



INAE Monthly E-News Letter Vol. VIII, Issue 3, March 1, 2017

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- Prof Manoj K Thirai
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- Prof Prasen K Roy
- Drig Rajan Meeche

ACADEMY ACTIVITIES

Academy Announcements

- The Nomination Forms have been sent to the INAE Fellowship seeking nominations for election of Fellows and Foreign Fellows. The last date of receipt of nominations for Fellows is March 31, 2017 and for Foreign Fellows is May 31, 2017.
- Nominations have also been invited for INAE Young Engineer Award 2017. The last date of the receipt of nominations is March 31, 2017.
- Nominations have also been invited for Innovative Student Projects Award 2017. The last date of the receipt of nominations is July 7, 2017.

INAE Workshop on "Indian Heritage Metallurgy – Recent Developments and Future Directions" held on Jan 27-28, 2017 at SASTRA University, Thanjavur

INAE Study Group on 'Indian Engineering Heritage – Metallurgy' organized a two-day workshop on 'Indian Heritage Metallurgy – Recent Developments and Future Directions', at SASTRA University, Thanjavur, on January 27-28, 2017 in association with SASTRA University, Thanjavur. Dr U Kamachi Mutali, FNAE was the Coordinator of the workshop. The objective of the workshop was to deliberate upon the current status of metallurgical heritage study, and arrive at recommendations to move forward so as to utilize the recent data and analysis to unravel the mystery and excitement in ancient metallurgical objects. In this regard, specialists of Heritage Metallurgy were invited to Thanjavur, a famous location for various metallurgical achievements in the past – bronzes, cannons, metal plates, buildings and architecture. The workshop was attended by 28 specialists and 15 scholars in metallurgy heritage besides faculty and students from SASTRA University. Dr U Kamachi Mutali, FNAE, welcomed the gathering of 35 delegates and gave a brief overview on the objective of generating information and creating a database through systematic studies of various archaeological objects. Dr Sarath Raj, FNAE, Director, NIAS, Bangalore, the Chief Guest, suggested that the workshop should highlight the newer techniques and their utilization, and create awareness among the professionals engaged in archaeo-metallurgy studies. The Concluding Session started with a request from Dr. U Kamachi Mutali to all members to express their views, way forward and contributors to studies on ancient metallic objects. The deliberations during the Workshop were appreciated by the experts who participated in the event.



Dr Sarath Raj, FNAE, Director, NIAS, Bangalore – the Chief Guest, addressing the participants

INAE-TERI-ETC Workshop on "Energy Transitions – The Global Challenges & Opportunities" held on Feb 13, 2017 at New Delhi

INAE, The Energy and Resources Institute (TERI) and ETC jointly organized the Workshop on 'Energy Transitions – The Global Challenges & Opportunities' on Feb 13, 2017 at India Habitat Centre, Lodhi Road, New Delhi. Dr Ajay Mathur, FNAE, DG TERI was the Convener of the Workshop. Mr Ashok Chawla, Chairman, TERI delivered the Welcome Address in the Inaugural Session followed by presentations by Lord Adair Turner, Chair- Energy Transitions Commission, Dr Ajay Mathur, FNAE, DG TERI and Dr Sri Suresh, President, INAE. The Chief Guest Mr. Piyush Goyal, the Hon'ble Minister of State with Independent Charge for Power, Coal, New and Renewable Energy and Mines inaugurated the subject Workshop and released three reports viz. INAE Research Study Report on 'Engineering Interventions Necessary for Achieving 175 GW of Renewable Power by 2022', TERI Report on 'Transitions in Indian Electricity Sector 2017-2030' and the Energy Transitions Commission (ETC) Report on 'Shaping Energy Transitions' during the Inaugural Session and delivered the Ministerial Address. In addition, Special Addresses were delivered by Mr Suresh Kumar, Secretary, Ministry of Coal, Mr. Shashi Prasad, Additional Secretary, Ministry of Power and Mr Rajeev Kapoor, Secretary, Ministry of New and Renewable Energy and Mines, Government of India.

The Workshop featured three Technical Sessions on 'Global Energy Transitions', 'Indian Electricity Transitions' and 'Indian Renewables Challenge'. Mr Pradeep Chaturvedi, FNAE, Coordinator of the INAE Research Study on 'Engineering Interventions Necessary for Achieving 175 GW of Renewable Power by 2022' presented the findings of the report during Session 3 of the event. The technical sessions were followed by the 'Valedictory Session' during which Mr Pradeep Kumar Sinha, Cabinet Secretary, Government of India delivered the Valedictory Address. The Workshop ended with the Vote of Thanks by Dr Ajay Mathur, DG, TERI.

