

## ABOUT THE DEPARTMENT

The Department of Metallurgical Engineering was established in 1981 as a part of Mechanical Engineering. During the 30 years of its existence it has emerged as a leader in Metallurgical education in the country. Its glorious past has been written in letters of Gold in the history of Andhra University as the most successful academic program initiated by the University. Having completed three decades of excellence it is now the pioneer among the metallurgical institutes in the state and is on par with the best in the country. With an annual intake of 30 undergraduates, over the years it has produced numerous Metallurgical Engineers who occupying the key positions both in India & abroad. By virtue of being the only Metallurgical Engineering Department in coastal Andhra Pradesh, it caters to the needs of Metallurgical industry there.

The Department enjoys a strong University - Industry interaction by way of extending consultancy to the industry in coastal Andhra Pradesh. Technocrats often visit the Department and share their expertise with faculty and students. Most of the undergraduate and post graduate projects are carried out in the industries in and around Visakhapatnam. Besides, the faculty takes up numerous sponsored research projects in association with the industries and R&D institutes.

Impressed with its performance, the National Board of Accreditation (NBA) accredited the Department for 5 years in the year 2004 and Acquired A+ grade from NAAC. The M. E. (Day time) program offered by the Department in Industrial Metallurgy with annual intake of 18 has been approved by the AICTE in the year 2003. The Department is also offering M.E. (Part time) in Industrial Metallurgy with intake of 18 to cater the needs of locally employed people. The Department is having a facility to pursue Ph. D in Metallurgical Engineering, till now produced 11 Ph. Ds and 14 Ph. D students are on rolls. The Department is the first of its kind to offer an M. Tech program in Nano Technology.

## ALUMNI

Of the 600 graduates of the Department, many are well placed in Industry and R&D organizations. Many of them pursued their higher studies in esteemed institutions and universities in India and abroad. The following achievements are noteworthy:

- Four of the alumni bagged the coveted Jawaharlal Nehru Fellowship for Ph. D at Cambridge University for three consecutive years - 1985, 1993, 1994 and 1995.
- Three of them got the Young Metallurgist award of Indian Institute of Metals for the years 1992, 1997 and 2002.
- Two of them are on faculty at National University of Singapore and University of Connecticut, Florida, USA.
- Many of them occupy faculty positions at BHU, IISc, JNTU, AU and Govt. Polytechnics.
- Some of them are scientists at DMRL, IGCAR, DRDO and ISRO.
- Several of them have been excelling in the academics, metallurgical and software industries both in India and abroad.

## LABORATORY FACILITIES

The Department has facilities for Metallographic Examination, Image Analysis, Heat Treatment, Foundry Sand Testing, Mechanical Testing, Mineral Beneficiation, Corrosion Testing and Computational work. With funding from MHRD in 1992, AICTE under the MODROBS in 1997 and the UGC Plan grants, the Departmental laboratories have been upgraded. The department is further equipped with the state of the art laboratories in the disciplines of corrosion, welding, composites and nano materials aided by World Bank funding under the TEQIP phase I. The Department now has the latest world-class equipment to cater the needs of the students and the faculty. Some of the facilities available are:

Metallographic Image Analyzer, Stereo zoom microscope, Digital automatic Vickers micro & Macro hardness testers, Computer controlled 10.0 Ton UTM, Computerized corrosion testing equipment, TIG & MIG welding machines, Wear and abrasion test rig, 250 T extrusion press, Computerized weld corrosion tester, Portable hardness tester, ECAP model machines, High Energy Ball mill and XRD facility.

## RESEARCH

Apart from teaching, the Department is actively engaged in research work on the Corrosion, Welding, Structure Property correlation, Development of Composites, Nano materials, Creep testing and Software Development for Metallurgy applications. The Department has obtained funding from various agencies to take up research projects. The following are the some of on going and completed projects:

