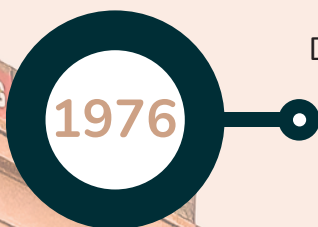




DEPARTMENT OF FUEL, MINERALS AND METALLURGICAL ENGINEERING

The Department of Fuel, Minerals and Metallurgical Engineering is one of the oldest departments in the institute established to address the processing issues of minerals (metallic, non-metallic, and fuel). Keeping up with the recent research trends, industrial requirements and to facilitate high-end interdisciplinary research, Metallurgical Engineering was introduced to the department in the year of 1919.



Department of Fuel,
Minerals and
Metallurgical
Engineering
was established

DOMAINS OF STUDY

- Colloids and Interfacial Phenomena
- Heat and Mass Transfer
- Coal and Mineral Processing Plant Design
- Phase Transformation and Heat Treatment
- Powder Metallurgy
- Mineral Policy and Economics
- Power Plant Engineering
- Waste Processing and Management
- Cement Technology
- Advanced Phase Transformation
- Analysis and Modeling of Welding

LABORATORIES - UG, PG

- Coal and Mineral Processing Plant Design
- Fuel Technology
- Fine Particle Processing
- Particle Technology
- Extractive Metallurgy
- Heat Treatment and Mechanical Metallurgy
- Coal and Mineral Processing
- Process Metallurgy
- Fuel Technology
- Materials Characterization

Courses	Strength
Bachelor of Technology	36
Master of Technology	27
Doctor of Philosophy	35
Grand Total	98

PLACEMENTS & INTERNSHIPS

51+ LPA
Max. CTC

9+ LPA
Median CTC

40k / mo
Median Stipend during
Internship

Core Companies



Andhra Pradesh Mineral
Development Corp.



Research & Development

Meet our HOD



PROF. SHRAVAN KUMAR

(Professor)

15-02-2012 - Present

Academic Background:

- Ph.D. in Fuel and Mineral Engineering from IIT (ISM), Dhanbad
- M. Tech. in Fuel and Mineral Engineering from IIT (ISM), Dhanbad
- B.Sc. Engineering from BIT, Sindri

Primary Areas of Research

Energy and Fuels, Dewatering, Froth Flotation, Flocculation



Citations 117 
H-index 5

Achievements

- Prof. C. Mahadevan Mineral Engineering Science Award, 2017, Mineral Engineering Science Association, Visakhapatnam, India.

Ongoing & Completed Departmental Research

- Advanced wear & corrosion resistance coatings development & commercialization in India: INR 578.74 lakh; DST
- Machine learning-enabled framework for the design of new multicomponent alloys: INR 30.91 lakh; DST
- Development of Microstructure Property Processing Correlations for nickel-based super-alloys: INR 28.36 lakh; ISRO
- Multi-scale simulation of weld solidification cracking in Ni-based super-alloys in aerospace appl.: INR 19.70 Lakh; ISRO
- Effect of coal quality on the performance of JSL thermal power plant: INR 22.06 Lakh; JSL
- Quality assessment of 1.70 Lakh Tons of Rejects of Patherdih NLW Washery: INR 13.44; BCCL
- Characterization, Beneficiation and coke making of Low Volatile Medium Coking coals: INR 9.56; UGC New Delhi.
- Formation of spray tech. for sand crust with binder solution & laboratory testing of sand crust: INR 7.46 lakh, DRDO
- Development of experimental setup for grinding circuit & generate data for insights into mill state like mill & ball charge, liner wear & overload: INR 6.98 Lakh; Schneider Electric.
- To develop a working prototype for an Enhanced Gravity Separator (EGS) for recovery of REE and precious metals: INR 6.50 Lakh; TexMin
- To develop a working prototype for a High tension separator for dry separation of conducting particles: INR 6.00 Lakh; TexMin
- Performance Enhancement of Cr-Mn based Austenitic Stainless Steel to be a Potential Lowcost Alternative to 300-Series : INR 34.1 lakh; SERB, New Delhi
- Development of sustainable technology for efficient utilisation of goethitic ore through magnetising roasting using Biochar: INR 85.32 lakh; Ministry of Steel, New Delhi

Students & Alumni

Active Student Run Societies



Achievements

- The department has conducted more than 60 programs for the training of over 1000 professionals and continues to run unique PDPs every year.
- The department has conducted more than 35 R&D projects and around 500 consultancy projects.
- Faculty members of the department have written several monographs, contributed chapters in internationally acclaimed books, compiled and edited several international conference proceedings, have won a large number of prestigious awards from GOI and professional bodies, and are represented in editorial boards of important peer-reviewed international journals.
- The department has commercialized several novel products and technologies for different industrial applications.

Alumni Network

- Avlesh Singh, Co-founder and CEO, Webengage
- Ruchiparna Sahoo, Senior Process Engineer, Weir Minerals
- Avinash Kumar, Senior Manager, IMR Metallurgical Resources
- Narendra Singh, Senior Consultant (Metallurgy), DMT Group
- Dr. Silpa Sweta Jena, Assistant Manager Process, Golcha Group
- Sumit Kumar, Researcher R&D, Tata Steel

GATE Results

GATE 2024

- Hrutidipan Pradhan - AIR 1
- Adarsh bansal- AIR 6
- Nishchay Kumar- AIR 19
- Ashish Kumar- AIR 493

Facilities

- Comminution: Jaw Crusher (multiple units), Roll Crusher (multiple units), Cone Crusher, Ball Mill (multiple units), Vibrating Mill, Cutting Mill, Grinding Mill, etc.
- Sizing and Classification: Cyclosizer, dry and wet sieve shakers, Spiral Classifier, Cyclone classifier.
- Agglomeration: Oil Agglomeration cell, Disc pelletizer, Drum pelletizer, Flocculation test unit
- Pilot Plant Facilities: Humphrey spirals, Cyclone (HC, DMC and WOC) test rig
- Mineral analytical facilities: Zetameter, Bond Work Index Ball Mill, HGI apparatus, etc.

Foreign University and Industrial Collaborations

