



**SRM**  
UNIVERSITY AP  
Andhra Pradesh

# SRM University-AP

A Research-Intensive University

2023-2024

## OUR MOTTO

'To be globally connected, nationally relevant and regionally transformative.'

### OUR STORY

SRM University-AP is a seven-year-young multidisciplinary research-intensive university. All major disciplines of Sciences, Engineering, Technology, Management, Humanities, Social Sciences, and Liberal Arts are practised on our campus.

The University has 6,431 undergraduates, 266+ postgraduates, and 355+ full-time Ph.D. students. Research is essential in our curriculum, even for undergraduates. Our 300+ faculty members hold PhD from prestigious institutions along with national and international exposure.

SRM University-AP facilitates faculty members through research start-up grants, professional development allowance, financial support for patent filing, PhD fellows with full tuition fee waivers and better fellowships than UGC, and postdoctoral fellows. The research infrastructure of the university intensifies research, innovation, and entrepreneurial spirit on campus.

## Thematic Research Areas

- Waste to Wealth
- Biomedical Devices & Health Care
- Energy Storage Devices
- RNA Therapeutics
- Quantum Communication
- Anti-Microbial Resistance
- AI & ML for Imaging & Chat bot
- Consumer Research
- Literature & Languages
- Catalysts
- Enhancing Managerial and Policy Effectiveness in HRM, Finances, Marketing and Operations



## SRM AP - AMARA RAJA CENTRE FOR ENERGY STORAGE DEVICES

The Centre designs and develops low-cost, fast-charging, next-generation Lithium-ion battery innovations for smarter E-mobility in collaboration with Amara Raja Batteries Ltd. (ARBL) in India. Aligned with India's national mission on transformative mobility and battery storage, the Centre is committed to driving clean, connected, shared and sustainable mobility initiatives.

**Co-ordinator: Dr Pardha Saradhi Maram**  
**Email id: [pardha.m@srmmap.edu.in](mailto:pardha.m@srmmap.edu.in)**



## CENTRE FOR PIONEERING STUDIES IN GOLD AND SILVER

The Centre for Pioneering Studies in Gold and Silver is a dedicated research centre to study the metallurgy of gold and silver alloys. The centre, with a group of scientists from various disciplines such as Physics, Chemistry, Materials & Metallurgy, and Manufacturing works extensively in the areas of Manufacturing solutions to jewellery Manufacturing Industries, Developing novel processing techniques for lightweight and high-strength gold alloys, Corrosion and tarnish studies to name a few.

**Co-ordinator: Prof. G S Vinod Kumar**  
**Email id: [vinodkumar.g@srmmap.edu.in](mailto:vinodkumar.g@srmmap.edu.in)**

## Centres of Excellence

### CENTRE FOR GEOSPATIAL TECHNOLOGY

CGT at SRM University-AP aims to harness the power of geospatial science and provide solutions to industry and socially relevant problems while enabling students to learn about Geographical Information Science (GIS) through experiential learning. The mission of CGT is to spearhead the advancement of GIS technology. The team of CGT offers services to various government and non-government agencies and also industries.

**Co-ordinator: Dr Harish Puppala**  
**Email id: [harish.p@srmmap.edu.in](mailto:harish.p@srmmap.edu.in)**

### CENTRE FOR DRONE TECHNOLOGY

The mission of Centre for Drone Technology is to provide hands-on experience to demonstrate the potential applications using drone technology through UROP/Capstone projects/Project-based courses carried by the students as part of the curriculum

**Co-ordinator: Dr Pranav R T Peddinti**  
**Email id: [pranav.rt@srmmap.edu.in](mailto:pranav.rt@srmmap.edu.in)**

### CENTRE FOR COMPUTATIONAL AND INTEGRATIVE SCIENCES (CCIS)

The CCIS is an inter/multi-disciplinary centre. The primary motive of the centre is to foster and advance SRM University-AP as a research-oriented institution that embraces true interdisciplinary collaboration in alignment with its mission and to establish a dedicated platform within the university for interdisciplinary research in the areas of computational research. The centre focuses on Modelling Protein, Biomacromolecule interactions, developing Algorithm and Databases related Bioinformatics.

