

About Amrita Bengaluru

Amrita School of Engineering, Amrita School of Computing, Amrita School of Artificial Intelligence, and Amrita School of Business are constituent schools of Amrita Vishwa Vidyapeetham (Amrita University), established under Section 3 of the UGC Act of 1956. Our university has been accredited with the highest grade (A++) by the National Assessment & Accreditation Council, awarded 'Institution of Eminence' status by the UGC, ranked 7th in the National Institutional Ranking Framework (NIRF), and is recognized as No. 1 in India in the Times Higher Education Impact Rankings. Additionally, we are ranked among the top 100 universities in the world and within the top 200 in the World University Ranking for BRICS & Emerging Economies.

AICTE IDEA Lab

AICTE has launched a scheme for establishing AICTE-IDEA (Idea Development, Evaluation & Application) Lab in its approved institutions for encouraging students for application of Science, Technologies, Engineering and Mathematics (STEM) fundamentals towards enhanced hands-on experience and learning by doing. As a common facility embedded in the institution, IDEA Lab facilitates the students to "engage, explore, experience, express and excel" as desired by the Hon'ble Prime Minister in the wake of release of National Education Policy 2020. These Labs are mandated to function 24x7 in the institutions selected and be available to the colleges, schools, and industries around also.

AICTE-IDEA Lab is a creative and innovative space or program designed to foster the generation, development, and realization of new ideas, inventions, or projects. These labs bring together individuals with diverse skills and backgrounds to collaborate on creative projects.

Amrita-AICTE IDEA Lab, Bengaluru

Scholarship & Grants Bureau (SAG) of AICTE has awarded to Amrita School of Engineering a grant for set up of the AICTE IDEA Lab on its campus. The budget for the establishment of the IDEA Lab is Rs. 90 Lakhs, which comprises contributions of Rs. 30 Lakhs each from AICTE, Amrita and Industry Collaborators. IDEA lab shall be housed in a dedicated building with an area of around 4,000 sq ft, spread across three floors.



Major Equipment @ IDEA Lab

Mechanical Fabrication and Prototyping

- Laser Cutter
- Vinyl Cutter
- CNC Router
- 3D Printer
- 3D Scanner
- Mini Desktop Lathe cum Milling
- Drilling M/C
- Hand-held High Speed Drilling M/C
- Benchtop Grinder M/C
- Wood Lathe
- Portable Welding M/C
- Power Tools

Electronics and IoT

- PCB Milling M/C
- Mixed Signal Oscilloscope
- Digital Storage Oscilloscope
- Signal Generator
- Variable Power Supply
- Solder Stations
- Desoldering machine
- Magnifying Glass with Stand
- Benchtop Multimeter

Miscellaneous

- Dedicated Training Hall with Smart Board
- Projector
- Digital Microscope
- Advanced Motorized Sewing M/C
- Refrigerator
- Microwave Oven
- Computer Workstations
- Heavy Duty Laser Printer

Verticals of IDEA Lab

To effectively execute the deliverables and to foster a fruitful Industry-Academia collaboration, the following five main verticals have been identified. These may also help to raise the funds from the Industry.

Research	<ul style="list-style-type: none"> • Cutting-edge Technologies • Empowering Industries and MSMEs
Development	<ul style="list-style-type: none"> • Makerspace for Prototyping • Collaborative Product Development and Commercialization
Upskilling	<ul style="list-style-type: none"> • Training of Students and Industry Personnel • Making Students Industry Ready
Clinic	<ul style="list-style-type: none"> • Consultancy Services to MSMEs and Industries • Troubleshooting Problems
Testing	<ul style="list-style-type: none"> • Manpower and Resources for Testing Products • Certification Unit for Standards Organizations

Student Projects and Participation in Competitions

Amrita encourages its students to take up projects which have positive impact for the betterment of the society. One such flagship program is Live-in-Labs, where students visit rural and tribal areas to serve communities with underprivileged members of the society and help them to solve some of their problems. Institution's Innovation Council (IIC) actively engages students through Technical Clubs to foster innovation on campus. In addition, the students also take part in competitions such as ISRO Rover Challenge, SAE Baja, Go-kart Competitions, Robocon, ICPC, Smart India Hackathon, etc., which shall be further strengthened due to the fabrication facilities and round-the-clock access at the IDEA Lab.



Focus Areas

The faculty members at Amrita Bengaluru work on cutting edge research topics, which have potential for long-term Industry collaboration. A few of these focus areas are listed below:

- Drug Discovery, Delivery and Bio-material
- IoT for Healthcare
- Opto-Electronics for Ocular Diagnosis
- Eye Tracking for Healthcare and EduTech
- Material-informatics and Bio-informatics for Material Design and Development
- Exo-skeleton and Rehabilitation using Robots
- Embedded Systems for Prosthetics and Assistive Devices
- Human-centric Robots and Collaborative Robots
- AI as a Service
- AI for EduTech
- Edge Analytics and AI
- LLM (Large Language Model)
- AI for Predictive Analytics
- Green-tech and Green-IoT
- Cyber Security
- Testing Services for 5G and Advanced Communication
- Enhanced Performance of Battery Mgmt. Systems
- Multi-material 3D Printing Filament Extruder Design
- Manufacturing Process Automation for Food Industries
- Customized Heat Transfer Solutions
- RF and Antenna Technologies
- Computational Methods for Heat and Momentum Transfer (including nano scale)
- System on Chips (SOC) and Hardware Accelerators for AI based Applications
- Digital Twin for Electric Motor Modeling, Control and Simulation
- Renewable Energy and Smart Grid
- Block-chain Technologies
- Applied Materials and Manufacturing Innovations

Many more Focus Areas can be explored and added as per the requirements of Industry partners.

Contact

Coordinator

Dr. Rajeevlochana G. Chittawadigi (Dept. of Mech. Engg.)
Phone: 9741726684; Email: rg_chittawadigi@blr.amrita.edu

Co-coordinator

Dr. Vivek Venugopal (Dept. of ECE)
Phone: 7736066180; Email: v_vivek@blr.amrita.edu