



AMRITA
VISHWA VIDYAPEETHAM
DEEMED TO BE UNIVERSITY

School of Engineering
Bengaluru Campus
Kasavanahalli, Carmelaram Post
Bengaluru – 560035



Department of Mechanical Engineering
August 2021

www.amrita.edu



AMRITA
VISHWA VIDYAPEETHAM



Coimbatore Campus



Amritapuri Campus



Bengaluru Campus



Kochi Campus



Mysuru Campus



Chennai Campus



University

Amrita Vishwa Vidyapeetham (Amrita), established in 2003 under section 3 of UGC Act of 1956, is a multidisciplinary Deemed to be University that offers more than 180 Academic Programs, through 10 Departments across 6 Campuses in three South Indian states of Kerala, Tamil Nadu, and Karnataka.

The renowned humanitarian leader, Sri Mata Amritanandamayi Devi, popularly known as Amma, is the Chancellor and guiding light of Amrita Vishwa Vidyapeetham. In its sixth year, it became the youngest institution to be accredited with 'A' grade by the NAAC. Spread over 900 acres with eight million square feet built-up space, Amrita is one of India's top-ranked private Institutions, selected for the prestigious award of Institution of Eminence status by MHRD. The University has over 19,000 students and 1,300 faculty serving in a spirit of dedicated diligence, wherein the latest advances in pedagogy and research are integrated with compassion and service mindedness.

Vision

Our vision is to be an exemplary institution that thrives on its commitment to the transformative power of valuebased education, providing the impetus to develop the expansiveness to harmonize both scientific knowledge and spiritual understanding, so as to utilize knowledge for societal benefit and contribute to a prosperous and sustainable future for all.

Mission

Education for Life

There are two types of education: education for living and education for life. Studying to become a professional is education for a living, while, education for life requires an understanding of the essential human values. At Amrita, we believe that education should also impart a culture of the heart, based on enduring values and inner strength. Amrita's culture of education helps to inculcate in our students the right ethos to be rooted in the values of Dharma (righteousness), Karuna (compassion) and Shraddha (mindfulness). Endowed with qualities of acceptance, patience, self-confidence, perseverance and enthusiasm, the benefit of humanity will become uppermost in the students' thoughts, words and actions. They will then pioneer innovative solutions for the benefit of all humankind, leading to sustainable health and prosperity for all. This resonates with the ancient Sanskrit prayer 'Lokah Samastah Sukhino Bhavantu'. It is a reminder of our deeper connection to the entire world around us, "May our work contribute to the happiness of all beings."

Compassion Driven Research

Our motivation to pursue research is focused on alleviating major global problems related to poverty, starvation, sickness, environmental pollution and contamination. We believe that if we could transform compassion from a mere word into a path of action, we would be able to address most of the world's problems. If we take this step courageously, then our research and its outcomes will have a special impact, spontaneity, and power. This has translated into many latest advancements and innovations that have culminated in greater societal benefit.

Global Impact

At Amrita, we stand united in our mission towards solving globally recognized scientific and societal challenges, including environment, development, and health. Amrita stands at the strategic juncture of two streams of cultures: East and West. It is our vision to bring the two together to bridge the divide through meaningful collaborations with world class universities and innovative approaches that will benefit the entire planet.



School of Engineering, Bengaluru

The Amrita School of Engineering, Bengaluru started its operation in 2002. It currently offers B.Tech. programs in five disciplines and M.Tech. programs in six disciplines. The school seeks to prepare graduates with a solution-mindset and with a high degree of ethical standards. Recruiters from the best companies and institutes in India and abroad seek out these students. Curriculum is framed with extensive industry input. All programs are credit-based. Departments are equipped with modern laboratories, design tools and software packages.

Vision

To be a global leader in the delivery of engineering education, transforming individuals to become creative, innovative, and socially responsible contributors in their professions.

Mission

To provide best-in-class infrastructure and resources to achieve excellence in technical education.

To promote knowledge development in thematic research areas that have a positive impact on society, both nationally and globally.

To design and maintain the highest quality education through active engagement with all stakeholders – students, faculty, industry, alumni and reputed academic institutions.

To contribute to the quality enhancement of the local and global education ecosystem.

To promote a culture of collaboration that allows creativity, innovation, and entrepreneurship to flourish.

To practice and promote high standards of professional ethics, transparency, and accountability.





Department of Mechanical Engineering

Mechanical Engineering is the mother of all branches of engineering. Contributions by this branch are enormous in the growth of technology over the centuries. Skills needed for this course are strong computational mathematics, creativity and analytical abilities. Areas of study includes Manufacturing Processes, Mechanical Vibrations, Mechatronics, Heat and Mass Transfer, Tool Engineering and Design, Design of Machine Elements, Computer Integrated Manufacturing and Robotics. Excellent laboratory facilities, modern computer clusters, systematically designed curriculum and dedicated faculty members make this department a dynamic place to study. Graduates from the Department of Mechanical Engineering are highly-employable and sought after by many prestigious companies.

The course has elements based on lecture modules, including laboratory work, team projects and industrial tours and seminars. In addition, all students complete a technical project in their final year. The technical project gives an opportunity to apply engineering skills to real-world problems. The curriculum is designed so that high-caliber Mechanical Engineering candidates graduate with superior technical skills required in both industry and research. Some Department areas specialize in Modeling and Analysis, Robotics & CAD/CAM, Design and Manufacturing, Thermal and Power Engineering, Engineering Management, Shock Waves & Applications and Supply Chain Management.

The Department which was established as a supporting department in 2002, has started offering B.Tech in Mechanical Engineering from 2007 and M.Tech in Thermal Sciences and Energy Systems (TSES) from 2013.

Vision

To transform our students into outstanding mechanical engineers with strong domain knowledge and skills, society-centric research intent, and exemplary ethical values, making them the most desired professionals by research institutions, industry, and society.

Mission

To develop in each student, a profound understanding of fundamentals, motivation for continuous learning, and practical problem solving skills for building a successful career.

To create and share technical knowledge and collaborate with Industry and Institutions for the betterment of Society.

To imbibe ethical values, leadership skills and entrepreneurial skills in students.

To sustain a conducive environment to involve students and faculty in research and development.



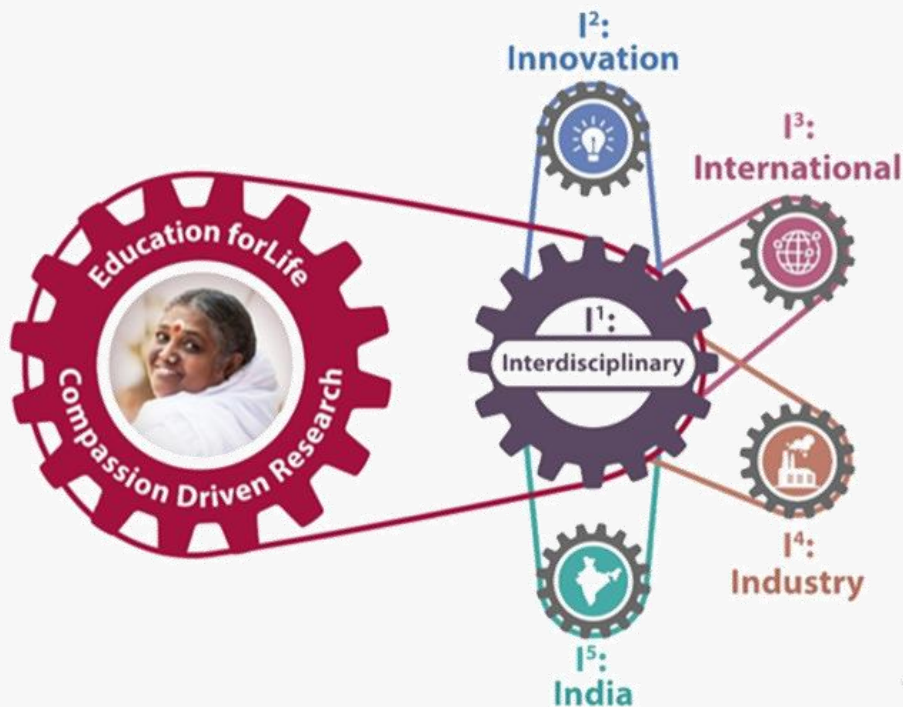
Faculty and Staff Members

Message from Chancellor

When we study in a college, striving to become a doctor, a lawyer, or an engineer - this is education for living. On the other hand, education for life requires an understanding of the essential principles of spirituality; it is about gaining a deeper understanding of the world, our minds, our emotions, and ourselves. We all know that the real goal of education is not to create people who understand only the language of technology; the main purpose of education should be to impart a culture of the heart, a culture based on spiritual values.

Communication through technology has made the world a small place yet there is so much of a division. Today's world needs people who express goodness in their words and in action with which the darkness prevailing in today's society will be dispelled and the light of peace and non-violence will once again illuminate this earth. Let us work together towards this goal.

- Sri Mata Amritanandamayi Devi (AMMA)



Message from Chairman

It is my great privilege to write about the Department of Mechanical Engineering at Amrita School of Engineering, Bengaluru campus. The department started as a supporting department in the year 2002. B. Tech. in Mechanical Engineering was started in 2007 and M. Tech. in Thermal Sciences and Energy Systems was started in 2013. The curriculum of both the programs is designed such that high caliber engineers who fulfil the needs of the industry and research organizations graduate.



