



International Conference on Recent Advances in Mechanical Engineering Research and Development

(ICRAMERD-2022)

12th-13th August, 2022



Organised By:

SIKSHA 'O' ANUSANDHAN
(DEEMED TO BE UNIVERSITY)
Bhubaneswar

In Collaboration with:
IIIE Odisha chapter



ABOUT

SIKSHA 'O' ANUSANDHAN UNIVERSITY

Siksha 'O' Anusandhan (Deemed to be University u/s 3 of UGC Act, 1956); is located in an area of 451.996 acres in the centre of Bhubaneswar, its Campus comprising 67 building occupy 127 acres. It is a leading University in India offering professional programmes in the disciplines of Engineering, Medicine, Dental Sciences, Nursing, Pharmaceutical Sciences, Biotechnology, Management, Law, Hotel Management and Agricultural Sciences. It is being recognized as a world-class learning and research institution with 12 research centres and 37 research laboratories. Based on its all-round performance on quality teaching and innovative research, the University has been awarded ranks among top 20 in the country in University category by National Institutional Ranking Framework (NIRF) of Ministry of Human Resources & development (MHRD), Govt. of INDIA consistently for last three years, surpassing many State & Central University/IIT's/ Institute of higher learning. It has also been ranked as the 33rd best National Institution, the 20th Best National University and the best Institution in Odisha by the MHRD through its NIRF Rankings in 2020. Its medical college is the 23rd best Medical College in the country. Approved by UGC & AICTE, it has been re-accredited by the NAAC with A-Grade and has obtained the International Accreditation by ABET, USA and certification by IAO, URS, UK.



ABOUT

INSTITUTE OF TECHNICAL EDUCATION & RESEARCH

Institute of Technical Education and Research (ITER) is the Faculty of Engineering and Technology of Siksha 'O' Anusandhan and is the oldest constituent institute. Since its inception in 1997, it is continuing to excel in the field of imparting education to students. It has worked with a mission to educate students and make them responsible, enlightened, and productive citizen to achieve global excellence. It has fourteen departments with more than five hundred faculty members.



ABOUT THE DEPARTMENT OF MECHANICAL ENGINEERING

The department of Mechanical Engineering, one of the pioneering departments of ITER, has been continually working to provide quality research outputs in the areas of thermal engineering, renewable energy, design and manufacturing etc. The department is functionally divided into three broad areas of specialization: (i) Design (ii) Manufacturing and (iii) Thermal Science and Heat power Engineering. In order to cater the need of skilled professionals for rapidly growing industrial base, the department is offering Undergraduate (B. Tech) in Mechanical Engineering, which is accredited by Engineering Accreditation Commission (EAC) of ABET, USA, (www.abet.org). The Department also offers M.Tech and Doctoral programs in various specializations. Department is consistently delivering high quality research through its highly qualified Faculty members. The department of Mechanical Engineering blossoms with the specialized technical and professional excellence and as on date it has developed into a pillar of strength of SOA University. The department is focused at educating the mechanical engineers of tomorrow by integrating the theoretical and practical knowledge and accentuating on the learning and critical thinking. The following International conferences have been organized by the Department of Mechanical Engineering in the past: Best Practices in Supply Chain Management (BPSCM,2012), International Conference on Role of Industrial Engineering in Industry 4.0 Paradigm (ICIEIND,2018), International conference on recent advances on Mechanical Engineering Research and Development (ICRAMERD'2020 and ICRAMERD'2021), International workshop on-design, construction and operation of long distance slurry pipe lines for mineral transportation (2021). Besides, many seminars, faculty development programmes, training programmes and international level workshop have also been conducted by the department with remarkable success.



ABOUT THE CONFERENCE

The International Conference on Recent advances in Mechanical Engineering Research and Development (ICRAMERD-2022) is a two year young conference which accepts quality research papers, follows a peer review process and gets the proceedings published through reputed publishers indexed by SCOPUS. The scope of the conference is to provide a forum for researchers, scientists, academicians, scholars and industrial practitioners from across the world to present papers and exchange their ideas on topics of great importance and recent developments in broad fields of sustainable science, material science and engineering. With the increasing importance of automation, smart manufacturing, their applications in industrial robotics, energy storage and conversion, power system engineering, the conference targets to present latest research on novel materials, new strategies and innovations for overcoming the technical challenges of machine learning, IoT, mechatronics & robotics, Artificial Intelligence in manufacturing process, environmental science, renewable energy and automation in healthcare systems. The International Conference deliberations are being structured to cover the following themes (but not limited to):

Advanced Materials

Progress in Materials Engineering, Mechanical behaviour of materials, Mechanical Properties of Materials, Composite Materials, Ceramics, Polymers, Energy Storage and conversion Materials, Environmental Materials, Renewable Materials, SMART materials, Super Alloys, Electronics and Optical Materials, Biomaterials, Functionally Graded Materials, Meta materials, Structural Materials, Building Materials, Chemical Materials, 3D Materials, Cryogenic Materials, Active Materials in MEMS Applications, Computational Materials, Nano materials and Nano composites, Nano-magnetic, Magnetic and Superconducting Materials, Corrosion and wear resistant materials, Advanced measurement techniques of materials and characterizations.

