young aspirants with special emphasis on nurturing personal integrity and social responsibility. The Department has a substantial infrastructure base comprising well-equipped library. It boasts of a highly qualified and experienced core faculty besides drawing on additional strength from the different departments of SRMAP.

Program name	Specialization	Number of semester & Years of study	Credits required
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<b>B.B.A.</b>	Finance, Marketing, Human Resource, System, International Business,	6 semesters (3 Years)	130
<b>Ph. D</b>	Business Valuation, Financial Modelling, Earnings Management, Secondary Market Analysis, International Financial Market Analysis, Marketing Management, Brand Management, CSR, Growth and Development Economics, etc.	----	

### Faculty profiles: Business Administration (BA)

Dr. Sasikanta Tripathy	
Assistant Professor, Department of Business Administration	
	Qualification: PhD. (IIT Kharagpur)
	Specialization: Corporate Finance, Business Accounting
	Experience: 5 years Post-PhD (Including 4 years at NIT Jamshedpur) and 4.8 Years Pre-PhD Teaching
	Dr. Tripathy is an Assistant Professor (Coordinator- BBA Programme) in the Department of Business Administration at School of Liberal Arts and Basic Sciences of SRM University-AP, Amaravati, India. He has more than 9 years of rich teaching experience in the area of Finance and Accounting. Prior to Joining SRM University-AP, he was working in the department of Humanities, Social Sciences and Management of NIT Jamshedpur. His teaching and research interests lie in Corporate Finance, Business Valuation, International Financial Market and Financial Econometrics.

Dr. Aparna Choudhary	
Assistant Professor, Department of Business Administration	
	Qualification: Ph.D. (IIT-(ISM) Dhanbad)
	Specialization: Marketing Management, Sustainable Business Management, Managerial Economics
	Experience: 3 years.
	Dr. Aparna Choudhary has investigated the factors influencing the management of Green supply chain of manufacturing SMES. This helps to achieve the most desirable goal of sustainable development.

Ms. Ajitha S.	
Instructor, Department of Business Administration	
	<b>Qualification:</b> PhD. (NIT Trichy)
	<b>Specialization:</b> Marketing





**Research area:** key research interests include Luxury Marketing and Counterfeiting, Fashion Marketing and Brand Management, New Technology Adoption and Consumer Behavior, Values and Ethics, Market Research and Analytics, and Advanced Research Methodology.


## Department of Economics

Economics is the study of how individuals and firms and governments make decisions in the face of constraints. For example, deciding what to buy, when to buy, where to work, how many people to employ, how much to produce, whether to increase the tax rate are all decisions that have important implications for the welfare of households, firms and the economy. And currently for students in high school, an important and immediate decision is what degree to pursue in college.

The BA Economics program at SRM University AP, Amravati seeks to draw students who have a desire to enter careers where they are likely to make long-lasting contributions in policy making, in research or in corporate world. A major in economics can plan a career path in areas like banking, finance, business studies, management, law, public policy, business analytics, data science, to name a few. It is also very common for this program to serve as a launch pad to propel students interested in pursuing a Masters in Business Administration (MBA) program at elite schools both in India and abroad. One of the most sought after subjects in the Indian Civil Services Exams and other competitive exams such as the Indian Economic Service and the Reserve Bank of India, economics is the cog from which many exciting and fulfilling careers emerge. As a discipline, it combines a **student's ability in mathematics alongside their deep curiosity in understanding how the world functions and behaves.**

Program name	Specialization	Number of semester & Years of study	Credits required
B. A	Economics	6 semesters (3 Years)	120
Ph. D	Economics	3 years	---

## Faculty profiles: Economics (ECO)

Name of the faculty, Prof. Shailender Swaminathan	
Associate Dean, School of Liberal Arts and Basic Sciences and Professor, Department of Economics	
	Qualification: PhD. (University of Southern California)
	Specialization:
	Experience: 17 Years in teaching and research
	Shailender Swaminathan is a Professor of Economics at SRM, AP, and a principal economist at the Leveraging Evidence for Access and Development (LEAD) at Krea University. He is also an adjunct faculty member in Brown <b>University's</b> Department of Health Policy. His research interests focus on the use of credible empirical designs to identify and estimate the effect of health insurance expansions on utilization and health. Some of his work has leveraged changes in both Medicare and Medicaid payment policies on patients with End Stage

Kidney Disease. He is currently involved in a randomized health insurance experiment study in India. The findings from this study may have important implications for one of the flagship policy initiatives of the Government- **India's** Ayushman Bharat (National Health Protection) program. His work has been published in several journals including the Journal of Health Economics, Health Affairs, and the Journal of the American Medical Association. One of the previously papers received the Academy Health Article of the Year award in 2009. His work has been funded by the US National Institutes of Health and the Veterans Administration (VA).

#### Dr. Gitanjali Sen

Associate Professor, Department of Economics



Qualification: PhD. (University of Missouri-Columbia, USA)

Specialization: Economics

**Experience:** in Research, teaching, Management Development programs and consultancy. It also includes advising doctoral students, Masters students and UG students on their theses, being member of the doctoral committee and such.

Gitanjali works on development Economics – Applied Micro: Access to education, health and finance; poverty, inclusive development; impact evaluation.

#### Dr. Sabina Yasmin

Assistant Professor, Department of Economics

Qualification: PhD. (University of Gauhati)

Specialization: Economics

Experience: Teaching experience of 2 years



Sabina works on Applied Microeconomics, agricultural economics and development economics. Her research is on evaluation of the crop insurance programs and the adaptability issues. Her recent work is on the marginal group of the Tibetan refugee in India, studying their socio-economic status and the way forward in improving their conditions.

#### Dr. Sindhu Vasireddy

Assistant Professor, Department of Economics



Qualification: PhD. (University of Hawai'i at Mānoa, USA)

Specialization: Economics

Experience: 2 years of teaching experience

Sindhu is an Applied Microeconomist working in the intersection of international trade policies and labor market outcomes. She is also interested in studying the intergenerational links shaping health and mortality outcomes of individuals.

### Department of Chemistry (CHE)

Chemistry is often called the "CENTRAL SCIENCE" as it plays a pivotal role in all aspects of physical and biological sciences, including engineering, agriculture, medicine, and allied health disciplines. The Department of Chemistry, SRM-AP is composed of dynamic faculties across diverse areas creating and spreading new knowledge at the forefront. Excellent teaching, close faculty-student relationships, and competitive research programs characterize the department. In many cases, faculty, post-doctoral fellows, graduate, and undergraduate students collaboratively pursue interdisciplinary research within the department.

The Department of Chemistry, SRM-AP, offers foundation courses to 1st year B.Tech students, three years B.Sc. (Chem), and Ph.D. programs. Our undergraduate program has been designed to provide a basic foundation in general areas of inorganic, organic, and physical chemistry, plus many more specialized courses. These courses include material, analytical, nuclear, biophysical chemistry, and chemical biology, which provide undergraduate students with a rigorous, high-quality education, and exceptional research opportunities in a challenging and nurturing environment. Additionally, our undergraduate students are benefited from access to this classroom expertise and will have opportunities to work closely with faculty and student researchers who are on the leading edge of

chemistry research. Undergraduate Research will frequently result in journal publications and/or presentations at scientific meetings. Moreover, the Ph.D. program and the presence of post-doctoral research associates ensure a stimulating scientific atmosphere supported by modern research equipment that are accessible to undergraduates.

Research in the Department extends the disciplines of chemical sciences, including organic, inorganic, physical, and theoretical/computational chemistry. Furthermore, research laboratories in these traditional areas pursue problems at the interface of biology (i.e., chemical biology) and materials science (i.e., nano-science and materials chemistry). We benefit significantly from a highly interdisciplinary and collaborative environment, including strong interactions with other premier institutions across India and around the world.

### Research areas

- New Synthetic Methods in Organic Chemistry
- Heterogeneous Catalysis
- Computational Chemistry
- Synthesis of Metal-Semiconductor Hybrid Nanomaterials for Multi-modal Functionalities
- Functional Nanomaterials for Theranostic Applications
- Synthesis and applications of Core/Shell Semiconductor and Perovskite Nanocrystals
- Development of advanced mixed metal oxides for Li-ion and beyond Li-ion batteries
- Ultra-high temperature ceramics for aerospace applications

Program name	Specialization	Number of semester & Years of study	Credits required
B. Sc	Chemistry	6 Semester (3 Years)	140
Ph. D	Computational Chemistry, Organic synthesis, Solid state electrochemistry, Heterogeneous catalysis, Nanoscale materials for theranostic, and thermoelectric applications	----	

### Department of Commerce

Commerce as a field of study is available since 19<sup>th</sup> century itself. The course got its name and fame after virtual Governments throughout the world started developing their economies, through rapid industrialization, fostering trade and commerce. With respect to India after 1991 Economic Reforms, many growth prospects emerged for commerce students. Now commerce students have opportunities in many fields like banking, insurance, foreign trade, logistics, marketing, human resources, information technology, data analytics, tourism, sports and many more. The curriculum of the program of Commerce at SRM University, Amaravati is comprehensive and designed to keep the students' knowledge base abreast with latest in the field. Besides insights into best practices in the industry students also have a solid understanding of concepts. Some of the courses as per the industry demands like Business Environment, Corporate Accounting, Finance, Excel Modelling, Taxation, Auditing, Entrepreneurial Management, Human Resource Management, Marketing Management, Business and Corporate Laws provides basic to in-depth knowledge to the students.

Foundation Courses and Minors across departments the School of Liberal Arts and Basic Sciences help students explore dynamic and wider turfs of learning. The Department offers courses both at Graduation and Ph.D level.....

Program name	Specialization	Number of semester & Years of study	Credits required
B. Com	Commerce	6 semesters (3 Years)	136
Ph. D	In Commerce	3 Years	

### Faculty profiles: Commerce (COM)

Dr. A.Lakshmana Rao, Asst. Professor	
Department of Commerce	
	Qualification: MBA, LL.M, Ph.D
	Specialization: HR, Finance & Corporate Laws
	Experience: 20 Years
	Dr. <b>Rao's</b> research areas include the following: Corporate Governance, Corporate Social Responsibility, Sustainability and Human Resource Management

Dr. Shailnder Singh, Associate Professor	
Department of Commerce	
	Qualification: M.Com, M.B.A, C.F.A, Ph.D
	Specialization: Finance
	Experience: Post Doc. Research Fellow at School of Management, University Kebangsaan Malaysia (U.K.M.), 2012.
	Time Econometrics and Empirical Finance, Modelling Global Macroeconomic and Financial Variables, Casual Relationship between Financial Indicators, Stock Market Volatility, Capital Structure, Dividend Policies, Price Rigidity & Product Differentiation, Entrepreneurship Development, Financial Management Practices in SMEs.

### Department of Journalism

The Major in the department of Journalism promotes questioning, seeking, discovery, analysis, and understanding of a wide variety of academic disciplines. Students can pursue an Undergraduate course in Liberal Arts. Tomorrow's Journalists will learn how to be excellent communicators in writing, speaking and research. They will know how to analyze news, historical events, international relations, science and the mass media in its many pervasive journalistic forms – research reports, journals, newspapers, television, film, radio, internet, social media, cyber-culture and various new media forms. Virtual People, Media Psychology and Advanced Topics in Human Virtual Representation are a few interesting options of minors to choose from.

Program name	Specialization	Number of semester & Years of study	Credits required
B. A		6 semesters (3 Years)	112

### Faculty profiles: Journalism (JON)

Dr. Ugen Bhutia	
Assistant Professor, Department of Journalism	
	Qualification: M. Phil/ Ph. D (Sikkim University)
	Specialization: Print and electronic Media
	Experience: 2 years as reporter in SR. 1 year teaching experience in Sikkim University.
	Research interest: Media discourse/ Youths and the internet.

### Department of Mathematics

Department of Mathematics of SRM University-AP, Amaravati has started functioning from the July, 2017. The Department's research and educational goals are to address the responsibilities associated with; (a) providing the broad and excellent training incorporating the principle ideas in mathematics, (b) working towards the development of students as mathematical thinkers, enabling them to become life-long learners, to continue to grow in their chosen professions, and to function as productive citizens.

In pursuing this mission, we have dedicated world-class faculties who are having the expertise from the different spectrum of mathematical science. Further, the faculty members have a great research experience and international exposure from elite institutions across the globe. Our fraternity are actively engaged in diverse fields of mathematical research in pure and applied, viz. Numerical solutions of Partial Differential Equations (PDE) and Integral equations, Stability and Optimal control theory, Hydrodynamic instabilities, Spectral graph theory, Operator theory, Fuzzy set theory and inference mechanism, Diffusion MRI processing, Geometry of numbers and Algebraic number fields (computational), Discrete dynamical systems, to name a few.

Currently, the department offers three year BSc course and regular PhD degree in Mathematics. We teach the undergraduates courses such as Calculus with applications, Linear algebra, and Statistics and Probability.

Program name	Specialization	Number of semester & Years of study	Credits required
B. Sc.	Mathematics	6 semesters (3 Years)	NA
Ph. D	0	----	

### Faculty profiles: Mathamatics (MATH)

V. Kannan
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Professor, Department of Mathematics



Qualification: M.Sc (Madras U); Ph.D (Madurai U); Hon. D. Litt. (RSVP, Tirupati).

Specialization: Topology and Mathematical Analysis

Experience: 34 years as a Professor including 6 years as a Dean and 5 years as Pro-Vice-Chancellor at (the Centra)I University of Hyderabad.

Current Research:

More often brings out the hidden links among various (seemingly unrelated) branches of Mathematics

Jesse Ira Deutsch

Professor, Department of Mathematics



Qualification: Ph.D Brown University, USA

Specialization: Computational number theory

Experience: Over 14 years teaching in USA and Africa. Just under six years as a Mathematical Statistician at the US Postal Service.

Current Research:

Approach to Theorems on Representation by Quadratic Forms using computation. This is used both to generate conjectures and to help prove the conjectures.

Jadav Ganesh

Assistant Professor, Department of Mathematics

Qualification: M.Sc(HCU), Ph.D(IIT-Hyderabad)



Specialization: Functional Analysis/Operator Theory

Experience: Assistant Professor, SRM-AP from July18 to till the date.

Current Research:

**My current research interests include Spectral Theory of Absolutely norm/minimum attaining operators defined on infinite dimensional complex Hilbert spaces. Broad area of my research lies in the Functional Analysis branch of Pure Mathematics.**

Fouzul Atik

Assistant Professor, Department of Mathematics



Qualification: Ph.D. from Indian Institute of Technology Kharagpur

Specialization: Spectral Graph Theory, Matrix Theory

Experience: 1 year PDF at Indian Statistical Institute Delhi

Current Research:

Characterization of Graph using Linear Algebra

Sayantan Mandal

ASSISTANT PROFESSOR, Department of Mathematics



Qualification: Ph.D. (IIT-Hyderabad).

Specialization: Fuzzy Sets and Systems

Experience: 1.5 years PDF at NTU Singapore

Current Research:

Study on suitability of Fuzzy inference mechanisms.

Vijayakrishna Rowthu



Assistant Professor, Department of Mathematics



Qualification: PhD. (IIT Kanpur, India),

Specialization: Partial Differential Equations(PDE) and its Applications, Diffusion MRI based human brain white matter fiber tracts modelling.

Experience: 1.5 years PDF at Dept. of Neurosurgery, UPMC, Pittsburgh, PA, USA.

Current Research:

Numerous problems in Image processing are awaiting a PDE based solution that incorporates physics motivated phenomenon. Image inpainting is one such a problem that has been solved in this approach for grayscale images.

Tapan Kumar Hota

Assistant Professor, Department of Mathematics



Qualification: PhD. (IIT Ropar, India),

Specialization: Hydrodynamic Stability, Partial Differential Equations(PDE).

Experience:

1. Assistant Professor, SRM University-AP, July 2017 to December 2017.
2. Indo-US Postdoctoral Fellow, Jan 2018 to August 2018

Current Research:

My current research topic is to study the hydrodynamic stability phenomenon known as Saffman-Taylor instability, which is also known as viscous fingering.

Sivaramakrishnan


Assistant Professor, Department of Mathematics




Qualification: PhD. (IIT Hyderabad)

Specialization: Harmonic analysis

Experience: 7 Month Teaching experience in NIT Calicut as Adhoc Faculty.

B Madhav Reddy	
Assistant Professor, Department of Mathematics	
	Qualification: M.Sc (Mathematics) University of Hyderabad (2010), Ph.D from Indian Statistical Institute, Kolkata (2019)
	Specialization: Functional Analysis
	Experience:
	Current Research: My current research interests include computing annular representation categories for particular examples of rigid $C^*$ -tensor categories and their approximation properties

Subhashree Mohapatra	
Assistant Professor, Department of Mathematics	
	Qualification: Ph.D IIT Kanpur
	Specialization: Applied Mathematics
	Experience: <ol style="list-style-type: none"> <li>1. 9 years NBHM post doctoral fellow ( IIT Bhubaneswar, IISc. Bangalore)</li> <li>2. 1 year NSF post doctoral fellow (University of Florida, Florida, USA)</li> <li>3. 1 year NIH post doctoral fellow (UTHCSA, Texas, USA).</li> </ol>
	Current Research: <b>I mostly work on numerical solution of partial differential equations.</b>


## Department of Physics

Physics is the most fundamental science that deals with the properties and interactions of matter and radiation; which leads to the basic understanding of our nature and modern technological achievements. As such, physics provides the fundamental basis for all applied sciences and technologies.

Currently the Department of Physics at SRM University-AP, Amaravati offers the Bachelor of Science (B.Sc) and Ph.D. graduate program. The B.Sc. with Physics major (or minor) program gives the students a solid foundation of concept and problem-solving ability on which they can be able to solve the real world problems by modeling it and design it with the application of new experimental techniques. This can lead to a variety of other careers, which the students can choose after the completion of the program. The department also encourages research opportunities for undergraduate students, as well as graduate students, in several areas of experimental and computational physics. The undergraduate students can pursue their careers with a Physics major, and choosing any two minors from Computer science, Mathematics, and Chemistry. A degree in Physics with such combinations open up new avenues for careers in areas such as industrial research and development, semiconductor engineering, medical physics, software and information technologies, etc.

Program name	Specialization	Number of semester & Years of study	Credits required
B. Sc	Physics	6 Semester (3 Years)	140
Ph. D	Physics, Materials Science	----	12

## Faculty profiles: Physics (PHY)

Dr. Soumyajyoti Biswas	
Assistant professor, Department of Physics	
	Qualification: M. Sc. (University of Calcutta), PhD. (Saha Institute of Nuclear Physics, Kolkata).
	Specialization: Applied Mathematics
	1. 1.9 years NBHM post doctoral fellow ( IIT Bhubaneswar, IISc. Bangalore) 2. 1 year NSF post doctoral fellow ( University of Florida, Florida, USA) 1 year NIH post doctoral fellow (UTHCSA, Texas, USA).
	Current Research: <b>I mostly work on numerical solution of partial differential equations.</b>

Name of the faculty, Prof. Ranjit Thapa

Professor, Department of Physics



Qualification: M.Sc. (North Bengal University), PhD. (Jadavpur University),

Specialization: Condensed Matter Physics, Density Functional Theory, Catalysis - Theory

Experience: **Mar 2017 – May 2019, Associate Professor (Research) | SRM Research Institute, SRM Institute of Science and Technology, Chennai**

**Jan 2013 – Mar 2017, Assistant Professor (Research) | SRM Research Institute, SRM Institute of Science and Technology, Chennai**

**Jan 2012 – Jan 2013, Post-Doctoral Fellow | Ulsan National Institute of Science and Technology, South Korea**

**Jan 2011 – Jan 2012, Research Associate | Indian Association for the cultivation of Science**

**First-principles theory-based investigation of low dimensional and Pt-alloy based materials as a catalyst for Oxygen reduction reaction (ORR), OER, HER, CO oxidation, and CO<sub>2</sub> reduction, Nitrogen reduction and**

**absorber materials for solar cells. The main contributions are: “Bond Exchange Spillover Mechanism”, “Homonuclear B-B and B-B-B bond as catalytic center”, “inverse catalyst” and “electronic and structural descriptor”.**

Name of the faculty, Dr. Sabyasachi Mukhopadhyay

Assistant Professor, Department of Physics



Qualification: M.Sc. (Indian Institute of Technology, Kharagpur), Ph.D. (Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore)

Specialization: Molecular electronics, Organic photovoltaics, Scanning Probe Microscopy

Experience:

June 2017 - Present, Assistant Professor, Department of Physics, SRM University-Amaravati, India

Dec. 2012 - Dec. 2016, Postdoctoral Fellow at Weizmann Institute of Science, Israel. The position was joint with Department of Materials & Interfaces and Organic Chemistry.

April 2015, Visit Innovation Lab GmbH, Heidelberg, Germany in F-SKFM development project.

Nov. 2012 - Dec. 2012, Visiting Research Associate, Surface Physics, and Materials Science Division, Saha Institute of Nuclear Physics, Bidhannagar, Kolkata, India

June 2012 - Oct. 2012, Senior Research Support Specialist, State University of New York, Albany, USA. Worked on the development project for fluid-mode AFM imaging methodology

A researcher with major experience in Bio-molecular electronics, Physics of organic solar cells, Instrumentation of scanning probe microscopy, Bio-photonics, Solid state physics/electronics, Optical imaging techniques, and Plasmonics.

Specialties: Electronic transport across molecules, Organic and hybrid photovoltaics, Near field scanning optical microscopy (NSOM), Atomic force and scanning tunneling microscopy (AFM & STM), SEM, TEM, Confocal microscopy for thin film characterization, Spectroscopic measurements, and Diode-pumped solid-state laser development.

Name of the faculty, Dr. Siddhartha Ghosh

Assistant Professor, Department of Physics



Qualification: M. Sc. (IIT Kanpur), PhD. (University of Florida, Gainesville, FL, USA).

Specialization: Understanding exotic physics at novel interfaces, Growth of metal and metal oxide thin-films and hetero-structures, Pulsed Laser Deposition technique, Magnetism in metal-oxide hetero-structures and metal-organic complexes (MOCs)

Experience:

- March 2013 to May 2019 - Research Fellow - NUSNNI, National University of Singapore (NUS), Singapore.
- Jan 2010 to Jan 2013 - Graduate Research Assistant - Department of Florida at University of Florida, USA.
- Aug 2006 to Dec 2009 - Graduate Teaching Assistant - Department of Florida at University of Florida, USA.

Research activity is centered around study of exotic phenomena at the interfaces of novel hetero-structures. Pulsed Laser Deposition (PLD) technique is the experimental device/technique which is primarily used for growth of these interfaces; rather PLD is used for the growth of hetero-structures and super-lattices of different materials with divergent properties. And it is at the boundary of these different materials, exotic interfaces emerge due to the difference in their lattice/charge/spin or orbital properties.

Name of the faculty, Dr. Goutam Kumar Dalaapti

Associate Professor, Department of Physics

Photo

Qualification: M. Sc. (University of Calcutta),  
PhD (Jadavpur University, India)



#### Specialization:

- Smart coating: Energy saving, heat sink, self-cleaning, Anti-reflection, Anti-scratch
- Thin film process and technology: Optical and Electronic devices
- Renewable energy: Photovoltaic and solar hydrogen
- Heterogeneous materials integration: High performance devices on silicon platform
- Nanomaterials for photocatalysis and water treatment

#### Experience:

- Jan. 4, 2019-Present, Associate Prof. SRM UNiversity, Amaravati, AP, India
  - Jan. 4 2007-Jan. 3, 2019, Scientist, Institute of Materials Research & Engineering (A\*STAR), Singapore
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- Nov. 2005-Dec. 2006, Post-doctoral fellow | Dept. of ECE, National University of Singapore (NUS), Singapore
  - Jan. 2004-Jun. 2005, Research Associate | Dept. of E and ECE, Newcastle University, Newcastle upon Tyne, UK and Atmel Company (UK)

#### Research Interest

Metal oxide and sulphide based photovoltaic, Metal oxides and 2D materials composite

Solar hydrogen through water splitting, Waste water treatment and Water purification

Transparent conductor, Heat rejecting coating, Cool pain, super hydrophobic and hydrophilic

Nano electronics, Advanced materials, surface passivation, and memory

Sputter/ALD techniques for ultra-thin metal and semiconductors

Name of the faculty, Dr. Pranab Mandal

Assistant Professor, Department of Physics

Qualification: M.Sc. (Jawaharlal Nehru University, New Delhi), Ph.D. (Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore)





Specialization: Multifunctional materials, piezoelectrics and ferroelectrics, magnetoelectric multiferroics, complex magnetism.

Experience:

June 2017 - Present, Assistant Professor, Department of Physics, SRM University, AP - Amaravati, India

Mar. 2012 - June. 2017, Postdoctoral Fellow at University of Liverpool, UK.

Research interests entails design of multifunctional materials, especially oxides and explore their piezoelectric, ferroelectric and multiferroics properties and coupling between them.

Name of the faculty: Dr. Vivek Kumar Anand

Associate Professor, Department of Physics



Qualification: M.Sc. (Indian Institute of Technology, Kanpur), Ph.D. (Indian Institute of Technology, Kanpur)

Specialization: Low temperature materials physics - magnetic, superconducting and strongly correlated electron properties of novel materials and complex electron systems. Material synthesis and single crystal growth; characterization of physical properties using XRD/Laue, SEM/EDX, SQUID, PPMS, neutron scattering and muon spin relaxation measurements

Experience:

May 2019 - Present, Associate Professor, Department of Physics, SRM University, AP - Amaravati, India

Jan 2019 - Apr 2019, Visiting Scientist, École Polytechnique Fédérale de Lausanne, Switzerland

June 2013 - Dec 2018, Scientist, Helmholtz Zentrum Berlin für Materialien und Energie, Germany

Oct 2010 - June 2013, Postdoctoral Research Associate, Ames National Laboratory, Iowa State University, Ames, Iowa, USA

Mar 2010 - Sep 2010, Visiting Scientist, Rutherford Appleton Laboratory, Didcot, UK

Sep 2009 - Jan 2010, Visiting Fellow, Tata Institute of Fundamental Research, Mumbai, India

June 2008 - August 2009      Postdoctoral Research Associate  
Max-Planck Institute of Microstructure Physics, Halle, Germany

Research interests:

- Magnetic, superconducting and strongly correlated electron properties of novel materials and complex electron systems
- Unconventional and high- $T_C$  superconductivity, noncentrosymmetric and topological superconductors,
- Quantum criticality, heavy fermion and non-Fermi liquid behavior,
- Frustrated magnetism - spin-glass, spin-ice and spin-liquid behavior,
- Investigations using neutron scattering and muon spin relaxation techniques
- Exploratory material synthesis and single crystal growth

Name of the faculty, Dr. Laxmi Narayana Patro

Assistant Professor, Department of Physics



Qualification: M.Sc. (Berhampur University, Odisha), PhD (IIT Madras, Chennai)

Specialization: : Solid State Ionics, Fluoride Ion Conductors, Ionic Liquids, Nonlinear Conductivity, Glasses, Impedance Spectroscopy, Solid State Batteries

Experience:

July 2018-Present: Assistant Professor, Department of Physics, SRM University AP-Amaravati, India

July 2016-June 2018: Assistant Professor, Department of Physics, GITAM University, Bangalore, India

Jan. 2014-Jan. 2016: Postdoctoral Fellow, University of Marburg, Germany

March 2012-Aug. 2013: Postdoctoral Fellow, Seoul National University, South Korea

His key areas of research include *fast ion conducting materials and their applications in solid state ionic devices, ionic liquids, glasses, impedance spectroscopy, high field ionic conductivity (nonlinear ionic conductivity), development of solid electrolytes for Li ion batteries and beyond*



Name of the faculty, Prof./Dr. Salla Gangi Reddy

Designation, Department of Physics



Qualification: Ph.D. (Physical Research Laboratory, Ahmedabad), M.Sc (Sri Venkateswara University, Tirupathi)

Specialization: Optical vortices and vector phase singular beams, Polarimetry, Quantum Optics and entanglement, Free space optical communication

Experience:

03-07- 2017 -- Present: Assistant Professor at the Department of Physics, SRM University -- AP

10-04-2016 to 30-06-2017: Post-doctoral fellow at The University of Electro-Communications, Tokyo

20-07-2015 to 31-03-2016: Post-doctoral fellow at Physical Research Laboratory, Ahmedabad

20-07-2010 to 19-07-2015: Research fellow (Ph.D.) at Physical Research Laboratory, Ahmedabad

01-05-2008 to 10-07-2010: Physics Mentor at RGUKT-IIIT, Nuzvid.

His area of research includes the generation of different spatial beams using a laser beam and study their propagation characteristics for the applications in free space optical communication as well as optical coherence tomography.

Name of the faculty, Dr. Mallikarjuna Rao Motapothula

DST-Inspire Faculty, Department of Physics

Photo



Qualification: M. Sc. (University of Hyderabad), PhD. (National University of Singapore)

Specialization: Ion beam analysis, writing, Functional epitaxial thin films, CO<sub>2</sub> reduction, real time gas-chromatography.

Experience:

March 2019 - Present, Assistant Professor, DST-Inspire Faculty, Department of Physics, SRM University, AP - Amaravati, India

Aug. 2018 - March. 2019, DST-Inspire Faculty, Department of Physics, University of Hyderabad, India.

Dec. 2017 - Aug. 2018, Researcher, Tandem national laboratory, Uppsala University, Sweden.

Feb. 2013 - Dec. 2017, Research fellow, Nanoscience and Nanotechnology Institute (NUSNNI), National University of Singapore.

May. 2008 - Dec. 2008, Research Assistant, Department of ECE, IIT Kanpur, India.

Research interests:

Soft ionization mass spectroscopy, Ion Channeling in nanostructures, in-situ ion beam analysis, fabrication of sub-surface nanostructures, functional epitaxial thin-films.

Name of the faculty: Dr. JATIS KUMAR DASH

Assistant Professor, Department of Physics



Qualification: Ph.D. (Institute of Physics, Bhubaneswar (under Department of Atomic Energy, Govt. of India)  
M.Sc. (Sambalpur University, Odisha),

Specialization: 2D materials and Device Applications, Transition metal dichalcogenides (TMDs), Oxides (TMOs) and Carbides (MXenes) leading to applications in wearable Smart Flexible Electronic Devices and Energy Storage, Epitaxial growth of Metal and Semiconductor hetero-structures and their characterizations.

Experience:

August 2017 - Present, Assistant Professor, *Department of Physics, SRM University, AP - Amaravati, India*

April 2016 - July 2017, Postdoctoral Research Associate under Korea Research Fellowship (KRF), *Department of Materials Science and Engineering, Yonsei University, Seoul, South Korea*

Oct. 2015 - Feb 2016, Postdoctoral Research Associate at *Indian Institute of Technology (IIT), Bhubaneswar.*

August 2012 - August 2015, Postdoctoral Research Associate at the Department of Physics, *Rensselaer Polytechnic Institute (RPI), New York, USA*

Research interests:

- Fabrication and characterization of 2D layered metal dichalcogenides, carbides and oxides leading to applications i.e. FETs, Solar Cells and Energy storage devices.
- Metal and Semiconductor epitaxial growth and their characterizations.
- Diffraction and spectroscopic study of low dimensional nanostructures.
- Crystallographic texture analysis by X-ray pole figure and RHEED surface pole figure techniques.

- Renewable energy and Supercapacitors


## Department of Environmental Science (EVS)


Earth faces several environmental threats including climate change and global warming. Adverse weather pattern causes floods, drought and other catastrophes. It is critically essential for the engineers and scientists to know about our environment and why such threats occur. Having a knowledge about how environment functions will help them to develop sustainable solutions for mankind. The Department of Environmental Science (EVS) helps in creating awareness among the students through the introductory course on environmental science across all disciplines. Besides active teaching, the department focusses on several research aspects including understanding the biogeochemistry of aquatic systems, waste management, and wastewater treatment.

### Courses offered:

Introduction to Environmental Science

### Faculty profiles: Environmental Sciences (EVS)

Name of the faculty, Dr. Bhagyalakshmi Kalidass	
Assistant Professor, Department of Environmental Science	
	Qualification: M.Tech. (IIT-Kharagpur), Ph.D. (University of Michigan, Ann Arbor, USA),
	Specialization: Methanotrophy
	Experience: Nil
	Metal induced gene expression studies in methanotrophs

Name of the faculty, Dr. Shoji D. Thottathil	
Assistant Professor, Department of Environmental Science	
	Qualification: MSc (Kyoto University, Japan) PhD. (University of Quebec at Montreal -UQAM, Canada),
	Specialization: Greenhouse gas dynamics in aquatic systems
	Experience: Researcher - Kyoto University, Japan & National Institute of Oceanography, India
	Regulation of methane production, oxidation, and emissions across aquatic systems

Name of the faculty, Dr. Karthik Rajendran	
Assistant Professor, Department of Environmental Science	

	Qualification: MS (UB, Sweden), PhD. (UB, Sweden),
	Specialization: Techno-economic analysis
	Experience: 1.5 years PDF from USA; 2 years senior researcher in Ireland
	Debottlenecking the hindrances in bioenergy commercialization. Developing profitable waste management solutions.

## Department of History

The Department of History at SRM University AP, Amaravati will aim to equip the students to learn from history rather than merely learning history. The courses in the BACHELOR OF ARTS (B.A) degree in HISTORY are designed to equip students with the knowledge of historical processes, events and transformations in world and Indian History from Stone Age to the contemporary world. By putting forth the various arguments/positions on the nature of the discipline, the program is designed to ensure that the students gather and are equipped to answer the question as to what is history; the perspective that there are many histories of the same event will drive the entire program and thus dispel the notion that history is just a narrative of dates and personalities. The thrust here will be on intensive reading of a variety of texts in History rather than rote learning; tutorial sessions where the student reads through text(s) on specific topics and makes presentations before her/his peers will constitute an essential half of the evaluation system at SRM University AP, Amaravati; such assignments will include preparing book reviews and these will involve reading texts along with published comments on those.

Thus every student will be trained in the art of reading, writing, speaking, reasoning and interpretation of texts in periodic seminars. Continuous evaluation through tutorials, term papers and seminars apart from the end-term examinations will be the hallmark of this program. The courses contain necessary knowledge in the subject for pursuing higher degree in social sciences, from an inter-disciplinary and multi-disciplinary approach as well as to equip the students to face such competitive exams like the civil services.

Program name	Specialization	Number of semester & Years of study	Credits required
B.A	History	6 semesters (3 Years) With the option of an additional thesis year	112 +16
Ph. D	History Areas of Specialization: Modern Indian History, Histories of Science and Technology, Caste and Society, Gender Studies, Dalit Studies, Constitutional History, Histories of Medicine	8 semesters	
Minor Degree	History	4 semesters	16-20

### Faculty profiles: History (HIS)

Dr.Malavika Binny	
Assistant Professor, Department of History	
	Qualification: Ph.D (JNU, New Delhi)



Specialization: Histories of Science and Technology, Gender History

Experience: 1 year as Assistant Professor in History at Christ University, Research Consultant in UPE-II Excellent Project at JNU

Malavika Binny specializes in the histories of science with a special reference to premodern Indian Ocean and South Indian History. She works on the inter-play of science, medicine and gender in pre-colonial India.