This brochure outlines all the important aspects of the department:

- Thrust Area Groups (TAGs) covering various traditional fields and cutting-edge technologies
- Overview of B. Tech and M. Tech programs offered by the department
- Student projects and achievements
- Placement and higher education opportunities for our graduating students
- International student exchange program and alumni network
- Faculty and staff profile
- Top publications by faculty and students
- Funded projects and patents
- Labs and research facilities
- Conferences and events organized by the department and its forum and technical clubs

Mechanical Engineering has come a long way in the history of human existence, and it is facing one of the turning points at present. Though a feeling exists that Mechanical Engineering domain or field has reached a saturation, we feel otherwise. Now is the time the Mechanical Engineers are going to contribute to the society to the maximum extent. For that, Mechanical Engineers have to reinvent and adapt themselves to become more interdisciplinary and take this challenge as an opportunity to excel in whatever they are onto.

The faculty, staff and the students of Mechanical Engineering Department have been continuously trying to improvise themselves and contribute to nation building.

- **Dr. Nagaraja S. R.**

At a Glance

Patent Applications
Granted

2

University Medals by
Students

3

PhD
Scholars

18

B.Tech in
Mechanical
Engineering

M.Tech in
Thermal
Sciences and
Energy
Systems

Highly
Qualified
Faculty

Publications
(2015-21)

300+

Funded
Projects

30+

Alumni placed
in reputed
companies
and pursuing
higher studies

4

International
Conferences Organized

3

Department
Forum & Clubs

Thrust Area Groups

Aerospace Technologies

- Aerodynamic flutter
- Surface heat transfer and pressure distribution over bodies flying at hypersonic speed
- Re-entry vehicles
- Hypersonic missiles
- Shock wave applications in the fields of advanced materials, medicine, application of shock waves in biology, agriculture, wood and oil industries
- Space radiation
- Aerodynamic studies of objects flying in atmospheres of other planets

Automation, Robotics and Industry 4.0

- Mathematical model for collaborative robots
- Efficient methodologies for Human-Robot-Interaction (HRI)
- Intuitive teaching of robots using HRI techniques
- Artificial Intelligence based supply chains
- Operations management
- Optimization
- Intelligent transportation systems
- Smart and intelligent materials handling systems
- Product Lifecycle Management

Computational Science and Engineering Simulations

- Computational geometry and virtual design
- Computational study of aerospace systems
- Computational study of robotic and automation systems
- Energy systems including fuel cells and efficient engines

Structural and Multifunctional Materials

- Nanomaterials and composite materials
- Electronic materials
- Biomaterials
- Bio-composites
- Multifunctional materials
- Thin film testing
- Sustainable materials for buildings
- Polymer material and its processing, and characterization techniques

Sustainable Technologies

- Synthesis of energy materials
- Biogas digestion
- Biofuel testing on IC engines
- Fluidized bed design and analysis
- Solar refrigeration
- Inverse heat transfer

B.Tech

The Department offers an undergraduate course in Mechanical Engineering. Mechanical Engineering is an engineering discipline that was developed from the application of principles from physics and materials science.

Mechanical Engineering involves the analysis, design, manufacturing and maintenance of various systems. It is one of the oldest and broadest engineering disciplines.

The field requires a solid understanding of core concepts including mechanics, kinematics, thermodynamics, fluid mechanics, materials science, and energy. Mechanical engineers use the core principles as well as other knowledge in the field to design and analyze manufacturing plants, industrial equipment and machinery, heating and cooling systems, motor vehicles, aircraft, watercraft, robotics, medical devices and more.

Program Educational Objectives (PEO):

- PEO1 Apply their Knowledge in Science, Mathematics and Engineering to address Industrial and Societal problems with a strong emphasis on creativity, confidence, ethics, and responsibility.
- PEO2 Apply latest computational, analytical, simulation tools and techniques to develop and improve products and processes.
- PEO3 Solve multidisciplinary problems by working in cross functional teams.
- PEO4 Develop and upgrade technical, intellectual and emotional skills for life-long learning to compete in the rapidly evolving world.
- PEO5 Nurture entrepreneurial ventures and foster research activities that support sustainable economic development to enhance the quality of life.

Program Outcomes (PO):

- PO1 **Engineering knowledge**
Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2 **Problem analysis**
Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 **Design/development of solutions**
Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4 **Conduct investigations of complex problems**
Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5 **Modern tool usage**
Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

B.Tech

Program Outcomes (PO):

- PO6 **The engineer and society**
Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7 **Environment and sustainability**
Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 **Ethics**
Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 **Individual and teamwork**
Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 **Communication**
Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11 **Project management and finance**
Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO12 **Life-long learning**
Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO):

- PSO1 Apply knowledge acquired in the field of Design, Manufacturing, Thermal, and Fluid sciences to solve real-world engineering problems using emerging technologies.
- PSO2 Extend and implement innovative thinking on product design and development with the aid of modern CAD/CAM/CAE tools.
- PSO3 Apply the Science and Engineering knowledge for materials design and processing for development and improvement of products and processes.

M.Tech

India is energy starved country and per capita consumption of energy in India is one of the lowest in the world. India faces a formidable challenge in providing adequate and efficient energy supplies to users at a reasonable cost. It will be a great challenge to meet the energy demand, and producing it efficiently without polluting the environment.

The Department offers a two-year M.Tech (Master of Technology) course in Thermal Sciences and Energy Systems (TSES). This program is designed to enable the students to develop expertise in both theory and design of Thermal Systems, Energy Systems and Energy Management. They also acquire knowledge to design and develop micro/nano scale thermal systems. The students learn to simulate various fluid, thermal and energy systems using different computational tools and also do experiments to test various thermal and energy systems. .

This program offers many career options for the youngsters in both public and private sector involved in production of energy, design and production of thermal systems and energy systems. They will also get opportunities to join various Research and Development organizations.

Program Outcomes (PO):

- PO1 An ability to independently carry out research /investigation and development work to solve practical problems .
- PO2 An ability to write and present a substantial technical report/document.
- PO3 Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.
- PO4 Ability to design and develop tools for management of thermal and energy systems using standard practices and technologies.
- PO5 Ability to demonstrate commitment to sustainable technologies and professional ethics.

Program Specific Outcomes (PSO):

- PSO1 Prepare students to provide complete solutions to thermal and energy systems in real-world engineering applications.
- PSO2 Train students to Create innovative and sustainable solutions for energy management.
- PSO3 Motivate students to pursue research and development in the field of thermal and energy systems keeping in mind societal needs at large.