The INAE Research Study Report 'Engineering Interventions Necessary for Achieving 175 GW of Renewable Power by 2022' has been converted to an e-Book form and has been uploaded on INAE website. The same can be viewed at the link given below: <http://nae.in/nae/nae-renewable-energy/>



Release of the three Energy Reports by Mr. Piyush Goyal, the Hon'ble Minister of State with Independent Charge for Power, Coal, New and Renewable Energy and Mines, Government of India



Dr. B.V. Sarath, President, INAE delivering his address in the Inaugural Session

INAE Online National Essay Competition

In order to engage with the youth, Indian National Academy of Engineering (INAE) has constituted a Youth Forum which would conduct an 'Annual Convolve' each year. As one of the activities to be undertaken by the forum, an **Online National Essay Competition** for the 4th year engineering students from B.Tech/ BE /BSc (Tech)/ Integrated M.Tech/ M.E from all MHRD/AICTE approved institutions and universities has been launched.

The topic chosen for the year 2017 is **"Thriving Technological Self-Reliance and Leadership"** and the essays can be submitted online from Feb 15-Mar 15, 2017 in any of the four sections given below:

- Section I: Mechanical Engineering, Manufacturing, Civil Engineering and Management
- Section II: Electrical Engineering, Electronics & Telecommunications and Energy
- Section III: Biotechnology, Materials Engineering, Chemical Engineering and Mining
- Section IV: Computer Science & Engineering and Information Technology

The link for submission <http://essay.inae.in/signup>

The link to the submission webpage has also been provided in INAE website <http://nae.in>.

Prizes

The **Online National Essay Competition** will have One Grand Prize of **Rs. 1 Lakh** and three Prizes for each section (**total 4 sections**) as under:

- First prize of **Rs. 50,000**
- Second prize of **Rs. 25,000**
- Third prize of **Rs. 10,000**

The winners will be awarded during the INAE Youth Convolve to be held at Jaipur on Aug 11-12, 2017. The awardees will get an opportunity to present their essay during the Youth Congress.

INAE on Facebook and Twitter

INAE has created a Facebook and twitter Account to post the news of recent INAE activities in the social media. The same can be viewed at the link below:

- (a) Facebook: <https://www.facebook.com/pages/Indian-National-Academy-of-Engineering/1450053190700779/>
- (b) Twitter handle link: <https://twitter.com/inaeshqf>

All INAE Fellows are requested to visit and follow the above to increase the visibility of INAE in Social media.

Research Journal INAE Letters

INAE has launched a quarterly journal 'INAE Letters' published by IAS Springer. The objective of the journal is to provide a medium for rapid publication of new research results and invited short review articles across different domains of engineering science and technology. The first issue of the Research Journal 'INAE Letters' was released by the Sri M Velupillai Prudhara Thero, Hon'ble Minister for Urban Development, Housing & Urban Poverty Alleviation and Information & Broadcasting on Sep 1, 2016 at IT Madras, Chennai during the sidelines of the Engineers Conclave 2016. Dr Purusothu Chock, Chief Editor of Publications, INAE and Executive Director, IAS Institute for Scientific Research, Jaipur is the Editor-in-Chief of INAE Letters. The website for the Research Journal 'INAE Letters' to include facility for submission of papers online has also been launched. The soft copy of the INAE Letters can be viewed at the link: <http://www.springer.com/engineering/journal/41463>. Three issues of the Journal INAE Letters have been published so far.



Dr. B.V. Sarath, President, INAE, Sri Vinay Sheel Oberoi, Secretary, IAS, and Mr. Pradeep Kumar Sinha, Director, IAS during the release of INAE Letters

Creation of Data for INAE Expert Pool

INAE Expert Pool was created with the aim of identifying domain experts in various disciplines of engineering. There has been a good response from the Fellows and Young Associates in updating their particulars on the INAE Expert Pool website. The INAE Fellows and Young Associates who have not updated their particulars are requested to submit their profile details online at the link <http://nae.in/nae/nae-expert-search/index.php/nae-members-form>

The details of the INAE expert Pool have since been shared with DST, TRAC, NSR Agency and Office of PSA. The creation of the website on Expert Pool has been appreciated by all the agencies and the data would be used by them in identifying suitable domain experts and to involve the experts in their activities.