Dr. Maanveder Singh

Assistant Professor, Department of History



Qualification: Ph.D( Sikkim University)

Specialization: History of Caste and Caste Movements

Experience: 1 year as Assistant Professor in History at SRM Univerity

Maanvender Singh specializes in the history of modern India and particularly about the operation of caste in modern Indian society and politics.

## Department of Career Development

Objective of the career development course is to transform students to professional.

Program name	Specialization	Number of semester & Years of study	Credits required
B. Tech	Behavioral and Competency skills	6 semesters (3 Years)	4
BBA	Behavioral and Competency skills	6 Semester (3 Years)	6

### Faculty profiles: Career Development (CDC)

Dr. Srabani Basu

Associate Prof, Department of Career Development.

Qualification: PhD. (IKSVV, India)

Specialization:



Experience:

2017 - 2018, Asst Professor | Loyola Institute of Engineering & Technology, Vijaywada A.P

2010 - 2017, Senior Corporate Trainer | Master Coach, Content Developer & OD Specialist -Adecco India Pvt Ltd, Kolkata & Hyderabad

2008 - 2010, Centre Academic Head | Aptech, Kolkata

2003 - 2008, ICFAI National College | Kolkata & Hyderabad

2000 - 2003, Lecturer of English | Sarada Mission College

1997 - 2003, Lecturer | Communicative English, College of Visual Arts

1995 - 1997, English Lecturer | Bhawanipur Gujrati Education Society, Kolkata

Mr. Asghar Ahamed

Trainer, Department of Development



Qualification: M.Com

Specialization: Business Finance

Experience:

Feb 2016- May 18, Worked as Assistant Professor teaching Soft Skills and Business Communication, Business Report Writing in Andhra Loyola Institute of Engineering and Technology.

July 2013- December 2015, Worked as Assistant Professor teaching Soft Skills and Business Communication, Business Report Writing in K.L University Business School.

October 2005-July 2012, Worked in HSBC Bank HDPI, Hyderabad.

Dec 1997 -Dec 2003, Worked as Business Development Manager. JASPER INDUSTRIES (PVT) LTD.

Name of the faculty, Mr. Laxmanan Angu Raju

Trainer , Department of Career Development.

Qualification: [M.Sc]

Specialization: Psychology

Experience:

Associated with SRM AP Since **June'18**.

Feb '16 to May '18: Worked as a freelance soft skill trainer.

**Dec'14 to Feb'16:** Worked for Capgemini India Pvt Ltd., Hyderabad, as Non Tech PM /Consultant.

**Sep'10 to Dec'14:** Worked for HCL Technologies Ltd. Chennai & Hyderabad as PMO/Consultant.





**May'08 to Aug'10:** Worked for Allsec Technologies Ltd, as a CSO/ Analyst.

Name of the faculty, Mr. Ravindra Babu G

Trainer, Department of Development



Qualification: B. Tech

Specialization:

Experience:

Sep 18th 2016 - Aug 14th 2018: Worked at The Chopras, Hyderabad, as Trainee Head, International education.

Aug 18th 2014 - Sep 5th 2016 : Worked at Brainstorm consulting, Bangalore, as Trainee Head, International education.

Aug 12th 2011 - Jul 13th 2014: Worked as Quant faculty in T.I.M.E Institute Pvt.ltd.

# Academic activities: Faculty

## Publications

S. No	Details	Impact factor
1.	Yu Y, Xue N, Xiao C, kumar Ravva M, Guo Y, Wu L, Zhang L, Li Z, Yue W, Wang ZH. Effect of Conjugated Length on the Properties of Fused Perylene Diimides with variable Isoindigos. Journal of Materials Chemistry C. 2019, 10.1039/C9TC04078A.	6.641
2.	Vennela R, Smith R. Bilingual English teaching in colonial India: the case of <b>John Murdoch's work in Madras Presidency, 1855-1875</b> . Language & History. 2019, 26:1-23.	0.35
3.	Swaminathan S, Sommers BD, Thorsness R, Mehrotra R, Lee Y, Trivedi AN. Association of Medicaid expansion with 1-year mortality among patients with end-stage renal disease. JAMA. 2018, 320(21):2242-50.	
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## Book Chapters

- 1 Shaila SG, Rajkumari S, Ayyasamy V. Introducing the Deep Learning for Digital Age. In *Handbook of Research on Applications and Implementations of Machine Learning Techniques 2020* (pp. 317-333). IGI Global.
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- 3 Shaila SG, Vadivel A. Textual and Visual Information Retrieval Using Query Refinement and Pattern Analysis. Springer; 2018 Sep 29.
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- 6 **Binny, Malavika 'Of Men, Stones and Stories; Revisiting the vīrakals of South India', Art and History: Texts, Contexts and Visual Representations in Early India**, edited by R.Mahalakshmi, 2019, Bloomsbury, New York, London and Delhi.
- 7 **A.Lakshmana Rao "Human Resource Management for Sustainable Tourism and Community Development with special reference State of Andhra Pradesh and Uttarakhand"** published in an edited book of Excel India Publisher by School of Business Studies, Central University of Karnataka with ISBN: 978-93-882337-38-3.
- 8 **Kannan, V. Real Dynamics, A chapter in the book "Dynamical Systems and Ergodic Theory"**, (Based on a workshop in IIT Delhi) accepted for publication, Springer Verlag 2019.
- 9 Tummala S. Brain Tissue Entropy Changes in Patients with Autism Spectrum Disorder. In *Computer Aided Intervention and Diagnostics in Clinical and Medical Images 2019* (pp. 1-10). Springer, Cham.

## Conference presentations

1. S. S. Sengar. Motion Segmentation based on structure-texture decomposition and improved three frame differencing, 15th International Conference on Artificial Intelligence Applications and Innovations. Crete, Greece, May 24-26, 2019.
2. Jatindra Kumar Dash, Manisha Patro, Snehasish Majhi, Gandham Girish and Nancy Anurag P. Local Texture Features for Content Based Image Retrieval of Interstitial Lung Disease Patterns on HRCT Lung Images. International Conference on Innovative Computing and Communication, **2019, VŠB** - Technical University Of Ostrava, Czech Republic (Europe), March 21-22, 2019.
3. I. Anitha and A Vadivel. Human Activity Recognition on Multivariate Time Series data: A Technical Review. In *Proc. International Conference on Data Science, Machine Learning & Applications*, Hyderabad, India. 2019

4. R. Vatsal, K. Rishvanth, G. Saurabh, R. Saurav, M. Pushya, I. Anitha, A. Vadivel. Smart Surveillance and Real-Time Human Action Recognition using OpenPose. In Proc. International Conference on Data Science, Machine Learning & Applications. Hyderabad, India. 2019.
5. A. Nalajala, T. Ragunathan, Sri Harsha Tavidisetty Rajendra, N. V. S. Nikhith and R. Gopisetty , Improving the Performance of Distributed File System through Frequent Block Access-based Prefetching Algorithm. ICCCNT 2019, 10th International Conference on Computing, Communication and Networking Technologies, IIT Kanpur, India, July 6-8, 2019.
6. K. Prasad. WSN Energy Optimization: Evolutionary Approach. SMIT Second International Conference on Advanced Computational and Communication Paradigms, in the institute premises in Majitar, Sikkim, February 25-28, 2019
7. Priyanka, A. Pradhan. Medical Image Watermarking for Authentication, Confidentiality, Tamper Detection and Recovery. ICCCNT 2019, 10th International Conference on Computing, Communication and Networking Technologies, IIT Kanpur, India, July 6-8, 2019.
8. V. M. Manikandan, V. Masilamani. A Novel Machine Learning Approach to Prevent Illegal Distribution of Screen Captured Videos, IEEE International Conference on the Science of Electrical Engineering. Israel. 2018 (<https://ieeexplore.ieee.org/document/8646197>)
9. V. M. Manikandan, V. Masilamani. Reversible Data Hiding Scheme During Encryption Using Machine Learning. Procedia computer science. 2018.
10. L. Vijaysri, V. M. Manikandan, and V. Masilamani. Principal Component Analysis Based Paralytic Attack Detection Using a New Distance Measure. Procedia computer science. 2018.
11. S. Begum, Yao N.S. Bilal Hussain Shah, I. U. Khan, S. Anamalamudi, Research Challenges in the Internet of Things (IoTs), Recent Trends and Advances in Wireless and IoT-enabled Networks, Springer
12. S. Chinnadurai, D. W. Yoon - Energy Efficient MIMO-NOMA HCN with IoT for Wireless Communication Systems- ICTC, Jeju Island. 2018.
13. S. Karmakar A. Ghosh, Secrecy Capacity of the Fast Fading SISO Wiretap Channel within 11 Bits with Only CSIR, in proceedings of IEEE International Conference on Communications (ICC), Kansas City, Missouri, USA, May 20-24, 2018.
14. A. Kumar N. P. Pathak. Compact dual band varactor-tunable unequal-length branch-line **hybrid,** IEEE International Microwave and RF Conference (IMaRC), Ahmedabad, December 2017.
15. R. Vaddi, W. Fai. Multi-objective Precision Optimization of Deep Neural Networks for Edge Devices. 19<sup>th</sup> IEEE Design Automation and Test in Europe (DATE), Florence, Italy, March 25-29, -2019.
16. P. Yellappa, G. Puneekar, R. Vaddi, V. Gonuguntla, J. R. Choi. A Novel Design of an Open loop Configured Low Power and Low Noise CMOS Neural Recording Amplifier, ISOC, Degeu, South Korea, 12-15 November 2018.

17. J. Aditya, N. Teja, R. Vaddi. Tunneling Field Effect Transistors for Enhancing Energy Efficiency and Hardware Security of IoT Platforms: Challenges and Opportunities, International Symposium on Circuits and Systems (ISCAS), Italy, May 27-30, 2018.
18. S Tummala, Brain Tissue Entropy Changes in patients with Autism Spectrum Disorders, Computer Aided Intervention and Diagnostics in Clinical and Medical Images, ICCMIA18, Coimbatore, 2018.
19. P. Jadhav, Innovative designs of embedded foam inserts in aerospace composite structures, Proceedings of International Conference on Recent Trends in Composite Materials, IIT BHU, February 2019.
20. P. Jadhav, Bridging the gap between industry and institutes for better society, International Conference of Transformation in Engineering Education, SRM University, AP, July 2018
21. Kishore, P.K, Jayaprakash, S. P., **“A preliminary Study on the effect of various tool paths patterns in Weld-Deposition based Additive Manufacturing”** 7th International and 28th All India Manufacturing Technology, Design and Research Conference 2018 (AIMTDR 2018). Anna University, Chennai, India, 13-15 December 2018.
22. C. Jubajyothi, K. Vinayak, S.P. Jammy. Viscous Compressible Flow Solver for Multiple Architectures, FMFP IIT Bombay, 2018.
23. S. Mukhopadhyay. Gordon Research Seminar on Electron Donor-Acceptor Interactions, Salve Regina University in Newport, RI United States. August 5-10, 2018.
24. S. G. Reddy, Y. Miyamoto. Probing the orbital angular momentum spectrum of complex incoherent mixtures, will be presented at Light in Nature VII on 13th August 2019.
25. J. K. Dash. An Invited speaker at International Conference on Microscopy and XXXIX meeting of Electron Microscopy Society of India (EMSI-2018), Bhubaneswar, during July 16-20, 2018.
26. M. Binny. Paper Presentation on Exploring Global Networks of Medicine in the Early Modern Period through Ayurvedic Texts, Department of History, Conference on Therapeutic Commodities at JNU, New Delhi organised by the University of Warwick and CHS, New Delhi, November 5-6 2018
27. M. Binny. Indian History Congress (2019), Bhopal, Madhya Pradesh, 26-28 February, 2019.
28. M. Binny. Invited Lecture on Caste and South Indian Cinema at the Fifth Anniversary of the Phoenix Charitable Trust, April 28, 2019.
29. A. Choudhary. Analyzing the Enablers of Sustainable Fresh Produce Supply Chain Management, 6th Biennial Supply Chain Management Conference at IIMB, Bangalore, India, December 10-11, 2018.
30. S. Ajitha. The Moderating Role of demographic factors in using Mobile Shopping Applications on the Attitude and Intention to Use Chatbots for Mobile Shopping - Asia Pacific ACR (Association for Consumer Research) Conference, USA, Indian Institute of Management (IIM), Ahmedabad, 2019.
31. S. Ajitha S. Understanding the behavioural patterns of consumer to Use Internet of Things Technologies - 7th Academy of Indian Marketing (AIM) - American Marketing Association (AMA) & Sheth Foundation Conference, MICA, Ahmedabad, 2019.

32. S. Ajitha. Physical vanity under psychosocial values and its relationships with purchase intention towards Luxury Cosmetic Brands: skin tone and age as a moderator variable. - The Mystique of Luxury Brands Conference, hosted by The Luxury Branding Research Cluster - Curtin University, Social Science University, and Louken Group, Singapore, 2018.
- 33.
34. S. Ajitha. Understanding the Attitude and Intention to Use Chatbots for Mobile Shopping - PAN IIT India Management Conference (PANIITMC), Indian Institute of Technology (IIT), Roorkee, 2018.
35. A.L. Rao Presented a research paper in 6th PAN IIM-Bangalore Conference on Corporate Governance Rating: a myth or reality? a prospective from Indian Corporate World. December 13-15, 2018.
36. G. Ramakrishnan, N. Kulshresta, A. L. Rao preseted a research paper in Doctoral Colloquium research paper titled Application of **Vroom's** Expectancy Theory in assessing employee motivation for Sustainable HRM in EPC Companies of Oil Industry. UPES, Dehradun 24<sup>th</sup> May 2019.
37. V.Kannan, Modern Mathematics in Ancient India, Sixteen Samples from Sanskrit Sources, in the book **"Mathematics and Reality"**, Proceedings of a conference at IIT Bhubaneswar, pages 378-395, Bhaktivedanta Institute, Kolkata, 2018.
38. V.Kannan, On the existence of compositional square roots, Proceedings of a conference at Jadavpur university. accepted for publication in Springer Book Proceeding "Mathematical Analysis and Application in Modelling ICMAAM 2018.
39. V.Kannan 2nd national seminar on Contemporary Research on Theoretical and Applicable Mathematics, Title of invited lecture: Orbit patterns of Real Maps. Kolkata, September 7 - 8, 2018
40. V.Kannan. International Workshop and Conference on Topology and Applications, Rajagiri School of Engineering and Technology, Workshop lectures on **"chaos for interval maps"** and a conference lecture on **"Interval maps with a unique self-conjugacy"**. 5-11 December 2018.
41. V.Kannan, Valedictory address at the Annual Conference of the Society for History of Mathematics at SCS University, **"Madava Gregory Series"**, SCS University, Enathur on 29-November 2018.
42. V.Kannan, Keynote Address at the National Seminar on Innovative Domains in Mathematics and Digital Technology, St. Therasa College for Women, Eluru. 27 November 2018.
43. V.Kannan, Lecture on **"Words arising as words of periods"** at SHKFEST Seminar at IIT Madras, June 2018.
44. Srabani Basu, Tragedy of Mismanagement: Organisational Behaviour - A Shakespearean Perspective Literary Discourses, A Peer Reviewed International Research Journal of Literature and Art ISSN No: 09762035 Published by Indra Kala Sangit, Vishwavidyalaya, Khairagarh, Chhattisgarh, Edition 2019, 166-184



## Contributed Talks and Poster Presentations

S. No	Faculty Member Name	Name of the conferences/seminars/workshops/events
1	Dr. T. Ragunathan - Organizer and Resource Person	Workshop on <b>“Big data and Hadoop Framework”</b> SRM University, AP.
2	Dr. Sujith Kalluri, Assistant Professor, ECE Department	Delivered a talk on <b>‘Highly Loaded Electrodes for Advanced Lithium-ion Batteries’</b> at 1 <sup>st</sup> SRM-AP - CSIR-IICT Scientific Meet, 8-9 May 2019, IICT, Hyderabad.
3	Dr. Sunil Chinnadurai, Assistant Professor, Department of Electronics and Communication Engineering	Ministry of Education, Science and Technology (MEST) Project Awardee.
4	Dr. Amarjit Kumar, Assistant Professor, ECE	Delivered a research talk on <b>“Reconfigurable Multiband and Multifunctional RF Circuits and Microwave Sensors”</b> in Madanapalle Institute of Technology & Science, Madanapalle on 19th December 2018
5	Dr. Amarjit Kumar, Assistant Professor, ECE	Delivered a research talk titled <b>“Development and characterization of passive and active RF circuits and sensors for next-generation (5G) wireless systems”</b> in a seminar in IIT Bombay on 18th May 2018. (Invited by Professor Maryam Shojaei Baghini, Electrical department)
6	Dr. Nimai Mishra, Assistant Professor, Chemistry	International Conference on Materials for Advanced Technologies (ICMAT) 2019, Singapore, June 23-28
7	Dr. Nimai Mishra, Assistant Professor, Chemistry	International Conference on Functional Nanomaterials-2019 (Feb 22-26), held in IIT-BHU (Varanasi)
8	Dr. Sabyasachi Chakraborty (Invited talk)	10th International Conference on Materials for Advanced Technologies (ICMAT), Singapore on June, 2019.
9	Dr. Sabyasachi Chakraborty	Fifth International Conference on <b>“Nanotechnology for Better Living”</b> Jointly organized by NIT Srinagar and IIT Kharagpur From 7-11 April, 2019 (not attended).
10	Dr. Sabyasachi Mukhopadhyay - Poster Presenter	Gordon Research Conference on Electron Donor-Acceptor Interactions, August 05, 2018 - August 10, 2018, Salve Regina University in Newport, RI United States.
11	Dr. Sabyasachi Mukhopadhyay - Poster Presenter	Gordon Research Seminar on Electron Donor-Acceptor Interactions, August 05, 2018 - August 10, 2018, Salve Regina University in Newport, RI United States
12	Dr. Goutam Kumar Dalapati, Invited talk	Green energy technology for smart cities (GETC-2018, Dec, SRM AP, Amaravati)
13	Dr. Goutam Kumar Dalapati, Invited talk	Workshop between IICT Hyderabad and SRM, AP, Amaravati
14	Dr. Laxmi Narayana Patro, Invited talk	Workshop between IICT Hyderabad and SRM, AP, Amaravati
15	Dr. Pranab Mandal, collaborative talk	Workshop between IICT Hyderabad and SRM, AP, Amaravati

16	Prof. Ranjit Thapa, collaborative talk	Workshop between IICT Hyderabad and SRM, AP, AMaravati
17	Dr. Jatis Kumar Dash, collaborative talk	Workshop between IICT Hyderabad and SRM, AP, AMaravati
18	Dr. Jatis Kumar Dash	Talk (Invited speaker) at International Conference on Microscopy and XXXIX meeting of Electron Microscopy Society of India (EMSI-2018), Bhubaneswar during July 16-20, 2018.
19	Ms. Ajitha S.	2019 - The Counterfeit Consumerism - Values and social Consequences, Association for Psychological Science, 3rd Biennial International Convention of Psychological Science Paris, France.
20	Dr. A.Lakshmana Rao - Resource Person	Three day conference organized by School of Business Studies, Central University of Karnataka on <b>"Community Involvement on Tourism Development in Emerging Countries"</b> from Jan 3 - 5, 2019, Kulbergi, Central University of Karnataka.
21	Dr. Jadav Ganesh	OTOA 2018 (Conference on Operator Theory and Operator Algebras), ISI Bangalore, 13th-19th Dec 2018
22	Dr. Manjunatha Thondamal - Resource Person	UGC Teachers Refresher Course in Life Sciences. Organized by UGC and HRD, University of Hyderabad on 15 <sup>th</sup> February, 2019
23	Dr. Anil K Suresh, Chief guest and Plenary Lecture,	Biomedical applications engineered nanoparticles, 22 <sup>nd</sup> May, 2019, KVSRR Siddhartha College of Pharmacy and Biotechnology, Vijayawada. National Seminar on Recent trends in particulate drug delivery systems
24	Dr. Anil K Suresh, Resource Scientist and Plenary Lecture,	Nano-Biomedicine: Integrating biomedicine with nanoscience and nanotechnology, 20-21 Dec, 2018, Acharya Nagarjuna University, Guntur. National Seminar on FBPM
25	Dr. Anil K Suresh, Session Chair and Plenary Lecture,	Nano-Biomedicine: Interface of medicine with nanoscience and nanotechnology, 16 <sup>th</sup> Feb, 2018 KVSRR Siddhartha College of Pharmacy, Vijayawada. National Seminar on Drug Delivery Aspects of Biologics/Macromolecules
26	Dr. Srabani Basu	Bending the Gender: A Pirtayal of the Third Gender in Popular Bengali Cinema at National Seminar on Popular Culture, Literature and Other Art Forms: Today and Beyond, January 18-19, Indra Kala Sangit Vishwavidyalaya Khairagarh, Chhatisgarh

## Awards and Honours

S. No	Faculty Member Name	Name of the Award/Honor
1	Dr. Jatindra Kumar Dash	Visiting Researcher (Fall 2018), University of California, Berkeley, USA
2	Dr. Sandeep Singh Sengar	Technical Program Committee Member: International Conference on Digital Image and Signal Processing (DISP-2019), <b>St Hugh's College, Oxford</b> University, United Kingdom.

		<p>International Conference on Computer Science, Information Technology, and Electrical Engineering (ICOMITEE-2019), Jember, Indonesia.</p> <p>International Conference on Optics, Photonics and Lasers (OPAL-2018), Barcelona, Spain.</p> <p>International Conference and Workshop on Telecommunication, Computing, Electronics and Control (ICW-TELKOMNIKA 2018), Yogyakarta, Indonesia.</p> <p>International Conference on Advanced Computational and Communication Paradigms (ICACCP-2019), Sikkim Manipal Institute of Technology, Sikkim, India.</p> <p>First International Symposium on Computer Vision and Machine Intelligence in Medical Image Analysis (ISCMM-2019), Sikkim Manipal Institute of Medical Science, Sikkim, India.</p> <p>6th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI-2019), Bandung, Indonesia.</p>
3	Dr. T. Ragunathan	<p>Technical Programme Committee Member</p> <p><b>Tencon '19, IEEE, International Conference, Kochi, Kerala</b></p>
4	Dr. Ashok Kumar Pradhan	<p>IEEE Access</p> <p>Optical Switching and Networks</p> <p>Photonic Communication and Networks</p>
5	Dr. Sujith Kalluri, Assistant Professor, ECE	Juan De La Cierva fellowship
6	Dr. Somesh Vinayak Tewari, Assistant Professor, Department of Electrical and Electronics Engineering	Outstanding Doctoral Student Award from Homi Bhabha National Institute, 2019
7	Dr. Nimai Mishra, Assistant Professor, Department of Chemistry,	<b>“Global Outreach Research Award 2019” for excellence in “Young Researcher in Chemistry” at “2<sup>nd</sup> Global Outreach Research and Education Summit &amp; Awards 2019” at HITEX Exhibition Center, Hyderabad on 30<sup>th</sup> April 2019</b>
8	Dr. Nimai Mishra, Assistant Professor, Department of Chemistry,	<b>“Young Scientist Award” at International Conference on Functional Nanomaterials- 2019 (Feb 22-26) Organized by IIT-BHU (Varanasi), IIT-Guwahati and Society for Interdisciplinary Research in Materials and Biology (SIRMB)</b>
9	Dr. Sabyasachi Mukhopadhyay, Assistant Professor, Department of Physics	Discussion Leader at Gordon Research Seminar on Electron Donor-Acceptor Interactions (GRS) held August 04, 2018 - August 05, 2018 at Salve Regina University in Newport, RI United States
10	Dr. Goutam Kumar Dalapati	Visiting faculty research attachment at the Open University, UK, May-July 2019, under (GCRF, Global Challenges Research Fund)
11	Dr. Jatis Kumar Dash	Worked as a Resource Person at International Conference on Microscopy and XXXIX meeting of Electron Microscopy Society of India (EMSI-2018), Bhubaneswar during July 16-20, 2018

12	Ms. Ajitha S.	2019 - <b>Awarded the title “Market Master”</b> for winning the market place simulation game conducted by The University of Tennessee, Knoxville organized by - 7th Academy of Indian Marketing (AIM) - American Marketing Association (AMA) & Sheth Foundation Conference, MICA, Ahmedabad.
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## National and International Visits

S. No	Faculty Member Name	Countries of visit	Dates	Purpose	Other details
1	Dr. Sandeep Singh Sengar	Greece	May. 23-27, 2019	To attend and present research paper in conference	
2	Dr. Jatindra Kumar Dash	University of California, Berkeley, USA	1st September to 15th December 2018	Visiting Researcher	
3	Dr. Jatindra Kumar Dash	Technical University of Ostrava, Ostrava, Czech Republic	19th March 2019 to 26th March 2019	To Present the research Paper in Conference	
4	Dr. A Vadivel	MIT Boston USA	24 Nov 2018 to 3 Dec 2018	Teaching Learning Training from MITx course	
5	Dr. A Vadivel	UC Berkely Berkely	28.01.2019 to 10-02-2019	To Attend Training on Data Science Course	
6	Dr. Ashok Kumar Pradhan	Kajaani University of Applied Sciences, Finland	14-05-19 to 22-05-19	To attend Training on Summer Course on Indian Gaming Development Challenge (IGDC)	
7	Dr. T. Ragunathan	MIT Boston USA	24 Nov 2018 to 3 Dec 2018	Teaching Learning Training for MITx course	
8	Dr. T. Ragunathan	Technology Solutions and Innovation Center, L & T Technology Services Limited , Bangalore	January 28, 2019	Jury Panel Member for TECHgium 2019, Industry-based Project Design Contest	
9	Dr. Sujith Kalluri	United States of America	Nov. 28-30, 2018	MIT Teaching workshop	MITx Onsite Training

10	Dr. Sudhakar Tummala	United States of America	Nov 29 <sup>th</sup> -Dec 3 <sup>rd</sup> , 2018	MIT Teaching workshop	MITx Onsite Training
11	Dr. Amarjit Kumar	IIT Roorkee, India	November 26 - November 30, 2018	One-week Faculty Development Program in IIT Roorkee under the aegis of EICT IIT Roorkee, Funded by MeitY GoI on "Embedded System Design- A Practical Approach"	(Total of 16 hrs lectures and 18 hrs hands-on practical)
12	Dr. Prakash Jadhav	USA	Nov, 2018	To learn about MITx courses and interact with MIT faculties	Elements of structure course
13	Dr. Venkata Nori	India	Dec 2 - 3, 2018	Smart Pole exhibit stall	26 <sup>th</sup> National <b>Children's</b> Science Congress, at KL University
14	Dr. Nimai Mishra	Singapore	June 20 <sup>th</sup> to 5 <sup>th</sup> July 2019	Conference and Research collaboration	ICMAT Conference And Visiting faculty at NUS Singapore
15	Dr. Sabyasachi Mukhopadhyay	United States of America	August 04 - 10, 2018	Gordon Research Seminar and Conference	Salve Regina University in Newport, RI United States
16	Dr. Goutam Kumar Dalapati	Nanyang Technological University, Singapore	Jan. 12-Jan. 22, 2019	Visiting Energy research unit @NTU and meeting with my PhD students for discussion at NTU	
17	Dr. Goutam Kumar Dalapati	Institute of Materials Research and Engineering (IMRE), ASTAR-Singapore	April. 17-April. 24, 2019	Thin film growth using sputter at IMRE	Meeting with PhD student (Siarhe Zhuk at NTU and thin film growth at IMRE)
18	Dr. Goutam Kumar Dalapati	The Open University, Milton Keynes, UK	May-July, 2019	Research collaboration between SRM AP,	Development of low cost materials for waste

				Amaravati and the Open University, UK	water treatment and solar hydrogen generation
19	Dr. Goutam Kumar Dalapati	IICT hyderabad, India	May8-9, 2019	Workshop between IICT Hyderabad and SRM AP	Deliver talk on smart coating
20	Dr. Jatis Kumar Dash	IICT hyderabad, India	May8-9, 2019	Workshop between IICT Hyderabad and SRM AP	Delivered talk on 2D Materials
21	Dr. Jatis Kumar Dash				
22	Dr. Pranab Mandal	IICT hyderabad, India	May8-9, 2019	Workshop between IICT Hyderabad and SRM AP	Delivered talk on Lead-free Piezoelectrics
23	Dr. Malavika Binny	France	April 2-4	Seminar at EHESS	Participant
24	Dr. Aparna Choudhary	Bangalore	Dec. 9-12, 2018	IIMB- Conference	National
25	Dr. Fouzul Atik	United States of America	Nov. 28-30, 2017	MIT Teaching workshop	MITx Onsite Training
26	Dr. Jadav Ganesh	USA	Nov. 28-30, 2018	MIT Teaching workshop	MITx course
27	Dr. Jadav Ganesh	India	Dec. 13-19, 2018	OTOA 18 Conference, ISI Bangalore	
28	Dr. Sayantan Mandal	United States of America	Nov. 28-30, 2017	MIT Teaching workshop	MITx Onsite Training
29	Dr. Srabani Basu	India	January 18	Conference Presentation	Indira Kala Sangit Vishwavidyalaya, Chhattisgarh,

## Institutional and Industrial Visits

S.No	Faculty Member Name	Name of the Institute	Date & Purpose
1	Dr. Sujith Kalluri	Technology Center, Amara Raja Batteries Ltd., Tirupati, India	February 01, 2019 Collaboration initiation discussion
2	Dr. Sujith Kalluri	Technology Center, Amara Raja Batteries Ltd., Tirupati, India	June 08, 2019 Discussions regarding Establishment of SRM - Amara

			Raja Center for Energy Storage Devices
3	Dr. Amarjit Kumar	MIT Madanapalle	02 March 2019, Mindtree final interview drive, Bangalore
4	Dr. Amarjit Kumar	MIT Madanapalle	22 January 2019, Infosys off-campus placement drive at Annamacharya Institute of Technology & Sciences, Rajampet
5	Dr. Kazuhito Shida	Tohoku University, Sendai, JAPAN	June , 2018 Collaboration discussion
6	Dr. Prakash Jadhav	Medha control and services, Hyderabad	July 2018, To discuss about hydrogen powered train project
7	Dr. Prakash Jadhav	Integrated coach factory, Chennai	Dec 2018 and Jan 2019, to discuss about hydrogen powered train project
8	Dr. Prakash Jadhav	Pune	April 2019 To conduct information sessions for prospective B.Tech and M.Tech students
9	Dr. Venkata N Nori	APCRDA, Vijayawada	Multiple visits: To discuss about smart pole and Autonomous vehicle projects
10	Dr. Surfaraz Hussain S. Halkrani, Dr. Jayaprakash P	Amararaja Batteries Limited (ARBL)	Centre Proposal SRM - Amara raja center for energy storage devices <ul style="list-style-type: none"> <li>31<sup>st</sup> Jan, 2019</li> </ul> 7 <sup>th</sup> June, 2019
11	Dr. Surfaraz Hussain S. Halkrani	IIT Dharwad	Discussion on Journal manuscripts. 21 <sup>st</sup> May 2019 - 04 <sup>th</sup> June 2019
12	Dr. Jayaprakash Sharma P	GE Bangalore	20 <sup>th</sup> March, 2019. GE additive workshop
13	Dr. Jayaprakash Sharma P	IICT Hyderabad	7 <sup>th</sup> May 2019
14	Dr. Sabyasachi Chakraborty	Universität Ulm, Germany. and Max-Planck-Institute for Polymer Research, Germany.	May 1 <sup>st</sup> - June 16 <sup>th</sup> 2019 Collaboration initiation discussion
15	Dr. Sabyasachi Mukhopadhyay	Solid state and Structural Chemistry Unit, Indian Institute of Science, Bangalore	June 4 - 15, 2018 Collaboration initiation discussion
16	Dr. Sabyasachi Mukhopadhyay	Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science, Bangalore	Dec 23 - 27, 2018 Collaboration initiation discussion
17	Dr. Sabyasachi Mukhopadhyay	Indian Institute of Chemical Technology, CSIR, Secunderabad, Telangana	May 08 - 09, 2019 Collaboration initiation discussion



18	Dr. Sabyasachi Mukhopadhyay	Centre for Advanced Studies for Electronics Science and Technology, University of Hyderabad	May 09, 2019 Collaboration initiation discussion
19	Dr. Pranab Mandal	Indian Institute of Chemical Technology, CSIR, Secunderabad, Telangana.	May 08 - 09, 2019 Collaboration initiation discussion
20	Dr. Laxmi Narayana Patro	Indian Institute of Chemical Technology, CSIR, Secunderabad, Telangana.	May 08 - 09, 2019 Collaboration initiation discussion
21	Dr. Laxmi Narayana Patro	Amara Raja Batteries Limited (ARBL), Tirupati	Feb 01 and June 8, 2019: Collaboration discussions for the establishment of joint research center on energy storage devices at SRM AP
22	Dr. Salla Gangi Reddy	NIT, Trichy	May 22-May 30, 2019 Collaboration discussion for submitting the proposal for developing the magnetic sensors at the interface of optical and material science.
23	Dr. Jatis Kumar Dash	Indian Institute of Chemical Technology, CSIR, Secunderabad, Telangana.	May 08 - 09, 2019 Collaboration initiation discussion
24	Dr. Manjunatha Thondamal	CSIR-IICT, Hyderabad	8 <sup>th</sup> and 9 <sup>th</sup> of May, 2019 Joint symposium and possible collaboration

## Invited Lectures

S. No.	Name of the delegate & affiliation	Date (s)	Topic
1	Prof. Sastry Pamidi Professor and Department Chair, FAMU-FSU, Florida	July 12, 2019	Challenges Faced by the Electrical Power Grid and Potential Solutions Offered by Superconducting Power Systems Technology
2	Dr. Goutam Kumar Dalapati, Invited talk	Dec, 20-21, SRM AP, Amaravati	Green energy technology for smart cities (GETC-2018, Dec, SRM AP, Amaravati)
3	Dr. Goutam Kumar Dalapati, Invited talk	May, 8-9, 2019, IICT Hyderabad	Workshop between IICT Hyderabad and SRM, AP, Amaravati
4	Dr. Malavika Binny	December, 21, 2018 Kerala University, Karyavattom Campus,	Kerala Panelist and Speaker at the Session titled Environment and Governmentality at the Third Kerala History Congress

S. No.	Name of the delegate & affiliation	Date (s)	Topic
5	Dr. S. Tripathy	15 <sup>th</sup> and 16 <sup>th</sup> March, 2019 Gangadhar Meher University, Sambalpur	Panel Speaker as a Resource Person to a <b>National Seminar titled “Entrepreneurship Development: Policies and Strategies”</b> .
6	Ms. Ajitha S,	14th September, 2018, Alliance School of Business, Bangalore	Invited to deliver a guest lecture titled <b>“An Applications of Operations Research in the Luxury Market”</b> for business administration students and handled two sessions
7	Prof. V. Kannan	10 <sup>th</sup> Aug. 2018 at Nanda College, Erode	Science Academy lecture series. Mathematical Biology. Title of lecture: Cellular Automata as a model for Cell biology
8	Prof. V. Kannan	15 Nov 2018., RBVR Reddy College, Hyderabad. Lecture	Inaugural address at the Faculty Development Program: Why do we study Functions of Bounded Variation?
9	Prof. V. Kannan	Dec. 2018, Cochin University	Cochin University of Science and <b>Technology, Lecture on “Three ways to understand a fractal”</b> .
10	Prof. V. Kannan	Dec. 2018, , Vijayawada.	<b>Lecture on “Ramanujan’s Door Number Problem”, Siddhartha College of Arts and Science</b>
11	Prof. V. Kannan	NME Engineering College, Ghatkesar, June 2018	Boolean Algebra and Fractals in Communication And Transmission Systems
12	Prof. V. Kannan	March 2019	Number of patterns and patterns of numbers at Anurag, DST INSPIRE Lecture, March 2019,
13	Prof. V. Kannan	Feb. 2019, Calicut University	<b>Base patterns in Topology”, National Seminar at Calicut University, Feb. 2019.</b>

### Fellowships of Academia and membership in Professional Bodies

S. No	Faculty name	Awards/Professional society name
1	Prof. D. Narayana Rao	FNA

S. No	Faculty name	Awards/Professional society name
		FNASc
2	Prof. M. Jayaseelan	ISHAM Medical Phycology : Protothecosis and Chlorellosis Working Group (ISHAM-MPWG) member
3	Dr. Tousif Khan N	IFAC-Affiliate
4	Dr. Jatindra Kumar Dash	Member (National Science Congress)
5	Dr. T. Ragunathan	Member (National Science Congress)
6	Prof. Vijayshekar Chellaboina	IEEE
7	Prof. Vijayshekar Chellaboina	Control society of India (Founding member)
8	Dr. Prakash Jadhav	AMSE
9	Dr. Prakash Jadhav	SEM
10	Dr. Prakash Jadhav	ASC
11	Dr. Prakash Jadhav	ISTE
12	Dr. Vinod Kumar	IIM
13	Dr. Vinod Kumar	ASM
14	Dr. Vinod Kumar	IWS
15	Dr. Venkata Nori	Combustion Institute India Section
16	Prof. Ranjit Thapa	Associate, Indian Academy of Sciences
17	Dr. Malavika Binny	Indian History Congress
18	Dr. Malavika Binny	Kerala Council of Historical Research
19	Dr. Malavika Binny	IAAWWSA -International Association of Women Archaeologists Working on South Asia
20	Ms. Ajitha S	Association for Consumer Research, USA ( <a href="https://www.acrwebsite.org/">https://www.acrwebsite.org/</a> )
21	Prof. Jesse I. Deutsch	American Mathematical Society (Member)
22	Dr. Tapan Kumar Hota	American Physical Society (APS), Member id: 61180089.
23	Dr. Tapan Kumar Hota	Society for Industrial and Applied Mathematics (SIAM), Member id: 020872767.
24	Dr. Tapan Kumar Hota	International Association of Engineers (IAENG), Member id: 133517.