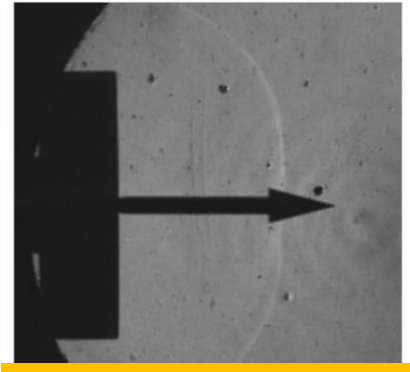
Student Projects



SAE BAJA Racing Car



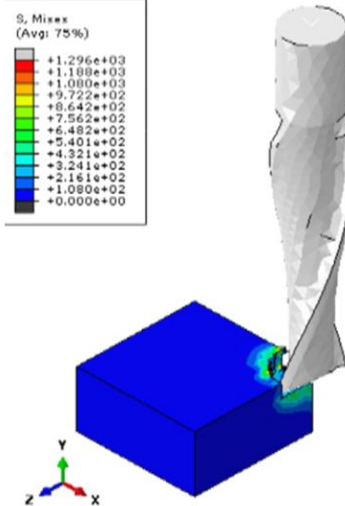
Self Starting Darrieus Turbine



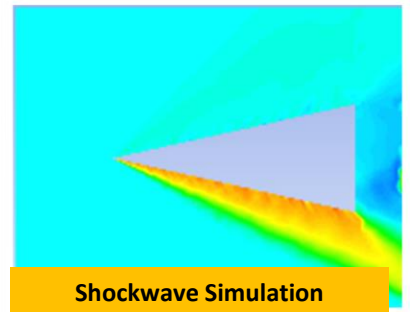
Shockwave Impact on Prototype



Go-Kart Racing Car



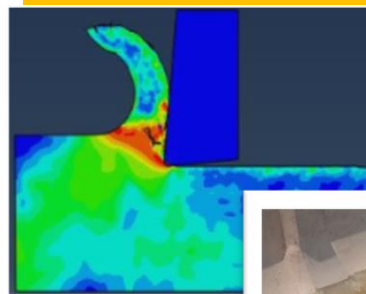
Residual Stress Simulation



Shockwave Simulation



Fluidized Bed Reactor



Heat Transfer Simulation



Pneumatic Engine



Solar Absorption Refrigeration System

Student Projects



3-DOF Delta Manipulator



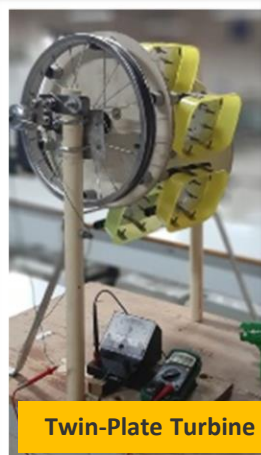
Solar Powered Mobile Robot



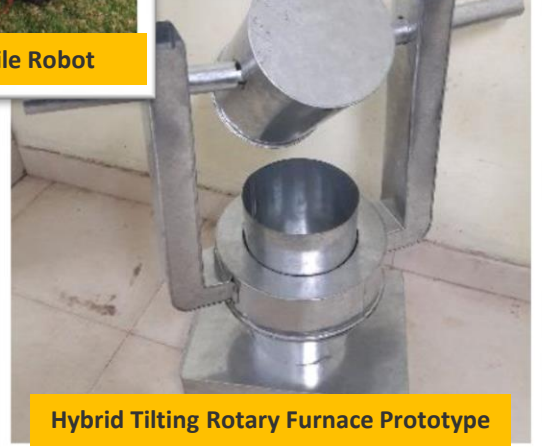
Soft-robotic Gripper



Online Simulation of Robot



Twin-Plate Turbine



Hybrid Tilting Rotary Furnace Prototype



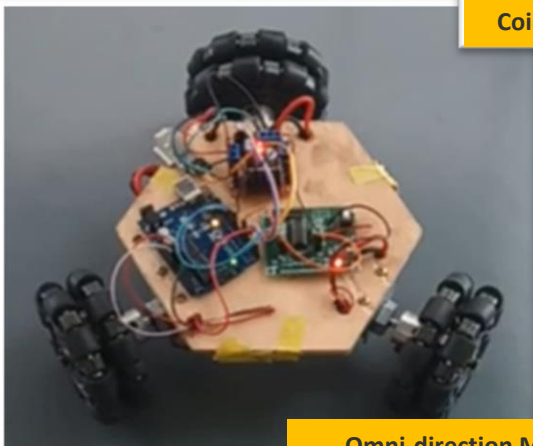
Rocker-Bogie Mechanism Wheeled Robot



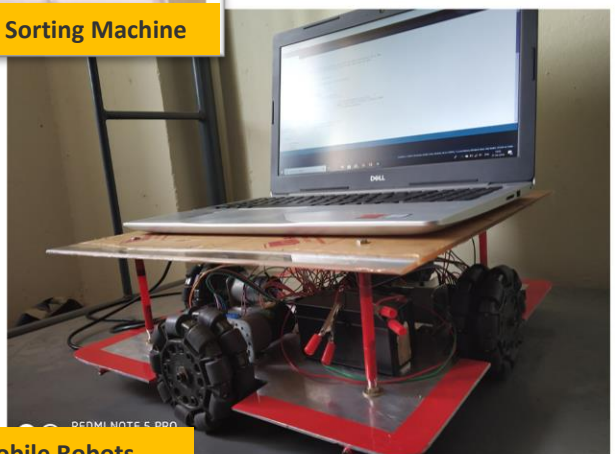
Coin Sorting Machine



Automatic Cleaning and Mopping Robot



Omni-direction Mobile Robots



Student Competitions



Indian Rover Challenge 2020



SAE BAJA Competitions



SAE BAJA Competitions



Media Coverage

This safety device for cabs can work without internet

TIMES NEWS NETWORK

Bengaluru: A group of students and professors has come up with a tamper-proof safety device, which can be integrated with the central-locking system of cars and can work without the internet.

The device was developed by Rakesh S G, associate dean and head of Amrita School of Engineering, along with another professor and three engineering students.

Explaining the technology, Rakesh said, "This device is a simple add-on to the in-built central-locking system in cars. There are just two switches on the roof of the car, which can be accessed by passengers. One is a check button that allows the passenger to ascertain whether the safety device is working

HOW IT FUNCTIONS

► Before entering a cab, passengers can press the check button to ensure the device is not tampered with

► If panic button is pressed, electronic signals are sent to cut off fuel supply to the engine, which stops the car

► It jams the driver's door and seat belt, while the other three doors can be opened so that passengers can get out of the vehicle



INNOVATORS: The device was developed by two professors and three engineering students

► Panic button also sets the alarm on, alerting people in the vicinity

and not tampered with when s/he gets into the vehicle. The other is the panic button; on pressing it, the vehicle sets off an alarm to people around so that they can reach the passenger for help."

Jaya Krishna Teja, a mechanical engineering student, said, "We don't intend to make

business out of this device. But we would like to urge the transport department to make it mandatory for car manufacturers to make it an in-built feature. The device has scope to add some more features like inserting a GPRS sim card and sending SMS to the nearest police station."

Outstanding Graduates

- **Pinaki Prasad Panigrahy** (B.Tech batch of 2016-20) was awarded **University Gold Medal in Faculty of Engineering (Under Graduate)** during 2020 Convocation
- **Jampani Sai Maruthi Vinay** (B.Tech batch of 2015-19) was awarded **University Gold Medal in Faculty of Engineering (Under Graduate)** during 2019 Convocation
- **Macharla Pardhu Chandra** (B.Tech batch of 2015-19) was awarded **University Silver Medal in Faculty of Engineering (Under Graduate)** during 2019 Convocation

The University Medals are awarded to the best graduating students across all the campuses of the University by considering their academic performance and research contribution in Journals and Conferences of repute.



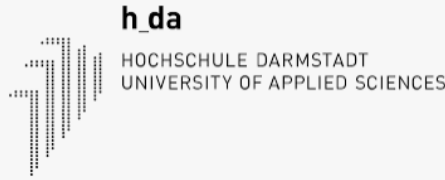
Placements*



*Representative List



Research, Foreign Exchange and Higher Studies*



*Representative List

ACIP*-International Student Exchange

Sl. No.	Name	University	Details
1	Siddhart Porwal	Politecnico di Milano, Italy	2010-11 [B.Tech]
2	Tavri Bhartendu	Politecnico di Torino, Italy	2013-14 [B.Tech]
3	Sreevaram Aahlaad	Politecnico di Milano, Italy	2014-15 [B.Tech]
4	Lakshminaga Sri Harsha Pallapotu	TEM, France	2015-16 [B.Tech]
5	Abhijeet Parida	TU Munich, Germany	2015-16 [B.Tech]
6	Manish Reddy Daka	Univ. of Paderborn, Germany	2015-16 [B.Tech]
7	Deepak Prabhakar	UPC, Spain	2016-17 [B.Tech]
8	V. Gaurav	UPC, Spain	2016-17 [B.Tech]
9	Varun Manivasagam	Univ. of Trento, Italy	2016-17 [B.Tech]
10	Gombi Shrirang Mohan	Univ. of Trento, Italy	2017-18 [M.Tech]
11	Gokul Gopinath	UPC, Spain	2018-19 [B.Tech]
12	Puranjay Mugur	UPC, Spain	2018-19 [B.Tech]
13	Sivanand D	KTH, Sweden	2018-19 [B.Tech]
14	Saketh Ram Kunda	KTH, Sweden	2018-19 [B.Tech]
15	T. Neethi Thevan	Univ. of New Mexico, USA	2019-20 [B.Tech]
16	Jai Singh Kushwah	Polytechnico di Milano, Italy	2019-20 [B.Tech]
17	Sohel Abbas Chungikar	UPC, Spain	2019-20 [B.Tech]
18	Pritam Reddy Challa	UPC, Spain	2019-20 [B.Tech]
19	Dheeraj Inavolu	Darmstadt Univ. of Applied Sciences, Germany	2019-20 [B.Tech]
20	Coca Sai Vikas	Darmstadt Univ. of Applied Sciences, Germany	2019-20 [B.Tech]
21	Hari Krishna Prannoy Namala	Northern Illinois Univ., USA	2019-20 [B.Tech]
22	Thejas Shankar Srinivas	Northern Illinois Univ., USA	2019-20 [B.Tech]
23	Sai Vikas Maram	Northern Illinois Univ., USA	2019-20 [B.Tech]
24	G. S. Shourie	Ecole Centrale Nantes, France	2020-21 [B.Tech]
25	Prithvi Bharadwaj Mellacheruvu	Ecole Centrale Nantes, France	2020-21 [B.Tech]

International Students to Department

Sl. No.	Name	University	Details
1	Anita Tang	TU Delft, The Netherlands	2016-17 Host: Mr. R. Pramod
2	Tiffany Clein	TU Delft, The Netherlands	2016-17 Host: Mr. R. Pramod
3	Astrid Weston	Manchester Univ., United Kingdom	2017 Host: Mr. R. Pramod
4	Arnaud Buxtorf	EPFL, Switzerland	2017 Host: Mr. R. Pramod

*Amrita Center for International Program (ACIP)

Few of our Proud B.Tech Alumni...