**Co-ordinator: Dr Mahesh Kumar Ravva**  
**Email id: [mahesh.r@srmmap.edu.in](mailto:mahesh.r@srmmap.edu.in)**

### CENTRE OF EXCELLENCE FOR ELECTRONICS COOLING (COEEC), SPOKE

COEEC, SPOKE is the initiative to build a common platform for the industry and academicians to work together by exchanging technical knowledge and experiences. The Centre aims to train students in thermal management and to address the cooling challenges of electronic components both computationally and experimentally in the labs within academia and industry.

**Co-ordinator:** Dr Satya Pramod Jammy  
**Email id:** [satyapramod.j@srmmap.edu.in](mailto:satyapramod.j@srmmap.edu.in)

## CENTRE FOR CONSUMER RESEARCH IN INDIA

- To facilitate consumer research in India and do India-centric consumer research
- To disseminate knowledge on consumers in India
- To run short-term courses on Consumer Behavior and correlates in India to interested participants
- To do consulting projects on Consumer Behavior for interested companies
- To suggest policy initiatives to concerned stakeholders

**Co-ordinator:** Prof. Bharadhwaj Sivakumaran  
**Email id:** [bharadhwaj.s@srmmap.edu.in](mailto:bharadhwaj.s@srmmap.edu.in)

## CENTRAL INSTRUMENTATION FACILITY

Provides a gateway for researchers to locate the specific facilities they need for their R&D work and identify the one that is either located closest to them or available the soonest.

**Website (for booking):** <https://www.istem.gov.in/>

**Contact:** [coordinator.crfis@srmmap.edu.in](mailto:coordinator.crfis@srmmap.edu.in) (for Central Instrumentation Facility)

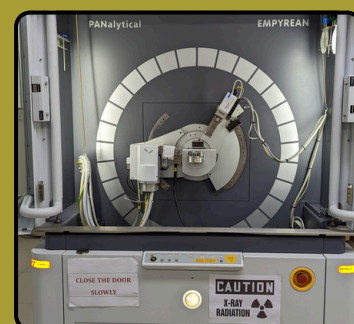
### HPCC



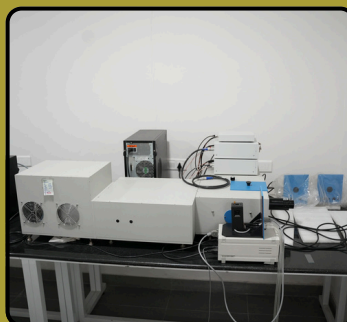
In the realm of computational research, we initially procured the NVIDIA-DGX and later invested in a high-performance computing cluster, which currently boasts a capacity of 95 Teraflops. We have also ensured access to all the necessary software tools required to support our research endeavours.

### Powder X-ray Diffractometer

A powder X-ray diffractometer is a powerful analytical instrument to determine the crystalline structure of powdered samples. Operating on the principle of Bragg's law, it analyses the diffraction patterns produced when X-rays interact with the atoms in the sample..



### Horiba Fluorolog-3



Horiba's Fluorolog-3 is manufactured with gratings, CCDs, InGaAs array detectors, and fast PMTs, offering everything we need to have in the perfect system. Fluorolog-3-based spectrometer is available for measuring solid and liquid samples, with high throughput screening, fast 3D scans, and cryogenic or elevated temperatures.

### Gas Chromatography-Mass Spectrometry

Mass range:  $m/z$  1.5 to 1000 • Ionization mode: EI • scan sensitivity: 1 pg  
Octafluoronaphthalene  $m/z$  272  
S/N > 200 • Column flow: Up to 4mL/min • Pump:  
Turbomolecular pump (58 L/sec for He), Rotary pump 30 L/min (60Hz) • Detectors: FID, TCD



### ICP OES: Inductively Coupled Plasma-Optical Emission Spectrometry



ICP-OES is a highly sensitivity analytical instrument, that is useful for the quantitative estimation of elements analysis like alkali earth and heavy metals from water, soil, sediment, rocks, and minerals.