### Popular Talks, Radio, TV and Internet based (May 2018-May 2019)

S. No	Faculty Member Name	Details
1	Dr. Nimai Misra	<b>General NanoSciences”, Don Bosco School, Bandel</b> and discussed about the possibilities with higher secondary class students on 10 January 2018.
2	Dr. Malavika Binny	Session on Swaraj TV on Science, History and Society, February 21, 2019 (Hindi)
3	Dr. Malavika Binny	Segment of Women, Travel and Education on Jeevan TV in the Newshour , April 16, 2019 ( Malayalam)

4	Dr. Malavika Binny	Gender 101 on YouTube Channel(4.6k views)
5	Dr. Malavika Binny	'On the Sabarimala <b>Crisis</b> ' Biju <b>Mohan's</b> YouTube channel (47k views)

### News-papers reports (May 2018-May 2019)

S. No	Student Name	Details
1	Krishna Vardan Tanguturi	Published in Andhra Jyoti Newspaper as NSS Volunteer of SRM University-AP during a First Aid Training, Dated 27 <sup>th</sup> March 2019.
2	Prof. V. Kannan	.A article on <b>"Monotonic Functions"</b> published in a souvenir of Reddy College for Women, Hyderabad, June 2018.

### Journal reviewers

S. No	Faculty Member Name	Journal/articles reviewed
1	Dr. Sandeep Singh Sengar,	Outstanding reviewer award from Neurocomputing Journal [IF: 4.072]. Pattern Recognition (Elsevier) Geoscience and Remote Sensing Letters (IEEE) The Journal of Electronic Imaging (SPIE) Optik: International Journal for Light and Electron Optics (ELSEVIER) International Journal of Computer Systems Science & Engineering (CRL) Journal of Computational Methods in Sciences and Engineering (IOS PRESS) Recent Patents on Computer Science International Journal of Electrical and Computer Engineering Indonesian Journal of Electrical Engineering and Computer Science
2	Dr. Jatindra Kumar Dash	Journal of Biomedical Engineering Journal of Neurocomputing (Elsevier) Multimedia Tools and Application (Springer) etc.
3	Dr. Jatindra Kumar Dash	PhD thesis Examiner (SoA University, Odisha)
4	Dr. Sathis Anamalamudi	IEEE Systems Journal. IEEE Canadian Journal of Electrical and Computer Engineering.

		KSII Transactions on Internet and Information Systems. Physical Communications- Elsevier Wireless Personal Communications-Springer IEEE-ICUFN IEEE-SPAWC ICBDCC2017
5	Dr. A Vadivel	JEI, SPIE SN Applied Sciences, Springer Optical Engineering, SPIE
6	Prof. T. Ragunathan	IEEE International conference, Tencon 2019, Data Science and Engineering Track
7	Dr. Sujith Kalluri	<i>Editorial Board Member:</i> International Journal of Research in Applied Engineering, Science and Technology (IJRAEST) (ISSN: 2582-029X), EJ Publications, India.
8	Dr E. Karthikeyan	IET Signal Processing, IEEE Geoscience and Remote Sensing Letter
9	Dr. Sunil Chinnadurai,	IEEE Publication: Transactions on Wireless Communication, Vehicular Technology, Access. Springer Journal: Wireless Personal Communications
10	Dr. Amarjit Kumar	IEEE Transactions on Instrumentation and Measurement (TIM) IEEE Access Wiley RFCAD (International Journal of RF and Microwave Computer-Aided engineering) IEEE Sensor Journal IEEE Microwave Wireless Component Letters ICCET-2019 and many other conferences
11	Dr. Ramesh Vaddi	IEEE Transactions on Nanotechnology
12	Dr. Tousif Khan N	<i>Associate Editor</i> -Asian Control Conference 2019 IEEE Transactions on Power Electronics IEEE Transactions on Industrial Electronics IEEE Transactions on Neural Networks and Learning Systems IEEE Transactions on Circuits and Systems I: Regular Papers IET Control Theory & Applications International Journal of Dynamics and Control Neural Computing and Applications ISA Transactions
13	Dr. Somesh Vinayak Tewari	IEEE Transactions on Plasma Science

14	Dr. Soumyajyoti Biswas	Physical Review Letters, Physics Review X, Physical Review E, Scientific Reports, Frontiers in Physics, Entropy
15	Dr. Sabyasachi Mukhopadhyay	Veni grant in the Innovative Research Incentives Scheme, NWO, The Netherlands, ACS Applied Electronic Materials, American Chemical Society, USA
16	Dr. Siddhartha Ghosh	Physical Review B, Scientific Reports, Advanced Materials, ACS Nano, Journal of Magnetism and Magnetic Materials, ACS Applied materials & interfaces, Journal of Applied Physics, Applied Physics Letters, RSC Advances.
17	Dr. Vivek Kumar Anand	Reports on Progress in Physics, Nature Communications, Physical Review Letters, Physical Review B, New Journal of Physics, Europhysics Letters, Superconductor Science and Technology, Journal of Physics: Condensed Matter, Journal of Magnetism and Magnetic Materials
18	Dr. Salla Gangi reddy	Reviewer for Optics Letters, Optics Express, Applied Optics, Journal of the Optical Society of America A, Chinese Optics Letters, Optics Communications, Applied Physics Letters
19	Dr. Laxmi Narayana Patro	Applied Surface Science, Journal of Alloys and Compounds
20	Dr. Jatis Kumar Dash	Journal of Applied Physics (JAP), Nanotechnology (IOP publishing), Thin Solid Films (Elsevier), Microscopy and Microanalysis (Cambridge University Press)
21	Dr. Maanvender Singh	Dr. Maanvender Singh was a member of the Curriculum Review Panel for Amity University, Noida. The courses reviewed include: - Basics of Media Research ( Undergraduate curriculum) - Fundamentals of Communication Research (Post Graduate curriculum)
22	Dr. S. Tripathy	International Journal of Business and Economics (1542-8710); Journal of Economics World (2328-7144); International Journal of Applied Research & Studies (2278-9480); Journal of Finance and Accounting (2330-7323); Journal of Investment and Management (2328-7721)
23	Ms. Ajitha S	Journal of Brand Management - Springer publication (SSCI listed, ABDC - A category) Journal of Retailing and Consumer Services - Elsevier publications (SSCI listed, ABDC - A category) Personality and Individual Differences - Elsevier publications (SSCI listed, ABDC - A category) Systemic Practice and Action Research (SSCI listed, ABDC - B category)

		Asia-Pacific Journal of Marketing and Logistics - Emerald Publications (listed in SSCI and ABDC - B category)
24	Dr. Fouzul Atik	Discrete Mathematics (ELSEVIER), Electronic Journal of Linear Algebra (International Linear Algebra Society)
25	Prof. Jesse Deutsch	INTEGERS: EJCNT (Electronic Journal of Combinatorics and Number Theory)
26	Dr. Sayantan Mandal	IEEE Transactions on Fuzzy Systems Fuzzy Sets and Systems, International Journal of Approximate Reasoning, Information Sciences, Mathematical Reviews.
27	Dr. Shoji D. Thottathil	Journal of Geophysical Research: Biogeosciences (AGU)

### Social activities

S. No	Name of the student	Activity	Date
1	Dr. Pardha Saradhi M (Nodal Point contact)	Swatch Bharat by NSS Cell, SRM-AP,	5-6 <sup>th</sup> and 19-20 <sup>th</sup> January 2019
2	Dr. Venkata Nori	Organized faculty interaction session with Dr. Satheesh Reddy, Chairman DRDO, Govt. of India	Jan 6, 2019, SRM University-AP, Amaravati
3	Dr. Prakash Jadhav	Session Chair, International Conference on Green Energy Technologies for Smart Cities	Dec 2018, SRM University AP
4	Dr. Prakash Jadhav	Session Chair, International Conference on Transformation in Engineering Education	July 2018, SRM University AP



# Academic activities: Students

## Semester Abroad Program

Thirteen students from SRM University-AP were selected for Entrepreneurship-based semester abroad program at the University of California, Berkley (UCB), which is top-class University for Entrepreneurship. Students will get trained in the Entrepreneurship skills and attend the credit-based courses relevant to it at Sutardja Center for Entrepreneurship and Technology (SCET) and Jacobs Institute for Design Innovation. SRM University-AP has provided with the tuition fee of US\$ 19,900 each for all 13 students. Among 13 students, 3 students have been provided with additional scholarships of US\$ 7650 each towards stay and travel; 2 students have been provided with an additional scholarship of US\$ 3825 each.

The list of students who have gone/planned to go abroad in 2018-2019 is given below.

S. No.	Name of the student	Degree program at SRM University AP	Name of the University
1	Aayusi Biswas	CSE	University of California Berkeley
2	Tuhin Sarkar	CSE	
3	Vatsal Rathod	CSE	
4	Pushya Mitra	CSE	
5	Koushik Bhargav	CSE	
6	Saptarshi Mazumder	CSE	
7	Saurabh Ghanekar	CSE	
8	Miran Tafazzul Hussain Junaidi	CSE	
9	Sarvesh Shroff	CSE	
10	Fahad Kamraan Syed	CSE	
11	Shubham Rao	CSE	
12	Sri Ritika Katragadda	CSE	
13	Mohammed Nilofer Sultana	CSE	
14	Bismark Razak Haruna	Mechanical engineering	

## Summer Fellowships at JNCASR

SRM AP 2018-2019 batch B.Sc. (Biology) students, Vasika Venugopal and Gowtham Gadupudi have landed prized internships with Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) and World Wildlife Fund (WWF), respectively.

Vasika Venugopal began as one of the eleven students selected for the JNCASR summer fellowship, the Project Oriented Biological Education (POBE) an initiative of JNCASR, Bengaluru in May 2019. She will continue to attend for 3 consecutive years for 2 months during the summer break. The fellowship program awards a Diploma in Biology. Gowtham will gain practical experience within the global organization structure of WWF.

## Internships and trainings

S. No.	Name of the student	Department	Details	Duration & dates
1	Koffi Kouadio Ange Wilfried	CSE	AISEC	6 weeks, 10 March to 31 April 2018
2	Manyea Gafaru zakaria	CSE	AISEC	6 weeks, 10 March to 31 April 2018
3	Saurav Raj	CSE	Archimaze info Pvt. Ltd	6 weeks, 10 March to 31 April 2018
4	putti Yamini	CSE	Aspire vision Tech	6 weeks, 10 March to 31 April 2018
5	Alluri Harika	CSE	Aspire vision Tech	6 weeks, 10 March to 31 April 2018
6	Chinnam Sravani	CSE	Aspire vision Tech	6 weeks, 10 March to 31 April 2018
7	Kolluru Rohini Naga Priya	CSE	Aspire vision Tech	6 weeks, 10 March to 31 April 2018
8	Thavva Sampath Kumar	CSE	Bannett University	6 weeks, 10 March to 31 April 2018
9	Potluri Komal Venkat Satyanagaraja Chowdary	CSE	Bannett University	6 weeks, 10 March to 31 April 2018
10	Makkena Alekhya	CSE	Bannett University	6 weeks, 10 March to 31 April 2018
11	Rampati Venkat Tarun	CSE	BHEL	6 weeks, 10 March to 31 April 2018
12	Thavva Sampath Kumar	CSE	BHEL	6 weeks, 10 March to 31 April 2018
13	Somarouthu Srikanth	CSE	BHEL	6 weeks, 10 March to 31 April 2018
14	Venkat Sai Nikhilesh	CSE	BHEL	6 weeks, 10 March to 31 April 2018
15	Jonnalagadda Noyal	CSE	BHEL	6 weeks, 10 March to 31 April 2018
16	Bodavula Prudhvi Krishna	CSE	CCC Digital	6 weeks, 10 March to 31 April 2018
17	Gottipati Vamsi Krishna	CSE	CCC Digital	6 weeks, 10 March to 31 April 2018
18	Garikapati Chaytavva Anantha Sairam	CSE	CCC Digital	6 weeks, 10 March to 31 April 2018
19	Raavi Manoj Chowdary	CSE	CCC Digital	6 weeks, 10 March to 31 April 2018
20	Mallineni Sai Teja	CSE	CCC Digital	6 weeks, 10 March to 31 April 2018
21	Raghupathruni Pavan Krishna	CSE	Colosseum Group	6 weeks, 10 March to 31 April 2018
22	Muvva Sahithya Priya	CSE	Colosseum Group	6 weeks, 10 March to 31 April 2018
23	G Akhileshwar Reddy	CSE	Colosseum Group	6 weeks, 10 March to 31 April 2018
24	Jakkula Jairaj Yadav	CSE	Colosseum Group	6 weeks, 10 March to 31 April 2018
25	Sangonda Surya	CSE	Colosseum Group	6 weeks, 10 March to 31 April 2018

26	Voleti Sri Lakshmi Priyanka	CSE	Colosseum Group	6 weeks, 10 March to 31 April 2018
27	Ramya Ambati	CSE	DATA READY	6 weeks, 10 March to 31 April 2018
28	Shivani Reddy k	CSE	DATA READY	6 weeks, 10 March to 31 April 2018
29	Athota Sireesha	CSE	DATA READY	6 weeks, 10 March to 31 April 2018
30	Nagothi Hemasai	CSE	Disruptive Soft	6 weeks, 10 March to 31 April 2018
31	Perla Ranga Radha Krishna	CSE	Disruptive Soft	6 weeks, 10 March to 31 April 2018
32	Syed Humayra	CSE	Disruptive Soft	6 weeks, 10 March to 31 April 2018
33	Doddi Chandra Pydikumar	CSE	Disruptive Soft	6 weeks, 10 March to 31 April 2018
34	Chattala Vasundhara	CSE	Disruptive Soft	6 weeks, 10 March to 31 April 2018
35	Pullela Madhusri	CSE	Disruptive Soft	6 weeks, 10 March to 31 April 2018
36	Chinnam Sravani	CSE	DOERS	6 weeks, 10 March to 31 April 2018
37	Aakanksha chouhan	CSE	DOERS	6 weeks, 10 March to 31 April 2018
38	Jay Prakash Gupta	CSE	DOERS TECH	6 weeks, 10 March to 31 April 2018
39	Gavrav Dhal	CSE	ECIL own	6 weeks, 10 March to 31 April 2018
40	Dodda Jashwanth Reddy	CSE	EFFTRONICS	6 weeks, 10 March to 31 April 2018
41	Yelisetty Srivarsha	CSE	EFFTRONICS	6 weeks, 10 March to 31 April 2018
42	Pudi Jahnavi	CSE	Fluentgrid	6 weeks, 10 March to 31 April 2018
43	Popuri Naga sai sathvika	CSE	Fluentgrid	6 weeks, 10 March to 31 April 2018
44	Dabburi Deepika	CSE	GSPANN Technologies	6 weeks, 10 March to 31 April 2018
45	Bhaskarani Sharath Chandra Kumar	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
46	Wuppukonduru Siva Sai Aishwarya	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
47	Gumadavelly Ramya	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
48	Sajan Kumar	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
49	Boppana Pavan Teja	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
50	Mohan Vamsi Sajja	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
51	Garipelly Vyshnavi	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018

52	Mulla Dasthagiri Mallik	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
53	Bijay Adhikari	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
54	Ashutosh singh	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
55	Jay Prakash Gupta	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
56	Julius Mwita Chacha	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
57	Kommineni Jagadeesh Chowdary	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
58	Sai Rishvanth K	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
59	Talari Hrisheekesh	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
60	NVMK Chaitanya Kotcherlakota	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
61	Samanthapudi Manoj Varma	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
62	Nagamlla Venkata Sai Nikhith	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
63	Kopuri Vamsi Krishna	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
64	Gude Abhin	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
65	Vejju Rahul Siva Satya Sai	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
66	G Adarsh	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
67	Tavidisetty Rajendra sri harsha	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
68	Alluri Harika	CSE	Innogeeks	6 weeks, 10 March to 31 April 2018
69	Kamal Gude	CSE	IPACS, HYDERBAD	6 weeks, 10 March to 31 April 2018
70	Yadamakanti Sai Sashikanth Reddy	CSE	ITC, BHADRACHALAM	6 weeks, 10 March to 31 April 2018
71	Chinnam Ajay Sugandh	CSE	KAAR Tech	6 weeks, 10 March to 31 April 2018
72	Kovur sai sruthi	CSE	KAAR Tech	6 weeks, 10 March to 31 April 2018
73	Muddana Harini	CSE	Make my clinic	6 weeks, 10 March to 31 April 2018
74	Rakus Rimal	CSE	Nepal Telecom	6 weeks, 10 March to 31 April 2018
75	Cyrus Maharajan	CSE	Nepal Telecom	6 weeks, 10 March to 31 April 2018
76	Ashim Chaudhary	CSE	Nepal Telecom	6 weeks, 10 March to 31 April 2018
77	Srijeet Man tamarkar	CSE	New IT Venture Corporation Limited	6 weeks, 10 March to 31 April 2018

78	Vatsal Rathod	CSE	Nimblebox.ai	6 weeks, 10 March to 31 April 2018
79	Aayusi Biswas	CSE	Nimblebox.ai	6 weeks, 10 March to 31 April 2018
80	Tuhin Sarkar	CSE	Nimblebox.ai	6 weeks, 10 March to 31 April 2018
81	Chinnam Ajay Sugandh	CSE	ONGC, RAJAMUNDARY	6 weeks, 10 March to 31 April 2018
82	Ega Jahnavi Reddy	CSE	Robic Rufarm	6 weeks, 10 March to 31 April 2018
83	Adusumalli Padma Teja	CSE	Robic Rufarm	6 weeks, 10 March to 31 April 2018
84	Kazi Nahidul Rashid	CSE	Robic Rufarm	6 weeks, 10 March to 31 April 2018
85	Yallammagari Rachakada Poojith Reddy	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
86	Ganji Harikrishna	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
87	Markapuram Havish Madhav	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
88	Suryakari Sreekanth Rao	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
89	Polavarapu Guna Charan	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
90	Marri Mahendra	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
91	Parsa Phanindra	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
92	Yenuganti Chaithanya Praveen	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
93	Akiri Anil Kumar	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
94	Gavrav Dhal	CSE	Shakthi Tech	6 weeks, 10 March to 31 April 2018
95	Yenuganti Chaithanya Praveen	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
96	Anne Sai Akhil	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
97	Kambampati Aravind Babu	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
98	Athota Siva Krishna	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
99	Garaga Ialithya Krishna	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
100	Neelakantam Poorna Venkat	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
101	Ravula Ruthvick	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
102	Paladugu Prudhvi Krishna	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
103	Kalyanapu Sai Teja	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
104	Chaparala Tharun	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018

105	Danthuluri Aditya Varma	CSE	Signer Tech Solutions	6 weeks, 10 March to 31 April 2018
106	Kurra Vishnu Teja	CSE	SYMBIOSIS TECHNOLOGIES	6 weeks, 10 March to 31 April 2018
107	Venkata Sai Ganesh Kamisetty	CSE	SYMBIOSIS TECHNOLOGIES	6 weeks, 10 March to 31 April 2018
108	Venkata Krishna Sunkara	CSE	TI cycles of india	6 weeks, 10 March to 31 April 2018
109	Koya Venkat Sai Vara Prasad	CSE	TI cycles of india	6 weeks, 10 March to 31 April 2018
110	Aaditya Jain	CSE	TTC, NEW DELHI	6 weeks, 10 March to 31 April 2018
111	Sai Tanmayi Pesala	CSE	Unschool	6 weeks, 10 March to 31 April 2018
112	Kattamuri Sai Krishna Rohith	CSE	Unschool	6 weeks, 10 March to 31 April 2018
113	Vemuru Thiru Srinivasa Teja	CSE	Unschool	6 weeks, 10 March to 31 April 2018
114	Nvmk Chaitanya Kotcherlakota	CSE	Unschool	6 weeks, 10 March to 31 April 2018
115	Samanthapudi Manoj Varma	CSE	Unschool	6 weeks, 10 March to 31 April 2018
116	Samudrala Vineet	CSE	Unschool	6 weeks, 10 March to 31 April 2018
117	Yegireddy Deepak Sri Sai Krishna	CSE	Unschool	6 weeks, 10 March to 31 April 2018
118	Khushboo Maheshwari	CSE	Unschool	6 weeks, 10 March to 31 April 2018
119	Nagam Madhavi	CSE	Verzeo	6 weeks, 10 March to 31 April 2018
120	Neha Nimmagadda	CSE	VN Career solutions	6 weeks, 10 March to 31 April 2018
121	Posani Lakshmi Supraja	CSE	VN Career solutions	6 weeks, 10 March to 31 April 2018
122	Suchet Thapa	Mech	WSEN( World Student environmental Network) Organized by Doshiha University, Kyoto	August 26 <sup>th</sup> to 30 <sup>th</sup> 2018
123	Adam	Mech	WSEN( World Student environmental Network) Organized by Doshiha University, Kyoto	August 26 <sup>th</sup> to 30 <sup>th</sup> 2018

## Conferences /Participation in Technical Activities

S. No.	Name of the student	Department	Details	Duration & dates
1	A.Revathi	CSE	IIT GOA, Nadata	3 days
2	T.Harshini	CSE	Ethical hacking workshop, IIT HYDERABAD.	2 days

3	E. V. S. SUSHMA	CSE	Ethical hacking workshop, IIT HYDERABAD	2 days
4	G. Sravani	CSE	Ethical hacking workshop at IIT HYDERABAD	2 days
5	S. THANUJA PAVANI	CSE	Ethical hacking workshop IIT HYDERABAD	2 days
6	Sai Abhishree	CSE	Ethical hacking workshop IIT HYDERABAD	2 days
7	P. MohinishTeja	CSE	Web Development Internship for Expetra.com	2 months (Jun 3 to Aug 3)
8	N. Deepika	CSE	hacking At IIT Hyderabad. Workshop at IIT Hyderabad.	2 DAYS
9	Monika chowdary.M	CSE	On Ethical hacking Workshop at IIT Hyderabad.	19-20 jan 2019 2DAYS 19,20 jan 2019
10	Haveelagaddam	CSE	On Ethical hacking Workshop at IIT Hyderabad on ethical hacking	2DAYS 19,20 jan 2019
11	G. Aparna	CSE	Ethical hacking Workshop at IIT Hyderabad on ethical hacking	2 days 19,20 Jan 2019
12	P. DIVYA KALYANI	CSE	1) Ethical hacking Workshop at IIT Hyderabad on ethical hacking.	19,20 Jan 2019
13	P. SINDHU VARSHINI	CSE	2) cybersecurity internship and project done at MTA EDUCATION 3) programming for everybody (getting started with python) by charles severance in coursera.	19,20 Jan 2019  13 may 2019 to 12 june 2019 1 month
14			1) Ethical hacking	



	S.SATYA UDAY	CSE	Workshop at IIT Hyderabad on ethical hacking 2)programming for everybody(getting started with python) by charles severance in coursera. 3)python data structures by charle SSB interview at coimbatore	19,20 Jan 2019 1month course (certificate received on 10-02-2018) 1 month course (certificate received on 01-08-2019)
15	PabbaSumanth	CSE	Ethical hacking workshop at IIT HYDERABAD	12th April-16 April 2019 2 days
16	MODEKURTY SRI KRISHNA KUMAR	CSE	Ethical hacking Workshop at IIT Hyderabad on ethical hacking	2 DAYS ( 4JAN - 5JAN )
17	PALADUGU SIRIVANTH	CSE	Ethical hacking Workshop at IIT Hyderabad on ethical hacking	2 DAYS ( 4JAN - 5JAN )
18	N.Sai Rakesh	CSE	Workshop at NIT Warangal on ethical hacking	52 days, 20days, 1day
19	Vatsanya Athicom	CSE	1. Workshop at IIT Hyderabad on ethical hacking 2. Green build summit in Mumbai 3. Aiesec Global volunteer program	2 days 2 days 45 days
20	YAKKALA TARUN SAI	CSE	Ethical hacking workshop at IIT HYDERABAD ➤	2 days ( 4th and 5th

				January 2019)
21	Varsha Sri Sai.Y	CSE	Ethical hacking workshop at IIT HYDERABAD Workshop on ethical hacking at IIT Hyderabad	2 days (4th and 5 th January 2019) 2DAYS 19,20 jan 2019
22	Suhithagogineni	CSE	Ethical hacking workshop at IIT HYDERABAD Basic Machine learning course at Elements of AI.com	2 days ( 4th and 5th January 2019) 6 weeks
23	Jahnavi.J	CSE	Ethical hacking workshop at IIT HYDERABAD	2DAYS 19,20 jan 2019
24	Sai Sri Lakshmi	CSE	Ethical hacking workshop at IIT HYDERABAD	2DAYS 19,20 jan 2019
25	Pullela.MadhuSriChowdary	CSE	Internship on Web Development at Vijayawada	45 days (from 03-05-2019)
26	Tuhin Sarkar	CSE	Data Science internship at Chennai	1 June - 29 July
27	Vatsal Rathod	CSE	Data Science internship at Chennai	14 May - 12th June
28	Aayusi Biswas	CSE	Data Science internship at Chennai	2nd May to 30th June
29	Saurav Raj	CSE	Internship at Finland for IGDC	Currently working
30	Srinivas Teja .V.T	CSE	Internship at Hyderabad for AR/VR Development	Currently working

31	Yelisetty Sri varsha	CSE	Internship at Unschool as a Web developer, Marketing Manager	Completed
32	M.Nilofer Sultana	CSE	Product Development Internship at Unschool	2months (6th May to 6th July, 2019)
33	Gaurav Dahal	CSE	Working as Junior Coach for Web development at Unschool	June 3 to June 20 30 Days (26 May - 25 June)
34	Sajan Kumar	CSE	Product Development Internship at Unschool	6 Weeks
35	Gumadavelly Ramya	3rd Year CSE	Web development at Unschool	13/05/2019 - 29/06/2019
36	Alluri Harika	3rd Year CSE	Swachh Bharat Internship at Nidamaruru	May 16 - Jun 15
37	M.Sahithya Priya	3rd Year CSE	1) Internship at Efftronics Systems Pvt.Ltd, Vijayawada. 2) Artificial Intelligence workshop at SRM AP Tech fest 2k19.	June 3 to June 20 30 Days (26 May - 25 June)
38	A Padma teja	CSE	Internship in fluentgrid Pvt.Ltd, Visakhapatnam	6 Weeks 13/05/2019 - 29/06/2019
39	Chinnam Sravani	3rd Year CSE	Internship at symbiosis Web development Internship at ECIL, Hyderabad	May 16 - Jun 15 1. Dec 15- Jan 15 2. May 9 - Jun 9

40	M.Alekhy	3rd Year CSE	1.Cyber security internship at Azure Skynet Solutions. 2.Cloud computing internship at Asper vision Tech Education.	1 st May- 22nd June 1. 1 may - 16 Jun 2. Dec 15 - 15 Jan 3. 2 days
41	P.R.Radhakrishna	3rd Year CSE	Internship on Machine learning at Whistle Drive Pvt Ltd. 1.web development internship at robicrufarmptv Ltd Hyderabad. 2.Cyber security internship at Azure Skynet Solutions. 3. Artificial intelligence workshop at SRMAP	45days, 20days
42	Pavan Krishna	3rd Year CSE	1.Cyber security internship at Azure Skynet Solutions. 2.Cloud computing internship at Asper vision Tech Education. 1.Cyber security internship at Azure Skynet Solutions. 2.Artificial Neural Networks and Deep Learning internship at Bennett University, New Delhi.	52 days, 20days, 1day
43	Jai Raj yadav	3rd Year CSE	Internship at WhistleDrive in the feild of Machine learning. Machine Learning Training with Projects at Verzeo.	52 days, 10 days
44	Akash,	Mech	<b>Third Prize- Students Best Innovative Projects, International Conference on Green energy and Smart Cities, SRM University AP Amravati- 2018</b>	
45	Dibya	Mech		
46	Raja	Mech		
47	Raja Swarnakar	Mech	<b>MRS Model exhibition on “Smart pole” , International</b>	
48	Akash	Mech		

49	Dibya	Mech	Conference on Green energy and Smart Cities, SRM University AP Amravati- 2018	
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## Conferences attended by the students

Mr. Miran Junaidi, II CSE, PyCon-2018, June 1-2, 2018, Taiwan

## Awards, Prizes & Medals

S. No	Name of the student	Department	Event	Detail
1	Saurav Raj	CSE	ACM VIT Hackathon, March 22-23, 2019	Top 10
2	P.Sindhu Varshini	CSE	IGDC DIGITAL TREASURE HUNT AT SRM AP TECH FEST 2019	Winner
3	P.Mohinish Teja	CSE	HackSRM 1st Edition SRMAP Tech Fest 2019	2nd place
4	Srinivas Teja .V.T	3rd Year CSE	HackSRM	1st place
5	Tuhin Sarkar	CSE	ACM VIT Hackathon, March 22-23, 2019	Top 10
			Playscape @ Berkeley	Bronze medallist
			IBM Developers Conference	Top 10
			ACM VIT Hackathon, March 22-23, 2019	Bronze medallist
6	Aayusi Biswas	CSE	Playscape @ Berkeley	Top 10
			ACM VIT Hackathon, March 22-23, 2019	Bronze medallist
7	Vatsal Rathod	CSE	Playscape @ Berkeley IBM Developers	
8	Sajan Kumar	CSE	ACM Summer School ML Challenge	Runner up
			Itech Hackathon	Top 10
9	Alluri Harika	CSE	HACKSRM	TOP 3
10	Gumadavelly Ramya	CSE	1.CODERACE 2.HackSRM	2nd Place
11	Chinnam Sravani	CSE	1.THINKSMART 2.VIT Hackathon	Runner up
12	A Padmateja	CSE	1.THINKSMART VIT Hackathon 2.HACKSRM 3.Technical Quiz	1.Runner up 2.Top 3 3. Runner Up

13	Pavan Krishna	CSE	1.Azadi Quiz, SRM AP 2.Selfie Competition(Narcissus), Kalptaru	1.Third Place 2. Second Place First Place
14	K. Sree Rama Murthy	CSE-D	1. Codeatron 2019 (coderae)@SRMAP 2. HackSRM	Top 10
15	T.R.Sri Harsha	CSE	1.Presentation on AI and VR at WSEN 2018, Japan, committee paper submitted to the Ministry of Japan and several other esteemed environment welfare organizations. 2.hackSRM	Title winner
16	Saurabh Ghanekar	CSE	1. Tensorflow Dev Summit 2019, Sunnyvale, CA 2. Google Developers Group, San Francisco, CA (Gave a talk on Tensorflow 2.0) 3. H2O World San Francisco 2019, San Francisco, CA	
17	Sai Teja Tummuri (2019-2023)	EEE	National Children's Science Congress	Certificate of district and state level and a participation certificate in national level in national children's science Congress organized by the department of science and technology, Government of India.
18	Divyam mandradia (2018-2022)	EEE	Computer science Olympiad	Gold medal regional level
19	Divyam mandradia (2018-2022)	EEE	Australian chemistry quiz	1st rank
20	Akash,	Mech	International Conference on Green energy and Smart Cities, SRM University - AP	Third Prize-Students Best Innovative Projects
21	Dibya	Mech		
22	Raja	Mech		
23	Raja Swarnakar	Mech	International Conference on Green energy and Smart Cities, SRM University - AP	MRS Model exhibition on <b>"Smart pole"</b>
24	Akash	Mech		
25	Dibya	Mech		

## Social activities

S. No	Name of the student	Dept	Activity
1	Mahita Reddy	EEE	Participated in an event in which One lakh people performing both dance and singing at Gachibouli, Hyderabad at a time & this got recorded into Guinness world book of records
2	T.Harshini	CSE	Attended NSS program at KURAGALLU.
3	G.SRAVANI	CSE	Attended NSS program at KURAGALLU
4	Vatsanya Athicom	CSE	Attended NSS program at KU
5	Atluri Veera Sai Raghu Ram reddy	CSE	Attended NSS Program at SRM-AP
6	N Venkata Subhash	CSE	Attended NSS Program at SRM-AP
7	Suhitha gogineni	CSE	Attended NSS program at kuragallu
8	Srinivas Teja .V.T( 3rd Year CSE-1)	CSE	Swachh Bharat at Nidamaru
9	M.Nilofer Sultana(CSE 3rd year )	CSE	Swachh Bharat at Chinnakakani
10	M.Alekhy(CSE 3rd year )	CSE	Swachh Bharat at Chinnakakan
11	Sajan Kumar	CSE	Coached Girls Basketball Team
12	A Padmateja	CSE	Swachh Bharat programme at Chinnakakani
13	Pavan Krishna	CSE	Swachh Bharat Summer internship at Amaravathi
14	Jairaj yadav	CSE	Swachh Bharat Summer internship at Amaravath
15	Rithika Sharma, Nimmagadda Deva Harshalai and Ambadipudi Suma	History	Organised Freedom Quiz on the occasion of the Independence Day
16	Ambadipudi Suma	History	<b>Lead Role in the Play titled ‘The Voice ‘ on the issue of Women Empowerment enacted on the occasion of Women’s Day, 8 March</b>
17	Ambadipudi Suma	History	<b>Lead Role in the play titled ‘The Martyrs’ on the occasion of Bhagat Singh,Rajguru and Sukhdev’s Martyrdom, 22 March</b>
18	Rithika Sharma	History	Organised the LitFest as parts of the cultural club, ACTS
19	Nimmagadda Devaharshalai, Ambadipudi Suma and Nidhi Yadav	History	Played an instrumental role in organizing the LitFest 2018-19.