Sl. No.	Name	Company/Organization	Designation
1	Upendra Shenoy	Samsung Electronics	Advanced Concept Design Manager
2	Siva Sembian	Taylor Tech., Netherlands	System Engineer
3	Karthik Deep	Indian Navy	Sub Lieutenant
4	Sachin Pullil	Dassault Systems	Software Engineer, R & D Dept
5	Arjun Murali	Proctor and Gamble	Product Supply Manager
6	Abhilash Kedalaya	Smart Sheet	Data Scientist
7	Sivaraman Ramachandran	Stanley Black and Decker	Data Scientist
8	Vinod Balasubramanian	Grundfos	Project Manager
9	Pullela Shiva Sai	Lordstown Motors Corp, Detroit	EV Software Configuration Engineer
10	Datta Sandesh Manjunath	AMD, San Francisco	Senior Silicon Design Engineer
11	Srinath Gogineni	2A USA	Senior Product Dev. Engineer
12	Bharat Beltur	Amazon	Project/Operations Engineer
13	Sobhan Koppuravuri	Samsung Electronics	Systems Integration Engineer
14	Sashank Ravi	Honda R&D Americas	Reliability Engineer
15	Saagar Anand	Walmart eCommerce	Senior Product Manager
16	Varun Rahul	Cummins Inc	Senior Product Design Engineer
17	Santosh Adivi	General Motors	Lead Industrial Engineer
18	Sandeep Jayaram Mysore	GCI, Minnesota	Design Engineer
19	Nitin Ganesh	Ford Motor Company	Propulsion NVH Engineer
20	Darshan Hegde	Cummins Inc	Supply Chain Business Specialist
21	Sahadev Garimella	Verizon	Performance Specialist
22	Ravi Teja Dhanalakota	Apple	CAD Engineer
23	Binu Surendran	John Crane	Application & Design Engineer

Few of our Proud M.Tech Alumni...

Sl. No.	Name	Company/Organization	Designation
1	Shruthi S.	Cummins India	Engineer
2	N. Hareesh Bharadwaj	Total Solutions Intec.	R&D Executive
3	Prathuk Balachandra Hegde	Total Solutions Intec.	R&D Executive
4	Akash Kumar Dey	Ingersoll Rand	Product Engineer
5	Prathik N. B.	Ingersoll Rand	CFD Engineer
6	Pankar R. Badgujar	Renault Nissan	Engineer
7	V. G. Srujan	Renault Nissan	CFD Engineer
8	Adsul Pranita Popatrao	Cummins India	Thermal & Fluid Science Engineer
9	Veena V. Parthan	Cadence Design Systems	CFD Marketing Engineer
10	M. V. Raghunadh	McAfee Design	Information Developer
11	Nithin D	Volvo India	PG Engineer Trainee
12	Vijayalakshmi Chavan	Thermovac Aerospace Pvt Ltd	New Product Development Engineer

Faculty Profile



Dr. Rakesh S. G.

Professor

E-mail: sg_rakesh@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/sg-rakesh>

Teaching Experience: 32+ Years

Publications: 25+

Projects/Thesis Supervisor:

- B.Tech: 6 Groups
- M.Tech: 9
- PhD: 3 (Ongoing)

Professional Membership:

- Life Member of Indian Society for Technical Education (ISTE)
- Life Member of 'Shockwave Society'

Designed India's First Needleless Device-Micro-Shock Waves Mediated Needleless Vaccine Delivery, recognized by American Soc. for Microbiology.

PhD (BIT Mesra, Ranchi)
M.E. (BIT Mesra, Ranchi)
B.E. (RVCE, Bangalore Univ.)
Research Interest:

- Gas Dynamics
- Shockwave Dynamics
- Supersonic & Hypersonic Flows
- Heat transfer

Dr. Nagaraja S. R.

Professor and Chairperson

E-mail: sr_nagaraja@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/sr-nagaraja>

Teaching Experience: 33+ Years

Publications: 35+

Projects/Thesis Supervisor:

- B.Tech: 18 Groups
- M.Tech: 18
- PhD: 3 (Ongoing)

Professional Membership:

- SAE India
- Indian Society for Technical Education (ISTE)
- Society for Shock Wave Research – India
- American Society for Mechanical Engineers (ASME)



PhD (BIT Mesra, Ranchi)

M.Tech (Mysore Univ.)

B.E. (NITK Surathkal)

Research Interest:

- Shock Waves and their applications
- Hypersonic Flows
- Fluid Structure Interactions



Dr. T. Srinivas Rao

Associate Professor

E-mail: t_srinivas@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/t-srinivas>

Teaching Experience: 24+ Years

Research/Industry Experience: 6 Years

Publications: 17+

Projects/Thesis Supervisor:

- B.Tech: 7 Groups
- PhD: 4 (Ongoing)

Professional Membership:

- Life Member of Operational Research Society of India (ORSI)
- Life Member of Indian Society for Technical Education (ISTE)

PhD (VTU, Belagavi)
M.E. (VNIT Nagpur)
B.E. (Nagpur Univ.)
Research Interest:

- Supply Chain Management
- Reverse Logistics
- Optimization

Faculty Profile



Dr. Phanibushana M. V.

Assistant Professor (SG) and Vice-Chair

E-mail: mv_phanibhushana@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/mv-phanibhushana>

PhD (VTU, Belagavi)
M.E. (UVCE, Bangalore Univ.)
B.E. (PESCE, Mysore Univ.)

Research Interest:

- Composite Materials
- Aluminium Metal Matrix Composites
- Severe Plastic Deformation

Teaching Experience: 28+ Years
Research/Industry Experience: 2 Years
Publications: 15+
Projects/Thesis Supervisor:

- B.Tech: 15 Groups
- PhD: 4 (Ongoing)

Academic Coordinator for Post-Graduate (PG) Programs at Amrita School of Engineering, Bengaluru

Mr. Vinod Kotebavi

Assistant Professor (Sr. Gr.)

E-mail: k_vinod@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/mv-phanibhushana>

Teaching Experience: 21+ Years
Research/Industry Experience: 4 Years
Publications: 20+

Projects/Thesis Supervisor:

- B.Tech: 18 Groups
- M.Tech: 16

Professional Membership:

- SAE India

Conferred Dr. S Radhakrishnan Memorial Award 2017 by International Human Rights Council

Mentor of SAE (Tech. Club of the Mechanical Engineering Department)



Pursuing PhD (Amrita, Bengaluru)

M.E. (Walchand Coll of Engg, Sangli)

B.E. (SDMCET, Dharwad)

Research Interest:

- Shock Wave and Hypersonic flow
- Renewable Energy



Mr. Ravi Kumar V.

Assistant Professor (Sr. Gr.)

E-mail: v_ravikmr@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/v-ravikumar>

Pursuing PhD (VTU, Belagavi)
M.E. (UVCE, Bangalore Univ.)
B.E. (UVCE, Bangalore Univ.)

Research Interest:

- Nano Composites
- Mechatronics and Sensors
- Machine Design

Teaching Experience: 17+ Years

Publications: 20+

Projects/Thesis Supervisor:

- B.Tech: 16

Faculty Profile



Dr. Shankara

Assistant Professor (SG)

E-mail: k_shankara@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/k-shankara>

PhD (VTU, Belagavi)
M.Tech (VTU, Belagavi)
B.E. (Bengaluru Univ.)

Research Interest:

- Waste Management
- Pollution Research
- Geo-environmental Engineering

Teaching Experience: 19+ Years

Publications: 20+

Projects/Thesis Supervisor:

- PhD: 1 (Ongoing)

Ms. Shali S.

Assistant Professor (Sr. Gr.)

E-mail: s_shali@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/s-shali>

Teaching Experience: 16+ Years

Publications: 7+

Projects/Thesis Supervisor:

- B.Tech: 5 Groups

Professional Membership:

- Life member of the Indian Society of Theoretical and Applied Mechanics (ISTAM)

Deputy Controller of Examinations, Amrita School of Engineering, Bengaluru Campus



Pursuing PhD (Amrita, Bengaluru)

M.Tech (NIT Calicut)

B.Tech (NSSCE, Palakkad)

Research Interest:

- Aeroelasticity
- Numerical Methods in Structural Engineering
- Vibration Analysis in Sub-sonic and Super-sonic flow



Dr. Smita Singh

Assistant Professor (Sr. Gr.)

E-mail: smita_singh@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/smita-singh>

PhD (VTU, Belagavi)

M.Tech (BIT, VTU)

B.Tech (NIT Patna)

Research Interest:

- Geo-polymer Technology using Industrial Wastes
- Structural Engineering

Teaching Experience: 10+ Years

Research/Industry Experience: 3 Years

Publications: 25+

Projects/Thesis Supervisor:

- B.Tech: 2 Groups
- PhD: 1 (Ongoing)

Academic Coordinator of Amrita School of Engineering, Bengaluru Campus

Faculty Profile



Mr. Raghavendra Ravi Kiran K.

Assistant Professor (Sr. Gr.)

E-mail: kr_ravikiran@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/kr-ravikiran>

Pursuing PhD (VTU, Belagavi)
M.B.A. (NIBM, Chennai)
M.Tech (MSRIT, VTU)
B.E. (SLNCE, VTU)

Research Interest:

- Composite Materials
- CAD
- CAM

Teaching Experience: 12+ Years

Publications: 7+

Projects/Thesis Supervisor:

- B.Tech: 10 Groups

Mr. Pramod R.

Assistant Professor (Sr. Gr.)

E-mail: r_pramod@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/r-pramod>

Teaching Experience: 12+ Years

Publications: 38+

Projects/Thesis Supervisor:

- B.Tech: 13 Groups

Professional Membership:

- International Association of Engineers
- Universal Association of Mechanical and Aeronautical Engineers

Co-Chair for International Conference on Advances in Materials and Manufacturing Applications [IconAMMA] 2016, 2017, 2018 and 2019 organized by the Department of Mechanical Engineering, School of Engineering, Amrita Vishwa Vidyapeetham.



Pursuing PhD (VTU, Belagavi)

M.Tech (DSCE, VTU)

B.E. (UBDTCE, Kuvempu Univ.)

Research Interest:

- Composite Materials
- Fracture Mechanics
- Finite Element Analysis
- Tribology



Mr. Prashanth B. N.

