



COMMET

(Congress of Metallurgical - Materials Engineers and Technologists)

{An Half-Yearly News Letter from Metallurgical and Materials Engineering, MGIT, Hyderabad}



(July 2021-December 2021)

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Foreword by the Head of the Department

The world has been into a different mode altogether as CoViD-19 has hit all the sectors badly. The Education sector has been a significant victim over this tenure as there has been an unforeseen distance interval between the instructors and the students' community. Thanks to the awareness created by all the concerned agencies across the globe and the quick revolutions that have taken place in curbing this uncomfortable situation. During this semester, the Department has organized two National level symposia inclusive of an Alumni Guest Talk by one of the distinguished alumnus of the Department. The Department-Industry-Academia interaction, Faculty Members' interaction with outside world, and their Technical Publications in reputed Journals of National and International repute have also been among the activities that took place during this semester. I am glad to place it on the record that these have the strongest accordance with the Vision and Mission of the Department, Educational Objectives, Outcomes and Specific Outcomes of Metallurgical and Materials Engineering Programme. The Faculty Members of MME also take this opportunity to thank the Management, Administration, and whoever have supported directly and indirectly in these achievements.

VISION

The Department inspires and motivates its students to acquire knowledge to develop and serve their discipline with great zeal. It transforms the students into disciplined and talented citizens of impeccable character, fused with hands-on practical training to make them readily employable. Great importance is given to develop social, cultural and environmental consciousness.

MISSION

The Mission of the Department is to strive towards development and dissemination of knowledge in the field of Metallurgical and Materials Engineering. It aims at reaching the pinnacle of technical excellence with continuous quality improvement. It is destined to train manpower with a capacity to take-up policy formulation and decision making responsibilities.

Program Outcomes and Program Specific Outcomes

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
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 team work: 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
PSO1	Through understanding of concepts in Metallurgical and Materials Engineering and acquiring skills for the individual development and to meet the industrial requirements
PSO2	Able to Extend the Metallurgical and Materials Engineering knowledge to multiple domains for the development of new products and systems

Program Educational Objectives (PEOs)

I. In pursuit of Excellence in Metallurgical and Materials Engineering

In line with the Mission of our Institute and Department, Educational Objective of our Programme is to prepare quality Metallurgical and Materials Engineering Professionals through a well-balanced instruction programme coupled with exposure to National laboratories and Industries and by providing opportunities for personality development. Thus, the overall objective is to meet the professional requirements of the ever-growing demand for metals and materials.

II. Fulfilling the long term Needs of the students – the primary Stakeholders

Providing a platform to the undergraduate students to interact with scientists and engineers of national and international repute by deputing them to industrial and R&D centers of excellence for carrying out their Project work; organizing Visits and Tours and conducting national and international technical conferences; recommending the students to pursue higher education in National and International reputed Universities.

III. Outreaching the prospective Employers

In order to meet the requirements of the employers, the Programme imparts leadership qualities, effective communication skills, positive approach and ability to work in teams among the students. The Programme also encourages the students to develop professional ethics and continuous learning through participation in appropriate training activities, short courses, and conferences.

IV. Creating Environment for Independent and Continuous Learning

Creating environment for independent and continuous Learning by arranging for expert lectures, encouraging students to deliver short talks, and to write independent assignments for each and every subject and, also, by deputing students to national and international conferences.

I. Organizational Excellence of the Department

- The Department in association with the MGIT Alumni Association has organized a talk on “Advanced Nanomaterials: Photoactive nanofibers for catalysis applications” by Dr. Srujan Mishra, Engineering Manager, Aludyne Columbus, USA on September 19, 2021. Dr. Srujan also happens to be one among the distinguished alumni of the Department.

The poster features the MGIT Alumni Association logo (Mahatma Gandhi Institute of Technology) and the VCAAVE logo (in association with VCAAVE, Enriching Alumni Relationships). The main text reads: "BY ALUMNI NETWORK OF MGIT", "ADVANCED NANOMATERIALS: PHOTOACTIVE NANOFIBERS FOR CATALYSIS APPLICATIONS". A circular portrait of Dr. Srujan Mishra is shown with his details: "Srujan Mishra", "Class of 2007, B.Tech Metallurgy", "Engineering Manager at Aludyne Columbus". The event details are: "SUNDAY, Sep 19, 2021 7:45 PM (IST)" and the registration link: "Register Here: <https://13x.app/e/mgit-webinar-1>".

- The Department has organized a 2-Day National Convention on “Emerging Trends in Nondestructive Evaluation” during October 09-10, 2021 in association with the Indian Society for Nondestructive Testing (Hyderabad Chapter).

II. Achievements of the Department

1. Technical Publications:

S. No.	Title of the Publication	Authors	Publication details
1	Detonation Gun Spray Coatings on martensitic stainless steels	J. Jhansi, S. Santhi, P. V. S. Lakshmi Narayana, and Bhomik Ketari Deogade	Recent Advances in Manufacturing, Automation, Design and Energy Technologies. Lecture Notes in

			Mechanical Engineering. Springer, Singapore.
2	Laser Beam Welding of Advanced High-Strength Steels (Dual Phase Steels)	Lakshminarayana P.V.S., Gautam J.P., Mastanaiah P., Madhusudan Reddy G., Bhanu Sankara Rao K.	Recent Advances in Manufacturing, Automation, Design and Energy Technologies. Lecture Notes in Mechanical Engineering. Springer, Singapore https://doi.org/10.1007/978-981-16-4222-7_16

III Student Centered

1. Summer Internship/Industry oriented Mini Project:

- All the Fourth year students have been deputed to Defence Metallurgical Research Laboratories, Hyderabad to undertake Summer Internship/Industry oriented Mini Project work for a period of one month. The students have got trained through orientation of all the technical facilities existing at the organization. All the students have submitted Technical reports concerning the internship.