## Sports & extra-curricular activities

Students of SRM AP participated in VITOPIA (3-8 March 2018) conducted at VIT AP, Amravati. There were various events such as Basketball, Volleyball, Football.....



S. No	Name of the student	Dept	Activity
1	Sajan Kumar	CSE	VITOPIA - Basketball SRM Sports fest - Basketball Vignan sports fest - Basketball SRM Tech & cultural fest - Organizer
2	Gaurav Dahal	CSE	SRM SPORTS FEST(2017 and 2018) - Basketball VITOPIA SPORTS FEST(2017 and 2018) - Basketball Aura-2018 (CBIT SPORTS FEST, Hyderabad ) - Basketball VITOPIA Sports Fest (2017) - Table Tennis
3	Pavan Krishna	CSE	Vitopia - Dance (Participant) Kalpataru - Singing (Participant) & Volunteer SRM AP Techfest - Anchor SRM AP Techfest - Core Coordinator(Multimedia & Publicity)
4	Srinivas Teja .V.T	CSE	Digital Treasure hunt, Co-Organizer, SRMAP Techfest 2018
5	Alluri Harika	CSE	Technical Quiz Organizer, SRMAP Techfest 2018.
6	Chinnam Sravani	CSE	Technical Quiz Organizer, SRMAP Techfest 2018.
7	Gumadavelly Ramya	CSE	Technical Quiz Organizer, SRMAP Techfest 2018
8	A Padmateja	CSE	SRMAP Techfest publicity Coordinator 2018.
9	T.R.Sri Harsha	CSE	Techfest Core Coordinator for Events Techfest anchor Digital Treasure Hunt Event Organizer
10	Abhishek Kumar	EEE	played volley ball under 17 at Guntur
11	Dileep Patted	EEE	played Kho Kho under 17 regional level Karnataka
12	Raj Patel	EEE	played state level karate championship (35 to 45 kgs)
13	Ambadipudi Suma	Mech	Harsha Nimmagadda and Rithiks Sharma participated in the Cultural Fest conducted at SRM-AP.

### Popular Talks, Radio, TV and Internet based (May 2018-May 2019)

S.No	Student Name	Details
1	Srinivas Teja .V.T	DesignBoat CEO talks on UI/UX Design Unschool CEO on Management and Bootstrapping StartUp
2	Pavan Krishna	Demonstrator for PiJam 2019

3	Suchet Bahadur Thapa	produced a video where they guide the freshmen and explain them why SRM-AP
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# Scientific reports

Research activities and trust areas are listed

## 1. Hydrogen Powered Train (Jhal Janak Rail)

Hydrogen Powered Train is being developed by SRM University in collaboration with Integral Coach Factory (ICF) of the Ministry of Railways, Government of India. The Hydrogen Powered Train does not use Diesel or Electrical energy. Hydrogen is given as input to the fuel cell and the output of the fuel cell will drive the train. Lithium Ion Batteries and supercapacitors are employed. The proposed train will have 2 coaches operating at a speed of 75 Kmph. It is expected that the Hydrogen Powered Train will be operated by Dec 2019.



## 2. Department of Computer Science and Engineering (CSE)

The Computer Science and Engineering Department will investigate various issues related to image processing, pattern recognition, computer vision, video analytics and information retrieval. Large data are generated due to the emergence of social media and mobile phone-based applications, IOTs, etc. Distributed storage and computing have become very important for addressing the problem of Big Data and a lot of organizations have already started using the technology and tools developed based on the concepts of distributed computing. The faculty and students of the CSE department are actively involved in solving problems related to Big Data. The department will also focus in developing new techniques and tools for solving the problems which require the use of the algorithms proposed in artificial intelligence and machine learning fields. The department will also investigate issues related to computer networks and security. Social mining is also one of the areas in which faculty and students of CSE department will be carrying out research activities. The department will also address some important problems in health informatics and carry out efforts for building new software systems which will assist the doctors in providing better treatment to the patients. The department will also investigate high performance computing algorithms which will be applied in various areas of computer science and allied fields.

The research activities carried out by the faculty members of the department are described below.  
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Professor Kasthuri Rangan

Prof. Gopalakrishnan has been involved in several state, federal, and industry-sponsored research grants and contracts related to his interdisciplinary research interests that range from data-driven smart civil infrastructure health monitoring and management, engineering applications of artificial

intelligence and machine learning to building resilient and sustainable roadways. Some highlighted ongoing research activities in the area of developing and deploying machine learning based models for transportation infrastructure materials characterization, inverse analysis, and performance assessment include:

- Instantaneous condition assessment of highway infrastructure based on non-destructive evaluation using neural network models
- Text mining transportation research grant big data using NLP techniques
- Deep convolution neural networks with transfer learning for computer-vision based data-driven pavement distress detection
- Machine learning based predictive models for hot-mix asphalt dynamic modulus characterization
- Nature-inspired metaheuristics for global optimization in non-linear inverse analysis of highway road and airport runway pavements
- Deep learning applications to enhance airport and highway infrastructure analysis, design, and performance
- Real-time road condition assessment using smartphone based multi-fusion sensing

Prof. T. Ragunathan

Prof. Ragunathan carries out research activities with regard to development of fast distributed file system for efficient storage and fast retrieval of large data. He focuses on issues such as client side caching, prefetching, replication and concurrent file access in distributed file systems. He also carries out research works on task scheduling and load balancing issues in cloud computing systems. He also investigates regarding efficient treatment plans for curing patients affected by critical diseases. Artificial intelligence and Big data-based techniques will be used in this research work for generating cost effective treatment plans.

Dr. Kazuhito Shida

Dr. Shida has been working on improvement of Markov Chain Monte Carlo methods(MCMC), which has a wide applications in integration, ensemble generation and optimization of various functions defined on complicated domains. MCMC methods can be broadly separated into reversible and more advanced but difficult-to-handle irreversible ones. His latest interest is a general and simplified way of introduction of irreversibility to MCMC. An irreversible prototype algorithm is already working well on small-scale optimization problems.

Dr. Krishna Prasad

Dr. Krishna Prasad has been working on Applications of Genetic algorithms and Fuzzy modelling in the areas of Electrical distribution systems, Wireless sensor networks and Distributed systems. Future research planned: application of Evolutionary programming in many contemporary research areas. His current research interests include Green Cloud computing, Data Placement strategy in Distributed Systems, EP in Big Data, WSN & Hybrid Wireless systems, Internet of Nano Things, Virtual reality and augmented reality.

### **Dr. A. Vadivel**

The Internet protocol based surveillance systems are ruling the world undoubtedly and marking their presence in human activity behavioral analysis. The relentless pace of technological growth in Visual Sensor Networks (VSN) draws the attention of researcher to focus on developing a distributed and collaborative video surveillance systems. It is imperative that there will be a lot of visual data communication between the nodes in VSN. The visual

data requires higher bandwidth usage due to the amount of data to be transmitted. Each node consumes higher power due to the visual data coding, frame processing and high volume data acquisition. As a result, a collaborative VSN architecture specification has to be designed as platform for performing image compression, video coding and vision computing technique at node level. The architecture has to be categorized at the functional level in terms of integration of nodes, data processing hardware, energy dissipation and hierarchy. Currently, I am working on to design Platform specification of VSN for collaborative surveillance systems, propose video coding, image compression and vision computing techniques at node level, propose protocol specification for visual data communication between nodes and Integrate the platform and specification for proactive surveillance applications.

**Dr. Sandeep Singh Sengar:**

Dr. Sengar's current research interests include motion segmentation, visual object tracking, object recognition, and video compression. His broader research interests include machine learning, computer vision, image/video processing and its applications. He has published several research articles in reputed international journals and conferences in the field of computer vision and image processing. He is a Reviewer of several reputed International Journals including Pattern Recognition and Neurocomputing. He has also served as Technical Program Committee member in many International Conferences.

**Dr. Priyanka:**

Dr. Priyanka is currently working on digital image watermarking and cattle identification based on animal biometric. The research in the field of digital image watermarking, focusing copyright protection, tamper detection and content authentication to protect intellectual property from illegal usage, corrupting, forgery etc. She is working on the use of soft computing in watermarking to increase imperceptibility, robustness and security. She is also working on developing a real-time biometric-based cattle recognition systems for registration, tracking, health monitoring and insurance claim of cattle using computer vision, pattern recognition and Artificial Intelligence. The novel cattle identification system can be implemented on android platform in real time scenario which makes it cost effective.

**Dr. Bhanukiran Perabathini** is currently working on optimization techniques in applications related to UAV based wireless communications. The work is both analytical as well as algorithmic in nature. 3D Wireless Cellular Network is an emerging field of research in which drone base stations are integrated with cellular-connected drone users. Problems related to optimization of various network performance metrics such as coverage probability and channel rate, and mitigation of power consumption and latency is of great interest in these novel scenarios.

**Dr. Manikandan V. M.** is currently working on reversible data hiding on digital images, digital image watermarking schemes for copyright protection and data authentication, and blind copy-move forgery detection from digital images. He has proposed a new scheme called reversible data hiding through encryption for transmitting patient information along with the medical images. He also proposed a few efficient digital image watermarking schemes for copyright protection and image authentication. He is also having a good experience in the blind copy-move image forgery detection. He has already published his research outcomes in several peer reviewed journals and conferences. He is also acting as a reviewer of various

international journals like ISA Transaction, Computers and Electrical engineering, International Journal of Engineering Research and Technology, etc.

**Dr. Satish Anamalamudi** is currently focusing on “Design of Scheduling protocols for Deterministic IoT Networks”. State-of-the art scheduling protocol(SF0) for IoT networks is to enable cell scheduling for the aggregate traffic flows. But, there are some critical applications (e.g. Industrial M2M, medical M2M) which needs guaranteed bandwidth and bounded latency to transport the time-sensitive data within point-to-point traffic flows. For such P2P deterministic traffic flows, IoT nodes should assign a dedicated end-to-end L2-bundles to support control/data streams[I-D.ietf-detnet-use-cases]. For such applications, a new scheduling protocol is proposed to reserve, label and schedule the end-to-end resources hop-by-hop through the Resource Reservation Protocol-Traffic Engineering (RSVP-TE).

**Dr. Jatindra Kumar Dash** is currently working in the area of design and development of Medical Image Analysis algorithms. His focus is to develop expert medical Decision Support System for disease diagnosis. He has proposed many novel Image retrieval paradigms those exploit the data stored in medical image database and provide reference cases for assisting radiologists for differential diagnosis of Lung diseases. He has published his research papers in journals of repute and proceedings of prestigious conferences. His broad area of research includes development of new machine learning and deep learning algorithms, content based image retrieval, video analytics etc.

**Dr. Muralikrishna Enduri:** The following are the research activities carried out by Dr. Murali.

#### 1. Impact of Diversity of an Article

Within Big Data Analytics, I have focused on the study of impact of diversity of publication or article. Interdisciplinary work is characterized by the diversity of inputs from different fields that contribute to making it. Consequently measuring the diversity of publication or article captures the degree of interdisciplinarity of work. In one of my research work, we discovered that papers with extremely low and high diversity receive low citations compared to papers with moderate diversity [1]. This research goals to study the impact of diversity of an article in general. I would like to address the question: Will impact of diversity effect the citations or views of an articles (authors)?

#### 2. Effect of Influence in Complex Networks

Within Complex Networks, I would like address impact of the influential spreaders in the complex networks. Spreading processes or information in complex networks have gained great attention from the research community due to many direct applications on it. This research goal is to study the effect of influence nodes in the complex networks

### 3. Department of Electronics and Communication Engineering (ECE)

The research work in Electronics and Communication Engineering (ECE) department is broadly categorized into four different but intersecting areas viz. VLSI design, Communication Systems, Signal Processing and Microwave/ Radar/ Photonics. In the research area of VLSI and Microelectronics, the department will mainly investigate into Digital /Analog / Mixed signal circuits & systems design, power/energy devices, biomedical and healthcare electronics, sensors and interfaces, AI/ML & Electronic Design, Internet of Things, Quantum Computing, Solar cells, MEMS and Beyond-CMOS: Nano-electronics. In the broad research domain of Communication Systems and Signal Processing, the

department will mainly focus into Hybrid communication systems (e.g. satellite/terrestrial/wireline hybrids), Advanced equalization, channel estimation, and synchronization, Modulation, coding, and diversity techniques, Channel modelling and propagation, Advanced multiple access techniques and air interfaces (CDMA, TDMA, FDMA, OFDMA), Next generation and beyond multiple access techniques (NOMA, SCMA, MUST, etc.), Security issues related to wireless communications, Image and video processing, speech processing and human language technologies, Human machine interfaces, Multimedia transmission, indexing, retrieval, and quality of experience, statistical signal processing, Seismic signal processing and Bio-image analysis. In the important research domain of RF Microwave/ Radar/ Photonics, faculties and students of our department will mainly investigate into Wireless power transfer and energy harvesting, Antennas design, Optical Communications, Photonic devices, RF active component design, RF passive circuit design, Radar architecture and systems, detection and tracking, Radar applications.

The following are the research areas where the students and faculty members are actively engaged:  
Research Group of Prof. Siva Yellampalli

Thrust areas

- The objective of the research group is to explore and design high performance, high speed, low power and highly reliable analog mixed signal circuits to be part of solutions for industrial problems. The research at the group is focused on Transceiver design and developing building **blocks such as data converters, PLL's, DC-DC converters and LDO's.**

Description on research

The main objective of the research is to develop digital and analog IP cores. The developed digital IP include- behavioral models, Register Transfer level (RTL) source code, Test vector suite and test bench, synthesis scripts for block and top level, timing requirements of blocks and top level, place netlist for block and top level, estimated RC parameters for all blocks and top level, custom wire load models for all blocks, timing analysis scripts and post layout timing results, power grid planning procedures, scripts, clock tree insertion scripts, reports for area, power, test coverage for blocks and top level, DFT related deliverables viz test patterns, scan protocols supported, details of the target technology library. The specification document provided with the IP consists of functional description, reusability, integration requirements, clock distribution, references, assumptions made. **Analog IP include design of system aware IP's which will minimize the integration challenges. Analog IP's** such as Low Noise Amplifier, Power Amplifier, Voltage Controlled Oscillator, frequency divider and phase frequency detector for low power are designed for various communication standards.

Research Group of Dr. Sujith Kalluri

Thrust areas

- Advanced electronic testing of rechargeable Li-ion and beyond-Li-ion battery systems
- Device fabrication at the cell and pack level
- **Improvement of fast charging capabilities of battery systems**

Research Group of Dr. V. Udaya Sankar

Thrust areas

- Resource allocation in femtocells via Game theory: In this thesis work, we worked on interference mitigation between Femtocells and Macrocell for the case where both user and Femto Basestation (FBS) has single antenna. Eventhough we obtain efficient algorithm for the case where QoS of all users within a Femtocell satisfied, but in the case of where QoS not satisfied for some/all users within a Femtocell we obtained fair allocation of algorithms. Here I will be investigating various mechanisms (for example usage of multiple antennas at both user and FBS) to get effective algorithms for **interference mitigation but still all user's rate requirements are satisfied within a Femtocell.**

- IoT for Agriculture: Main objective is to get end to end solution for Agriculture using Internet of Things. In the first phase we are considering
  - ✓ disease prediction using images from leafs
  - ✓ predicting whether a particular plant needs water or not based on input from soil moisture sensor, weather sensor and temperature sensor. Later, we extend this to the case by considering disease as input to predict needful of water and extending to multiple plants (large area of agriculture land) and also using advance algorithms such as Deep learning
  - ✓ Main objective is to obtain papers and prototype
- IoT application to Structural Health Monitoring of Roads: In the first phase we consider distress detection of roads with following steps.
  - ✓ Given an image how to predict distress for road using simple image processing techniques. Later we will be extending to complex algorithms such as Machine learning and Deep learning.
  - ✓ Next step is to collecting image using cameras: Since we have to take pictures from large areas hence we will be investigating and proposing various methods to obtain images.
  - ✓ Main objective is to obtain papers and prototype
- Transceiver design for 5G Wireless Communications: In the first phase we are considering channel models & simulations using Matlab and Python for various scenarios.
  - ✓ Later we will be considering Digital beam forming algorithms as well as various modulation formats to design communication link for few use cases such as fixed transmitter & receiver, moving transmitter & fixed receiver etc
  - ✓ Main objective is to obtain papers and prototype

Research Group of Dr. E Karthikeyan

Thrust areas

- Carrying out research activities to detect the land mined using ground penetrating radar.
- Investigating the issues in developing efficient method to detect the metal from recorded radar data.
- Working on to develop new method to estimate the metals reflection coefficients from observed data.

Description on research

The seismic exploration method is a cost-effective approach to analyze the earth's subsurface layer up to certain depth at a particular place. In seismic exploration, a short duration seismic wavelet (pulse) is transmitted from the surface, which is reflected from the boundaries between earth's subsurface layers. The reflected waves are observed and recorded by an array of sensors at the surface of the earth. The sensor output (seismic trace) contains information about the seismic wavelet, the reflection coefficients (ratio of incident and reflected wave energy) and noise. This sequence of reflection coefficients contains the earth subsurface layer's information. To obtain the reflection coefficients from a noisy trace, seismic deconvolution and denoising are needed to mitigate the seismic wavelet and the noise. In order to perform deconvolution, the seismic wavelet must be known a priori. If it is unknown, then the seismic wavelet needs to be estimated accurately from the seismic trace. Otherwise, the obtained noisy reflection coefficients may lead to misinterpretation about the earth layers. My research work is to propose a method to estimate the seismic wavelet from seismic trace using higher order statistics based on the statistical assumption about the reflection coefficients and noise. Also work on denoising the seismic data based on the dictionary learning techniques.

Research Group of Dr. Sunil Chinnadurai

Thrust areas

- My research intrigues lie at the juncture of signal processing, communications and network information theory, with prominence on fifth generation (5G) radio access technologies, physical layer security, internet of things (IoT), and sensor networks. I am looking to realize the fundamental limits of communication systems and apply this intuition to address the quandaries emerging in the design of wireless communication systems.



#### Description on research

The swift expansion of smart devices will lead to enormous amount of increase in data traffic for 5G communication systems. Moreover, the requirement of higher data rates, lower latency, massive connectivity and high spectral efficiency poses a great challenge for 5G communication systems. To fulfil the requirements, various key technologies such as millimetre (mm) wave, non-orthogonal multiple access (NOMA) and massive multiple input multiple-output (MIMO) have been largely considered. Especially, NOMA has attained significant attraction in recent years as it has been proposed for the 3rd Generation Partnership Project (3GPP) Long Term Evolution-Advanced (LTE-A) standards and it is envisioned to be a part of 5G cellular networks to support fiercely increased network capacity with confined spectrum. NOMA utilizes the same radio resources to serve multiple users simultaneously which yields better throughput, fairness, spectral efficiency than the conventional orthogonal multiple access (OMA) schemes. NOMA employs superposition coding (SC) at the transmitter side to superimpose the desired signal of multiple users using power domain which generates inter user interference (IUI). Successive interference cancellation (SIC) is applied at the receiver side to eliminate the IUI and decode the desired transmitted signal. Application of multiple antenna technologies to NOMA further enhances the performance of NOMA system. Nonetheless, while single-cell NOMA has drawn significant attention recently, much less attention has been given to multi-cell NOMA.

Our goal is to investigate the potentials and challenges of NOMA in a multi-cell environment and to harvest the benefits of NOMA. Inter-cell interference, particularly at the cell-edge, is by far the main challenge in multi-cell networks. This interference situation becomes worse when NOMA is used, as cell edge users constantly experience interference from the neighbouring cell, whereas in the case of TDMA/FDMA interference is limited to certain time slots or frequency bands. To deal with this problem in a MIMO-NOMA communication network, we have developed a user clustering, beamforming and power allocation algorithm to efficiently transmit and receive the data in a timely manner. This approach is extended to an arbitrary number of cells, where the maximum number of users supported by the proposed scheme in multi-cell MIMO networks is characterized.

In the long run, I would relish to further develop my expertise and elongate my current research in information theory and wireless communications. The objective is to build a better understanding on how information can be optimally communicated over a network in terms of efficiency, and reliability. I would additionally relish to expand my research beyond the scope of communication networks, by applying my expertise in information theory and wireless communications to incipient areas such as smart power grid design.

Research Group of Dr. Amarjit Kumar

Thrust areas of research:

Design, Simulation, Fabrication, Measurement and Characterization of

- Reflection type microwave phase shifter.
- Dualband tunable bandpass filters.
- Wilkinson power dividers.
- Branch-line couplers
- Planar antennas
- Reconfigurable filtering dualband low-noise amplifiers
- Voltage controlled oscillator and RF/Microwave oscillators
- Wireless sensors using RF transceivers for industrial/environmental applications
- 5G transceiver front-end design
- Microwave Mixer
- Active and Passive RF/Millimeter wave components

#### Description on research

I have worked on Keysight ADS tool for the design, layout and simulation of active and passive RF/millimeter-wave circuits. Fifth-Generation (5G) and future wireless communication technologies call for very high performance RF transceiver front-ends realized using integrated multifunctional

approach with reconfigurable and multiband/multi-standard capabilities. Tunable dualband response in RF passive circuits is obtained using varactor-incorporated dualband transformer/resonator. Tunable dualband RF passive circuits such as bandpass filters, Wilkinson power divider and branch-line coupler have been designed, fabricated and characterized. Tunable dualband response in RF amplifier is obtained using varactor-incorporated dualband matching network. Filtering dualband response in low-noise amplifier is obtained using dualband filtering resonator in output matching network. Tunable dualband filtering low-noise amplifiers have been also designed and characterized. CST microwave studio has been used for the design of planar broadband antenna. Voltage controlled oscillator has been designed for applications in our proposed wireless RF sensors. Development of microwave sensors for wirelessly sensing the pressure and temperature variations of gas/volatile organic compounds/water vapor are based on reconfigurable and multifunctional components. Our wireless sensors have been developed for industrial internet of things (IIoT) applications. Parametric sensing and environment detection using integrated approach is the key drivers for modern sensor technology. Low cost microstrip technology has been used for the development of proposed RF circuits and wireless sensors.

I have also designed and characterized a "2.4-/5.2-GHz Dual Band Reflection Type Phase Shifter" for WLAN applications. Varactor diodes are used as the reflection loads for tunable phase shifters. Phase Shifter characteristics such as total tunable phase shift range, phase instability, insertion loss, return loss, size, operating frequencies have been optimized to meet the required specifications. Keysight ADS with Momentum and EMDS tools are used for the design and simulation of our proposed device. Our proposed phase shifter circuit has applications in beam forming and phased array radar.

Research Group of Dr. Anuj Deshpande

Trust areas

- Working on fault analysis and therapeutic intervention in genetic regulatory networks
- Aim to provide better and early medicines for time-critical diseases, like cancer.

Description on research

It is a well-known fact that cancer is a fatal disease today. After years of research in the medicines, yet there is no specific cure for cancer available. The existing cures for cancer are prolonged; they have many side effects, and yet do not assure relief from the disease. Although there are many medicines available, prescribing the right combination of drugs (or drugs cocktail) is always challenging for the medical practitioner. Therefore, we plan to integrate our engineering knowledge with biology and come up with a better therapeutic solution.

Our research combines the biological aspects with engineering such as systems theory, Boolean systems, and mathematics.

We focus on personalized medicines, where some combination of target drugs is used for the treatment of the patient based on his medical reports. Our target is to answer the following questions

1. Can the prescribed drugs cure the patient?
2. Are there any better drugs combination available?
3. Can a discovery of new drug yield better results?

If we can give these answer by some mathematical analysis, it will help to provide better therapy to the patient as quickly as possible.

In our work, we treat a cell as a system. The mutations, which cause cancer, are treated as faults in the systems. The therapeutic interventions (drugs) are considered as control inputs to the system. We try to obtain a state transition matrix for such a system and determine the observability and controllability of that system. Then we try to improve the observability and controllability of the system. From the improved observability of the system, we get more information about the disease. From the improved controllability, we get the possibility of controlling the disease with external inputs (i.e., target drugs).

Research Group of Prof. Ramesh Vaddi

#### Thrust areas

- Carrying research in the design of VLSI Accelerators/Architectures for energy efficient processing of Deep Neural Networks on AI Edge devices
  - Design of Energy Efficient Logic and Memory Design with Post-CMOS device Technologies for Next generation Computing platforms and In-Memory computing architectures
  - Design of Energy Efficient power management Circuits and Hardware security circuits for IoT
- Description on research (Prof. Ramesh Vaddi)

1. VLSI Accelerators/Architectures for energy efficient processing of Deep Neural Networks on AI Edge devices: Deep neural networks (DNNs) are currently widely used for many artificial intelligence (AI) applications (e.g., health care products, robotics/drones, self-driving cars, Industrial Internet of Things, etc). There are several challenges in deploying DNNs in edge devices like energy efficiency, throughput, and programmability, etc. While DNNs deliver state-of-the-art accuracy on many AI tasks, it comes at the cost of high computational complexity. Accordingly, techniques that enable efficient processing of DNNs to improve energy efficiency and throughput without sacrificing application accuracy or increasing hardware cost are very important to the wide deployment of DNNs in AI systems. The multiply-and-accumulate (MAC) operations in the CONV and FC layers account for over 99% of the overall operations in DNNs. Not only is the amount of operations are high, go up to several hundred millions of MACs per layer, they also generate a large amount of data movement.

**Therefore, they have a significant impact on the processing throughput and energy efficiency of DNNs.**

Therefore, it is very important to design the MACs for high energy efficiency and reduce memory access from external DRAMs, etc and maximize reusing of weights, input features and partial sums to minimize total energy consumption. Researchers have been exploring precision scaling, Binary/Ternary Neural Networks and zero/near zero skipping techniques, energy efficient data flows, etc in that direction and such efforts are at very initial stage though at very fast explorations. This effort involve very active collaboration with academic/industry partners/experts from Computer Science/Architectures, Digital Signal Processing, Machine Learning, Computer Vision, etc.

2. Energy Efficient Logic and Memory Design (In-memory computing) for Next generation Computing platforms with Post-CMOS technologies: With CMOS technology scaling and increasing demand for high throughput, Energy efficiency is going to be one of the top critical design constraint for designing any next generation computing platforms. Though CMOS based systems are good to explore and rely on for some more time as already matured and cost effective systems can be built, but researchers have been thoroughly investigating several alternative solutions using emerging devices such as Tunnel Transistors, STTMRAMs, NCFinFETs, ReRAMs, at the device level and at circuit/Architectural level, subthreshold/Near threshold computing, Approximate computing, Neuromorphic computing, In-memory computing architectures, etc. As part of this, we will be exploring design of computing architectures using some of above devices and architectural techniques and demonstrate energy efficiency. As part of this work, we will be demonstrating novel circuit level techniques suitable for circuit design using such emerging device technologies as per the unique device characteristics they possess. There is also a need to develop performance benchmarking circuits and compact models using such emerging device technologies. This effort involves active collaboration with partners/experts from Material science, Physics, Computer Science, etc.

3. Energy Efficient Circuit and Interface Technique for self-powered and hardware secure IoT SOC/Nodes: Designing IoT nodes has some important challenges like energy efficiency, self-powered, smart and most importantly secure. IoT nodes are very prone to various security attacks such as hardware trojans, side channel analysis attacks, battery draining etc. We work towards design methodologies and techniques required for realizing ultra-low energy and secure IoT nodes. As part of this, we will explore CMOS based True random number generators (TRNGs) and DPA counter measure techniques to enhance hardware security for IoT nodes. In this work we will explore efficient CMOS based digital LDOs and other important power management circuits such as rectifiers as part of power management of such systems. It is also important as part of building self-sustainable digital systems/architectures, making the system harvest energy from ambient sources such as photovoltaic, RF, thermal, etc is extremely important. Efforts will be made with collaborators and experts from

Industry to design and demonstrate initially systems with off the shelf components and then possibly a custom IC for such applications based on availability of funding and resources.

(ii) Some Key objectives/targets of the proposed Research work:

(1) Generating patents and hardware prototypes, based on our designs and techniques developed in collaboration with Industry/academic collaborators/partners.

(2) Creating a research group with high impact research by publishing research outcomes in prestigious Journals/Conferences in IEEE Solid State Devices, Circuits, Architectures, such as ISSCC, IEDM, IRPS, ISVLSI, ESSDIRC/ESSCIRC, ISLPED, ASSCC, ISCAS, etc, and journals such as IEEE Journal of solid state circuits, IEEE TBioCAS, IEEE Trans. on VLSI, IEEE Circuits and Systems-I,II, IEEE Trans. on Electron Devices, IEEE Electron Devices Letters, IEEE TCAD, IEEE Computer Architectures, IoT, Neural Networks, etc.

(3) Creating a high quality intellectuals and trained researchers who can take leading positions in academia and industry.

(4) Pursuing industry relevant problems and contributing for minimizing the gap between Academia -Industry.

Research Group of Dr. Pradyut Kumar Sanki

Thrust areas

- Carrying out research activities to develop a prototype for continuous blood glucose measurement non-invasively.
- Working on to develop a portable Photoacoustic Imaging System for continuous health monitoring, guide treatment and diseases diagnosis.
- Carrying out research activities to develop new algorithms for reducing the noise from corrupted image and video.
- Working on to develop a new architecture using Memristor to redesign digital memory, logic circuits, biological and neuromorphic systems.
- Investigating the issue to design a Street Clean Robot.
- Working on to develop an Autonomous Car.

Description on research

- Carrying out research activities to develop a prototype for continuous blood glucose measurement non-invasively
- Working on to develop a portable Photoacoustic Imaging System for continuous health monitoring, guide treatment and diseases diagnosis.
- Carrying out research activities to develop new algorithms for reducing the noise from corrupted image and video.

Research Objective (Dr. Pradyut Kumar Sanki)

Objective of the work is to develop an embedded back-end solution for photoacoustic based non-invasive blood glucose measurement system. Photoacoustic (PA) signal in terms of pressure wave is generated due to the interaction of laser pulse with tissue under test. An acoustic sensor is used to convert that pressure wave into electrical signal which is proportional to glucose concentration in blood. The detected PA signal is very weak in nature and thus prone to contaminated with random noise. So, the signal needs to amplify for maintaining certain strength. An amplifier is used to amplify the signal but in the same time noise is also amplified. Noise reduction of the signal is thus required for information extraction properly. The efficient VLSI architecture of coherent averaging is proposed and implemented for that purpose. To design a prototype of glucose meter, an embedded system of back-end architecture is proposed and implemented on FPGA. The integrated part of the embedded system are as follows:

A new IP-core is designed using the coherent architecture and is added as an IP-core to the embedded system for noise cleaning. The trigger signal which is essential for laser excitation is also generated

from the hardware architecture of a trigger module proposed. Data visualization interface is incorporated in real time with the embedded system for displaying the PA signal. Therefore, the total embedded back-end is designed and can also be used for ultrasonic data acquisition.

Moving forward, PA image is captured by using an array of acoustic sensors. During the acquisition of the image, it is corrupted by impulse noise. It is very difficult to detect the functional modality like blood flow rate, blockage in vein, tumor, the cancerous growth, skin thickness, etc. in the human body. The efficient hardware architecture is proposed for impulse noise reduction in real time and implemented on FPGA. The non-invasive and continuous mechanism of the developed prototype will encourage all to keep track their food intake. The analysis of the PA signal and image will help us to extract useful clinical information which further will guide proper diagnosis before medication. The proposed hardware can also be used in multimedia communication for denoising of a color image and video signal.

- Working on to develop a new architecture using Memristor to redesign digital memory, logic circuits, biological and neuromorphic systems.  
We are investigating the possibility of design the logic circuits using Memristor which is most recent work.
- Investigating the issue to design a Street Clean Robot.  
We have started working on Street Clean Robot. It is found that most of the robotics platform is designed on low speed microcontroller. We have already planned for design the same using reconfigurable FPGA.
- Working on to develop an Autonomous Car.

Already we have developed a prototype of partially Autonomous Car. Speed control, object detection and line follower are integrated in the car. We have used Arduino Uno Board for the development. But the speed of the microcontroller is 20 MHz only. Now, we are looking for FPGA device where we can implement high speed architecture.

Research Group of Dr. Sudhakar Tummala

Thrust areas

- Diagnosis and monitoring of musculoskeletal disorders from Magnetic Resonance Imaging
- Multi-channel ECG signal processing using pattern recognition
- Study of structural and functional brain changes in neurological diseases
- Multi-modal Imaging using machine learning
- Invention of MRI based biomarkers for early diagnosis and prediction of musculoskeletal and neurological disorders

Description on research

Magnetic resonance imaging (MRI) has been a versatile tool to assess structural and functional brain changes non-invasively in several musculoskeletal and neurological conditions. Coping up with these conditions is a major economic burden around the world including India. Several MRI modalities including structural (T1-, T2-weighted, diffusion tensor imaging (DTI)), and functional MRI (fMRI) have been widely used in several studies for assessment of brain structure and function respectively. These structural and functional changes in specific brain regions could be markers for diagnosis, progression monitoring, and treatment efficacy evaluation. However, the accuracy of the markers derived from any individual MRI modality may not be sufficient to derive any meaningful conclusions. Although, in recent times, positron emitted tomography (PET) imaging alone provided better statistical significance for early diagnosis of mild cognitive impairment, PET is usually expensive than MRI, requires higher scanning time and exposes the body to moderate to high radiation.