Assistant Professor (Sr. Gr.)

E-mail: bn_prashanth@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/bn-prashanth>

Teaching Experience: 11+ Years

Research/Industry Experience: 2 Years

Publications: 24+

Projects/Thesis Supervisor:

- B.Tech: 23 Groups

Professional Membership:

- Institute of Research Engineers and Doctors (IRED)
- International Association of Computer Science and Information Technology (IACSIT)
- International Association of Engineers (IAENG)

Mentor of Jido (Technical Club of the Mechanical Engineering Department)

Pursuing PhD (VTU, Belagavi)
M.Tech (RVCE, Bengaluru)
B.E. (UVCE, Bangalore Univ.)

Research Interest:

- Product Lifecycle Management
- CAD/CAM
- Robotics
- Wind & Solar Energy Systems
- Industrial Automation

Faculty Profile



Mr. Shashi Kumar M. E.

Assistant Professor (Sr. Gr.)

E-mail: me_shashikumar@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/me-shashikumar>

Pursuing PhD (VTU, Belagavi)

M.Tech (BIT, VTU Belagavi)

B.E. (SJCIT, VTU Belagavi)

Research Interest:

- Composite Materials
- Concurrent Engineering
- Complex Products Development

Teaching Experience: 11+ Years

Research/Industry Experience: 1 Year

Publications: 18+

Projects/Thesis Supervisor:

- B.Tech: 9 Groups

Professional Membership:

- International Association of Engineers (IAENG)

Mentor of Ingenium (Forum of the Mechanical Engineering Department)

Mr. Bhanu Prakash Sayapogu

Assistant Professor (Sr. Gr.)

E-mail: b_prakash@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/b-prakash>

Teaching Experience: 12+ Years

Research/Industry Experience: 1 Year

Publications: 6+

Projects/Thesis Supervisor:

- B.Tech: 8 Groups
- M.Tech: 9

Professional Membership:

- SAE India



Pursuing PhD (Amrita, Bengaluru)

M.Tech (NIT Warangal)

B.Tech. (RGM CET, JNTU)

Research Interest:

- Heat Transfer
- Fluid Mechanics
- Thermoelectric Modules



Mr. Ulhas K. Annigeri

Assistant Professor (Sr. Gr.)

E-mail: uk_annigeri@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/uk-annigeri>

Pursuing PhD (Amrita, Bengaluru)

M.Tech (GTTC, Karnataka)

B.E. (SDMCET, Hubballi)

Research Interest:

- Composite Materials
- Metal Matrix Composites

Teaching Experience: 13 Years +

Research/Industry Experience: 3 Years

Publications: 8+

Projects/Thesis Supervisor:

- B.Tech: 4 Groups

Faculty Profile



Mr. Mohan Kumar S.

Assistant Professor (Sr. Gr.)

E-mail: s_mohankumar@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/s-mohankumar>

Pursuing PhD (VTU, Belagavi)

M.Tech (VTU, Belagavi)

B.E. (VTU, Belagavi)

Research Interest:

- Composite Materials
- Fracture Mechanics
- Material Science
- Finite Element Method

Teaching Experience: 10+ Years

Publications: 16+

Projects/Thesis Supervisor:

- B.Tech: 10 Groups

Mr. Dileep B. P.

Assistant Professor (Sr. Gr.)

E-mail: bp_dileep@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/bp-dileep>

Teaching Experience: 10+ Years

Publications: 16+

Projects/Thesis Supervisor:

- B.Tech: 12 Groups

Professional Membership:

- The Indian Society for Technical Education (ISTE)
- Associate Member of Institution of Engineers (AMIE)



Pursuing PhD (VTU, Belagavi)

M.Tech (Anna Univ., Chennai)

B.E. (VTU, Belagavi)

Research Interest:

- Ferrous-based Metal Matrix Composites
- Powder Metallurgy
- Industrial Automation



Ms. Mrudula Prashanth

Assistant Professor (Sr. Gr.)

E-mail: p_mrudula@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/p-mrudula>

Pursuing PhD (VTU, Belagavi)

M.Tech (MSRIT, VTU)

M.B.A. (KSOU, Mysore)

B.E. (PESCE, Mysore Univ.)

Research Interest:

- Composite Materials
- Alloys
- Cryogenics
- Manufacturing

Teaching Experience: 17 Years+

Publications: 13+

Projects/Thesis Supervisor:

- B.Tech: 10 Groups

Professional Membership:

- Life Member of Indian Society for Technical Education (ISTE)

Secured 7th Rank in B.E, Industrial Production and Engineering and 1st Rank in M.Tech, Manufacturing Science and Engineering.

Faculty Profile



Dr. Prakash Marimuthu

Assistant Professor (Sr. Gr.)

E-mail: k_prakash@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/k-prakash>

PhD (VTU, Belagavi)
M.Tech (Amrita, Coimbatore)
B.E. (Anna Univ., Chennai)

Research Interest:

- CAD
- CAM
- Manufacturing

Teaching Experience: 9 Years +

Publications: 36+

Projects/Thesis Supervisor:

- B.Tech: 7 Groups

Professional Membership:

- Institute of Engineers (IE)

Deputy Academic Coordinator at Amrita School of Engineering, Bengaluru.

Ms. Y. P. Deepthi

Assistant Professor (Sr. Gr.)

E-mail: p_deepthi@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/p-deepthi>



Teaching Experience: 12+ Years

Research/Industry Experience: 2 Years

Publications: 12+

Projects/Thesis Supervisor:

- B.Tech: 5 Groups

Professional Membership:

- The Indian Society for Technical Education (ISTE)
- Quality Circle Forum of India (QCFI)

Pursuing PhD (VTU, Belagavi)

M.Tech (VTU, Belagavi)

B.E. (GVP, JNTU)

Research Interest:

- Polymer Composite Materials
- Advanced Materials Processing
- Industrial Engineering



Mr. Rajeevlochana G. Chittawadigi

Assistant Professor (Sr. Gr.)

E-mail: rg_chittawadigi@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/rg-chittawadigi>

Pursuing PhD (IIT Delhi)

MS (Research) (IIT Delhi)

B.Tech (MNNIT Allahabad)

Research Interest:

- Robotics
- Kinematics and Dynamics of Multi-body Systems
- CAD and Graphics
- Computational Engineering

Teaching Experience: 6 Years +

Research/Industry Experience: 6 Years

Publications: 45+

Projects/Thesis Supervisor:

- B.Tech: 13 Groups
- M.Tech: 2

Professional Membership:

- Secretary of Association for Machines and Mechanisms (AMM)
- Web Coordinator for The Robotics Society (TRS)

Main developer of RoboAnalyzer and MechAnalyzer software to teach concepts related to robotics and mechanisms effectively.

Faculty Profile



Dr. Pradeep S. Jakkareddy

Assistant Professor (Sr. Gr.)

E-mail: js_pradeep@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/js-pradeep>

PhD (IIT Madras, Chennai)
M.Tech (PDACE, Kalburgi)
B.E. (SKSVMACET, Lakshmeshwar)

Research Interest:

- Inverse Heat Transfer
- Experimental Heat Transfer
- Cooling of Electronic Systems
- IC Engines

Teaching Experience: 7+ Years

Publications: 8+

Projects/Thesis Supervisor:

- B.Tech: 2 Groups
- M.Tech: 3

Co-inventor of Australian Patent entitled "Usage of Cow Urine as an Additive with the Unusable Cooking Oil for the Emission Reduction from Diesel Engine Exhaust"

Dr. Santosh Kumar Sahu

Assistant Professor (Sr. Gr.)

E-mail: c_santosh@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/c-santosh>

Teaching Experience: 8+ Years

Publications: 17+

Projects/Thesis Supervisor:

- B.Tech: 2 Groups
- PhD: 1 (Ongoing)

Co-inventor of Indian Patent entitled "Length wise Gradient Honeycomb Structured Panels"



PhD (NERIST, Arunachal Pradesh)

M.Tech (NIT Kurukshetra)

B.Tech (SMIT, BPUT, Orissa)

Research Interest:

- Polymer Matrix Composite
- Honeycomb Sandwich Structure
- 3D Printing
- Bio-composites



Mr. Basavaraj Noolvi

Assistant Professor

E-mail: n_braj@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/n-braj>

Pursuing PhD (VTU, Belagavi)
M.Tech (RVCE, VTU)
B.E. (UBDTCE, Kuvempu Univ.)

Research Interest:

- Smart and Active Materials
- Mechanical Design and Analysis

Teaching Experience: 11+ Years

Publications: 7+

Projects/Thesis Supervisor:

- B.Tech: 5 Groups

Professional Membership:

- Member of Institution of Engineers (IE)

Faculty Profile



Ms. Divya Sharma S. G.

Assistant Professor

E-mail: sg_divya@blr.amrita.edu

Web: <https://www.amrita.edu/faculty/sg-divya>

Pursuing PhD (Amrita, Bengaluru)

M.Tech (VTU, Belagavi)

B.Tech (VTU, Belagavi)

Research Interest:

- Supply Chain Engineering
- Total Quality Management
- Lean Manufacturing
- Optimization

Teaching Experience: 6+ Years

Research/Industry Experience: 2 Years

Publications: 5+

Projects/Thesis Supervisor:

- B.Tech: 5 Groups

Professional Membership:

- Institute of Industrial and System Engineer

Certified Six Sigma Black Belt Holder from ISI Bangalore

Thrust Area Groups

Aerospace Technologies

Prof. Rakesh S. G.