### 400 MHz NMR Spectrometer

The JEOL-400 is a 400 MHz NMR spectrometer that is used for solution state applications. It is equipped with a JEOL ECZL400 R console. R- series is a fixed-configuration high performance instrument capable of solid-state NMR measurements. It provides a high-throughput screening capability for all routine and crude NMR samples.



# Research Highlights-2023

## PUBLICATIONS

- Sakshi Bhardwaj, Sabuj Kanti Das, Ashmita Biswas, Samadhan Kapse, Ranjit Thapa and Ramendra Sundar Dey, Engineering hydrophobic/aerophilic interfaces to boost N<sub>2</sub> diffusion and reduction through functionalization of fluorine in second coordination spheres, Chemical Science, DOI: 10.1039/D3SC03002D, Vol No-14, Issue No-8936, 2023.
- Randhir Kumar, Danish Javeed, Ahamed Aljuhani, Alireza Jolfaei, Prabhat Kumar, A K M Najmul Islam, Blockchain-Based Authentication and Explainable AI for Securing Consumer IoT Applications, IEEE Transactions on Consumer Electronics, DOI:10.1109/TCE.2023.3320157, 2023.
- Vineela Chandra Dooda, Lakshmi Kuruguntla, Anup Kumar Mandpura, Karthikeyan E, Simultaneous Seismic Data Denoising and Reconstruction with Attention based Wavelet-Convolutional Neural Network, IEEE Transactions on Geoscience and Remote Sensing, DOI:10.1109/TGRS.2023.3267037, Vol No- 61, 2023.
- Ram Prakash, Bhamidi Lokeshgupta, S. Sivasubramani, Taraakanath Kobaku, Optimal DG Planning Incorporating Energy Management for an Economical and Resilient Smart Distribution System, IEEE Transactions on Industry Applications, DOI:10.1109/TIA.2023.3327991, Vol No-60, Issue No-1, 2023.
- Dheerendra Mishra, Mrityunjay Singh, Purva Reval, Komal Pursharthi, Neeraj Kumar, Ahmed Barnawi, Rajkumar Singh Rathore, Quantum-safe Secure and Authorized Communication Protocol for Internet of Drones, IEEE Transactions on Vehicular Technology, DOI:10.1109/TVT.2023.3292169, Vol No-72, Issue No-12, 2023.
- Bhaskara S Egala, Ashok Kumar Pradhan, Dey Prasennjit, Badarla Venkataramana, Mohanty Saraju Fortified-Chain 2.0: Intelligent Blockchain for Decentralized Smart Healthcare System, IEEE Internet of Things Journal, DOI: 10.1109/JIOT.2023.3247452, VolNo-10, Issue No- 14, 2023.
- Tripti Ghosh Sharma, Mahima Gupta, Vinu Cheruvil Thomas, and Bharadhwaj Sivakumaran, Airline Social Media Recovery Satisfaction: Has COVID Changed Everything? Journal of Travel Research, DOI: <https://doi.org/10.1177/00472875241228498>, 2024
- Soumyaditya Das and Soumyajyoti Biswas, Critical Scaling through Gini Index, Physical Review Letters, DOI: <https://doi.org/10.1103/PhysRevLett.131.157101>, VolNo-131, Issue No- 15-13, 2023.

## INDUSTRY PROJECTS & CONSULTANCY

- Developing the web and mobile-based application for monitoring the biogas plant. PI/CO PI: Dr Kartik Rajendran. Ecosense Waste Logistics-. 4 Months. **3 Lakhs**
- Novel Hard gold alloys. PI/CO PI: Prof. G S Vinod Kumar. Ashlyn Chemunoor Instruments Pvt Ltd-. 2023-2024. **28.6 Lakhs**
- Multilingual Minutes of Meeting - MMoM. PI/Co-PI: Dr. Ashu Abdul, Dr. Dinesh Reddy Vemula, GPEMC, 7 Months. **48.9 Lakhs**