Therefore, I propose to develop a combinational marker by combining different individual MRI modalities. The idea here is to develop a *voxel-based* combinational map that combines the micro-structural and functional brain alternations using machine learning techniques (linear discriminant analysis & linear regression). In this, at each voxel in the combinational map, the marker will be

represented as a weighted sum of individual markers. The weights will be tested using cross-validation techniques. The individual maps to be included are entropy maps from T1-weighted imaging that measure local nature and extent of tissue injury, T2 relaxation maps from T2-weighted imaging that measures extent of tissue injury, radial diffusion maps from DTI that measures myelin injury, and voxel-to-voxel functional connectivity maps from fMRI that measures voxel-level functional alternations. In the combinational marker, the marker weights represent the importance of the individual marker and thereby extent of that type of injury in that particular location of the brain. I hypothesize that the combinational marker will have higher diagnostic and prognostic ability compared to individual markers and it will be validated on the large longitudinal dataset from **Alzheimer's disease neuroimaging initiative. Especially, in neuroimaging clinical trials, this combinational marker may be selected as a potential candidate to reduce the cost and also time to conduct trials by selecting suitable sub-population which are at higher risk of disease progression. It could even be used to identify the subjects which are at early stages of the disease with higher degree of accuracy.**

Research Group of Dr. Amitabh Chatterjee

Research initiative involves TCAD based simulation and design of advanced micro-scale and nano-scale semiconductor devices.

Following area: THz Pulse Generation:

Design of PCA based THz Pulse Generation for defense and biomedical applications using TCAD based design of PCA and its fabrication using engineering optimal shallow implants for faster recombination. CMOS based Opto-electronic VLSI -

Using avalanche mode silicon light emitter to use as light source for testing of VLSI circuits and other sensor applications

High Speed SERDES -

Faster I/O development using high speed I/O in Integrated Chips and testing their reliability against radiation strike

High Current Laser Drivers

Avalanche transistor based high speed drivers for laser diodes and its application for driving high speed laser pulses for LIDAR

#### **4. Department of Electrical and Electronics Engineering (EEE)**

Research -Dr. Tousif Khan N, Assistant Professor

Dr. Khan works in the field of control of power electronic converters feeding diverse loads. During earlier part of his career, he has worked in the area of bio-inspired evolutionary algorithms and proposed Bees-Genetic Algorithm and Artificial Immune System algorithm for the optimal tuning of linear controller for DC-DC Converter systems. Currently he is involved in designed and development of direct adaptive control and indirect adaptive control schemes for Power Converters feeding both resistive and motor loads. He has proposed Chebyshev-1 Neural Network, Chebyshev-2 Neural Network and Hermite Neural Network so on, embedded with Adaptive Backstepping Control technique for the voltage regularization in DC-DC Converters during large scale eventualities under both internal and external disturbances. The work involves design, analysis and experimental validation in the laboratory. In addition to this, Dr. Khan has also proposed finite time observer based nonlinear control of DC-DC converters, wherein the external eventualities are detected in time bound manner and effectively neutralized. He has also deigned finite time current observer for the estimation of current and for the minimization of feedback noise (due to high frequency component) in the control set-up.

Research-Dr. Somesh Vinayak Tewari, Assistant Professor

Dr. Somesh Vinayak Tewari has worked in the area of surface flashover study of insulator in gases under pulsed voltage conditions, development of pulse power systems, gas breakdown, high voltage,

charge decay studies, optical emission spectroscopy studies, design and development of ECR ion source and under water electrical explosion of wires.

Research is the area of pulse power systems with a focus on insulator flashover studies. Use of Particle-in-cell (PIC) code model to study discharge behavior along a gas-solid interface. The PIC code model is utilized to calculate the spacer efficiency for different insulator geometries so as to maximize the spacer efficiency. Design and development of ultra-wide band (UWB) compact Marx generator for radiated field studies using antenna and as a pulsar for high pressure surface flashover studies. An experimental investigation of surface flashover characteristics of polymethylmethacrylate (PMMA) and polyoxymethylene (POM) is studied in compressed nitrogen gas environment with nitrogen as the background gas. Conducted experiments to determine the surface flashover behavior of POM in ambient air and nitrogen using optical emission spectroscopy. Research is carried out in the area of underwater electrical explosion of spherical wire array studies in glycerol and water environment with pressure generation in excess of  $10^{12}$  Pa in a spherical volume of  $\sim 0.2$  mm at the origin of sphere using microsecond pulse power generator. Use of streak camera imaging to study the time and space resolved radial expansion and shockwave propagation.

## 5. Department of Mechanical Engineering (ME)

Research areas of various faculty members in Mechanical engineering department is spread across various disciplines including but not limited to numerical simulations pertaining to flow physics on aerodynamic surfaces, composite materials, additive manufacturing, robotics micro-fluidic cooling, control of dynamical systems, Thermal barrier Coating systems, Nano fluids, light alloys and its composites etc.

The following are the research areas of the faculty members:

Prof. Vijaysekhar Chellaboina

Professor **Chellaboina's current research interests include quantitative finance, risk minimization, applied stochastic processes, stochastic optimization.** His broader research interests include control systems theory and its applications. He is a co-author of numerous articles and five books on the subjects of stability theory and control including Nonlinear Dynamical Systems and Control: A Lyapunov-Based Approach. His areas of research include, Control Systems Theory & Applications, Applied Mathematics, Financial Engineering

Dr. Prakash Jadhav

**Dr. Jadhav's current research is in** Design, Analysis, Manufacturing and Testing of Fiber Reinforced Composite Structures, Experimental Mechanics, Computational Mechanics, Vibration, Impact, Bird strike. Dr Prakash has worked in industrial research for almost 9 years and contributed directly to improve the product performance, efficiency and making them lightweight. He worked on designing and developing products that are made of fiber reinforced composites and to be used in aerospace, energy, healthcare and transportation sector. He worked directly on products like composite fan blade, composite fan case, composite table top for MRI machine, composite cabs for railway locomotive, abradable coatings for gas turbine blades and composite wind blade. He filed 5 patents on the innovative ideas to improve their efficiency and performance. He also wrote 25 internal technical reports in GE on his research. For these accomplishments, he was awarded global innovation award by GE Management. He published over 20 papers in peer reviewed journals and conferences, wrote two book chapters.

Dr. Satya Pramod Jammy

**Dr. Jammy's research interests are into design of novel numerical algorithms for fluid flows.** In the last four years he leads the development of an open-source framework for the solution of PDE's using finite differences. He uses state-of-the-art computing platforms to do scale-resolving simulations.

His application areas hypersonic flows, re-entry vehicles, and wing-tip vortex development. He has published 9 papers in reputed international peer-reviewed journals, a co-PI for two computing grants from prestigious funding agencies like EPSRC, and also he is the co-PI for a PRACE compute access grant (open for researchers **across the world**), which was awarded 3500 million CPU hours on Europe's super computer (HazelHen).

Dr. Sheela Singh

**Dr. Singh's research is into Interconnect material for Solid Oxide Fuel Cell (SOFC),** Thermal Barrier Coating system (TBC) for turbine blades, High temperature solid lubricants, Nano fluids. She has published over 22 papers in various reputed peer reviewed journals.

Dr. G. S. Vinod Kumar

**Dr. Vinod's research is into Solidification Processing of light alloys and its composites, Metal foams, Precious Metals (Au, Ag) and Brass.** Structure Property correlation, understanding structures using large scale characterization tools (3DAP, Synchrotron radiography and tomography and Microgravity). He has 8 patents (5 granted, 2 published and 1 filed) along with a patent jointly with industry. He developed technologies that are transferred to Titan Company Ltd, Hosur, TN. He has over 35 peer reviewed journal papers.

Dr. Venkat Nori

Propulsion, Engine Combustion/Cooling, Emission reduction, Fuel chemistry, Power Plant Optimization, Alternate/Hybrid energy technologies

Dr. Jayapraksh Sharma

Dr. Panchagnula Jayaprakash Sharma obtained his PhD degree in the field of metallic Additive Manufacturing (Thesis title: Additive Manufacturing of Complex Metallic Objects with Overhanging Features: Slicing and Path Planning Strategies) in 2017 from IIT Hyderabad. His research interests include metallic AM (arc and/or laser), Composite AM, feature recognition, new slicing and path planning techniques for additive manufacturing and CNC machining. He proposed an efficient algorithm for depositing the overhanging features through weld-deposition, without the use of supports and named it as inclined slicing and deposition. This approach uses higher order kinematics i.e., adding extra rotary axes to the work piece. He published four international journals and eight international peer reviewed conferences. With his expertise, he proposes to develop both continuous and discontinuous bulk FGM components for various engineering applications using AM with improved mechanical properties

Dr. Surfarazhussain Halkarni

**Dr. Halkarni's research interests are into Experimental Heat transfer and Fluid Dynamics, Transport** in porous media, Convective Heat Transfer. He actively worked on development of various research facilities during his career. He has published in various international peer reviewed journals and conferences.

Dr. Lakshmi Sirisha Maganti

Dr. Lakshmi Sirisha Maganti has received her PhD degree from Indian Institute of Technology Madras, Chennai. During her PhD she worked on developing effective cooling systems for electronic components. The research has brought up several interesting phenomena and the same has been appreciated by reputed journals in the field. In addition, she also worked in diverse areas such as enhancing breakdown strength of transformer oils, viscoelastic characteristics of nano-gels and bio applications for cancer treatment. In total she has 13 publications in peer reviewed journals with cumulative impact factor of 31.5. She has Post Doc Experience from State University of New York Binghamton, USA. During PDF, she worked in the area of developing cooling techniques for Dara



Centers. Also, worked with water-surfactant colloids as coolants in data centers, which will alter the surface mechanisms like surface tension of the fluid, to improve the hydrodynamic performance of heat sinks.

Dr Janardhan Vistapalli

**Dr. Janardhan's research interests are in the area of Multibody dynamics, especially robotics.** He has developed a Biped robot that jumps vertically with control, kinematic analysis of the same for forward motion. He has published in various national and international journals as well as conferences.

## 6. Department of Chemistry (CHE)

The following are the research areas where the students and faculty members are actively engaged:

### 1. Research Group of Dr. S. Mannathan

The development of new methodologies to prepare biologically important molecules is an important scientific challenge in organic synthesis. Particularly, the synthesis of nitrogen containing five and six membered heterocycles such as indoles, lactams, pyrroles, imidazoles, pyridines, pyrimidines, isoquinolines, isoquinolones, and pyridines, are highly demanding because they exist in many natural products, inhibitors, organic dyes and pharmaceutical agents. In addition to the synthesis, tailoring the properties of such molecules would also be highly interesting because, sometimes, it could lead to highly active potential molecules. **In this regard, our group works on "Metal-Catalysed New Annulation and Cross-Coupling Reactions" to synthesize and functionalize various biologically active compound.** Despite a lot of methods available to prepare these scaffolds, an environmentally friendly, step and atom economical approach, are always highly desirable. Particularly, the enantioselective annulation and cross-coupling reaction via C-H bond activation are rarely studied, and we are currently focussing on it.

Trust areas

- Metal-catalysed organic transformation reactions
- Asymmetric synthesis
- Multi component reactions
- Metal-free organic reactions

### 2. Research Group of Dr. Mahesh Kumar Ravva

Description on research

Dr. Ravva research activities are directed towards the application of a range of computational methodologies to study challenging problems in field of organic electronics and photonics. He is particularly interested in design and reengineering of organic/polymer materials and study their structural, electronic, optical and interfacial properties. His research work focuses on establishing chemical structure, electronic properties, morphology and device performance relationships by understanding the number of fundamental issues like charge generation and charge transport in organic materials. Apart from these, he is also interested to understand the stability and reactivity of reactive intermediates, locating precise transition states for complex chemical reactions, kinetics, and thermodynamics aspects of chemical reactions by collaborating with experimental colleagues.

Trust areas

- Design and Development of organic materials for energy storage applications
- Probing the weak interactions in molecules and materials using computational methodologies
- Modelling complex reaction mechanism and locating the transition states

### 3. Research Group of Dr. Sabyasachi Chakraborty

Our group focuses on collective understanding, tailoring and controlling the interfaces between biological systems and inorganic nanocrystals for practical applications as well as fundamental studies. This requires progress on few parallel tracks, including: protein-based ligand design and characterization, functional nanoparticles design and their assembly behaviour, structural and optical characterization, chemical interactions of nanoparticles with biological systems, diagnostics and therapeutics purposes together with imaging and sensing.

Trust areas

The major research interest of our group includes,

- **Functional Nanomaterials for Theranostic Applications.**
- **Sensing Bio-relevant Entities** with Nano-carbon materials.
- **Synthesis of Metal-Semiconductor Hybrid Nanomaterials** for Multi-modal Applications.
  - **Understanding the Fundamentals of Controlled Assembly** with Inorganic Nanocrystals, i.e., Polymerizations at Mesoscale.

The research tools in which our primary focuses are as follows: Synthetic metal-ligand chemistry and inorganic nanoparticle synthesis; NMR, MALDI; Light scattering techniques; TEM and SEM; Optical spectroscopy; FT-IR; XPS; Cell viability; Cell imaging; Photodynamic therapy; Photothermal therapy.

#### 4. Research Group of Dr. Nimai Mishra

**Dr. Mishra's research group focuses on** the High-temperature colloidal synthesis of different shapes and compositions of semiconductor and perovskite nanocrystals, such as seeded core/shell nanorod, nanotetrapods, and nanowires. Thereafter characterization of those particles under TEM, SEM, UV-Visible, PL and X-ray diffraction technique and study their assemblies in solutions and on substrates. We are also interested in a study of single particle Fluorescence blinking properties and moreover use of those particles in the making of efficient optoelectronic (Light emitting diodes, Solar cell, Photodetector) and for thermoelectric (TE) devices.

#### 5. Research group of Dr. Pardha Saradhi Maram

*Dr. Pardha Saradhi Maram research focuses on* energy conversion and environment protection, through the development of advanced mixed metal oxides for pollution control catalysts, battery electrodes, and white-emitting luminescent materials for Solid State Lighting. In my laboratory, we routinely characterize a variety of materials and extract critical parameters including formation enthalpy, surface/interface energies, and the mixing properties of metal oxide solid solutions etc. The thermochemical parameters we measure in our laboratory connects microscopic features of structure and bonding to macroscopic thermodynamic behavior in ceramics, and other complex materials. These parameters will help in formulating new chemistries/materials by understanding the stability, compatibility and the factors governing the performance enhancement.

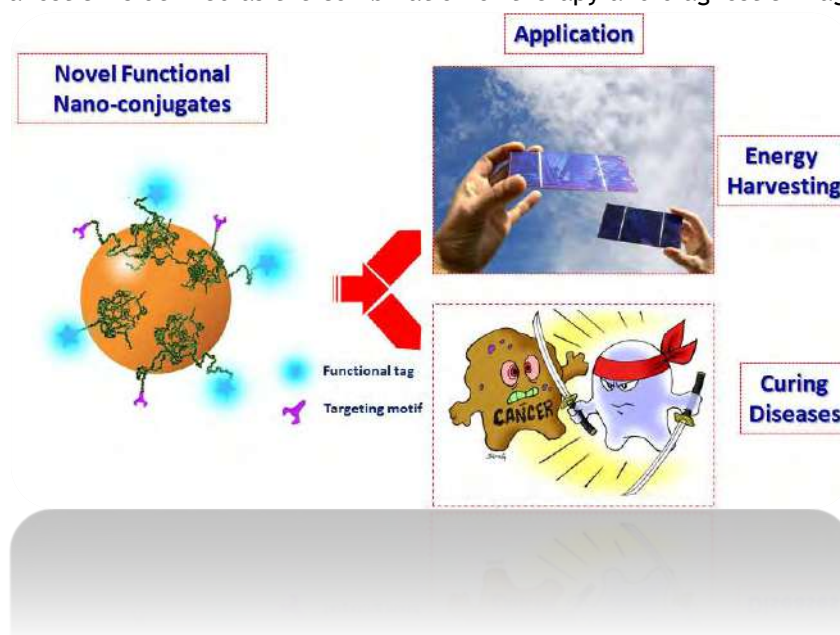
Trust areas

- Design and development of cathode materials for Li-ion and beyond Li-ion batteries
- Fabrication of large scale thermal barrier coatings for aerospace applications
- Development of nitride and oxynitride photoluminescent materials for solid state lighting applications
- Transition metals based mixed oxides as emission control catalysts for diesel and gasoline engines

For Dr Sabyasachi Chakraborty

### 1. Engineering Functional Nanomaterials for Theranostic Applications

The term “theranostic” is defined as the combination of therapy and diagnostic imaging modalities



where the therapeutic drug and the imaging agents are introduced at the same time within the same dose. This strategy encompasses a wide range of subjects, including molecular imaging, **personalized medicine, “point-of-care” device, pharmacogenomics etc.** It aims to monitor the response to the treatment, to regulate drug efficacy, and to eliminate the unnecessary treatment in non-diseased area, resulting in significant cost savings for the overall healthcare system. In order to develop an efficient new targeted therapy, a better understanding in preparing imaging agent as well as optimized drug selection is necessary. We focus on collective understanding, tailoring and controlling the interfaces between biological systems and inorganic nanocrystals for theranostic applications. Our research interest encompasses biotechnological multi-disciplinary topics based on the surface chemistry of nanomaterials to develop chemically well-defined tools for disease diagnostics and nature inspired macromolecule-based drug design, development; to finally evaluate their therapeutic efficacy.

### 2. Facet Engineering at Nanoscale, i.e., Understanding the Fundamentals of Controlled Assembly with Inorganic Nanocrystals

Nonclassical growth mechanisms such as self-assembly and oriented attachment are effective ways to build complex nanostructures from simpler ones. However, control over the attachment between nanoparticles is highly challenging and generally requires a delicate balance between dipole-, ligand-, and solvent-based interactions. We aim to introduce a general method to physically link colloidal inorganic nanoparticles through site-specific spontaneously bridges to form network structures. Using this method, we would like to demonstrate the fabrication of polymer-like linear and branched structures which has the potential for enhanced opto-electronic properties, as well as interesting fundamental exciton dynamics.

### 3. Synthesis of Hybrid Nanomaterials for Multi-modal Functionalities

Heterostructured, multicomponent nanoparticles, by incorporating different material types and potentially multiple functionalities within the same particle, represent a promising approach to the creation of smart materials. With that target in mind, our research direction is focused to create various combination of metal-semiconductor nanocrystals for multi-modal applications.

Description of Dr. Pardha Saradhi Maram

## Development of layered composite metal oxide catalysts for Two-way and Three-way applications

The objective is synthesis of new precious metals free mixed metal oxide catalysts for three-way or two-way applications. In this work, various noble metal free metal oxides related to the structure family of perovskite, spinel and new class of hexagonal kagome lattices (114) would be synthesized and characterized by calorimetric methods. The structure, phase purity, oxidation-reduction stability, morphology of all synthesized materials will be accessed using various structural/analytical characterization techniques including XRD, TPR, XPS, HRTEM, and SEM etc. The two-way or three-way catalytic activity will be understood using steady state bench reactor, with the inlet attached with a multi-gas delivery system with mass flow control, and the outlet connected to a gas chromatography equipped and a fourier transform infrared spectrometer

## Nanoscale thermodynamics of battery electrode materials

Differences in surface structure and energetics are observed in case of nanoscale materials, this alter relative free energies of polymorphs (materials with different crystal structures but the same composition) and influence the various structural transformations and stabilities. In case of nanosize oxide materials, surface structure obviously contributes to the surface energetics and eventually can change the thermodynamic stability of materials at the nanoscale, as shown in the case of crystalline  $\text{Al}_2\text{O}_3$  polymorphs. While bulk **corundum**,  $\alpha$ - $\text{Al}_2\text{O}_3$ , is the thermodynamically stable bulk phase, a lower **surface energy of  $\gamma$ - $\text{Al}_2\text{O}_3$  ( $\gamma_s = 1.5$  to  $1.7 \text{ J/m}^2$ ) than  $\alpha$ - $\text{Al}_2\text{O}_3$  ( $\gamma_s = 2.64 \text{ J/m}^2$ )** makes the former energetically stable at surface areas greater than  $\sim 125 \text{ m}^2/\text{g}$ . Likewise, the stabilization induced by lower surface energy of one polymorph over another has been demonstrated for nanocrystalline  $\text{ZrO}_2$ ,  $\text{TiO}_2$ ,  $\text{Fe}_2\text{O}_3$ , and  $\text{HfO}_2$ .

For examples, the popular electrode material, layered rocksalt oxide  $\text{LiCoO}_2$  showed significant voltage drop when the particle size reduced to below 15 nm. The voltage drop is due to the surface adsorbed water molecules, which is almost unavoidable in case of nanoscale materials. When the particle size is reduced to a few nanometers, the surface-to-volume ratio enormously increases, and surface energy can contribute significantly to the total free energy. Thus, differences in surface energy may affect the thermodynamic driving force for various processes, including the phase transitions and intercalation behavior. It clear that hydroxides showed lower surface energy than oxides, it suggests that below certain nanosize water on nanoscale surfaces is unavoidable. It is very important to draw a line between efficient performances versus critical grain size of nanomaterial to extract maximum efficient of battery material. It is proposed to study various nanoscale electrode materials to extract surface energy using state of the art high temperature drop solution calorimetry

## **7. Department of Physics**

The Department of Physics carries out forefront research in the emerging areas like fabrication two-dimensional (2D) materials and their electronic devices, applied photonics and optical communications, piezoelectricity and ferroelectricity, high-k dielectrics, thermoelectric devices, molecular electronics, energy saving smart coating, transparent conductor, Nano-coating, phase change materials, next generation photovoltaic devices, Quantum Mechanics (DFT)/Machine Learning Approach, theoretical identification of catalyst, solar materials and energy applications. The departmental faculties are also involved in the project on renewable energies and supercapacitors.

Trust areas

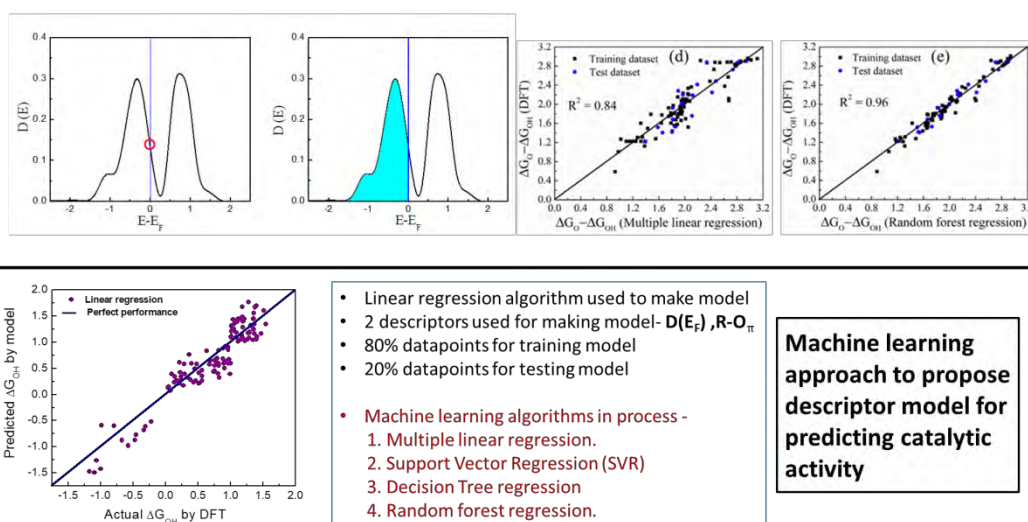
1. 2D materials, Polar Materials and Smart Coating nanomaterials
2. Ferroelectric, PizoCeramics and Optoelectronics Materials
3. Computational Materials Science

4. Statistical Physics and Complex Systems
5. Solid State Ionics and optical communication
6. Superconductivity

### Prof. Ranjit Thapa's Research Group

*Quantum Mechanics/Machine Learning Approach; Catalyst; Solar Materials; Electrode Materials*

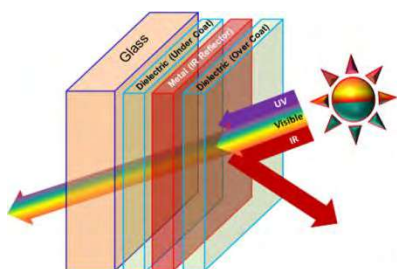
The research works of Prof. Ranjit Thapa are primarily focused on the first-principles investigation of materials for energy and the environment. The important contributions are “Exchange mechanism for spillover of hydrogen” and “dehydrogenation of hydrogen”. The main contributions are: “Bond exchange spillover mechanism”, “electron-doped 2D system as a metal free catalyst”, “the origin of surface magnetism in graphene”, “Homonuclear boron bond at the catalytic and active center”. Prof. Ranjit proposed Thin oxide overlayer (ex: MgO) on a metal surface, an inverse catalyst. The mystery behind the reactivity of doped defective graphene-based metal-free electrocatalysts is unveiled using **density functional theory**. The enhanced activity is linked to the  $\pi$  orbital occupation of active sites, the configuration of atomic oxygen (enolate and epoxy) on the graphene plane and to the localized  $\pi$  states in the case of defects. The  $\pi$  orbital occupation is identifying as “Descriptor”. Prof. Ranjit is currently interested in designing and developing of materials database for energy and environmental applications. His current goal is to apply the method of machine learning on the DFT data available in the web-based database <https://energymaterials.org>, to solve the energy and environment problem in a more efficient way.



Dr. Goutam Kumar Dalapati research group

*Renewable energy and smart coating Nanotechnology Materials integration and devices*

His key research interests and current industrial engagements are in the areas of thin film technology, smart coating for energy saving window, renewable energy, and flexible electronics. His research works focus on the development of thin film solar cells, heat mirror, heterogeneous integration, surface passivation, optical and electronic devices.



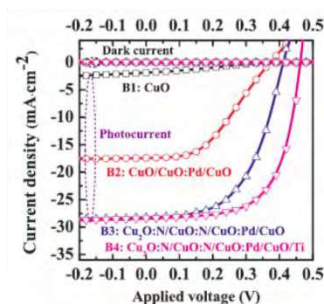
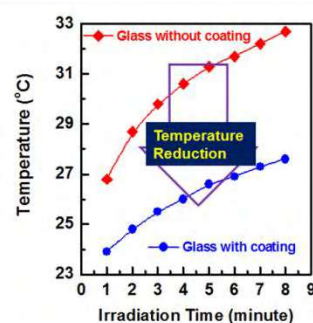
The transparent conductor minimises heat transmission between indoor and outdoor atmospheres and lower consumption of electricity needed for cooling/heating

Future direction:

- ❖ Development of nano-materials through solution process for heat rejection (infrared reflection)
- ❖ Metal/metal oxide core shell nano-structure optical and electronic applications
- ❖ Development of stable metal oxide and kesterite based thin film solar cell with efficiency over 15%

Metal incorporated CuO absorber: An excellent candidate for solar absorber

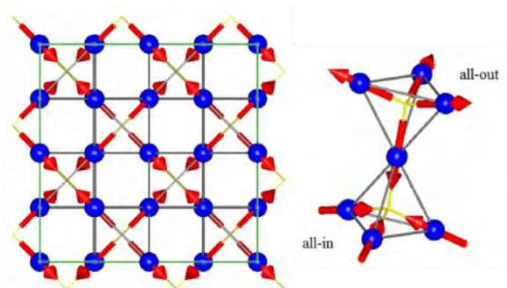
P-CuO/n-Si solar cells with efficiency ~9%



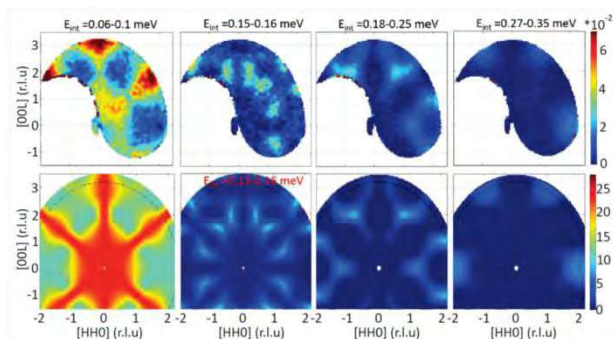
Dr. Vivek Kumar Anand

*Magnetism Superconductivity Strongly Correlated Materials*

He works in the field of low-temperature physics focusing on magnetic, superconducting and strongly correlated electron properties of novel materials and complex electron systems. He is an expert in growing high-quality single crystals. He also uses microscopic tools like neutron scattering and muon spin relaxation in his research activities.



- ✚ Spin-ice materials -- fundamental excitations are emerging magnetic monopoles
- ✚ Rare earth pyrochlores, strong Ising-type anisotropy
- ✚  $\text{Nd}_2\text{Hf}_2\text{O}_7$ : antiferromagnetic order at 0.55 K
- ✚ Neutron Diffraction: All-in/All-out magnetic structure



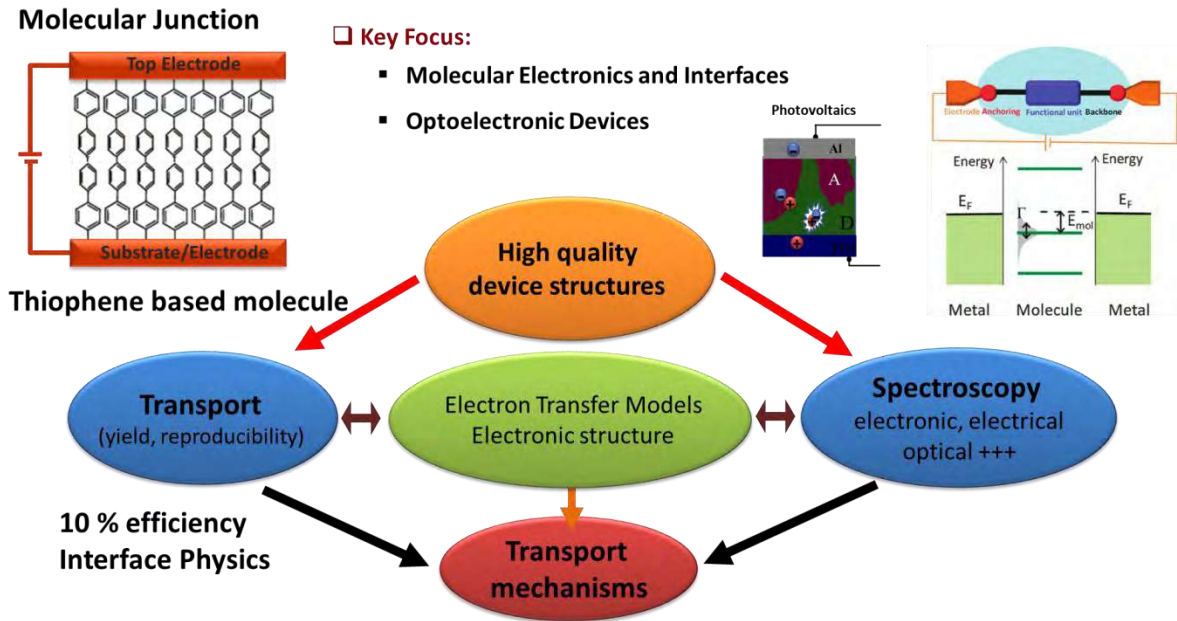
- ✚ Low energy inelastic neutron scattering: Pinch point pattern & Half moon feature - spin-ice behavior
- ✚ Fragmentation of magnetic moments
- ✚  $\text{Nd}_2\text{Hf}_2\text{O}_7$  potential quantum spin-ice candidate

Dr. Sabyasachi Mukhopadhyay

*Optoelectronic Materials, Molecular Electronics, Atomic Force Microscopy*

His research interests include developing advanced instrumentation and electronic characterization techniques to understand electron transport processes across various molecules and thin films towards efficient energy conversion applications.

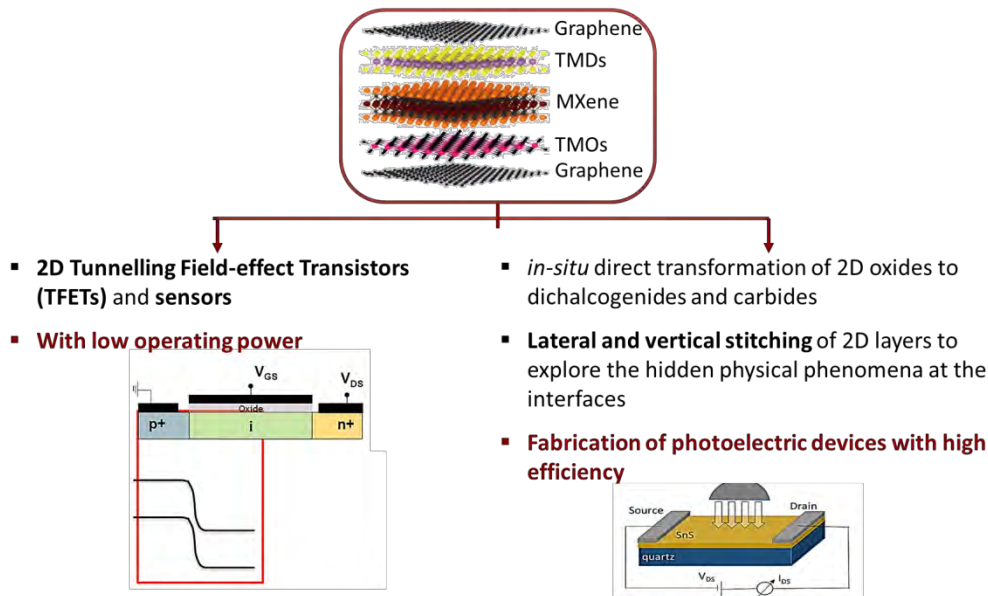




Dr. Jatis Kumar Dash

*2D layered transition metal dichalcogenides; Thermoelectric materials and devices*

His research areas mainly focus on experimental Condensed matter Physics, in particular, surface and interface Physics, epitaxial growth of large area two-dimensional (2D) materials (TMDs, TMOs and Mxenes) heterostructures and their device applications, i.e. field-effect transistors (FETs), photodetectors, sensors, supercapacitors etc.