Design Engineering

Product design and development, Material Strength and applied mechanics, Biomechanics, Control system design and simulation, CAD/CAM/CAE/ Reverse Engineering, Structural Analysis, Vibration, Tribology, Finite Element Modeling and simulation.

Advances in Manufacturing Technology

Advances in machining technology, Hybrid manufacturing processes and technology, Sustainable Manufacturing, Micro and Nano technology, Casting, Metal Joining, Metal Forming Processes, Digital and Intelligent manufacturing, Non-traditional machining and advanced manufacturing processes, Green Manufacturing Processes, Cellular manufacturing, Rapid Prototyping, Machine vision, Additive Manufacturing, Powder Metallurgy, Composite and polymer processing, Non Destructive Testing, Plastic processing technology, Precision Engineering, Surface Engineering and coating, Thin Film Technology.

Thermal Systems Engineering

Fluid Flow, Heat Transfer, Application of thermodynamics in thermal system design, Modelling and Simulation, Computational Techniques in heat and fluid flow, Combustion, Power Plant Engineering, Gas Dynamics and Jet Propulsion, Advanced Energy systems,

Advanced cooling techniques, Battery thermal management, Refrigeration and cryogenics, Heating Ventilation and Air conditioning (HVAC), Flow in porous media, Two phase and multi-phase flow, Micro/Nano scale fluid flow, Magneto Hydro dynamics and plasma fluid flow, Molecular transport, Slurry Transportation- Key facts and benefits.

Automation in Engineering

Automation and smart systems, Robotics, Artificial Intelligence, Machine Learning and Big data analytics, Neural networks and deep learning, Cyber-Physical Systems, Mechatronics, IOT/IIOT, Cluster, Cloud and grid Computing, Fuzzy control and their applications, Human computer Interface, Automation in Energy management systems, Waste management systems.

Industrial and Systems Engineering

Operation as a service, Production Planning & Control, Total Quality Management, Supply Chain & Logistics Management, Business Process Re-engineering, Manufacturing process planning and scheduling, Green Supply Chain, Reverse Supply Chain, JIT, Lean and Agile manufacturing, Engineering Optimization, Risk based optimization, FMS, Human factors Engineering, Advances in work system Design, Quality Engineering, Reliability Engineering, Computer aided inspection, Industrial Safety Engineering, Biomedical Engineering, Healthcare systems Engineering.

Automotive Engineering

Design and simulation of smart vehicles, Electric and Hybrid Vehicles, Automated Guided Vehicle, materials, process and design in Electric Vehicles, Application of Computational Fluid Dynamics in Automobiles, Aerodynamics of automobile components, pollution control.

Energy

Renewable Energy And Technology, Solar, Wind, Biomass, Geothermal, Hydropower Energy Engineering, Fuel Cell, Alternative Fuel, Sustainable Energy System, Energy Saving Devices- Super Capacitors.

Participants from academia, R&D organizations and industries are invited to submit original and unpublished full research papers. All articles will be peer reviewed and accepted ones will be published in the conference proceedings. At least one author of the accepted paper has to register and present the paper. There will be best paper awards in different categories. **Selected papers of ICRAMERD-2022 will be published in Materials Today: Proceedings (Elsevier) and Lecture notes in Mechanical Engineering (Springer) based on the quality of the paper which is recommended by Technical Review Committee/Editorial Board and the decision of the publisher.**

PLAGIARISM POLICY

To avoid plagiarism, authors are requested to submit their original and unpublished research articles, which are not under consideration for publication elsewhere. Manuscripts found to be plagiarized during any stage of review will be rejected.

SPECIAL ATTRACTION

Poster competition among students, opportunities for industry/trade exhibits are some of the special events planned during the conference. It would offer ample networking opportunities for scientific & industrial collaboration.

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IMPORTANT DATES

Final submission of manuscripts for review (full paper)	: 1st April'2022
Confirmation of acceptance of papers	: 30th April'2022
Submission of camera ready papers	: 1st June'2022
Last date of Registration	: 15th June'2022
Conference dates	: 12th -13th August'2022
Guidelines for preparing the manuscript are available on website: www.icramerd.com	

REGISTRATION

The registration fees for participants

Participant Category	India and SAARC Country (INR)	Overseas (USD)	IIIE Members
Industry Delegates	3000	175	2500
Academic Delegates	3000	125	2500
Students (U.G., P.G., Ph.D. & research scholars)	3000	100	2500

Sponsorship for ICRAMERD is invited and the details are available on the website. Appropriate publicity will be made during the period of the conference for the sponsors. It is also planned to bring out an attractive e-souvenir that will include the abstracts of all papers and would be a valuable reference. The e-souvenir will include advertisements also. Tariff for advertisement in the souvenir is provided in the conference website

The payment of the registration fees should be made through demand draft drawn in favour of payable at Punjab National Bank, Branch, Bhubaneswar or remit the registration fee through bank transfer to be credited to:

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For details contact:

Dr. Sasmeeta Tripathy

Associate Professor

Mechanical Engineering,

ITER, Siksha 'O' Anusandhan (Deemed to be University),

Bhubaneswar-751030, Odisha, India.

Telephone: 9778331433

Email: sasmeetatripathy@soa.ac.in