## PATENTS GRANTED

- Prof. G S Vinodkumar - Jointly With Titan Company Ltd "A Method Of Manufacturing Lead-Free Brass" Granted date: 15-09-2023. Granted Application. Patent Number: 452003
- Dr Jatis Kumar Dash "Two-Dimensional Transition Metal Oxide Layers And A Method For Their Synthesis". Granted date: 29-03-2023 Granted Application. Patent Number 427455
- Dr. Bane Bandana Das " An energy harvesting system for node devices and a method thereof " Granted Date: 15-03-2024. Granted Application Patent Number:528506
- K Harsha, Prof. G. S. Vinod Kumar & Prof. Ranjit Thapa " Tarnish resistant silver composition and a process for its preparation " Granted Date: 24-04-2024. Granted Application Patent Number: 534614
- Bhuvanewari Sreelekha & Dr. Sabyasachi Mukhopadhyay " A fibre material with moisture retention capacity with thermal tolerance and a method for manufacture " Granted Date: 28-02-2024. Granted Application Patent Number: 516398

## SPONSORED PROJECTS

- Fund for Improvement of S & T Infrastructure in Universities and Higher Educational Institutions, Department of Chemistry SR/FST/CS-1/2021/219(C) 2022-27 **220.00 Lakhs**
- Fund for Improvement of S & T Infrastructure in Universities and Higher Educational Institutions, Department of Mechanical Engineering SR/FST/ET-I/2023/1255 2023 **250.00 Lakhs**
- Jumbo-phage as a model for ancient cell organization PI/CO PI PI: Dr Sutharsan DBT-Wellcome Trust IA/E/19/1/504958 2020-25 **124 Lakhs**
- Catalysts for CO<sub>2</sub> Reduction to C<sub>2</sub> Product: Descriptor to Database PI/CO PI Dr Ranjit Thapa Co PI: Dr Biswas DST/NSM/R&D\_HPC\_Applications/2021/19.02 2021-23 **70.99 Lakhs**
- General descriptor of catalysts to find the activity towards OER using Quantum Mechanics/Machine Learning approach. PI/CO PI: Prof. Ranjit Thapa CRG-SERBCRG/2022/005423.2023-2026. **20.46 Lakhs**
- Development of wearable IoT electronic device for at-home assessment and monitoring of Parkinson's disease. PI/CO PI: Dr KA Sunitha DST-SERB SCPSCP/2022/000704. 2023-2026. **19.9 Lakhs**
- Religious Deities and Saints/Legends/Heroes Changing Geographic Belongingness and Cultural Economy among the Four Tribal Communities (Chenchus, Kondareddis, Koyas and Lambadi's) of Telangana and Andhra Pradesh. PI/CO PI: Dr Bikkulndian Council of Social Science Research (ICSSR)02/162/2022-23/ST/TS/RP.2023-25. **10 Lakhs**
- PM Krishi Sinchai Yojana- A Step ahead to Achieve Sustainable Development Goal: A Study of Select Areas of AP, Tamil Nadu and Maharashtra. PI/CO PI: Dr Ghanshyam Pandey, Dr Deep Raj/ICSSR, New Delhi/ICSSR-CRP-2023- 463. 6 months. **16.5 Lakhs**
- Impact of atmospheric forcing (atmospheric depression and tropical cyclone) on surface water-groundwater interaction dynamics and implications to safe drinking water vulnerability and predictability". PI/CO PI: Dr Kousik Das. SRG SERB - DSTSRG/2023/002100.2023-2025. **30 Lakhs**
- Computational Screening of Organic Photocatalysts: Deliberate Tuning of Redox Potentials and Photochemical Properties. PI/CO PI: Dr Mahesh Kumar Ravva. CRG-SERBCRG/2023/003353. 2023-2026. **32 Lakhs**



University Distinguished Lecture (UDL) series is to inspire research scholars and students to engage in innovative initiatives that contribute to the comprehensive advancement of our nation. The University Distinguished Lectures were delivered by notable experts such as Prof. Ajay K. Sood, FRS, IISc, Bengaluru; Prof. Anil Sahasrabudhe Chairman, AICTE; Dr K Kasturirangan, Chairman, NEP; Prof. Chennupati Jagadish, President, Australian Academy of Science Distinguished Professor; Dr. C. Rangarajan Distinguished Economist, Former Member of Parliament & 19th Governor of the Reserve Bank of India; Prof. Umesh V Waghmare, President, Indian Academy of Sciences; Prof. Girish Sahni, former Director General of CSIR.