Dr. Gangi Reddy Salla

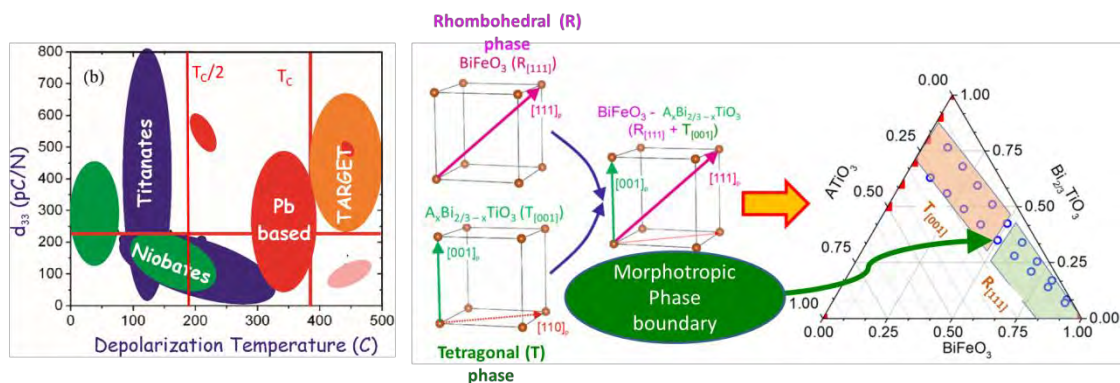
*Scalar and vector optical vortex beams, Free space optical communication, Polarization speckles*

His main research focus lies in classical and quantum optical vortex beams, free space optical communication with vector vortex beams, Polarization speckles and Mueller polarimetry

Dr. Pranab Mandal

*Materials synthesis Piezoelectrics and ferroelectrics Magnetolectric multiferroics*

His research areas include piezoelectric and ferroelectrics, Magnetolectric, multiferroics, Complex magnetism, High-k dielectrics, and thermoelectric materials.



**$\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$  (PZT, for  $x \sim 0.48$ )**

$d_{33} = 220 \text{ pC/N}$ ,  $k_{33} = 0.52$ ,  $T_d = 380 \text{ C}$

**Toxicity, Environmental hazards, moderate Curie temperature**

**Search for a new Tetragonal (T) phase**

Mimic structure of PZT in a Bi-based perovskite  $\text{BiMO}_3$   
Electromechanical properties, High  $T_d$

Dr. Laxmi Narayana Patro

*Solid state ionics, Materials for solid state batteries and chemical sensors, Nonlinear conductivity*

His key areas of research include fast ion conducting materials and their applications in solid state ionic devices, ionic liquids, glasses, impedance spectroscopy, high field ionic conductivity (nonlinear ionic conductivity)

**Current Focus: All Solid State Li ion Batteries**

- Ionic liquids based electrolytes for Li ion batteries
- Cost effective Solid electrolytes for Li ion batteries (Solid state batteries)



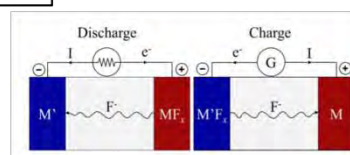
**Current Focus: Development of Fast Fluoride Ion Conducting Solid Electrolytes for Rechargeable Solid State Fluoride Ion Batteries**

**Why FIBs:**

- Theoretically provide substantially higher energy density  $\sim 5000 \text{ Wh/L} \geq 8$  times the theoretical value for current Li-ion batteries
- Stable in a wide temperature range

**Future Direction:**

- Development of suitable Solid Fluoride Electrolytes
- Fabrication of high performance rechargeable Fluoride Ion Batteries

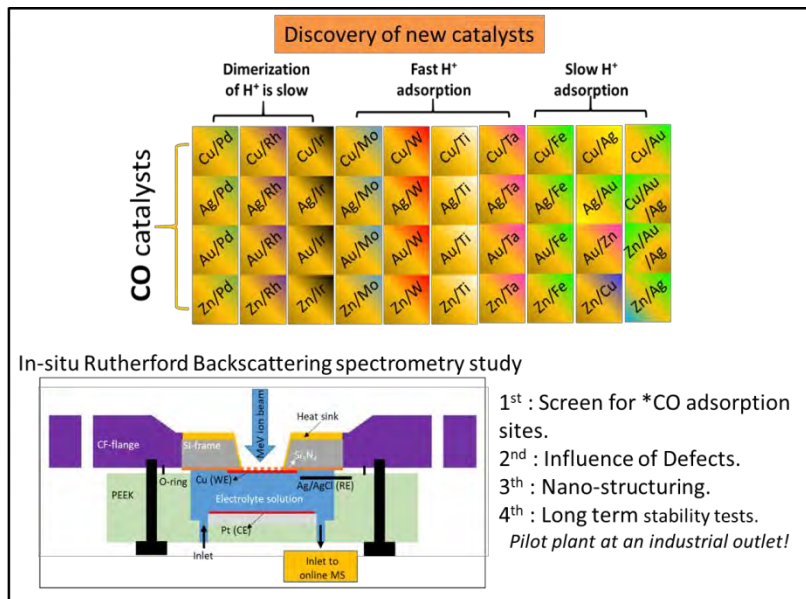
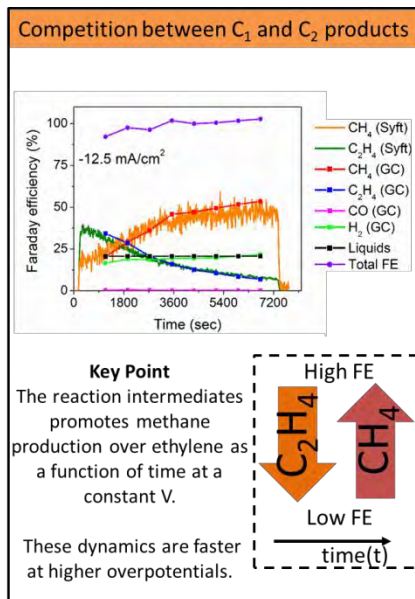


Dr. Mallikarjuna Rao Motapothula

*Real time Mass Spectroscopy and its applications Ion beam analysis and modification Functional oxide thin films*

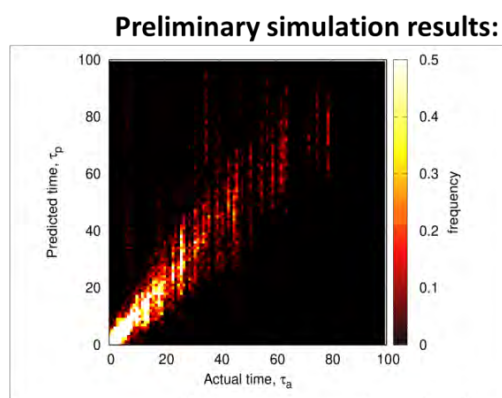
His research focuses on Soft ionization mass spectroscopy (In-situ quantification of ppt level gaseous molecules in ambient air), Functional epitaxial oxide thin films, fabrication and imaging of surface and sub-surface nanostructures using low, medium and high energy focused ion beams. Ion beam analysis, Sub-nm depth resolution backscattering spectrometry, Ion induced desorption and photon emission for embedded trace impurities, Experimental deduction of accurate inter-atomic potentials, stopping powers, elemental imaging of biological cells. Ion Channeling in nano-structures.





Dr. Soumyajyoti Biswas

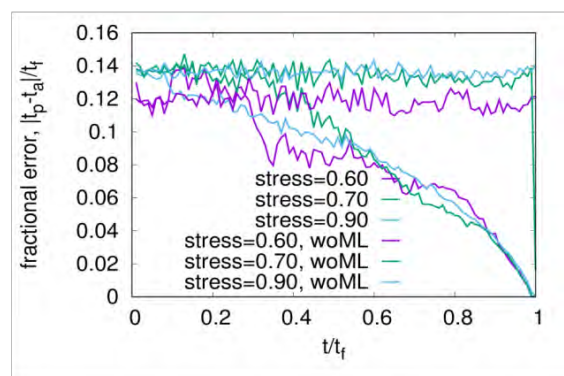
Soumyajyoti Biswas' research interests include statistical physics of driven disordered systems in general, and fracture and breakdown properties in particular. He uses generic threshold activated models in capturing the universal nature of the fracture dynamics of disordered samples. He uses Monte Carlo simulations, analytical calculations and Machine Learning techniques in understanding the dynamics of the models.



**Does fracture time prediction better than any other method so far?**

**On data from experiments:**

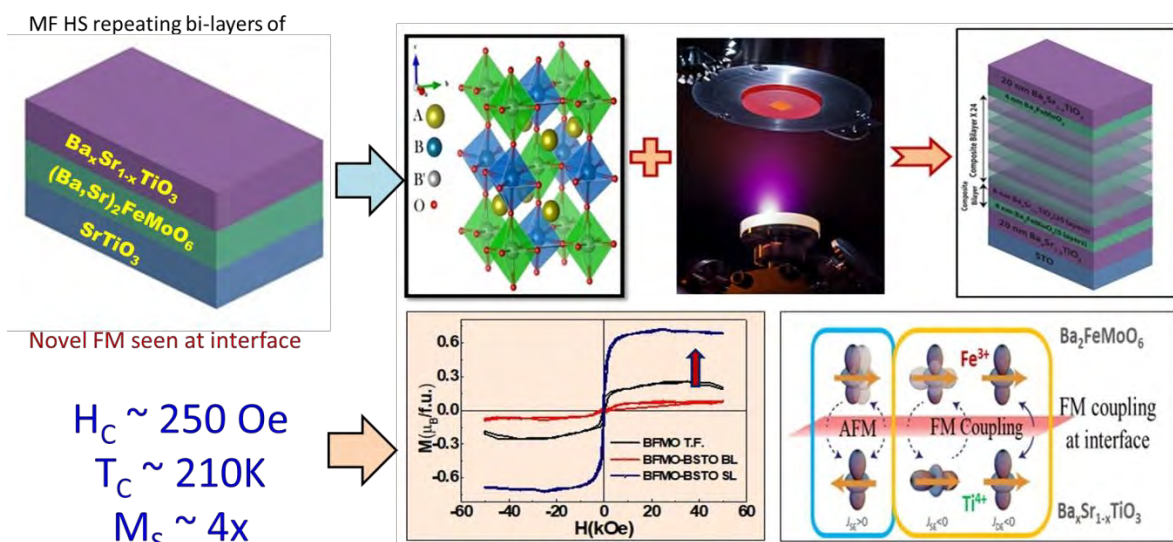
Currently working with data from fracture of sintered polystyrene beads



## Dr. Siddhartha Ghosh

### Surface and Interface

His central research interests revolve around the study of exotic phenomena at the bulk, thin-film and interfaces of transition metal oxide (TMO) & rare-earth oxide (REO) systems, while he is also recently interested on the growth and study of 2D-TMDC and oxide/2D-TMDC hetero-structures using Pulsed Laser Deposition (PLD) technique. Apart from working on the physics of novel interfaces, Dr. Ghosh also takes deep interest as well as have significant experience in setting up and operation of complex in-situ instruments.



## 8. Department of History (HIS)

The following are the research areas where the students and faculty members are actively engaged:

Thrust areas

- Encouraging enquiry into the past using sound historical methodology to bust myths about Indian history and to effectively use historical sources to shed new light on hitherto unexplored and under-explored aspects of Indian and global history.
- Intervening by the means of articles and publications on historiographical debates as well as important contemporary social issues using history as an analytical tool.
- Exploring histories of gender and caste with particular reference to regional history

Description on research

Dr. Maanvender Singh (Department of History)

Key Research Areas

Social Inclusion and Indian Higher Education, State and Politics in the Post-colonial India, and Constitutional History of India.

## Area of Research

The issue of Equal Access and working of caste based quota in higher education: The debate on reservation in higher education is one of the most polarizing issues in Indian politics and policymaking. It becomes much more contentious because of the absence of credible data, relating to backward class participation and representation in education institutions that could, possibly throw some light on the extent of their disadvantage in higher education. This is one of the central themes of my research, to create an understanding about the extent and nature of the under- representation of various social groups- Backward Classes (BCs), Most Backward Classes (MBCs), Scheduled Castes (SCs) and Scheduled Tribes (STs) under the reserved category in higher education in Tamil Nadu. My research maps the issue of under- representation by comparing the community- wise data on enrolment in higher secondary schools with that in higher education in the last decade. Such an approach is particularly useful in case of Tamil Nadu, where admission policy is totally dependent on higher secondary marks. My research highlights that in last one decade or so, BCs and to an extent MBCs have consolidated their performance in terms of cut- off marks and their presence in the top performers. However, it is a matter of great concern that the same policy (quota based reservation) has failed to replicate the success in the case of SC and ST. Even after nine decades of reservation SCs/STs still struggle to fill seats allotted to them, particularly in govt. and aided colleges, making a case that there is an urgent need to investigate the reasons for such different outcomes.

Dr. Malavika Binny

Area of Research: Intersections of Science and Gender in Ayurveda and native healing methods

Ayurveda is the umbrella term given to a myriad number of healing practices and medical traditions located within or associated to a sanskritic context. It is one of the very few living traditions which is a pointer to the mutability and tractability of sanskritic practices. My research involves questions of definitions and purviews of what constituted or was understood as science in the early to early modern period in South India and the transitions these definitions went through in interaction with the multiple socio-political forces at work. An intellectual history of medical science remains as an entry point into the epistemology of medical, pharmacological and botanical sciences in the Indian historical context as these were not clearly delineated till the advent of modern bio-medicine. Ayurveda provides an excellent research field to explore the history of science, its methodology, development and impact on pre-modern Indian society. The interplay of science and society, and the social and cultural repercussions of scientific advancement/progress and vice versa also form a major chunk of the research. For example, the reluctance of a large chunk of upper caste Hindu population in east and peninsular India to be vaccinated against epidemic diseases such as cholera in the 19th century or the worship of certain gods and goddess such as *Śitala* and *Māriamman* who are associated with diseases such as small pox and chicken pox can only be understood within the specificity of the socio-cultural context and their perceptions of belief, science and healing.

In the Indian context, *śāstra* (science) was couched in the language of religion and an epistemological exploration of Ayurveda opens up a world of valuable historical and scientific data. It also reveals the multiple lineages and trajectories of the school of medicine referred to as Ayurveda today including from Buddhism, Jainism, folk medicine and its constant exchange

with other schools of medicine such as the Greco-Roman, Arabic and Chinese schools of medicine, the latest being with western bio-medicine/allopathy. The attempts at bio-prospecting or the extraction of medical and botanical knowledge from the East by European colonisers in the early modern period and its subsequent role in the Scientific Revolution forms another important tangent of the research and an in-depth analysis of European medico-botanical texts on Indian flora and fauna in the 16-18th centuries such as Van Rhee's *Hortus Malabaricus*, Garcia de Orta's *Colóquios dos simples e drogas da India*, Christobal Acostas's *Tractado de las drogas, y medicinas de las Indias Orientales* among many others reveal a network of asymmetrical global transfers of knowledge in the early modern period which precipitated the setting up of botany and zoology departments in universities, botanical gardens and medical schools in Europe.

#### Future Research

An extensive investigation comparing the fever theory used in European medical methods and that of the various kinds of *jvāra* mentioned in Ayurveda texts, is hoped to reveal the scope of epidemiology in premodern India. Similarly, an inquiry into medical ethics which is elaborated over many chapters in *Śusruta Samhita* and also in later texts such as *Yogarātnākara* could also reveal the societal perceptions about physicians and their social role in early India. A larger study which is envisioned as a three year project, involves an exploration of the apothecary network in Western Europe, the 'go-betweens' or 'knowledge brokers' such as ship-surgeons, botanists, translators, and administrative scholars and their linkages to South Indian physicians, medicine men and herb collectors with particular reference to *Hortus Malabaricus*. The role of caste and gender in constructions of science and medical thought is also another field of enquiry which I am currently working on; especially on chapters dedicated to *Vājīkaraṇa* (fertility treatment) and *Prasūtitantra* (gynaecology and obstetrics) in early and later Ayurvedic texts which not only deal with medical aspects but also about moral precepts which reinforce social hierarchies. Interestingly, the same data also deal with transgendered and intersexed persons and maybe the only historical texts which deal extensively with the group in the premodern context- which provides another avenue for research which has been taken up by me over the last few months and a further study of the same is hoped to yield more comprehensive results.

## 9. Department of Business Administration

The Department of Business Administration introduced at SRM University-AP with the objective of imparting comprehensive management education to young aspirants with special emphasis on nurturing personal integrity and social responsibility. At present the department is offering BBA course and Doctorate in Management (PhD). The BBA course is an amalgamation of theory and practical learning of major skills indispensable for running a business. Students undergo 130 credits for the course. Specialization subjects like: Finance, Marketing and Human Resource along with some emerging/contemporary subjects like: Family Business Management, International Business, Sectorial Management, Data Science, Counselling Skills for Managers, Quantitative Aptitude, Reasoning, NSS/ Yoga, etc. The course incorporates interactive study format with individual and group presentation, activity learning, and industry internship, equip the students with managerial skills, communication skills, and business decision making skills.

The Department of Business Administration is engaged in various research activities, such as: Corporate Finance, Business Valuation, International Financial Market, Financial Econometrics, Marketing Management, Green supply chain of manufacturing, Sustainable Business Management, Managerial Economics, Luxury Marketing and Counterfeiting, Fashion Marketing and Brand Management, New Technology Adoption and Consumer Behavior, Values and Ethics, Market Research and Analytics, and Advanced Research Methodology.

The following are the research areas where the students and faculty members are actively engaged:

Trust areas

- Dr. S. Tripathy: Corporate Finance, Business Valuation, International Financial Market, Financial Econometrics.
- Dr. Aparna Choudhary: Marketing Management, Green supply chain of manufacturing, Sustainable Business Management, Managerial Economics,
- Ms. Ajitha S.: Luxury Marketing and Counterfeiting, Fashion Marketing and Brand Management, New Technology Adoption and Consumer Behavior, Values and Ethics, Market Research and Analytics, and Advanced Research Methodology

## 10. Department of Commerce

The Dept. of Commerce is involved in carrying multi-disciplinary research, such as with Commerce, Management and Law.

The following are the research areas where the students and faculty members are actively engaged:

Research Group of Dr. A. Lakshmana Rao

Trust areas

- Corporate Governance, Corporate Social Responsibility
- Performance of Banking, Financial Institutions, Governance Metrics
- Behavioral Studies, Human Resource Management

Description on research

With the advantage of understanding three allied areas of social sciences, viz., commerce, management and law I am pursuing and focusing on some of the present day need of research, rather than sticking to only one area of research. Carrying research both independently and jointly with researchers, who have a common interest on the theme and thereby trying to **connect and apply theoretical foundations, to many areas of today's management and other** allied areas of various disciplines. My prime area of research is corporate governance, focussed initially on paper industry in India. Under corporate governance further moved towards corporate governance score card and corporate governance rating of firms. As corporate governance is in one way an interdisciplinary work related with finance and law, I am carrying inter-disciplinary research in the areas of management, commerce and law. Some of the areas under which, I putting my resources are Corporate Social Responsibility, Sustainability Reporting, Employee Satisfaction, Corporate Ethics, Gender Studies and Human Resource Management. As a researcher interested more towards qualitative and case study research works. With the collaboration of joint research carried research works on Employee Satisfaction Levels in Oil and Gas Industry in **UAE and tested application of some of the theoretical research works like Abraham Maslow's** Need hierarchy theory to Oil and Gas Industry workforce in UAE. Research carried on GRID Stability, Performance and adoption of SMART GRID in Power Industry India. Writing of cases for academic purpose with the inputs from industry and academia is another exploring interested area of my research. Analysis of reviews and reports for further research in contributing to the existing literature is a regular aspect of my individual and joint research for understanding new **business problems in each and every relevant area of today's macro environment. Cross Cultural**

Studies of UAE and India were carried with respect to employee satisfaction in both these countries. Strategic Policy suggestions on governance issues to industry and to academia for betterment of curriculum and performance of industry is another segment of my research work for the benefit some of the sectors of industry in India. Made efforts for getting approval of projects on Disaster Management and Dealing with Public Liability Insurance.

Research Group of Dr. Shailender Singh

Trust areas

- Time Econometrics and Empirical Finance, Modelling Global Macroeconomic and Financial Variables
- Casual Relationship between Financial Indicators, Stock Market Volatility, Capital Structure, Dividend Policies, Price Rigidity & Product Differentiation
- Entrepreneurship Development, Financial Management Practices in SMEs.

Description on research

The area of my research is initially focused on financial management practices in the industrial sector, which comprises of investigation of pricing policies, ownership structure and financing pattern of business entities. Apart from this, I am also emphasizing on time econometrics to study the movement of macroeconomic variables using Vector Error Correction Modelling. During the last two years, I am able to conclude few of my research studies in context to the economy of Taiwan, Japan, and Thailand. Evaluation of Causal Nexus between Inflation and Economic Growth of Japan, study on relationship between FDI and Current Account Balance, investigation of dynamic co-integration association of economic growth with its selected four determinants which include foreign direct investment (FDI), consumer price index (CPI), net export (NE) and personal remittances (PR) in Thailand, are the glimpses of recent research outcome. Another study on Price Rigidity, Market Competition, and Product Differentiation is at the urge of completion and its results are about to publish in the forthcoming issue of International Economics, in this study we developed a two-period model in which the manufacturer determines a price floor and sets production output before demand becomes certain. The model defines the distance between price floor and high-demand-state price in concern to the degree of price flexibility. In one of my another study concerning to economy of Taiwan, I have analysed the Volatility Dynamics of Heteroscedasticity in Behavior of Taiwan Stock Market which is initiated by checking the validity of the regression model employed in the study through OLS estimations followed by detecting the problem of heteroscedasticity by conducting the ARCH Test, Breusch-Pagan Test, and Abridged white test. Furthermore, remedial measures have been taken to resolve the problem of heteroscedasticity through the transformation of regressors. The results of the study indicate the dominance of only four economic variables, Exchange Rate (XR), House Loan Rate (HLR), Portfolio Investment (PI) & Foreign Liabilities (FL) out of the six, thereby evidencing that the other two variables Consumer Price Index (CPI), & Foreign Deposit (FD), have no longstanding association with the Taiwan stock market. This study will be presented in the forthcoming conference on Business and Finance 2019 at University of Economics, Vietnam. My prospective research planning is **“Modelling Stock Market Volatility of U.K. With Asian Market: Impact of Economic Variables and Contagious Transmission”**.

## **11. Department of Economics**

The Department of Economics investigates various issues related to Development Economics, Health Economics, Agricultural Economics, Labour Economics, Demography, and International Trade.

**Prof. Shailender Swaminathan's** research interests focus on the use of credible empirical designs to identify and estimate the effect of health insurance expansions on utilization and health. Some of his work has leveraged changes in both Medicare and Medicaid payment policies on patients with End Stage Kidney Disease. He is currently involved in a randomized health insurance experiment study in India. The findings from this study may have important implications for one of the flagship policy initiatives of the Government- **India's** Ayushman Bharat (National Health Protection) program. His work has been published in several journals including the Journal of Health Economics, Health Affairs, and the Journal of the American Medical Association. One of the previously papers received the Academy Health Article of the Year award in 2009. His work has been funded by the US National Institutes of Health and the Veterans Administration (VA). His ongoing research on the Health insurance program in India is elaborated below:

The Effect of Expanding Access to Hospital Insurance in India on Clinical Outcomes: Results from a Randomized Controlled Trial in Karnataka State

In 2008, India introduced Rastriya Swasthya Bima Yojana (RSBY), a national public insurance plan for 280 million households living **below India's official poverty line. In 2018, it replaced that plan** with one (Ayushman Bharath) that expanded eligibility to 538 million households, including those above the poverty line.

In this study, we assess the impact of expanding insurance eligibility to include above poverty line households on hospital utilization and health outcomes.

We conducted a 4 year, randomized controlled trial on 10,879 households (52,292 persons) in Central and South India was conducted to evaluate the impacts (i) of 3 different methods of access to RSBY insurance (free insurance, sale of insurance, and sale of insurance plus an unconditional cash transfer equal to the cost of insurance), relative to a control arm with no intervention, and (ii) of enrollment in RSBY insurance plan.

Villages were randomized to 5 possible allocations across access arms and a control arm. Households in each village were randomized to arms based on allocation assigned to that village. Intent to treat analysis was conducted to evaluate the impact of insurance access on enrollment and utilization, and instrumental variable analysis was conducted to evaluate the impact of insurance on health outcomes. Direct effects are defined as the impact of giving a household access or insurance; indirect or spillover effects as the impact of giving other households access or insurance and are estimated using variation in allocation across villages; and total effects as direct effects plus spillover effects.

Primary outcomes were enrollment in RSBY insurance plan, utilization of insurance, and individual self-reported and clinical health measures. Outcomes are measured 18 months and 4 years after treatment.

Selling RSBY increased insurance enrollment to 61.2%. Unconditional cash transfers increased enrollment more (73%), but not as much as free insurance (79.4%). Providing a single household in a village access to free insurance did not significantly increase utilization. However, there were indirect effects: providing access for other households in a village increased utilization by a household (7.2 percentage points (p.p.); 95% CI: 2.5,11.9) at 18 months. Access to insurance led up to 3.3% (95% CI: 0.7-5.9%) of individuals reporting they were unable to get insurance to cover treatment at 18 months. Including indirect effects, utilization after 4 years increased by

1.2 p.p. with free insurance and 1.9 p.p. with sale of insurance. There were no significant effects on health outcomes after 4 years.

In this study we found that providing access to public insurance increased enrollment among above-poverty line households, even if households had to pay for that insurance. Access to insurance and enrollment in insurance increased utilization, though these effects were driven by indirect effects: enrollment of **more households in a village increased each household's health care utilization**. Many beneficiaries were unable to use their insurance plan, suggesting lack of knowledge or implementation difficulties. Neither access or enrollment significantly affected many health outcomes. A possible explanation is that the health care services covered by RSBY were ineffective. Taken together, our finding of increased utilization but almost no health **effects may have implications for the design of coverage for India's** recent health insurance reform.

**Dr. Gitanjali Sen's ongoing research work is on the benefits** of Integrated Child Development Services: Later Life Evidence; the Lasting impact on health through the lenses of severity in earthquake. Some of her research questions explore the early life shock and later life educational outcomes, the impact of cash **transfer programs on educational outcome and women's** empowerment, Parental health and intergenerational outcomes and Impact of RTE on quality of education.

Dr. Sabina Yasmin studies the crop insurance program in India. Her research aims at the various crop insurance policies, the problems and prospects and also the issues relating to the adaptability of these policies. Besides this her recent work is on the refugee crisis in India, specifically addressing the status of the Tibetan Refugees in India.

Dr. Sindhu Vasireddy research focuses on the intersection of international trade and labour market outcomes in developing countries. Her research also tries to understand the intergenerational links shaping health and mortality outcomes of individuals.

## 12. Department of Mathematics

The Department of Mathematics is actively engaged in the broad spectrum of both areas of applied and pure mathematics. Starting from the computational number theory to fuzzy logic and fluid flow stability and the network of graphs, the department thrust areas covers almost all major field of mathematics and allied science. To be precise, we have developed the numerical schemes for studying the images using Cahn-Hilliard equation borrowed from material science engineers. Moreover, the department is engaged in developing finite element and finite volume based methods that are helpful for the Biochemistry researchers. We have investigated the theoretical prediction for the perturbation and spectral properties of certain diagonalizable operators and behavior of the dynamical system, where the prediction becomes difficult if there is sensitive dependence on initial conditions. In more abstract sense we have studied the annular representation categories for particular examples of rigid  $C^*$ -tensor categories and their approximation properties. The department is now working on to the collaboration with other departments to the sustained level of excellence for diverse academic areas through the utilization of accomplishment of other department faculties.

The following are the research areas where the students and faculty members are actively engaged:

Trust areas



- Numerical solution of partial differential equations
- Hydrodynamic Stability
- Modelling for Partial Differential Equations based Image processing problems.
- Rigid  $C^*$ -tensor categories and their annular representations,
- Spectra of Resistance matrices of Graph
- Diagonalization of AM operators
- Computational Number Theory.
- Fuzzy logic & Fuzzy systems,
- Harmonic Analysis
- Topology
- Discrete Dynamical Systems
- Mathematical Analysis.

Description on research

Prof. V. Kannan

Anything that changes with time (like weather and stock market) comes under the purview of the Theory of Dynamical Systems. Dynamics is the study of eventual behaviour in these systems. Prediction becomes difficult if there is sensitive dependence on initial conditions. A kind of orbit  $p$  is said to force another kind of orbit  $q$  if every system that admits  $p$  has to admit  $q$  also. It all started in the sixties in an Ukrainian journal and later became a widespread theory. The study of forcing is now a fertile area of research in Dynamics, having links with Topology, Graph Theory and Chaos Theory. Other fertile areas in Discrete Dynamics are Cellular Automata, Symbolic Dynamics, **Linear Dynamics etc. Our team's contributions in these inter-disciplinary areas** are growing gradually. However, there are many significant questions that remain to be answered. For instance, what are all the kinds of orbits of interval maps that force only finitely many orbit types? We hope to attack these satisfactorily in the near future.

Prof. Jesse Ira Deutsch

My main results to date include alternative demonstrations of Gotzky's and Cohn's Theorems on sums of four squares for  $\mathbb{Q}(\sqrt{5})$  and  $\mathbb{Q}(\sqrt{2})$ . Gotzky's theorem states that all totally positive integers in  $\mathbb{Q}(\sqrt{5})$  have a representation as the sum of four squares of integers from the field. For Cohn's result, the statement is that there is such a representation when the totally positive integer has an even coefficient on the radical term. In future directions, one may search for other non-classical quaternary quadratic forms that can be shown to be universal over a quadratic field. In general, I am interested in applications of quaternions and Geometry of Numbers techniques to analyzing number theoretic problems in new ways. Special rings of quaternions will undoubtedly yield insights for quadratic forms over the rational integers and other low discriminant number fields.

Dr. Jadav Ganesh

Diagonalizable operators are of interest because those are easy to handle, their eigenvalues and eigenvectors are completely known, spectrum is just the closure of the

set of all its diagonal entries. Thus the task of finding the classes of diagonalizable operators on a Hilbert space is an extremely important one. The spectral theorem for compact self-adjoint operator ensures that every such operator is diagonalizable. Recently, we have proved that positive Absolutely minimum attaining operators are diagonalizable. Next we want to investigate for perturbation and other spectral properties of this class of operators.

#### Dr. Fouzul Atik

Researchers have introduced several matrices associated with a graph to model some real life problems and study graph theoretic properties. During my PhD I have worked with Prof. Pratima Panigrahi on the distance matrix and distance signless Laplacian matrix of a graph. There I have worked on distance spectral radius of  $k$ -partitioned transmission regular graphs, distance spectra of distance regular graph and graphs with few distinct distance eigenvalues. Also we have worked on spectral radius of a non-negative matrix and applying these result we found we find upper and lower bounds for the distance and distance signless Laplacian spectral radius of graphs and obtain the extremal graphs for these bounds. In this area I have few more problems which I want to do in future. In a paper with Prof. Bapat and Dr. Rajesh Kannan we have considered a weighted tree  $T$  on  $n$  vertices with edge weights are square matrix of same size. We have established a characterization for the trees in terms of rank of (matrix) weighted Laplacian matrix associated with it. Next we have concentrated another significant matrix which is resistance matrix associated with graphs and found many result associated with it. In another paper as a single author I have found eigenvalue localization theorems for stochastic matrices and gave a suitable example to compare with the existing results.

#### Dr. Sayantan Mandal

I have focused on Fuzzy Relational Inference(FRI) systems that are based on an implicational interpretation of rules and have studied their differing capabilities like interpolativity, approximation capability, robustness, monotonicity and efficiency. Salient Features of My Research are as follows:

1. First attempt at studying the capability of a Fuzzy relational inference where the operations do not come from a residuated structure.
  2. Obtained results are valid for more general classes of fuzzy implications.
  3. We have proven the existence of monotonicity for FRIs by only imposing conditions on the underlying partition and the operations but without modifying the given rule base,
- as
- is
- common in literature.

My future work will primarily focus along the following lines:

1. Study of various new type of fuzzy inference systems and their suitability so that they can be used in applications.

2. Inference mechanisms need to be studied with various modifications of fuzzy sets, so that more uncertainty can be handled.
3. A comprehensive study on generalised fuzzy logic operations, their employment in fuzzy inference mechanisms along with suitability and applicability of those inference mechanisms.
4. Minimal conditions to be imposed on the generalised operations and their residuals so that they can be employed in a fuzzy inference mechanism.

Dr. Vijaykrishna Rowthu

Numerous problems in Image processing are awaiting a PDE based solution that incorporates physics motivated phenomenon. Image inpainting is one such a problem that has been solved using Cahn-Hilliard equation of material science. It is a phase separation model in mixed-alloys whose behavior was applied to an image that solves image inpainting problem. Using the same model but with some restrictions on one of the parameters image segmentation for more than two objects has been achieved.

For color images, image inpainting need to be carried out in a particular color valued space, “ $L^*ab$ ”. **It offers us best color coherence compared to usual RGB space. Moreover,** the smeared edges in the inpainted image have to be sharpened. Our efforts will be towards choosing a more proper function space with sharp norms that will enhance the edge quality.

In parallel, our efforts also lie in achieving a global solution via variational methods to the problem of fiber tracking. It is right now suffering from a serious drawback of false positives while quantifying the Brain connectomes.

Dr. B. Madhav Reddy

My current research interests include computing annular representation categories for particular examples of rigid  $C^*$ -tensor categories and their approximation properties. My interests also include the classification program of II<sub>1</sub>-factors and subfactors, planar algebras and 2+1 TQFTs which lie in the overlap of operator algebras, category theory and representation theory.

Dr. Tapan Kumar Hota

The primary focus of my research is to analyzing the abstract mathematical structure of the unsteady partial differential equations that arise in different classical fluid flow phenomenon in porous media. Precisely, I am studying a particular type of hydrodynamic stability phenomenon known Saffman-Taylor instability, which is also known as viscous fingering. This instability has direct influence in oil recovery and separation of chemical composition, to name a few. Mathematically, this type of instability possesses some interesting challenges such as due to time-dependent linearized system one need to see Sacker-Sell spectrum, rather than Lyapunov spectrum, which are the characteristics to determine the stability of autonomous linearized system. Further, a robust numerical approach and extension of existing semi-group theory are the need of the hour for this type of non-autonomous dynamical system.

Moreover, my work requires the knowledge of Numerical linear algebra, Functional analysis & Parabolic-Elliptic partial differential equations.

Dr. Sivaramakrishnan

Let  $\mu > 0$ . We wish to find conditions on  $g \in L^2(\mathbb{R}, |u|^{\{2\mu\}} du)$  and on  $a, b > 0$  such that the collection  $\{T_{\{am\}}^{\{\mu\}} M_{\{bn\}}^{\{\mu\}}(e^{\{-u^2\}}) \in m, n \in \mathbb{Z}\}$  forms a frame for  $L^2(\mathbb{R}, |u|^{\{2\mu\}} du)$  where  $T_{\{am\}}^{\{\mu\}}$  is a Dunkl translation and  $M_{\{bn\}}^{\{\mu\}}$  is a Dunkl modulation operators on  $L^2(\mathbb{R}, |u|^{\{2\mu\}} du)$ . We call this frames as Dunkl-Gabor frames.

For  $\mu = 0$ , the above operators reduce to translation operator  $T_a f(u) = f(u - a)$  and modulation operator  $M_b f(u) = e^{\{ibu\}} f(u)$  on  $L^2(\mathbb{R}, du)$  and they are unitary operators on  $L^2(\mathbb{R}, du)$ . In contrast to the case on  $L^2(\mathbb{R}, |u|^{2\mu} du)$  the operators  $T_{\{am\}}^{\{\mu\}}$  and  $M_{\{bn\}}^{\{\mu\}}$  are not unitary on  $L^2(\mathbb{R}, |u|^{\{2\mu\}} du)$ . They are just bounded operators.