1. Impression creep of materials – DST – New Delhi (completed).
2. Continuous casting of aluminium strips- MHRD – New Delhi (completed).
3. High strain rate deformation of ship steels -NSTL – Visakhapatnam (completed).
4. On board structures and development of composite materials- NSTL – Visakhapatnam (Completed).
5. Improvement of corrosion resistance of Al-alloy welds - Naval Research Board- New Delhi (Completed).
6. Flow behaviour of Al and Al-Cu alloys using vision system during cold upsetting- AICTE – New Delhi (Completed).
7. Stress Corrosion cracking of Maraging Steel & Its Welds – DRDO – New Delhi (Completed).
8. Synthesis and Characterization of Al-Fly Ash nano Composites – UGC – MRP- New Delhi (On going)
9. Corrosion of Friction Stir Welds – AR&DB- New Delhi. (On going).
10. Development of Eco friendly nano grained lead free solders for electronic applications – DST – New Delhi (On going).
11. Enhancement of Ballistic performance of Armour grade aluminum alloys by Plasma transferred arc hard facing - ARMREB, New Delhi (On going).

## ACTIVITIES

The Department houses a Students Chapter of Indian Institute of Metals (IIM). In collaboration with IIM - Visakhapatnam Chapter, the Department has successfully organized the national meets like *Conference of Students Metallurgical Engineers and Technologists (COSMET)* - 2000, 2001 & 2007 and National Workshop on *Perspectives in Metallurgy and Materials Science (PMMS)* - 2005 and an Indo-US Workshop - 2005 on *Texture and Microstructure in Close-Packed Metals*, and also one National Workshop on *Composite Materials – 2007* with active participation from faculty, students and Metallurgists from various industries and institutes.

## ABOUT THE CONFERENCE

*Conference of Students, Metallurgical Engineers and Technologists (COSMET)*, the tech festival of Department of Metallurgical Engineering, Andhra University College of Engineering, is going to unfold again in the name of **MATERIAUX-2012** on 24 – 25<sup>th</sup> of Feb 2012. With a feast of knowledge for the young minds, a glimpse of modern technology and skills of budding metallurgists and also for the technocrats, **MATERIAUX-2012** is a perfect platform to those striving for excellence in this discipline. We at **MATERIAUX-2012** try to bring out the skills and excellence within you to the brim.

A glimpse into the history of mankind shows that, our evolution is always hand in hand with the metals and materials right from the Bronze Age, Copper Age, Iron Age and now to the Nano age. We the students and academicians can consider ourselves as the torch-bearers of the future. Even now the future beckons the material scientist for the need of smart materials. In short, past is ours and the future too is in our hands. The two day metallurgical extravaganza makes you witness the most vibrant minds of the country participating in the most intriguing contests, expertise lectures from the eminent scientists which gives you a vivid image of recent trends in material science. It would be a great experience with people coming from diversified fields of the discipline and from nook and corner of the country.

We invite you to join the **MATERIAUX - 2012** to feel and experience the sheer pride of being a Materials Engineer.



## CONTACT ADDRESS

**Dr. Babu Rao Jinugu**

**Convener–MATERIAUX- 2012,  
Professor & Head**

Department of Metallurgical Engineering  
A.U. College of Engineering (A)  
Andhra University; Visakhapatnam – 530 003  
Ph: 0891-2844965 / 098484 31073  
Email: [baburaojinugu@yahoo.com](mailto:baburaojinugu@yahoo.com)  
[brjinugu@gmail.com](mailto:brjinugu@gmail.com)

## **Members - MATERIAUX - 2012**

**Mr. R. Satyanarayana**

2/2 M. E. (Ind. Met.)  
Ph. 09849307747

**Mr. A. Viswanadh Gowtham**

<sup>3</sup>/<sub>4</sub> B.E. (Met.Engg.)  
Ph. 094934 91866

**Ms. V. Sai Sravya**

<sup>3</sup>/<sub>4</sub> B.E.(Met. Engg.)  
Ph. 089858 21005

Email: [materiaux2012@gmail.com](mailto:materiaux2012@gmail.com);  
[materiaux2012@yahoo.com](mailto:materiaux2012@yahoo.com)

Website: [www.andhrauniversity.info](http://www.andhrauniversity.info)

# MATERIAUX - 2K12

## National Conference on ADVANCES IN MATERIALS ENGINEERING

24 - 25 FEBRUARY 2012



**DEPT. OF METALLURGICAL ENGINEERING  
A.U. COLLEGE OF ENGINEERING (A)  
ANDHRA UNIVERSITY  
VISAKHAPATNAM - 530 003  
ANDHRA PRADESH  
INDIA**