## Executive Leadership

Research & Development



**Prof. Ranjit Thapa**  
Professor and Dean - Research  
SRM University-AP



**Dr Mahesh Kumar Ravva**  
Associate Professor and  
Assistant Dean - Research  
SRM University-AP



**Dr Maheshwar Dwivedy**  
Associate Professor & Associate Dean  
Academia-Industry Relations and  
Professional Internships  
SRM University-AP



**Prof. G S Vinod Kumar**  
Professor and Coordinator IPR Cell  
SRM University-AP



**Dr Sabyasachi Mukhopadhyay**  
Associate Professor & Central Research  
Facility I-STEM Co-ordinator,  
SRM University-AP

## Highlights

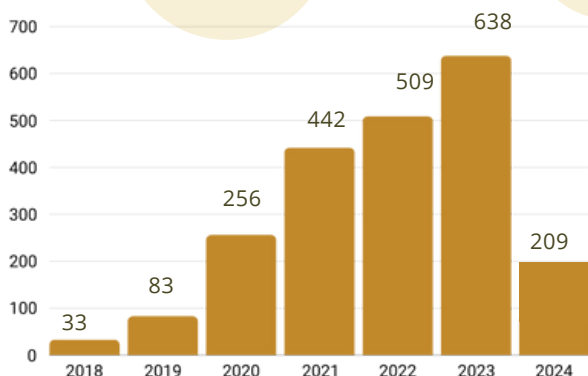
- Vibrant research environment and state-of-the-art facilities.
- High profile faculty members
- JRF of Rs. 36,000/ per month for the first two years and Rs. 41,000/per month from the third year as SRF
- Subsidised boarding & lodging/transport facility to Ph. D Students
- Support for international journal publications and patent filing to Faculty members and UG/PG/Ph. D students
- MoUs with reputed foreign universities for student exchange programme.
- Several research projects/programs sponsored by DST, DST-FIST, DST-NSM, SERB, DBT, DBT-Wellcome Trust, UGC-DAE, ARBL, Titan Industries and several others.
- Nature Index Publications rankings: SRM University-AP ranks 3rd Among all the private universities in India.

## RESEARCH SNAPSHOT

(AS ON APRIL 30, 2024)

### YEAR-WISE PUBLICATIONS

<sup>a</sup> As per accepted data



### PUBLICATIONS

\*Scopus & wos

**2170**

### Q1 GENERALS

**51%**

### NATURE INDEX

NATURE INDEX

**43**

### CITATIONS-SCOPUS

**13510**

### IEEE TRANS...

**24**

### ABDC A\*/A

**4**

### IF>10

**120**

### PHD STUDENTS

**355**

### PHD GRADUATES



**24**

### PATENTS GRANTED

**204/27**

### PROJECTS AMOUNT (CR.)INR

**42.26**

### INDUSTRY/CONS-AMOUNT (L)

**361**

### RESEARCH LABS



**60**

**H-index: 47**

## School of Engineering And Sciences

### B.Tech. Programmes:

Computer Science and Engineering | Electronics and Communication Engineering | Electrical and Electronics Engineering | Mechanical Engineering | Civil Engineering.

### M.Tech Programmes:

AI and ML | Data Science | Cyber Security | Internet of Things | VLSI | Thermal Engineering | Materials and Manufacturing Technology

### Science Programmes:

B.Sc. / B.Sc. (Hons): Computer Science | Mathematics | Integrative Biology | Chemistry | Physics

M.Sc.: Mathematics | Molecular Biology & Biotechnology | Chemistry | Physics | Environmental Sciences

## Easwari School of Liberal Arts

B.A./B.Sc.: Economics | Psychology | English | History | Politics | Media Studies | Sociology & Anthropology

## Paari School of Business

B.Com: General | International Accounting

BBA/BBA (Hons.): Finance | Marketing | Human Resource Management | Business Analytics | Entrepreneurship and Family Business | Agribusiness Management

MBA: Finance | Marketing | Human Resource Management | Business Analytics | Entrepreneurship and Family Business | Agribusiness Management

### PhD Programmes in All Disciplines:

<https://srmap.edu.in/research-home/phd-programme/>

## CONTACT US:

### Office of Dean-Research

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