Gabor analysis helps us to represent a function  $L^2(\mathbb{R}, du)$  in terms of  $\{T_{\{am\}} M_{\{bn\}} g : m, n \in \mathbb{Z}\}$  for some fixed function on  $L^2(\mathbb{R}, du)$ . The basic idea of frame is given by Gabor with  $g = e^{\{-u^2\}}$ . Daubechies, Grossmann and Meyer connected the Gabor analysis to the frame theory. Presently it is well-known as the theory of Weyl-Heisenberg frames or theory of Gabor frames on  $L^2(\mathbb{R}, du)$ .

Dr. Subhashree Mahaptra

Software development:

From November 2016 to October 2017, I contributed towards software development for analytical centrifugation using my extensive expertise in Finite element method and Finite Volume Method for Lamm equation at the University of Texas Health Science Center San Antonio (UTHSCSA), San Antonio, USA. My contributions for developing a finite element method for multi-speed analytical ultracentrifugation experiments have been added to UltraScan III software (Beckman Coulter, USA) and resulted in a research publication. This software is extensively used in the Biochemistry research community, which is based on numerical solutions of Lamm equations and is in queue for Food and Drug Administration (FDA, USA) approval for biomedical applications.

Numerical schemes for optimal control problems:

Starting May, 2015 to June, 2016, I worked on optimal control theory in the Department of Mathematics at University of Florida, Gainesville, USA where I developed convergence theory for hp Gauss and Radau schemes for constrained control problems.

Numerical schemes on Least-squares spectral element method:

For my doctoral dissertation I designed a least-squares spectral element method for solving Stokes equations (2D) in primitive variable formulation with corner singularities and implemented on distributed memory based parallel computers. Further, I worked at the Supercomputer Education and Research Center, Indian Institute of Science (IISc.), Bangalore, India and IIT Bhubaneswar, India (2013-2015) as a Postdoctoral scientist on

Least squares spectral scheme for 3D Stokes equations, Oseen equations, and Navier-Stokes equations. Further I collaborated with my colleagues to develop least squares spectral element method for three dimensional elliptic interface problems.

### 13. Department of Environmental Science (EVS)

EVS department works on several aspects related to our environment including aquatic systems, wastewater treatment, waste management, emission reductions, etc. The department has expertise in the following systems:

1. Biological remediation of methane emissions
2. Biogeochemistry of aquatic systems
3. Organic waste to biogas

The following are the research areas where the students and faculty members are actively engaged:

Research Group of Dr. Bhagyalakshmi Kalidass

Thrust Area

- Effect of metals on key gene expressions in methanotrophs
- Influence of the protein, methanobactin, on gene expression that affect methane oxidation

Description of research

With the rise in the atmospheric concentration of methane, a very potent greenhouse gas, its mitigation requires the utmost attention (EPA, 2006). Methanotrophs are a unique set of bacteria capable of mitigating methane emissions by converting methane to carbon dioxide which has a lower global warming potential. Studies on methanotrophs mainly focus on understanding the physiological and biochemical properties of methanotrophs to best model them for field scale applications. While methanotrophs are well known to be sensitive to copper as its concentration affects the expression and activities of the two forms of methane monooxygenase, information about the effect of other abundant metal ions available in the environment is scarce. Due to the ubiquitous nature of methanotrophs, understanding their behavioral response to the diverse environments is vital for exploiting them in bioremediation.

Preliminary research has focused on understanding if metals other than copper can affect the expression and activity of methane monooxygenase. Herein, gold was shown to affect the **“copper-switch” by competing with copper for uptake by a copper chelating molecule, methanobactin**, secreted by few methanotrophs. In other words, while it is well known that presence of copper alone suppresses the activity of soluble methane monooxygenase (sMMO), gold actually induces sMMO activity in *Methylosinus trichosporium* OB3b, even in the presence of copper. This clearly indicates the need for understanding how the relative abundance of metals in the environment affects methanotrophic activity.

Research Group of Dr. Shoji D. Thottathil

## Thrust Area

- **Regulation of methane production, oxidation and emissions across tropical aquatic systems**
- **Effect of eutrophication and dissolved organic carbon across the continuum of aquatic networks** and its potential control on CH<sub>4</sub> emissions

## Description of research

Methane (CH<sub>4</sub>) is a highly potent greenhouse gas (GHG) with ~34-times more global warming potential than carbon dioxide (CO<sub>2</sub>) over 100-year horizon. The atmospheric CH<sub>4</sub> levels has tripled since 1750s, yet the accurate allocation of the relative contribution of diverse sources and sinks of CH<sub>4</sub> is still elusive. Natural sources are responsible for one-third of total CH<sub>4</sub> emissions of which freshwater aquatic systems have a significant contribution. Of the total freshwater GHG emissions globally (1.3-2.3 Pg CO<sub>2</sub>-equivalents yr<sup>-1</sup>), 75% of global warming effect is due to CH<sub>4</sub>. However, large uncertainties exist in the emission estimates due to the lack of mechanistic understanding on the processes shaping emissions and due to paucity of data to represent complex aquatic networks, particularly from tropical Asia. The mechanisms shaping aquatic CH<sub>4</sub> emissions are complex. First, CH<sub>4</sub> production is highly sensitive to temperature ( $Q_{10} \approx 4.0$ ) suggesting that CH<sub>4</sub> emissions would increase with global warming. However, CH<sub>4</sub> consumption (oxidation) is also known to increase with temperature and therefore, it remains to be seen how these two temperature-dependent processes balance to shape the aquatic CH<sub>4</sub> emissions in future. Second, projected population growth (50% increase by 2100) will enhance the release of sewage and agricultural fertilizers to inland waters by 1.4 to 3.4-times by 2100 resulting increased aquatic productivity (eutrophication). Since aquatic productivity is strongly, positively correlated with CH<sub>4</sub> emissions, simulations suggests that eutrophication alone would enhance CH<sub>4</sub> emissions up to 2.2 to 4.9-times by 2100. Third, dissolved organic carbon (DOC) concentrations in the **inland waters are increasing globally (“browning”) which is further augment aquatic CH<sub>4</sub> emissions**. However, how temperature, eutrophication and browning synchronously shape the inland water CH<sub>4</sub> dynamics, particularly in tropics remain unknown, yet critical to predict the contribution of tropics to global CH<sub>4</sub> budget. My approach integrates mechanistic understanding on CH<sub>4</sub> production and oxidation to empirical models for basin-wide CH<sub>4</sub> dynamics and landscape features will be used to upscale and place tropical inland waters in the global aquatic CH<sub>4</sub> emissions in an unprecedented way.

## Research Group of Dr. Karthik Rajendran

### Trust areas

- Evaluating the profitability of bioenergy and bio-based products
- Efficient conversion of solid waste to biogas
- Lignocelluloses to ethanol

### Description on research

My recent works include process design, techno-economic analysis and life cycle assessments on bioenergy and biochemicals production such as biomethane, ethanol, ethyl acetate, ethylene and advanced biofuels. I have performed numerous simulations using Superpro Designer and Aspen Plus to assess the profitability of a plant, technical feasibility and environmental impacts. Worked closely with industries in understanding their requirements and translating it to commercial solutions.

Developed textile digesters for developing countries in collaboration with FOV Fabrics AB (Sweden) which has been translated as a commercial product in India and other Asian markets

([www.fovbiogas.in](http://www.fovbiogas.in)). Handled digester up to 100 m<sup>3</sup> and provided technical solutions in design and scale up. Conducted successful trials in the laboratory on a wide range of substrates including cellulosic textile wastes, organic fraction of municipal wastes, food processing wastes, and forest residues. Comparison between single- and two-stage anaerobic digestion (AD) from our studies indicated that two-stage fermentation could reach high loading (>10 kgVS/m<sup>3</sup>/day) at lower retention times (<6 days). In addition to AD, I was curious in understanding pretreatments of lignocelluloses using dil. acid, organosolv methods. Recently, we had developed a process design tool for bioenergy and biochemical production that helps in reducing the research cycle of a product from the laboratory to commercialization. This involves a combination of laboratory experiments, which was followed by a preliminary simulation and optimizing the process back in the laboratory and finding the niche for commercialization.

Future research ideas include understanding how process design could be simplified for a laboratory process without hassling complex simulations by developing a neural framework on a simplistic level that governs the profitability and design calculations. In addition, capturing CO<sub>2</sub> in biogas, a coupled system is known as BECCS is a key area in my portfolio, which helps in fighting climate change through negative emissions. Upgrading biogas to biomethane is essential and employing next generation technologies such as micro-algae is where I would like to focus in the coming years. Moreover, using anaerobic digestion for high-value products such as organic acids or polymers has economic and environmental potential studying enzymatic hydrolysis for efficient sugar release will unleash it.

## 14. Report on Next Tech Lab

Next Tech Lab is a completely student-led initiative. Members of the lab have worked on projects spanning Deep Learning (Machine Learning / Artificial Intelligence), Human-Computer Interaction (AR/VR), Computational Biology, Electrical Systems, Cryptocurrency (Blockchains/Cryptography) and Internet of Things. Next Tech Lab is the only organisation from India to win the QS Reimagine Education 2018 award for their work in pioneering the student-led innovation lab model in India. The award was presented to the founders of Next Tech Lab by Nunzio Quacquarelli at the Wharton School, University of Pennsylvania. Next Tech Lab provides a platform for students to learn, research and implement their ideas and develop their skills to disrupt industries and build companies of the future.

During the internship at the Massachusetts Institute of Technology, the MIT Media Lab, US, Anshuman Pandey and Adithya Ramakrishnan got intrigued by the antidisciplinary nature of research culture followed there. Inspired by a conversation with Ghanaian diplomat Kofi Annan about his hope for a reverse brain-drain, they penned down the initial concept of Next Tech Lab for the Indian academic environment a couple of months later. The lab has a board of advisors including professors and researchers from academia and industry. A few of their affiliations include: MIT, Google Brain, Cambridge University, Harvard University etc.

Inception of New Organisations: ACTS or Arts Culture and Technology Society for SLABS students working in fields like arts, fine arts, philosophy, literature and more at the intersection of Technology and societal impact.

Other organisations that have spun out of Next Tech Lab on campus: Ennovab, SRM-Amaravati **ACM Student & Women's Chapters and IEEE Student & Women's chapters**, Women in Machine Learning and Data Science, Google MLCC, AI Saturdays among many others. MIC or Machine Intelligence Community at SRM-AP, Part of a select group of 4 institutions including MIT, Harvard and BU (<https://machineintelligence.cc>). SRM-AP is the only University from India that has setup MIC at their campus

Tech Fest Hackathons 2018 and 2019 (HackSRM <https://hacksrn.tech>) + Multiple internal Hackathons (9hacks) under Next Tech Lab were organised to prepare students for national and international level events.

Workshops Organised: Internet of Things, Augmented Reality, Unity Game Development, Using LaTeX, Neural Networks, Raspberry Pi Jam etc. to get begins started and encourage more representation of women in technology.

The following lists the summary of achievements for lab in SRM-AP

- SFHacks 2019 @ San Francisco State University, USA
- Won 3 awards: the overall 2nd Runners Up award, Best Hardware Hack and Best use of Google Cloud Platform, sponsored by Google
- MinervaHacks 2019
- Won 2 awards: Best IoT Hack award and best use of the Google Cloud Platform award conducted by Minerva schools at GitHub HQ, San Francisco, California, USA
- Developer Week Hackathon 2019 - **One of the world's largest challenge driven** Hackathons
- Won the top prize with an award of \$1,500 from Agora.io and Best Blockchain Utility Hack
- LA Hacks 2019 @ UCLA, USA
- Won the Best IoT Hack from MLH, Best Use of Oracle Cloud Infrastructure, Best Social Impact Hack from Hacker Fund, Best Social Impact Hack from Coding it forward company and Best Envision LA Hack
- Winners of Indian Game Development Challenge 2018
- Students attended Slush along with Peter Vesterbacka (Creator of Angry Birds) and Attended Nobel Prize lectures 2018 in Sweden with Professor Par Nordlund
- Two Lab members gave invited and funded talks at PyCon Italy 2019 and PyCon Taiwan 2018, delivering lectures on using artificial intelligence to crowds of 400-500 top developers and attendees in Florence, Italy and Taipei, Taiwan.

## 15.Department of Career Development

The department of career development offers a dynamic module that caters to the industry **requirements. The department analysis and bridges the gap between the students' behavioural** skillset and the corporate culture. We equip students to excel in campus interviews by training them in soft skills, verbal ability, quantitative aptitude, and analytical reasoning. Our mission is to create an environment where students can experience a holistic development.

Experiential training methodology is adopted to inculcate students on:

- Personal Grooming
- Self-enhancing management skills
- Competency building:
  - Communication
  - Interpersonal Relationship Skills
  - Time Management
  - Team Dynamics
  - Emotional Intelligence
  - Lateral Thinking
  - Conflict Management



- Stress Management
- Transformational Leadership
- Complete active/experiential learning through:
  - Games
  - Simulations
  - Outdoor activities
  - Projects
  - Creative presentations

Assistance and guidance is provided by our department to prepare students for competitive exams such as GRE, GMAT, GATE, TOEFL etc.

We enable students to Create Dare & Conquer by being the wind beneath their wings.

Training sessions/ :

CDC activities conducted during the academic year:

Module	Activity	Objective
<b>Motivation</b>	Soldiers' Walk/ Japanese Fan	To enable students understand the importance of motivation ; learn the ways for motivating self & others
<b>Lateral Thinking</b>	Fill Me Up SLT/ SCT	To think out of the box.
<b>Team Dynamics</b>	Discussion Cafe	To improve interpersonal interaction, to ideate and plan
<b>Stress Management</b>	Postures	To strike a work life balance
<b>Extempore</b>	Pass The Buck	To think on the feet, develop preparedness



# Sponsored Research Projects

## Sanctioned

S. No.	Title of the Project	Names of the Investigators	Scheme / Funding Agency	Sanctioned year and Duration	Sanctioned amounts (in lakhs)	Status of the Project
1	Direct removal of multidrug resistance bacteria out of blood	Dr Anil K Suresh, Dept. of Biology	DBT-Ramalingaswamy Fellowship	2014, Five	98.00	In Progress
2	Metal-catalyzed new cross-coupling reactions via C-H bond activation and Metallacycle formation	Dr. S. Mannathan, Dept. of Chemistry	DST-INSPIRE	2016, Five	93.00	In Progress
3	Elucidating the role of NHRs in C elegans aging and reproduction	Dr. Manjunath, Dept. of Biology	DST-INSPIRE	2016, Five	35.00	In Progress
4	Mechanistic of CO Oxidation on Metal Free Catalyst and Property Package	Prof. Ranjit Thapa, Dept. of Physics	DST-SERB	2017, Three	35.45	In Progress
5	Theoretical Insights on the critical factors that influence the performance of non-fullerene organic solar cells	Dr Mahesh Kumar Ravva, Dept. of Chemistry	DST-INSPIRE	2017, Five	93.00	In Progress
6	Studies upon Modification of High Entropy alloy for Thermal Barrier Coating Applications	Dr Sheela Singh, Dept. of Mechanical Engineering	DST-SERB	2017, Three	52.20	In Progress
7	Gut microbiome mediate transformation of man released nano-pollutants	Dr Anil K Suresh, Dept. of Biology	DST-SERB	2018, Three	47.00	In Progress
8	Probing Charge Transport in Molecular Junctions with Impedance Spectroscopy and Transition Voltage Spectroscopy Approach	Dr Sabyasachi Mukhopadhyay, Dept. of Physics	DST-SERB	2018, Three	48.30	In Progress

9	Elucidating the role of FATP family of fatty acid transporters in <i>C. elegans</i> aging	Dr. Manjunatha, Dept. of Biology	DST-SERB	2018, Three	44.53	In Progress
10	Tailoring of catalytic surfaces for CO <sub>2</sub> reduction	Dr. Mallikarjuna Rao Motapothula, Dept. of Physics	DST-INSPIRE	2018, Five	35.00	In Progress
11	Evaluation of intrinsic piezoelectric coefficients and strain engineering near the morphotropic phase boundary in Pb-free oxides	Dr. Pranab Mandal, Dept. of Physics	DST-SERB	2019, Three	48.80	In Progress
12	First principles identification of descriptor for carbon based catalyst	Prof. Ranjit Thapa, Dept. of Physics	DAE-BRNS (YSRA)	2018, Three	30.31	In Progress
13	Development of Nano-Engineered Blue-Emitting Blinking Suppressed 'Giant' Quantum Dots	Dr. Nimai Mishra, Dept. of Chemistry	DST-TARE	2019, Three	18.30	In Progress
14	Ion Beam Modification of Two Dimensional(2D) Layered Materials Heterostructures: Defect Engineering and Device Performances	Dr. Jatis Kumar Dash, Dept. of Physics	UGC-DAE	2019, Three	30.00	approved
15	Vector Vortex Beams and their Scattering for Communication Applications	Dr Gangi Reddy Salla, Dept. of Physics	DST-SRG	2019, Two	30.00	Approved
16	Development of Fast Fluoride Ion Conducting Solid Electrolytes for Rechargeable Solid State Fluoride Ion Batteries	Dr Laxminarayan a Patro, Dept. of Biology	DST-SRG	2019, Two	30.00	Approved
17	Characterization of graphs by spectra of its distance and resistance matrix and some problems related to matrix theory and graph theory	Dr. Fouzul Atik, Dept. of Mathematics	DST-SRG	2019, Two	17.00	Approved

## International Collaboration & MOU's

S. No.	Name of the University	Collaboration Level	Nature of Collaboration
1	Illinois institute of technology, Chicago, Chicago, USA	MoU	Student projects, Student Exchange
2	University of California Berkeley, Berkeley, USA	MoU	Student projects, Student Exchange, Course development, Faculty Exchange
3	Massachusetts Institute of Technology, Cambridge, USA	MoU	Student Exchange, Faculty Exchange, Curriculum development
4	EFREI Paris, Villejuif, France	MoU	Academic Collaboration
5	Minerva Schools at KGI, Sanfrancisco, USA	MoU	Providing content and technology enabled platform for conducting the course <b>“Introduction to Python Programming”</b>
6	Pasteur Institute, Paris, France	SERB-ERC Joint Agreement	SERB and European Research Council implementing arrangements: Dr. Manjunatha, Dept. of Biotechnology, Visiting research fellow

# Conferences, Events and Activities

## 1. . List of Events/Activities (May 2018 to May 2019)

S. No.	Date	Event/Activity	Key Guests
1	09.05.2018	Summer Sports Coaching	
2	21.06.2018	International Yoga Day Celebrations	Guests from Kajaani University Finland, APSSDC and the participating students in the IGDC Gaming Workshop
3	23.06.2018	Andhra Pradesh Non-Resident Telugu Society (AP NRT) deligate visit & meeting	Mr. Sheshu Babu, Mr. Sri Krishna, Mr. Satya Prasad, AP NRT
4	25.06.2018	ALC Inauguration	
5	25.06.2019	New Health Clinc Inaguration	
6	26.06.2018	IGDC Classes	
7	26.06.2018	Library Inauguration	
8	02.07.2018	Amazon Classes	
9	16-17.07.2018	The International Conference on Transformations in Engineering Education (ICTIEE AP' 18)	
10	19.07.2018	TOAST Masters meeting	
11	02.08.2018	MAD (Make A Difference)-Kickoff meeting	
12	04.08.2018	Swatch Bharath & Tree Planting (?)	
13	06.08.2018	SAO Intership Program	
14	07.08.2018	AYUDH (Youth in Action) Mata Amirthamaiyee Trust Meeting	
15	08.08.2018	Freshers Day Celebrations	
16	14.08.2018	AAZADI	
17	15.08.2018	Indepence Day Celebrations	
18	17.08.2018	Vajpayee Memorial	
19	18.08.2018	APCRDA visit & meeting	
20	21.08.2018	Kerala Flood Relief Fund Collection	
21	24.08.2018	Chancellors BirthDay Celebrations	
22	28.08.2018	Book Exhibition	
23	28.08.2018	Basket Ball Competition	
24	31.08.2018	Student Presentation (Amina)	
25	05.09.2018	Teachers Day Celebrations	
26	08.09.2018	CDC Class Trip (Coringa)	

S. No.	Date	Event/Activity	Key Guests
27	19.09.2018	AI Workshop	
28	19.09.2018	LLR & Driving Training	
29	19.09.2018	Pink Athon	
30	24.09.2018	Mech Intereship	
31	05.10.2018	Chess Competition	
32	06.10.2018	CDC Class Trip to Amaravati Statue	
33	10.10.2018	SPiC Macay	
34	22.10.2018	Voters ID Issue Service (SSR 2019)	
35	25.10.2018	Efftonics workshop on thinking	
36	27.10.2018	Table Tennis Tournament	
37	28.10.2018	FlashMob in Trendset	
38	29.10.2018	Minerva (Prof. Mohopatra)	
39	01.11.2018	ALC meeting , "Best Practices in Research"	Dr. Prasant Mohapatra, Vice Chancellor for Research, UC Davis
40	03.11.2018	ALC meeting (Dr. Rathanam)	
41	06.11.2018	Diwali Celebrations	
42	28.11.2018	Biology Cell Biology Lab facilty inauguration	
43	19.12.2018	International Conference on Green Engergy Technologies (ICGET)	Dr. Kodela Siva Prasad, Speaker, AP Legislative
44	24.12.2018	Christmas Celebrations	
45	01.01.2019	New Year Celebrations	
46	03.01.2019	Guest Lecture	Dr. Srinivas Pentyala Professor & Director of Translational Research of Anesthesiology, Stony Brook Medical Center, USA
47	06.01.2019	Guest Lecture (DRDO Chairman)	Dr G. Satheesh Reddy, Chairman, DRDO
48	06.01.2019	Swatch Bharath (NSS - Neerukonda)	
49	18.01.2019	APCRDA Public Visit	
50	19.01.2019	Swatch Bharath (NSS - Kuragallu)	
51	20.01.2019	Swatch Bharath (NSS Campus Cleaning)	
52	22.01.2019	Guest Lecture	Dr. Kavitha Pandith
53	23.01.2019	Guest Lecture	Dr. Stephan Baker
54	23.01.2019	Guest Lecture	Dr. Rajini Srikanth
55	26.01.2019	Republic Day Celebrations	
56	28.01.2019	Ethnic Dress Day Celebrations	
57	28.01.2019	Tech Fest	
58	01.02.2019	Literature Fest	
59	04.02.2019	Cancer Day (NSS Rally)	

S. No.	Date	Event/Activity	Key Guests
60	04.02.2019	Swatch Bharath (NSS Campus Cleaning)	
61	16.02.2019	Homage to Jawans	
62	19.02.2019	Sports Fest	
63	05.03.2019	Women's Day Celebrations	
64	21.03.2019	Holi Celebrations	
65	22.03.2019	CSE Workshop	
66	26.03.2019	First Aid Training (NSS and Red Cross)	Dr. Kola Vijaya Sekhar
67	26.03.2019	Photo Exhibition	
68	08.04.2019	NSS Volunteers meeting (SRM Campus)	
69	08.04.2019	Guest Lecture (IISc Professor)	Prof. C. Durga Rao
70	12.04.2019	UROP Exhibition (Undergraduate Research Opportunity)	UG Students Project demonstration
71	12-15.04.2019	Culture Fest	Ms. Deepika Reddy, Mr. Raghavendra Rao

## 2. Cultural Fest - Kalpataru

SRM University, AP Amaravati organized its second cultural fest on the 15th and 16th of March 2019 to encourage and develop a sense of cultural values among the students through varied programs.

The function was inaugurated by our Vice-Chancellor Jamshed Bharucha along with Ms. Deepika Reddy, a celebrated Kuchipudi dancer and recipient of Sangeet Natak Academy Award, who motivated the students and faculty with their gracious presence. The other distinguished guests were the Pro Vice-Chancellor, Prof. Narayana Rao, the Registrar, Dr. Gunasekaran, the Deputy Registrar, Dr Siva Kumar, and the event convener Dr. Srabani Basu.

It was a two-day event, where day 1 started off with inter-college cultural competitions followed by a pro show by Capricio, a regional music band in the evening. This whole day-long event was held in the university campus where the students displayed their talents amidst much fun and frolic.

Both internal and external experts judged the various events. The SRM students left their brilliant marks in all the events.

Day 2 witnessed the presence and an interactive session of the renowned, Director of Telugu cinema Mr. K Raghavendra Rao. Mr. Rao graciously gave away the prizes and the evening concluded with the magical performances by reputed performers like Spunk. MC Mike & Uneek and Progressive Brothers.

## 3. Tech-Fest - Second Edition

The second edition of the Annual Technical Festival of SRM University AP at Amaravati was organized during Feb 28- Mar 1, 2019. The two days were fully loaded with 4 Guest lectures, 5 workshops, 13 competitions that included a technical quiz. The events were carefully

designed to enable student participation from different branches of engineering. HackSRM, a 24hr hackathon was for the first time included as part of the TechFest.

SRM-AP TechFest 2019 was inaugurated by the Chief Guest, Dr. S. Chandrasekhar, Director, CSIR, Indian Institute of Chemical Technology (IICT) on 28th February 2019 and the Guest of Honor was Raghavan Pillai Ramachandran, General Manager - Healthcare Solutions, BOSCH. The inaugural ceremony had inspiring talks from the Chief Guest, the Guest of Honor, VC Prof. Jamshed Baruch and ProVC Prof. D Narayana Rao. During the ceremony, a special guest **lecture on the topic “Innovation Driving Visible Impact in Healthcare Domain” was delivered** by the Guest of Honor. The morning session concluded with the vote of thanks given by TechFest2019 convenor Dr. Venkata Nori.

On Feb 28<sup>th</sup>, 10 events were lined up after the inaugural ceremony. There were three workshops - Game Development, Ethical hacking and AR/VR. Code race, paper plane competition, CAD modelling, robo race, drone race, photography, gaming, technical quiz and treasure hunt were the other events in the day. There was a guest lecture by Dr. V K **Mittal (CEO Ritwik Software) on the topic “IOT Applications”**. **On the second day, we had Pi Jam, MultiSim, Trebuchet, Truss design and Gaming events.** The game development and AR/VR workshops continued from the previous day. AI and Smart city workshop were also organized. There were two inspiring guest lectures, one by a young entrepreneur, Kaustubh Dhonde (CEO AutoNxt Automation) - Makers of World's First Electric Autonomous Tractor and other by Yathiraj Kasal (AddWorks Leader - **AsiaPacific at GE Additive**) on **“Additive Manufacturing Applications”**. **All the technical events witnessed a very large and enthusiastic participation from students from our university and from other colleges/universities.** The highlight of this edition of TechFest SRM-AP was that about 400 students participated from nearby colleges/universities. The event had a good coverage by the leading regional newspapers.

The prize distribution and closing ceremony was held on March 1st evening, and the prizes were given away by Prof. D. Narayana Rao, ProVC. The participants were completely satisfied with the events and the hospitality provided by the organizers. Overall, the second edition of TechFest was a great success and more importantly the event was organized by the 1<sup>st</sup> and 2<sup>nd</sup> year students under the guidance of faculty that not only taught the students the latest advances in technology but gave them the platform to develop organizational and leadership skills.

#### 4. Invited Lectures

S. No.	Name of the delegate & affiliation	Date (s)	Topic	Details
1	Prof. Janaki Bakhle		Idea of India	Short Module on Indian History

#### 5. Talks on Popularising Science

Jeevan TV “Segment on History and Travel’ by Malavika Binny, April 21.2019.



## 6. Youtube videos on Popularising Science

1. Interview with Prof. T. Ragunathan, Professor, CSE Department, SRM University, Andhra Pradesh, <https://www.youtube.com/watch?v=MzrmOAgtLuk>
2. Interview with Dr. Priyanka, Assistant Professor, CSE Department, SRM University, Andhra Pradesh for Minerva Platform <https://www.youtube.com/embed/HE4YC3ueUV8>
3. Interview with Dr. Priyanka, Assistant Professor, CSE Department, SRM University, Andhra Pradesh [https://www.youtube.com/watch?v=5fSgvJ7wl\\_8](https://www.youtube.com/watch?v=5fSgvJ7wl_8)
4. Interview with Dr. Priyanka, Assistant Professor, CSE Department, SRM University, Andhra Pradesh, <https://www.facebook.com/SRMUniversityAmaravati/videos/508227959582701/>
5. Interview with Dr. Sabyasachi Chakraborty On why to join SRM University in Amaravati, (<https://www.youtube.com/watch?v=13PlzNaH2PM>).
6. Brief video description of Dr. Pardha Saradhi Maram research area and expertise at SRM-AP, Amaravati, <https://www.youtube.com/watch?v=78oPp3fkA5k>.

# Instrumentation

The following list includes some of the major instruments available

S. No.	Name of the equipment	Company	Dept
1	ELVIS II+ (35 numbers with Multisim)	National Instruments	ECE
2	CNC Milling Machine	Bhavya Machine Tools	Mech
3	CNC Lathe	Bhavya Machine Tools	Mech
4	X-ray diffractometer	PAN Analytical	Physics
5	LCR meter	Keysight Technology	Physics
6	High temperature furnaces	Ants Lab (Indian made)	Physics
7	Spectrometer	TECAN microplate reads	Physics
8	Globe box	VGard	Physics
9	Fume Hood	Indian make	Physics
10	X-ray diffractometer	PANalytical	Chemistry
11	Microplate reader (UV-Vis and PL)	TECAN	Chemistry
12	GC-MS	Perkin Elmer	Chemistry
13	Glove Box	Ex-Vigor Tech	Chemistry
14	Mixed signal oscilloscope	Yokogawa	EEE
15	Voltage probes	Yokogawa	EEE
16	Current probes	Yokogawa	EEE
17	Function generator	Yokogawa	EEE
18	Digital desktop multimeter	Yokogawa	EEE
19	Autoclave	REMI, Rays	Biology
20	Biosafety Cabinet	ESCO Class II	Biology
21	Bacterial Incubator	KEMI	Biology
22	CO <sub>2</sub> Incubator	ESCO	Biology
23	Concentrator Plus	Eppendorf	Biology
24	Refrigerated Centrifuge	Thermo Scientific, REMI, NEYA16 R	Biology
25	Double distillation unit	Quartz	Biology
26	Inverted Microscope	Magnus	Biology
27	Spectrophotometer	Thermo Scientific, Systronic	Biology
28	Electrophoresis system, SDS unit, Western blot System	BIORAD	Biology

29	-20 Freezer	Vest Frost, Elanpro	Biology
30	PCR Machine	BIORAD	Biology
31	rtPCR Machine	BIORAD	Biology
32	Gel Doc System	BIORAD	Biology
33	Zetasizer	Malvern	Biology
34	Milli Q	Evoqua	Biology
35	Shaker Incubator	YOGA EIS-45	Biology
36	Laminar air flow chamber	Eurotech, Hitech	Biology
37	Fluorescent microscope	Olympus	Biology
38	Cell counter	Olympus	Biology
39	BOD Incubator (5°-60°C)	REMI	Biology
40	BOD Incubator	OmniX96+	Biology
41	BOD Incubator	Progen	Biology
42	Stereo dissection microscope	ALMICRO	Biology
43	Dissection Microscope	NIKON SM Z745	Biology
44	-80 Freezer	Thermo Scientific	Biology

# Library

SRM University A.P – Amaravati aims to build world class library for the benefit of students, faculties and researchers. Our aim to build one of the best International library according to International Standards, At the moment, the University library has an excellent collection of books covering various branches of Engineering and Technology and Science and Humanities and its related fields.

The Central Library subscribes to national and international journals in print, e-Journals and technical & general magazines too. The library has access facility NPTEL video courses, e-PG pathashala, Swayam Programs and other E-Learning resources initiated by Government of India. Central Library is using in house software for Library automation and implemented RFID technology.

The library is located in the University Administrative Block, 5th and 6th floors with the area about 15350 sq. ft. The library building in 5<sup>th</sup> & 6<sup>th</sup> floor is an area of about 8550 SQF. It contains a Reading Hall 6800 SQF, in which 150 readers can be accommodated at a time,

## 1. Features of the Central Library

- Fully air-conditioned and automated with RFID (Radio Frequency Identification) technology
- Well protected with fire alarms and CCTV security systems
- Equipped with reading halls in all the floors, with reference collection.
- In addition Library has cafeteria in both sides at 6<sup>th</sup> floor.
- The Library has Discussion & Team cabins at 5<sup>th</sup> floor for group discussion/study.



## **2. Vision**

- To support the faculty, research scholars and students in teaching and learning.
- To help attain excellence in higher technical education and research.
- To provide a hi-tech gateway and easy access to knowledge based global information and academic resources in a variety of formats.
- To meet the relevant and diverse demands in scientific, engineering, technological and management education.

## **3. Mission**

- To systematically and regularly collect relevant books, journals, magazines and such other publications, in conventional or in electronic media, for continuous updating and strengthening the resources of the library and its data bank.
- To provide the right ambience and facilities for the acquisition and dissemination of information to faculty and students.

## **4. AUTOMATION**

All operations and services of the library has been automated with RFID (Radio Frequency Identification) technology using Windows based In-House software(ERP) developed by a team of programmers. It operates on Windows 2000 server, Oracle with J2EE. The software has excellent operational modules such as transaction, query, administration, reporting modules etc. And the library has well protected with fire alarms and CCTV security systems.

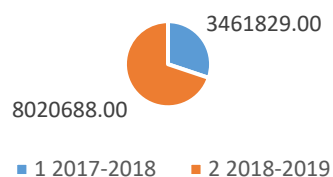


## **5. LIBRARY RESOURCES COLLECTION DURING THE YEAR**

The major activities of the central library between July-2018 to June-2019 are described here

S.No	Particulars	A.Y. 2017-18	A.Y. 2018-19	Total
<b>I. Library Collection</b>				
1	No .Of volumes	6567	8857	15424
2	No. Of Titles	695	1541	2236
3	No. Of E- Books	3390	3460	3460
4	No of E- Journals	5510	8675	8675
5	No of Print Journals & Magazines	6	98	98
6	Periodicals(Dailies)	7	14	14
7	C.D/DVD ROM	345	41	386
7	Institutional Membership	5	7	7
<b>II. Membership</b>				
1	Staff & Students	290	1120	1410
<b>III. Circulation</b>				
1	No of books Transactions (Issues & Returns)	3,400	33,693	37,093
2	No of Visitors walk in	12,923	62,907	75,340

### Year Wise Spent Expenditure towards Central Library



## 6 INITIATIVES

### 6.1 Institutional Memberships:

SRM University A.P – Amaravati Library has taken Institutional membership from various library networks to improve the existing facilities and collection to provide better services to facilitate sharing of resources. Some of these networks & Data bases are:

- DELNET (Developing Library Networks)
- National Digital Library (NDL)
- WEL ( World Electronic Library)
- SAA (South Asian Archives)
- Member of E-Shodh Sindhu Educational Consortium
- E-Shodh Ganga
- INFLIBNET

## **6.2 e-Shodh Sindhu Consortium Membership.**

The main objective of the e-Shodh Sindhu: Consortia for Higher Education E-Resources is to provide access to qualitative electronic resources including full-text, bibliographic and factual databases to academic institutions at lower rates of subscription to universities, colleges and centrally funded technical institutions in India.