Important Meetings held during February 2017

- Meeting of the Steering Committee on Research Schemes/Processors chaired by Dr KV Raghavan, Vice-President, INAE was held on Feb 15, 2017

Academia Industry Interaction

AICTE-INAE Distinguished Visiting Professorship Scheme

Industry-academia interactions over technological changes have become essential in recent times so that relevant knowledge that would be sustainable in the changing conditions can be imparted to the students in the engineering institutions. While industries could gain by using the academia's knowledge base to improve the industry's cost, quality and global competitive dimensions, thereby reducing dependence on foreign knowledge and expenditure on internal R&D, academicians benefit by seeing their knowledge and expertise being fruitfully utilized practically and also by strengthening of curricula of educational programs being offered at engineering colleges/institutions. INAE together with All India Council for Technical Education (AICTE) launched 'AICTE-INAE Distinguished Visiting Professorship Scheme' in 1999. Under this scheme, industry experts are encouraged to give a few lectures in engineering institutions. This scheme has become popular among industry experts as well as engineering colleges.

Brief details pertaining to recent visits of industry experts under this scheme are given below.

Dr Chatterjee Dampy Former Distinguished Scientist, IAS	Jadavpur University, Kolkata January 09-13, 2017	Delivered Lectures on 'Nuclear Fuel Cycle-Front end of Uranium and Thorium Fuel Cycle' and 'Nuclear Fuel Cycle-Back End of Uranium and Thorium Fuel Cycle'. As per the feedback from the engineering college, the Industry Expert's knowledge helped them to identify potential areas of research and also Atomic Energy Establishments for initiating collaborative research work.
Dr Manish Ravi Scientist 'F', Defence Metallurgical Research Laboratory, Hyderabad	Indian Institute of Engineering Science and Technology, Shibpur January 24-25, 2017	Delivered lectures on 'Wear Mechanism Map and Associated Surface Engineering' and 'Mechanisms of Wear at Elevated Temperatures'. As per the feedback from the faculty coordinators, the scheme provides an excellent opportunity for academia to interact with research establishments. The scheme can help postgraduate and Doctoral Research students in this regard.

International Conferences/Seminars being organized by IIT/other Institutions to view a list of International Conferences/Seminars being held in the month of March 2017 [click here](#)

Republic Day Awards

1	Prof UR Rao, FNAE, Chairman, PRL Council, Department of Space Bangalore was conferred with the prestigious award of Padma Vibhushan, by the Hon'ble President of India on Republic Day, January 26, 2017.
2	Mr Chandakant Pithawa, FNAE, Raja Ramanna Fellow, BARC Campus, Hyderabad and formerly Distinguished Scientist and Director, ERI Group, Bhabha Atomic Research Centre, Mumbai was conferred with the prestigious award of Padma Shri by the Hon'ble President of India on Republic Day, January 26, 2017.

Honours and Awards

1	Prof. TC Rao, FNAE formerly, Director, CSIR-Regional Research Laboratory, Bhopal was honoured as the 2016 University of Queensland International Alumnae of the Year. Prof Rao was the first international PhD student of mining engineering at the University of Queensland.
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News of Fellows

1	The launch of the book by Capt NS Mohan Ram, FNAE, Advisor, TVS Motor Company Ltd, Holar on his naval memoirs titled 'My ships sailed the seas, but I stayed ashore' was covered in Hindi Saturday 30th February 2017 edition. The book was well received. The book is available from Amazon.com
2	Shri DP Mera, FNAE, Director, Development Consultants Pvt Ltd & Advisor, Jindal Steel and Power Ltd, Mumbai presented a paper on Paper 'Coal, the Potential Feed Stock for Indian Chemical Industry' during the World Clean Coal Conference-Raffining & Petrochemicals World held on Jan 13-15, 2017 at New Delhi. The Paper highlighted various techniques of Coal Gasification and utilization of Synthesis Gas for manufacture of Methanol Ethanol Ethylene Glycol/Aminoxol/Unsaturated Natural Gas, Coal to Liquid and suggests recommendations for Govt of India and Private Sectors for immediate establishment of Commercial Gasifiers utilizing Indian High Ash Coal. Shri Mera also delivered a talk on Indian Chemical Industry on 25th January 2017 at Indian Institute of Technology Bombay, Mumbai.