Prof. S. R. Nagaraja

Mr. Basavaraj Noolvi

Mr. Bhanu Prakash Sayapogu

Ms. Shali S.

Mr. Vinod M. Kotebavi

Structural and Multifunctional Materials

Dr. Phanibhushana M. V.

Dr. Prakash Marimuthu

Dr. Santosh Kumar Sahu

Dr. Smita Singh

Mr. Dileep B. P.

Mr. Mohan Kumar S.

Ms. Mrudula Prashanth

Mr. Pramod R.

Ms. Mrudula Prashanth

Mr. Raghavendra Ravi Kiran K.

Mr. Ravi Kumar V.

Mr. Shashi Kumar M. E.

Mr. Ulhas K. Annigeri

Ms. Y. P. Deepthi

Automation, Robotics and Industry 4.0

Dr. T. Srinivas Rao

Ms. Divya Sharma S.G.

Mr. Prashanth B.N.

Mr. Rajeevlochana G. Chittawadigi

Mr. Shashi Kumar M.E.

Computational Science and Engineering Simulations

Prof. S. R. Nagaraja

Dr. Prakash Marimuthu

Mr. Pramod R.

Mr. Rajeevlochana G. Chittawadigi

Mr. Ulhas K. Annigeri

Sustainable Technologies

Prof. Rakesh S. G.

Dr. Pradeep S. Jakkareddy

Dr. Shankara

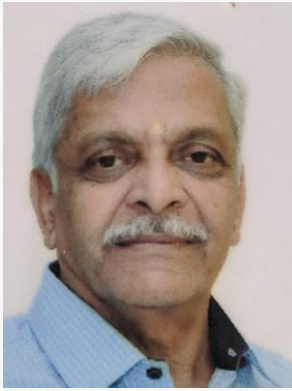
Dr. Smita Singh

Mr. Basavaraj Noolvi

Mr. Dileep B. P.

Mr. Vinod M. Kotebavi

Technical and Admin Staff



Mr. Gurumurthy Sharma S. M.
Instructor



Mr. Lakshminarayana K. E.
Skilled Assistant Gr 1



Mr. Shrikanth R. P.
Senior Lab Assistant



Mr. Dharmendra T. S.
Senior Lab Assistant



Mr. V. M Money
Lab Instructor



Ms. Yallamma S Choudannavar
Lab Instructor



Ms. Navya J. R.
Sr. Office Assistant



Mr. Panduranga
Attender

Few Recent Journal Publications...

1. Pramod, R., S. Basavarajappa, G. B. Veeresh Kumar, and Murthy Chavali. "Drilling induced delamination assessment of nanoparticles reinforced polymer matrix composites." Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science (2021).
2. Santosh Kumar Sahu, Nitesh Dhar Badgayan, Sutanu Samanta, and P. S. Rama Sreekanth. "Evaluation of Cell Parameter Variation on Energy Absorption Characteristic of Thermoplastic Honeycomb Sandwich Structure." Arabian Journal for Science and Engineering (2021).
3. B. N. Prashanth, R. Venkatram, "Framework for Product Lifecycle Management Integrated with Enterprise Resource Planning", International Journal of Scientific Research & Development 8, no. 12 (2021).
4. Kumar, Suraj, Pradeep S. Jakkareddy, and C. Balaji. "A novel method to detect hot spots and estimate strengths of discrete heat sources using liquid crystal thermography." International Journal of Thermal Sciences 154 (2020).
5. Vijaybabu, T. R. "Influence of permeable circular body and CuO– H₂O nanofluid on buoyancy-driven flow and entropy generation." International Journal of Mechanical Sciences 166 (2020).
6. Smita Singh, M. U. Aswath, and R. V. Ranganath. "Performance assessment of bricks and prisms: Red mud based geopolymer composite." Journal of Building Engineering 32 (2020).
7. G. B. Veeresh Kumar, P. S. Shivakumar Gouda, U. Srinivas Kumar Chowdary, Tammila Subash, Mandadi Surya Vamsi, and K. Naresh. "Development and experimental evaluation of titanium diboride particulate reinforcements on the Al6061 alloy composites properties." Advances in Materials and Processing Technologies (2020).
8. G. B. Veeresh Kumar, D. Gopinath Reddy, C. Vineeth Reddy, Ch Sriteja, and R. Pramod. "Investigation of Mechanical and Tribological Properties of Al6061–TiB₂ Metal Matrix Composites." Materials Performance and Characterization 9, no. 1 (2020).
9. Rajesh, R., and S. G. Rakesh. "Effect on the drag coefficient of various spiked cylinders during buzz phenomenon subjected to hypersonic flows." Journal of the Brazilian Society of Mechanical Sciences and Engineering 42 (2020).
10. Bharath A., Preethi S., Manjunatha M., Ranjitha B. Tangadagi and Shankara, "Prediction of Temperature Data for Ghataprabha Sub-basin using Change Factor Method." Ecology, Environment and Conservation 26 (2020).
11. Badgayan, Nitesh Dhar, Santosh Kumar Sahu, Sutanu Samanta, and P. S. Rama Sreekanth. "Evaluation of dynamic mechanical and thermal behavior of HDPE reinforced with MWCNT/h-BNNP: an attempt to find possible substitute for a metallic knee in transfemoral prosthesis." International Journal of Thermophysics 40, no. 10 (2019).
12. Santosh Kumar Sahu, Nitesh Dhar Badgayan, and P. S. Rama Sreekanth. "Understanding the influence of contact pressure on the wear performance of HDPE/multi-dimensional carbon filler based hybrid polymer nanocomposites." Wear 438 (2019).
13. G. B. Veeresh Kumar, Pinaki Prasad Panigrahy, Suresh Nithika, R. Pramod, and C. S. P. Rao. "Assessment of mechanical and tribological characteristics of Silicon Nitride reinforced aluminum metal matrix composites." Composites Part B: Engineering 175 (2019).
14. G. B. Veeresh Kumar, R. Mageshvar, R. Rejath, S. Karthik, R. Pramod, and C. S. P. Rao. "Characterization of glass fiber bituminous coal tar reinforced polymer matrix composites for high performance applications." Composites Part B: Engineering 175 (2019).
15. G. B. Veeresh Kumar, R. Pramod, Ch Guna Sekhar, G. Pradeep Kumar, and T. Bhanumurthy. "Investigation of physical, mechanical and tribological properties of Al6061–ZrO₂ nano-composites." Heliyon 5, no. 11 (2019).
16. Shashi Kumar M. E., S. Mohan Kumar, and Ravi Kumar V., "Effect of Cryogenic Treatment on Bisphenol Based Polymer Composite on Mechanical Properties", International Journal of Recent Technology and Engineering 8, no. 3 (2019).
17. Pradeep S. Jakkareddy, and C. Balaji. "Estimation of local heat transfer coefficient from natural convection experiments using liquid crystal thermography and Bayesian method." Experimental Thermal and Fluid Science 97 (2018).
18. Pradeep S. Jakkareddy, and C. Balaji. "A non-intrusive technique to determine the spatially varying heat transfer coefficients in a flat plate with flush mounted heat sources." International Journal of Thermal Sciences 131 (2018).
19. Santosh Kumar Sahu, Nitesh Dhar Badgayan, Sutanu Samanta, Duryodhan Sahu, and P. S. Rama Sreekanth. "Influence of cell size on out of plane stiffness and in-plane compliance character of the sandwich beam made with tunable PCTPE nylon honeycomb core and hybrid polymer nanocomposite skin." Int. Journal of Mech. Sciences 148 (2018).
20. Smita Singh, M. U. Aswath, and R. V. Ranganath. "Effect of mechanical activation of red mud on the strength of geopolymer binder." Construction and Building Materials 177 (2018).
21. Elango, Prashant, Yadhu Krishnan, A. Sriraj, and K. Prakash Marimuthu. "Drilling simulation of Fibrous Composites." International Journal of Vehicle Structures & Systems 10, no. 5 (2018).
22. Rajesh, R., and S. G. Rakesh. "Effect of Dimensions of Various Spikes of a Spiked Cylinder on the Buzz Phenomenon Subjected to Hypersonic Flows." International Journal of Fluid Mechanics Research 45, no. 5 (2018).
23. Tejesh, Pala, Vinod Kotebavi, Pamarthi Shyam, and P. Siva Durga Prasad. "Performance and emission characteristics of a CI engine fuelled with palm and sesame oil blended diesel." International Journal of Vehicle Structures & Systems 10, no. 5 (2018).

Few Recent Journal Publications...