## **6.3 E-Resources available through the Central Library (e-Journals, e-Books and E-Contents):**

The SRM University A.P Amaravati subscribes most reputed Online Journals are:

A) IEEE online journals (IEL Package) which provides international standard journal articles, conference proceedings, standards, international magazines & newsletters.

B) JSTOR Journals Data base it has India comprehensive collection more than 3,000 journals which covers Science and humanities multi-disciplinary collection.

C) Developing Library Network (DELNET). A database which provides 3700 full e-Books, 5000+ e journals

D) DOAJ (Directory of open Access Journal Free access)

E) DOAB (Directory of open Access Books Free access)

In time being Our University Resource Centre plans to procure Standard Online Journals and Databases i.e., ELSEVIER, SPRINGER, ASME, ASCE, ACM, AIP, NATURE, TAYLOR AND FRANCIS, EBSCO AND SCOPUS Etc.

## **7. WORKING HOURS**

Days	Library woking hours
Regular Working days	8.00 hrs to 22.00 hrs
Sundays & holidays	9.00 hrs to 17.00 hrs

## **8. Services/Facilities/General Organisation**

### **8.3 Textbook lending for home study (only text books):**

The Book Borrow Facility helps the students of SEAS & SLABS Students and Ph.D. Scholars by making textbooks available to them.

#### **8.1 Reprographic Facilities.**

Provides for the personal use of users the copies of information materials available in library on payment basis at nominal pricing.

#### **8.2 Wi-Fi Facility.**

The University as well as Central Library Has 24X7 Wi-Fi enabled facility to access online teaching & learning e-resources for the user community of the university.

**8.4 Classification & cataloguing (OPAC):** The library books are classified as per "Dewey Decimal Scheme of Classification. Library has computerized catalogue search Facility available to users with systems at library.

**8.5 RFID Implementation:** Central Library has implemented the Radio Frequency Identification (RFID) system. It is the best automated library automation system used worldwide and is an effective way of managing collections of the library and providing enhanced services to the users having benefits.

**8.6 Membership** The membership of the Central Library is open to students, teachers and the other staff of the institute. The present membership is about 1410 approximately.

#### **8.7 Other Services**

- A) Tabs Lending Facility.
- B) Database Search through DELNET & INFLIBNET.
- C) Resource Sharing/ Inter Library Loan.
- D) New arrivals information.
- E) Open Access Facilities for Textual Documents.
- F) Provision of Separate Reading Rooms for Students and Teachers.
- G) Reference Books Section.
- H) Journals of National and International repute.
- I) Team Room & Discussion Cabins.
- J) Cambridge Dictionary Online
- I) Cafeteria attached with the Central Library.





## 9. Library Advisory Committee:

Library Advisory committee will meet at regular intervals to make recommendations for procurement of books, journals and issues that arises from time to time. The members are as follows,

S.No.	Name of the member	LAC
1.	Prof. C. Vijaysekhar, Department of Mechanical Engineering	Chairperson
2.	Prof. Shailender Swaminathan, Department of Economics	Member
3.	Prof. Sivakumar Narayanaswamy	Member

	Department of Mechanical Engineering	
4.	Prof. T. Ragunathan, Department of Computer Science and Engineering	Member
5.	Prof. James West, Department of English	Member
6.	Prof. Jayaseelan.M, Department of Biotechnology	Member
7.	Mr. V. Srinivasa rao, Assistant Librarian	Member & Convener

#### 10. Book Exhibition:

Central Library organized books exhibition collaboration with Jaico Publishers, Hyderabad in University library premises at the beginning of academic year 2018-19. More than 20 reputed International & national publisher were participated & exhibited world class collection of books.



#### 11. Workshops/seminars/conferences/training programs attended by Library staff members at recognized academic institutions:

- A paper presented on Students Perception on Library services: A study at National Conference on Future Libraries and Future of Libraries (FLFL 2019) held on 8th – 9th March- 2019 at Dravidian University, Kuppam.
- Attended at National Digital library India, Khargpur-IIT organized a 2 -day workshop on 22nd – 23rd April- 2019 at Indian Maritime University, Visakhapatnam, to train about to digitize the individual institutional Digital Repositories.

- **Participated at International** Conference on “Scholarly Communication, Open-access Publishing and Ethics (SCOPE- 2018) Held on 25th – 26th October-2018 at Central Library, School of Planning and Architecture (SPAV), Vijayawada.

# SRM AP Research Colloquium

The motto and vision of SRM AP research colloquium is to share the research expertise of one individual faculty member with other colleagues to come up with many Inter-, Intra- and/or Multi-disciplinary research directions. The following lists the dates of SRM AP Research Colloquium

Edition	Date	Number of Faculty Presented
1 <sup>st</sup>	3 <sup>rd</sup> November, 2018	15
2 <sup>nd</sup>	30 <sup>th</sup> March, 2019	11
3 <sup>rd</sup>	25 <sup>th</sup> April, 2019	3

Dr. M. Venkata Ratnam, Scientist, National Atmospheric Research Laboratory (NARL), Department of Space, Govt. of India, (Winner of Shanthi Swarup Bhatnagar Prize- 2018) was our guest of honor on 1st edition of SRM AP Research Colloquium.

## I. 1<sup>st</sup> SRM-AP Research Colloquium

SRM-AP Research Colloquium Date: 3rd November 2018, Time: 9.00 AM to 5.15 PM Venue: Active Learning Center (ALC 1), 3rd Floor, Administrative Block, SRM-AP		
Welcome Address: Professor Jamshed Bharucha, Vice Chancellor, SRM-AP About Research Colloquium: Professor D. Narayana Rao, Pro-Vice Chancellor, SRM-AP		
Invited Speaker: Dr. M. Venkata Ratnam Winner of Shanti Swarup Bhatnagar Prize-2018 National Atmospheric Research Laboratory, ISRO		
S. No	Speaker	Title of the Talk
Session Chair: Prof. Jayaseelan Murugaiyan		
1	Dr. V. Kannan Professor Department of Mathematics,	What is Common Between a Running Movie and an Evolving Organism?
2	Dr. Kazuhito Shida Associate Professor Department of Computer Science	Improving Monte Carlo Sampling by Additional Degrees of Freedom
3	Dr. Anil K. Suresh /Ramalingaswami Fellow Associate Professor Department of Biotechnology	Nanomedicine: Engineered Nanoparticles for Diagnostic and Therapeutic Uses

4	Dr. Marc Howard Rich Associate Professor Department of English and Journalism	Dotard and the Rocket Man: Nuclear Strong Men and the Rhetorical Crisis of Donald Trump
5	Dr. Sujith Kalluri Assistant Professor Department of Electronics and Communication Engineering	Electronic/Electrochemical Testing and Efficient Electronic Control of Rechargeable Battery Systems
6	Dr. Jatis Kumar Dash Assistant Professor Department of Physics	Hetero-Epitaxial Growth of 2D Layered Materials and their Device Applications
7	Dr. Laxminarayana Patro Assistant Professor, Department of Physics	Nonlinear Ion Transport in Supercooled Ionic Liquids
8	Dr. Satya Pramod Jammy Assistant Professor Department of Mechanical Engineering	Automated Source Code Generation for Finite Difference Methods
9	Dr. Sabyasachi Chakraborty Assistant Professor Department of Chemistry	Protein Based Theranostics
10	Dr. Pranab Mandal Assistant Professor Department of Physics	Advanced Materials for Energy Applications
11	Dr. Nimai Mishra Assistant Professor Department of Chemistry	Branched Semiconductor Nanocrystals
12	Dr. T. Ragunathan Professor Department of Computer Science,	Improving the Performance of Read Operations in Distributed File System
13	Dr. Amitabh Chatterjee Associate Professor Department of Electronics Communication and Engineering	Simulation and Modelling of Nanoscale Devices
14	Dr. Sabyasachi Mukhopadhyay Assistant Professor Department of Physics	Vibrational Spectroscopy at Molecular Junctions
15	Dr. Vijayakrishna Rowthu Assistant Professor	Partial Differential Equations Based Image Processing

	Department of Mathematics	
16	Dr. Mahesh Ravva Assistant Professor/Inspire Faculty Department of Chemistry	Theoretical Insights on the Critical Factors that Influence the Performance of Non-Fullerene Organic Solar Cells
17	Dr. Pardha Saradhi Maram Assistant Professor Department of Chemistry	Thermodynamic Controls on the Synthesis, Structure, and Reactivity of Functional Metal Oxides
18	Dr. Sreenivasulu Tupakula Assistant Professor Department of Electronics and Communication Engineering	Photonic Crystal Devices for Wavelength Division Multiplexing Applications

## II. 2<sup>nd</sup> SRM-AP Research Colloquium

Date: 30 <sup>th</sup> March 2019, Time: 9.30 AM to 4.30 PM Venue: Tired Classroom, 5 <sup>th</sup> Floor, Administrative Block, SRM-AP		
S. No	Speaker	Title of the Talk
Session Chair: Prof. Jayaseelan Murugaiyan		
1	Prof. Jamshed Bharucha, Vice Chancellor,	Music and the Brain
2	Prof. Subhabrata Sen, Department of Chemistry	Academic drug-discovery: An oxymoron or a pleonasm?
Session Chair: Dr. Anil K. Suresh		
3	Dr Vijaysekhar Chellaboina, Professor & Associate Dean for SEAS	Control of Health and Wealth
4	Dr. Kasthurirangan Gopalakrishnan, Professor & Associate Dean for Research	Data-Driven Civil Infrastructure Health Monitoring and Management
5	Dr. Manjunatha Thondamal, Assistant Professor/INSPIRE Faculty Department of Biotechnology	Molecular Links between Nutrition, Reproduction, and Lifespan
Session Chair: Dr. Manjunatha Thondamal		
6	Dr. Mallikarjuna Rao Motapothula, Assistant Professor/INSPIRE Faculty Department of Physics	Mass-spectroscopy for energy, environment and health applications



7	Dr. Pradyut Kumar Sanki, Assistant Professor, Department of Electronic Communication and Engineering	Back-End Design for Photoacoustic Based Noninvasive Blood Glucose Measurement System
8	Prof. Jayaseelan Murugaiyan Professor, Department of Biotechnology	Intact Protein Profiling: Advances in Species Identification and Future Prospects
9	Prof. Sivakumar Narayanswamy, Department of Mechanical Engineering	Laser Assisted Bioprinting
Session Chair: Dr. Mallikarjuna Rao Motapothula		
10	Dr. Vijayakrishna Rowthu, Assistant Professor, Department of Mathematics	PDEs for Human brain white matter pathways
11	Dr. Sandeep Singh Sengar, Assistant Professor, Department of Computer Science & Engineering,	Development of Motion Segmentation and Visual Object tracking Techniques

### III. 3<sup>rd</sup> SRM-AP Research Colloquium

Date: 25 <sup>th</sup> April 2019, Time: 4.00 PM to 5.00 PM Venue: Tired Classroom, 5 <sup>th</sup> Floor, Administrative Block, SRM-AP		
S. No	Speaker	Title of the Talk
1	Dr Shailender Swaminathan, Professor & Associate Dean for SEAS	<b>Impact of Health Insurance in India: Preliminary Results from an Experimental Study</b>
2	Dr. Somesh Vinayak Tewari, Assistant Professor, Department of ECE	Pulse Power Systems- Flashover Studies and Related Applications
3	Dr. Panchagnula Jayaprakash Sharma, Assistant Professor, Department of Mechanical Engineering.	<b>Additive Manufacturing of complex metallic objects with overhanging features: Slicing and Path planning strategies</b>

# Indian Game Development Challenge (IGDC)

An Eight Week Summer Course on Indian Gaming Development Challenge (IGDC) which was organised from 1st June 2018 in association with Kajaani University of Applied Sciences, Finland, Andhra Pradesh State Skill Development Corporation (APSSDC) and Economic Development Board (EDB) of Government of Andhra Pradesh was successfully ended on Friday, 3rd August 2018. There are 512 Students from 13 Districts of AP (including 6 students of SRM AP Amaravati) participated in the above summer course. The entire expenses including charges for accommodation and food were borne by the Government of Andhra Pradesh through APSSDC.



The main objective of this gaming event are as follows:

Firstly, to create game industry starts up and gaming companies are involved to encourage the fresh engineering graduates. Secondly, enhance the personal skills and innovation knowledge growth for ICT-students. Thirdly, connecting high-level ICT-skills with employment & business orientation with huge, global gaming industry. Fourthly, developing commercial game with monetization, publishing the game and latest pedagogical concepts.



KAMK professors' expertise, technology and industry experience offer students an unmatched foundation for careers in the game design industry. Few talented students will get an opportunity in Kajaani University or some gaming industry in Finland for internship or jobs after completing their summer course.

SRM AP Team comprising of the following 6 Students have actively participated in the above workshop.

1. Aneek Banerjee
2. Koushik Bhargav
3. Saptarshi Mazumder
4. Rajarshi Mazumder
5. Saurav Raj
6. Saurabh Ghanekar

The students were trained by the following Faculty Members:

1. Mr. Jaakko Karkola
2. Mr. Joel Partanen
3. Mr. Jussi Prokkola
4. Ms. Janna Kauppinen
5. Ms. Laura Kinnunen
6. Ms. Taru Verkkonen
7. Prof. Janne Remes
8. Dr. Timo Korhonen
9. Dr. Ashok Kumar Pradhan - SRMAP

At the end of the gaming course, SRM-AP Team won the first prize in IGDC. First time in the Indian history the SRM AP team of six students participated in the Conference, named "SLUSH" which was held in Finland during 4-7 December 2018.

# Green Energy Technologies for Smart Cities (GETSC -2018)

The International conference “**Green Energy Technologies for Smart Cities (GETSC - 2018)**”, was held at SRM University-AP, Amaravati during December 19 to 21, 2018. It was jointly organized by SRM University-AP, Amaravati and Amara Raja Batteries Ltd.

Late Sri Kodela Siva Prasada Rao, **Hon’ble Speaker, Andhra Pradesh Legislative** Assembly inaugurated the conference in the presence of Dr. Ramachandra N Galla, Chairman, Amara Raja Group of Industries.

The main theme of the conference was to boost the development and optimal use of renewable energy to improve economic, environmental and social fabric of smart cities. About 250 participants Participated out of which 50 participants are from abroad. Scientists/faculty members from USA, Canada, UK, Australia, Germany, France, UAE, Korea, China, Malaysia, Singapore, Indonesia and from different reputed institutions, National laboratories and Universities from India attended in the above conference. They shared their research outcomes and discussed the various frontier Green energy Technologies.

They presented their state-of-the-art research work and interacted with the academicians, practitioners and policymakers. The interaction and the panel discussion were focused on the new energy materials, implementing emerging energy technologies to promote sustainable energy solutions for the development of smart cities.

The conference provided a good platform for the industry and academic stakeholders to interact with the eminent personalities to enrich and share their knowledge in their respective fields of research and engage in potential collaboration to develop innovative technologies in the areas of sustainable energy, advances in materials research and computational sciences, climate change and environmental sciences.

Students from different University and colleges participated in the conference and showcased their smart city models. The best posters and models were awarded by Materials Research Society (MRS), Singapore.

On this occasion, SRM University-AP had a great privilege to honour Dr. Ramachandra N Galla, Chairman, Amara Raja Group of Industries, with the “**Life time Achievement Award**” for his outstanding contributions in battery technologies and the national economy.

As a follow-up this successful conference, SRM University-AP and Amara Raja Amara Raja Batteries Ltd. jointly agreed to establish a Research and innovation center at SRM University-AP namely SRM-Amara Raja Center for Energy Storage Devices.



# Skill Development Activities 2018-2019

- International Conference on Transformations in Engineering Education - Imparting the **Futuristic Skills (ICTIEE AP' 18)**, was jointly organized by **SRM University-AP**, Amaravati, Indo Universal Collaboration for Engineering Education (IUCEE), and Andhra Pradesh State Skill Development Corporation (APSSDC). 16-17 July 2018
- The objectives of ICTIEE **AP' 18** conferences were to promote global networking among engineering educators, for nurturing excellence in engineering education by creating a forum of paper presentations, workshops, keynote address and panel discussion with a focus on research-based education strategies for enhancing the quality of technical education.
- The conference was kick started with the inaugural address by Prof. D. Narayana Rao, ProVC SRM-AP in the presence of Chief Guests Sri N. Lokesh, Minister for IT, Government of AP, Sri. K. Ravindra, Minister for Skill Development, Government of AP, Chancellor and President of SRM University-AP, and other dignitaries.







Chief Guests, International experts, and Keynote speakers visited the state-of-the-art infrastructure facilities at the SRM-AP such as Active Learning Classroom (ALC), NextTech laboratory etc. This would create a good branding to the University.





There were around 25 foreign invited speakers and 3 keynote speakers from prestigious universities in USA and India have participated in this conference and presented their talks on transformations in Engineering Education in various aspects.

List of foreign invited speakers attended: Dr. JP Mohsen (U of Louisville), Dr. Hans J. Hoyer (IFEES), Dr. Duana Abata (SD SMT), Dr. Cindy Atman (U of Wash), Dr. Claire Komives (SJSU), Dr. Bill Oakes (Purdue U), Dr. Scott Roberts (U of MD), Dr. Michael Milligan (ABET), Dr. Matt Ohland (Purdue U), Dr. Lyle Feisel (ASEE), Dr. Victoria Dorman (Princeton U), Dr. Jenna Carpenter (Campbell U), Dr. Yacob Astatke (Morgan St U), Dr. Jim Borgford-Parnell (U of Wash), Dr. David Voltmer (Rose Hulman IT), Dr. Bevlee Watford (VA Tech. ASEE), Dr. Giovanna Scalone (U of Wash)



List of keynote speakers attended: Prof. Appa Rao Podile, VC, U of Hyderabad; Dr. G. Padmanabham, Director, ARCI, Hyderabad; Prof. Sandeep Sancheti, VC, SRM Inst of Science and Technology



354 faculty members from different engineering colleges and universities across India have participated in the International Conference actively and had great experience with the hospitality and infrastructure facilities at SRM University-AP.





Six Industry sponsors (NI, Dassault, Mathworks, IonCudos, Comsol, and Quanser) and one academic sponsor (San Jose State University, USA) have participated the event and conducted the hands-on workshops on their respective products for Engineering Education.

#### Overview of the various sessions, panel discussions and workshops

##### Sponsor and Academic Workshops:

The sponsors participated in this conference had performed workshop sessions to explain the importance of their scientific products in enhancing the quality and Engineering Education

Besides, academic workshops were conducted by some International experts in the fields of Hands on Teaching of Electronics, Doing and Teaching Design, Centers of Teaching and Learning Working in Teams

TED talks: All the International experts gave 5 minutes presentations each on their respective findings and suggestions related to improving the standards of Engineering Education with the futuristic skills in the graduates, curriculum design, classroom teaching atmosphere etc.

EPICS posters: 42 posters were presented by the faculty members who are involved in the EPICS program at various engineering colleges and universities.

##### Paper Presentation Sessions:

194 abstracts were selected for oral presentations across 12 parallel sessions.

Each talk is of duration 8 minutes presentation and 2 minutes discussion.

The faculty members from SRM-AP were the session chairs of the sessions and assisted by co-chairs from participating institutions.

Some of the SRM-AP faculty members have started implementing the new teaching pedagogy techniques such as flipped classrooms, problem-based learning, outcome-based learning etc. in their regular classwork schedule.



#### Keynote Presentations:

Keynote presentations by Prof. P. Appa Rao, Dr. G. Padmanabham, and Prof. S. Sandeep were on the Engineering Education and Technology Evolution, Academic - Industry Technology transfer.

Faculty members and students enjoyed the session.

SRM-AP faculty members had separate meetings with Prof. P. Appa Rao and Dr. G. Padmanabham regarding their research collaborations and suggestions with the counterparts in their organizations.

#### Panel Sessions:

Total 8 panel discussions were performed by International experts, which includes presentations by individual experts and combined discussion on the topic.



# National Social Service (NSS)

NSS Cell of SRM University, Amaravati operates in lines with the vision and mission of SRM University, Amaravati

Vision of NSS Cell, SRM University, Amaravati:

To inculcate, motivate and engage the students with socially responsible behaviour with the motto of helping hand to the needy and also producing the students with good Organizational Citizenship Behaviour by involving them in community development and social service by enabling them to acquire all-round skill like team building, leadership and creative skill sets in addition to academic pursuits.

Mission of NSS Cell, SRM University, Amaravati:

Aspire to achieve the objectives of NSS. Develop team management, leadership talents by enabling them to work in teams and groups. Encourage creative abilities to provide solutions to social problems, which the country is facing.

Overview of NSS CELL at SRM University, Amaravati, Andhra Pradesh:

NSS CELL operationalized at SRM University, Amaravati in the month of September, 2018

Some of the glimpses of NSS CELL are as follows:

- Carrying Social Service at SRM University is a routine exercise, much before the inauguration of NSS officially, SRM University conducted many programmes in its short duration of inception
- NSS Officially formulated for SRM University, AP in the month of Sep, 2018
- Initially started with one Unit by getting a student volunteer strength of 100
- Later started Unit 2 with another 100 student volunteers
- Now operating with more than 200 student volunteers in both the units
- The University has currently one Programme Coordinator and one Programme Officer
- **The University initially adopted “Neerukonda” Village and later also adopted “Kuragallu” Village**
- With the active support of University and State Level Body, both the Units are operating actively in conducting various activities

Officers in-charge for NSS activities at SRM University, Amaravati:

1. Programme Coordinator:

Programme Coordinator is the overall in-charge of the units formulated in the University. The current Programme Coordinator is Dr. A.Lakshmana Rao, Asst.



Professor from Dept. of Commerce. He is also acting as Programme Officer for Unit 1.

2. Programme Officer:

Programme Officer is the responsible head for the Unit for which he is appointed. Further, he has to follow the instructions of Programme Co-Ordinator, while undertaking any programmes for that Unit. Currently Mr. Asgar Ahemed, Faculty from CDC, is acting as the Programme Officer for Unit 2.

The above functionaries have to act in accordance with the directions given by State NSS Office, Govt. of Andhra Pradesh, represented by Joint Director - NSS and State NSS Officer.

List of Activities conducted during 2018-2019

S No	List of activity	Activity conducted/to be conducted	Date of activity
1	Swachh Bharat (Clean India Mission) in the campus	Cleaned the surroundings and distribution of volunteer tags/ march fast in the campus	05-01-2019
2	Swachh Bharat in neerukonda village	Distributed jute bags and pamplates/plantation done/campaigning done/addressed by mr. Cheenna kesava rao, director-lands, crda	06-01-2019
3	Swachh Bharat in the campus	Cleaned the surroundings/campaign in the campus	20-01-2019
4	Swachh Bharat in Korugollu village	Distributed jute bags and pamplates/campaigning done/addressed by sri p.ranjit basha, i.a.s, director (pr&rd), panchyat raj and rural development	19-01-2019
5	Cancer day campaign	Cancer awareness program	04-02-2019
6	First aid training programme - train the trainers	Conducted first aid training programme by dr. Kola vijaya sekhar, civil assistant surgeon, govt. Hospital, guntur	26-03-2019
7	Election duty	A total of 54 volunteers attended for general elections - 2019 duty from 10 - 11 <sup>th</sup> of april, 2019	10-11 <sup>th</sup> April 2019

Some of the photographs captured during various activities of NSS CELL SRM University, Amaravati, Andhra Pradesh:









Some of the NSS activities capturing in Media:

## ప్లాస్టిక్ రహిత గ్రామాల్లో లక్ష్యం కావాలి

● పంచాయతీరాజ్, గ్రామీణాభివృద్ధి శాఖ  
డైరెక్టర్ రంజిత్ బాపా

నీరుకొండ (మంగళగిరి రూరల్), జనవరి 19: ప్లాస్టిక్ రహిత గ్రామాల లక్ష్యపాదనగా ప్రతి ఒక్కరూ ముందుకు సాగాలని, పర్యావరణాన్ని వెబ్సైట్ సే ప్లాస్టిక్, పాలిథిన్ కవర్లను విడదాడి పర్యావరణ హిత సంఘాలనే వినియోగించాలని రాష్ట్ర పంచాయతీ రాజ్, గ్రామీణాభివృద్ధి శాఖ డైరెక్టర్ పి.రంజిత్ బాపా సూచించారు. మండలంలోని కురగల్లు గ్రామంలో శనివారం ఎస్ఆర్ఎం యూనివర్సిటీ ఆధ్వర్యంలో జరిగిన స్వచ్ఛతా రత్న కార్యక్రమంలో ఆయన ముఖ్యఅతిథిగా పాల్గొని ప్రసంగించారు. నీడనిచ్చే వచ్చని చెట్లను పంచాయతీలలోని ప్రధాన రోడ్లకు ఇరువైపులా పెంచాలన్నారు. పిట్రవరి 15వ తేదీలోగా కురగల్లు గ్రామాన్ని ప్లాస్టిక్ రహిత గ్రామంగా ప్రకటించాలన్నారు. నీరుకొండ, కురగల్లు గ్రామాల్లో స్వచ్ఛతా కార్యక్రమం చేపట్టిన ఎస్ఆర్ఎం యూనివర్సిటీని ఆయన అభినందించారు. పరిసరాల పరిశుభ్రత కోసం గ్రామాల్లో అంటువ్యాధులు ప్రజల్లో అవకాశం ఉందని వర్షిటి వైస్ చాన్సలర్ ప్రొఫెసర్ జంషెద్ జర్రాచా చెప్పారు. గ్రామస్థులకు ఎస్ఆర్ఎం యూనివర్సిటీ ఆధ్వర్యంలో జూన్ నంచులను చంపిడి చేశారు. తోలుత ఎస్ఆర్ఎం విద్యార్థులు పర్యావరణ పరిరక్షణపై అవగాహన కల్పిస్తూ గ్రామంలో ర్వాటీ నిర్వహించారు. కార్యక్రమంలో పర్టిటీ రిజిస్ట్రార్ డాక్టర్ డి.గుణశేఖరన్, డిప్యూటీ రిజిస్ట్రార్ డాక్టర్ శివకుమార్, మంగళగిరి ఎంపీడిఎ్ వీరాంజనేయులు, ఎన్ఎస్ఎస్ కో ఆర్డినేటర్ డాక్టర్ లక్ష్మణరావు, కల్లల్ వెంకటాచలం, డైరెక్టర్ ఇమెబిగ్నా, టీపీ వైజస్ అపీసర్ పూర్ణ రమేష్కుమార్, ట్రాన్స్పోర్ట్ మేనేజర్ సోమసుందర్ తదితరులు పాల్గొన్నారు.

**చినక**  
చినకా  
(మంగళగిరి రూరల్), జనవరి 19: మండలంలోని కాకానిలో ఎన్టీ 23వ వర్తంతి సర్పంచి శుభ్రతా రాత్రి పొన్నెక సాంబశి వ ర ఆధ్వర్యంలో జరిగిన కార్యక్రమం చేప కేజీలు బ్యాగ్ ఆ గుడు హనుమం ఏఎస్సెస్ డైరెక్ట్ ి బాతాశిగుప్త, చ న్నారు. నవులూ లక్ష్మయ్య చౌదరి సభాద్యక్షులుగా ర్వక్రమంలో జడ్డీ రావు, మల్లవరం పార్వతారతి తది

**25 నుం**  
నిడ వ 3 ర్, (నంబల వ 3 ర్)



# ప్లాస్టిక్ రహిత గ్రామాల్లో మనలక్ష్యం

--పర్యావరణ హిత సంఘాలనే వాడండి

-పంచాయితీరాజ్ గ్రామీణాభివృద్ధి శాఖ డైరెక్టర్ రంజిత్ భాషా

**మంగళగిరి, జనవరి 19, ప్రభాతపాత్ర :** ప్లాస్టిక్ దురాచార గ్రామాల లక్ష్యపాదన దిశగా ప్రతిఒక్కరూ ముందుకు సాగాలని రాష్ట్ర పంచాయితీరాజ్ గ్రామీణాభివృద్ధి శాఖ డైరెక్టర్ రంజిత్ భాషా సూచించారు. పర్యావరణాన్ని దెబ్బతీసే ప్లాస్టిక్ పాత్ర తీసే కవర్ వాడరాని విషయాలను

స్వచ్ఛభారత్ కార్యక్రమం జరిగింది. అట్టిదే పర్యావరణానికి అవగాహన నువ్వే డైరెక్టర్ రంజిత్ భాషా ముఖ్యఅతిథిగా పాల్గొని గ్రామస్థలను స్పృశించి ప్రవచించారు. ఫిబ్రవరి 15లోగా కుర్రోళ్ల గ్రామాన్ని ప్లాస్టిక్ రహిత గ్రామంగా ప్రకటించాలని

మండలాధికారులకు ఆదేశాలిచ్చారు. దక్షత

గ్రామాధిపతి పీఠకొండ, నరసాపురంలో

స్వచ్ఛభారత్ కార్యక్రమాన్ని చేపట్టిన

ఎన్ఆర్ఎం యూనివర్సిటీని డైరెక్టర్

రంజిత్ భాషా ఆధ్వర్యంలో యూనివర్సిటీ

జైన్ ఛాన్సలర్ ప్రొ. బంషెడ్ జయరావ్

మాట్లాడుతూ పరిసరాల పరిశుభ్రత వలన

గ్రామాల్లో అంటువ్యాధులు బ్రభతే అవకాశం

ఉండబోవన్నారు. పచ్చిటి డిప్లొమాటీ రిజిస్ట్రార్

డాక్టర్ శివకుమార్, మంగళగిరి ఎంపీపీఓ

పీఠాంజనేయులు ప్రవచించారు. అనంతరం

రంజిత్ భాషా గ్రామస్థులకు బ్యాచ్

సంబంధించి పంపిణీచేశారు. తొలుత

విద్యార్థులు పర్యావరణ పరిరక్షణ కోరుతూ

గ్రామస్థుల్లో దాల్చి

నిర్వహించారు. కార్యక్రమంలో యూనివర్సిటీ

రిజిస్ట్రార్ డాక్టర్ డి. గుణశేఖర్, డాక్టర్

శివకుమార్, ఎంపీఎస్ఎం కో-ఆర్డినేటర్ డాక్టర్

లక్ష్మణరావు, కల్నల్ వెంకటాచలం, డైరెక్టర్ ఇమిటా, డిప్



జ్యూత్ వ్యాగులను పంపిణీచేస్తున్న రంజిత్ భాషా, జైన్ ఛాన్సలర్ బంషెడ్ భద్రదా, రిజిస్ట్రార్ గుణశేఖర్

కోరారు. పంచాయితీల్లో రోడ్లకు ఇరువైపులా నీడనిచ్చే చెట్లు పెంచాలన్నారు. మంగళగిరి మండలం కుర్రోళ్ల గ్రామంలో శనివారం ఉదయం ఎన్ఆర్ఎం యూనివర్సిటీ ఆధ్వర్యంలో

Sun, 20 January 2019  
epaper.vaaartha.com/c/35951511

# Student Affairs

The Department of Student Affairs offers a comprehensive educational experience. The department works collaboratively to support academic mission of the university, facilitate student life programs that engage them in various clubs, sports and cultural activities and prepares them to be global citizens within their personal and professional endeavours.

Department of Student affairs conducted the following events in the last one year.

## Toast masters workshop

Toastmasters is a club which operates for the purpose of promoting communication and public speaking skills. On 19<sup>th</sup> June 2018, Toastmasters club conducted a workshop for all the students.



## Orientation Program

Orientation program which is designed to support new students as they begin their SRM AP journey started on 25<sup>th</sup> June 2018. This was a 5-day program.





### Make a difference program (M.A.D)

MAD mobilises young leaders towards ensuring equitable outcomes for children in need of care and protection. The representatives from MAD conducted a workshop on 2<sup>nd</sup> August 2018.



### Fresher's Day

The Fresher's day party was organised on 8<sup>th</sup> August 2018 to welcome newcomers in a friendly atmosphere to encourage their creative impulses to boost their confidence. It was the day when seniors and juniors bonded.



### Azaadi

Azaadi was an event organised on 15<sup>th</sup> Aug 2018 to celebrate independence day.



### Kerala flood fund

Faculty and students joined hands to help the victims of Kerala flood. They collected money and sent it to the chief minister's relief fund on 21<sup>st</sup> Aug 2018.



### Pink Anthem

Pink anthem was a motivational program for women which was held on 19<sup>th</sup> Sep 2018.





## Formula 1 H2O

Amaravati hosted the Formula 1 Powerboat racing world championship. SRM AP students conducted a flashmob on 28<sup>th</sup> October 2018 in Vijayawada Trendset mall to promote f1H2O world championship. On 17<sup>th</sup> Nov, students witnessed the racing competition.



## Ayudh

Ayudh was a workshop on meditation for the students of SRM AP which was conducted by the youth wing of MataAmritanandamayi Math.



### Christmas celebration

Christmas was celebrated on 24<sup>th</sup> Dec 2018 at SRM AP with Christmas trees, cake cutting and events like treasure hunt, DJ and greeting card making.



### New year celebration

New year celebration was conducted on 31<sup>st</sup> Dec 2018 with DJ, cake cutting and movie screening.





### Ethnic Day

Students refreshed from their usual formal attires by wearing ethnic outfits on 28<sup>th</sup> Jan 2019.



### Literature Fest

**‘L’art pour la vie’** was SRM AP’s first ever inaugural Literary FEST, From ACTS (Arts Culture & Technology) an initiative of SLABS students, the festival program includes a tribute to late journalist-activist **Gauri Lankesh**, panels on **‘identity, representation & reality’** and **‘gender & society’**, Slam Poetry, Extempore, **‘Art from a literature piece’**, book fairs, Art Exhibition and Human Library, Hyderabad.



### Selfie competition

Selfie competition was conducted by photography society on 11<sup>th</sup> Feb 2018. This was a big hit online. The winner of the selfie contest received approximately 1000 votes.



### Cultural Fest (Kalpataru)

Cultural Fest, which is the annual inter collegiate fest was held on 15<sup>th</sup> March 2019. There were various events like choreobuffs, melomania, band o blast, fashionique, narcissus and cinemini. There were 4 bands who performed namely Capriccio, MC Mike Uneek, Progressive brothers and Spunk. Chief guests for cultural fest were Mr Raghavendra Rao, Vijaya Bhaskar and Deepika Reddy.





## Holi

Holi is the festival of colours. On 21<sup>st</sup> March 2019, holi was celebrated at SRM AP in the university playground.



## Photo exhibition

Photo exhibition was held on 13<sup>th</sup> May 2019 by photography club which showcased the photographs taken by the students of SRM AP.



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