24. Bisht, Anuj, Supreeth Gaddam, Lailesh Kumar, B. P. Dileep, and Satyam Suwas. "Precipitation behavior of IN718 after surface mechanical attrition treatment (SMAT) and its effect on wear properties." *JOM: The Journal of The Minerals, Metals & Materials Society*, 70, no. 11 (2018).
25. Shankara, Maya Naik and Sivapullaia, P. V., "Removal of Fluoride From Leachates using Local Soil Column", *Ecology, Environment and Conservation* 24, no. 1 (2018).
26. Shali, S., P. Jafarali, and S. R. Nagaraja. "Identification of second spectrum of a Timoshenko beam using differential transform method." *Journal of Engineering Science and Technology* 13, no. 4 (2018).
27. Rao, R. Sankar, and S. Bhanu Prakash. "Thermal Characteristics of a Cylindrical Heat Pipe using Multi-Layer Screen Mesh Wick." *International Journal of Vehicle Structures & Systems* 10, no. 5 (2018).
28. Basavaraj Noolvi, Shanmukha Nagaraj, and S. Raja. "Fabrication, Analysis and Testing of Smart Adaptive Composite Beams." *International Journal of Vehicle Structures & Systems* 10, no. 5 (2018).
29. Mrudula Prashanth, Kumar, B. S. Ajay, and Prasad, N. J. Krishna, "Effect of Cutting Speed on Generation of Heat at Work-tool Interface of Copper based Silver and Brass Alloys." *International Journal of Mechanical and Production Engineering Research and Development* 8 (2018).
30. Pradeep S. Jakkareddy, and C. Balaji. "A methodology to determine boundary conditions from forced convection experiments using liquid crystal thermography." *Heat and Mass Transfer* 53, no. 2 (2017).
31. Selvaraj, J., P. Marimuthu, S. Devanathan, K. I. Ramachandran, J. Selvaraj, and P. Marimuthu. "Mathematical modelling of raw material preheating by energy recycling method in metal casting process." *Pollution Research* 36, no. 3 (2017).
32. Mohanavelu, Thenarasu, Rameshkumar Krishnaswamy, and Prakash Marimuthu. "Simulation modelling and development of analytic hierarchy process-based priority dispatching rule for a dynamic press shop." *International Journal of Industrial and Systems Engineering* 27, no. 3 (2017).
33. Othayoth, Ratan S., Rajeevlochana G. Chittawadigi, Ravi P. Joshi, and Subir K. Saha. "Robot kinematics made easy using RoboAnalyzer software." *Computer Applications in Engineering Education* 25, no. 5 (2017).
34. Krishna, Dipin, Ajai Anil Kumar Jyothish, Mohan Kumar S. Subraminian, and V. Ravi Kumar. "Electrochemical Corrosion Studies and Mechanical Characterization of Al7050 Metal Matrix Composite Reinforced With ZrO₂ Particulate by Stir Casting Method." *International Journal of Mechanical Engineering and Technology* 8, no. 11 (2017).
35. Vinod Kotebavi, Divakar Shetty, and Debjyothi Sahu. "Performance and emission characteristics of a CI engine run on waste cooking oil-diesel blends." *Pollution Research* 35 (2016).
36. Phanibhushana, M. V., Chandrappa CN, and Niranjana HB. "Evaluation of Mechanical Properties of Al6061 reinforced with Hematite.", *Journal of Multidisciplinary Engineering and Technology* 2, no. 1, (2015).
37. Prashanth, B. N., V. Karthik, S. Karthikeyan, and P. Raviteja. "Design and Development of Drainage Inspection and Anti-clogging Robot." In *Applied Mechanics and Materials* 813 (2015).
38. Deepthi, Y. P., K. Prakash Marimuthu, and K. Raghavendra Ravi Kiran. "Performance Test of Cryogenically Treated and Coated Tungsten Carbide Cutting Inserts." In *Applied Mechanics and Materials* 813(2015).

Publications with International Collaborators

1. Marimuthu, Prakash, Benjamin Durakovic (Bosnia), and Saketh Ram Kunda. "Modelling the effect of feed rate on residual stresses induced due to milling using experimental and numerical methods." *Periodicals of Engineering and Natural Sciences (PEN)* 9, no. 3 (2021).
2. Salame, Charlie (Lebanon), Roland Bejjani (Lebanon), and Prakash Marimuthu. "A better understanding of cryogenic machining using CFD and FEM simulation." *Procedia CIRP* 81 (2019).
3. Rajeevlochana G. Chittawadigi, Takafumi Matsumaru (Japan), and Subir Kumar Saha. "Intuitive control of virtual robots using transformed objects as multiple viewports." In *2019 IEEE International Conference on Robotics and Biomimetics: ROBIO* (2019).
4. Gaurav, V., Pedro Jacinto Páramo Kañetas (Spain), and M. V. Phanibhushana. "Hot Deformation Characterization of Haynes-242." *Materials Today: Proceedings* 5, no. 11 (2018).
5. Shali, S., P. Jafarali (Kuwait), and S. R. Nagaraja. "Identification of second spectrum of a Timoshenko beam using differential transform method." *Journal of Engineering Science and Technology* 13, no. 4 (2018).
6. Shali, S., S. R. Nagaraja, and P. Jafarali (Kuwait) "Vibration of non-uniform rod using Differential Transform Method." In *IOP Conference Series: Materials Science and Engineering* 225, no. 1 (2017).
7. Shali, S., S. R. Nagaraja, and P. Jafarali (Kuwait) "Non-uniform beam vibration using Differential Transform Method." In *IOP Conference Series: Materials Science and Engineering* 149, no. 1 (2016).

Funded Projects

Sl. No.	Project Title	Faculty	Details
1	Flow Visualization over Different Aerodynamic Bodies in the Wind Tunnel	Dr. Nagaraja S. R.	KSCST Students Projects Programme (2012-13)
2	Automatic Garbage Bin-Waste Segregation System	Mr. Prashanth B. N.	KSCST Students Projects Programme (2012-13)
3	Technology Based Student Centric Learning Centre	Dr. Rakesh S. G.	VGST (2013-14)
4	Design and Development of Manual and Electrical Type Water Based Weed Remover	Mr. Pramod R.	VGST-TRIP (2013-14)
5	Design and Development of Automobile Driving Mechanics for Disabled Arm People	Mr. Pramod R.	KSCST Students Projects Programme (2013-14)
6	Design and Development of Drainage Inspection and Anti-Clogging Robot	Mr. Prashanth B. N.	KSCST Students Projects Programme (2013-14)
7	Development of an Eco-friendly Pneumatic Engine for Reduced Fuel Consumption	Mr. Shashi Kumar M. E.	KSCST Students Projects Programme (2013-14)
8	Design and Fabrication of Pot-hole Road Repair Machine	Mr. Pramod R.	KSCST Students Projects Programme (2014-15)
9	Investigations on Development of Bamboo Based Green Laminates for Advanced Structural Applications	Mr. Pramod R.	KSCST Students Projects Programme (2014-15)
10	Investigations on Development of Fiber Metal Laminates for Aerospace Applications	Mr. Pramod R.	KSCST Students Projects Programme (2014-15)
11	Design and Development of Solar Powered Auto-regulated Agricultural Water Pumping System	Mr. Prashanth B. N.	KSCST Students Projects Programme (2014-15)
12	Design and Development of Nataulius Wind Turbine	Mr. Pramod R.	Amrita TBI Project (2014-15)
13	Design and Development of Wind Turbine Based Refrigeration System for Fruits and Vegetables	Mr. Pramod R.	Amrita TBI Project (2014-15)
14	Design and Development of Solar/LPG Powered Arecanut Leaf Plate Press Machine and Areca Leaf Sheath-Solar Dryer	Mr. Pramod R.	Amrita Live-in-labs (2015-16)
15	Mechanical and Tribological Properties of Composite Materials	Dr. Veeresh Kumar G. B.	Amrita Vishwa Vidyapeetham (2015-16)
16	Design and Fabrication of Handheld Shock Tube	Dr. Nagaraja S. R.	KSCST Students Projects Programme (2015-16)
17	Study of Performance and Emission Characteristics of Diesel Engine Fuelled with Two Biodiesel Blends	Mr. Vinod Kotebavi	KSCST Students Projects Programme (2015-16)
18	Development of Virtual Simulator for Cartesian Motion of Industrial Robots	Mr. Rajeevlochana G. Chittawadigi	MTAB Chennai (2015-16)
19	Design and Development of Dual Axis Wind Turbine for the generation of Power	Mr. Prashanth B. N.	KSCST Students Projects Programme (2016-17)

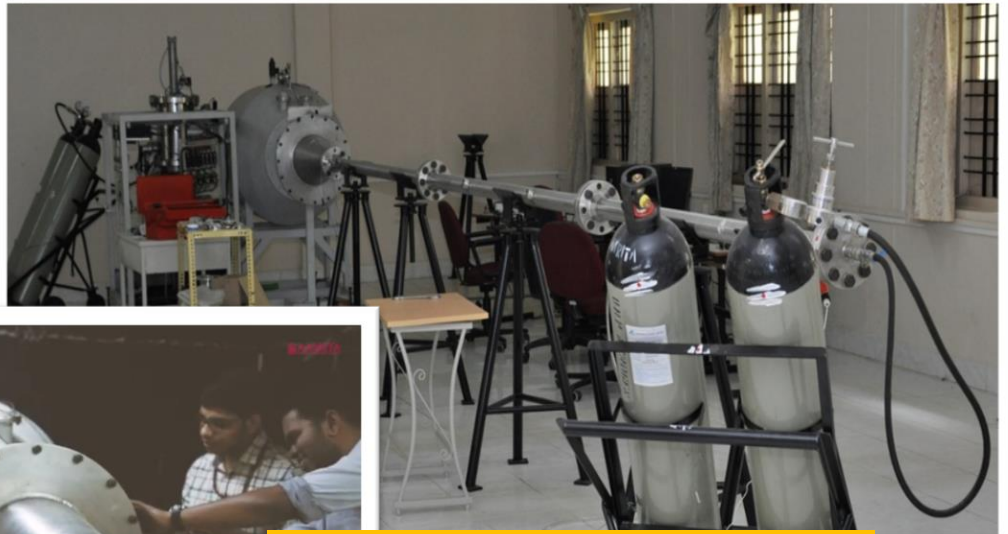
Funded Projects

Sl. No.	Project Title	Faculty	Details
20	Solar desalination system using heat pipe and compound parabolic collector mechanical engineering	Mr. Vinod Kotebavi	KSCST Students Projects Programme (2016-17)
21	Design and Development of Solar/LPG powered Arecanut leaf Plate Press Machine and Areca Leaf Sheath-Solar dryer	Mr. Pramod R.	Amrita Live-in-labs (2016-17)
22	Solar Water Purification and Disinfection Unit	Mr. Pramod R.	Amrita Live-in-labs (2017-18)
23	A Novel Method Of Integrating Vertical Farming And Composite Fish Farming	Mr. Pramod R.	Amrita Live-in-labs (2017-18)
24	A Study On Diesel Engine Using Waste Cooking Oil With Biotic Additive	Mr. Divakar Shetty A. S.	KSCST Students Projects Programme (2017-18)
25	Design And Development Of Three Bladed Self Starting Darrieus Turbine	Mr. Prashanth B. N.	KSCST Students Projects Programme (2017-18)
26	Kinematic Analysis and Design Verification of a 6-axis Machine Tending Robot under development by MTAB, Chennai	Mr. Rajeevlochana G. Chittawadigi	MTAB (2018-19)
27	Design And Development Of Low-cost Neonatal Incubator	Mr. Pramod R.	KSCST Students Projects Programme (2018-19)
28	Design And Development Of Sensor Based Automatic Steering Control System For Automobiles	Mr. Prashanth B. N.	KSCST Students Projects Programme (2018-19)
29	Design and Fabrication of Hybrid Solar and Vertical Axis Wind Turbine to Power Highway Street Lights	Mr. Prashanth B. N.	KSCST Students Projects Programme (2019-20)
30	Design and Development of Electro-Magnetic Frictionless Braking System in Automobiles	Mr. Prashanth B. N.	KSCST Students Projects Programme (2020-21)

Patents Granted

Sl. No.	Application/Patent Title	Faculty	Details
1	Length wise Gradient Honeycomb Structured Panels	Dr. Santosh Kumar Sahu	Co-inventor of Indian Patent (2019)
2	Usage of Cow Urine as an Additive with the Unusable Cooking Oil for the Emission Reduction from Diesel Engine Exhaust	Dr. Pradeep S. Jakkareddy	Co-inventor of Australian Patent (2021)

Labs and Research Facilities



Shock Wave and Hypersonic Research Lab



Thermal Engineering Lab



Fluid Mechanics and Machines Lab



Heat Transfer & Thermal Science and Energy Lab

Labs and Research Facilities



Lathe Shop and Special Machines Lab



Foundry Lab



Material Testing Lab



Metallurgy Lab



Labs and Research Facilities



Metrology Lab



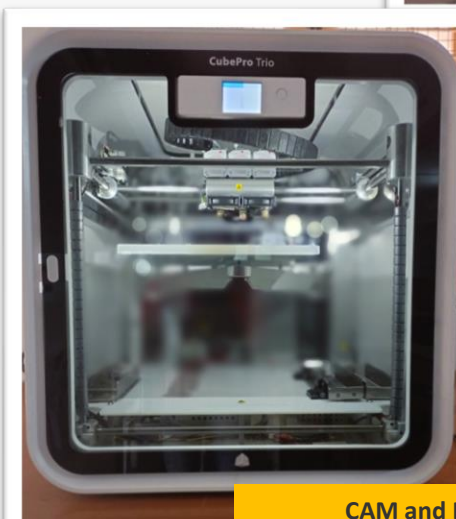
Machine Dynamics Lab



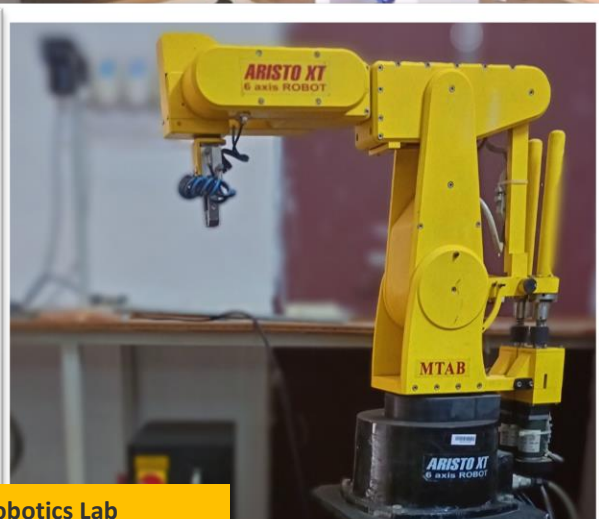
Instrumentation and Controls Lab



Mechanisms Lab



CAM and Robotics Lab



Conferences Organized

International Conference on Advances in Materials and Manufacturing Applications (IConAMMA)

IConAMMA 2016



IConAMMA 2017

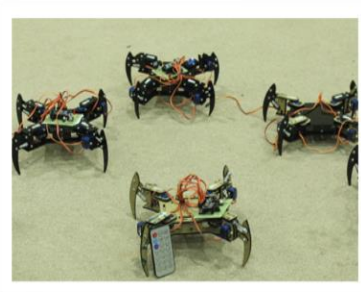
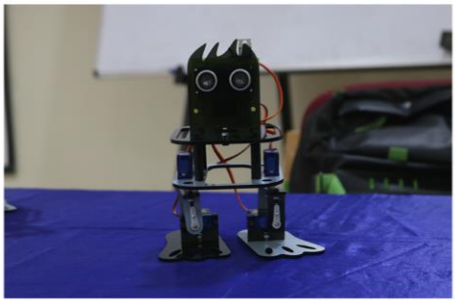


IConAMMA 2018



IConAMMA 2019

Department Forum and Technical Clubs





Testimonials by Recent Alumni



"I pursued my B.Tech. in Mechanical Engineering from Amrita School of Engineering, Bangalore (2013-2017). University continuously motivated us to achieve higher goals in our field by giving access to many technical forums and also encouraged our passion to do extra curriculum activities by making us represent university in various competitions. With the support of the faculty, technical conferences and hands-on-workshops, I had a great exposure to my core branch."

- **Manaswini D.**, Junior Engineer, Super Auto Forge, Chennai

"I completed B.Tech. in the year 2017, from the Department of Mechanical Engineering. Amrita School of Engineering Bangalore offers comprehensive education to aspiring engineers. Its holistic curriculum focuses on research along with extensive emphasis on bridging the industry-academia gap. It is a very enriching experience studying at ASE-B."

- **Ankur Choudhury**, Project Manager, Larsen & Toubro Limited, Kuwait.



"I did my B. Tech in Mechanical Engineering from 2015-2019. Looking back at the time I spent at college, I can say that it was a period filled with fun and unique learning experiences. The friends that I made and the faculty that I have been taught by, have greatly contributed to where I am today. Four years of my campus life culminated with the opportunity to study abroad through Amrita Centre for International Programs which I think was the icing on the cake to my bachelor studies. At Amrita, the opportunities are endless, and students have several learning options (Live-in-labs, student exchange, etc..) from to choose from which is something I found particularly interesting. I am grateful for the opportunities and experiences I have had at Amrita."

- **Puranjay Mugur**, Graduate Student in Production Engineering Chalmers University of Technology, Sweden.

"I completed my B.Tech in Mechanical Engineering during the year 2019. AMRITA has been a great contributor to the development of my career and personality. Immense support from professors always gives a great push in developing qualities like leadership skills, punctuality and commitment. All the 4 years spent were great and shall remain memorable throughout my life."

- **Sai Krishna Mohan**, Product Design Engineer, Addverb Technologies, Noida.



"I have completed B.Tech during the year 2020! Never had I thought that I would be taking Mechanical Engineering as my specialization. I fell in love with the subject. My teachers in Amrita were greatly responsible for this transformation in me. They were very supportive and encouraged us to do projects, publish papers and take part in various workshops. The industrial visits we taken to helped us understand 'the classroom learning' better. My journey in Amrita has a great impact of who I am today. Proud to be an Alumni of ASE-B."

-**Sukruti C.**, Intern at Volvo, Bengaluru

"I completed my M.Tech. in Thermal Sciences and Energy System from the Department of Mechanical Engineering, ASE, Bengaluru during 2020. At Amrita, the coursework framed was very good, it gave an opportunity to enhance my skills and also build an in depth knowledge of the core subjects. Overall it was a good experience studying at Amrita Bangalore."

- **N. Hareesh Bharadwaj**, R&D Executive, Total Solutions Intec. Pvt. Ltd., Bengaluru



"I graduated my M.Tech. in Thermal Sciences and Energy System from the Department of Mechanical Engineering, ASE, Bengaluru during 2018.

The best thing about Amrita is that it allowed me to become more independent. The support from staff within college and the many online resources available helped not only for academic work but also for industrial project applications. Also, the continuous support and feedback received from my teachers enabled me to rectify my mistakes and challenge myself to work even harder."

- **Pankaj Ravindra Badgujar**, Engineer, Renault Nissan, Chennai