

INAIE Monthly E-News Letter Vol. VIII, Issue 4, April 1, 2017

(+) Academy Activities

Academy News

(+) Articles by INAE Fellows

(+) Engineering and Technology Updates

(+) Engineering Innovation in India

(+) Previous E-newsletter

From the Editor's Desk

Speed

Speed, a reflection of modernity and modernisation, offers exhilaration, as well as stress. It closes the gaps of understanding, as well as widens them. It rejuvenates, as well as kills. Technology promises to match the speed of our thought. The lifestyle we are creating for ourselves, with the help of technology, is rushing us towards a 'quarter of a second' situation. According to an estimate, the speed of human movement from the pre-modern period to now has increased by a factor of 100, the speed of communication has risen by a factor of 10 million, and data transmission has soared by a factor of 10 billion.

Purnendu Ghosh
Chief Editor of Publications

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We feel good when we see the faster version of life. The paradox is that life has sped up, but we have not. We have opted speed, but we have not geared ourselves to handle it. Our eyes are always in transition. We often forget, "During the time your eye is in transition, vision is partially shut down." Greater the numbers of events we come across per unit time, lesser become the number of experiences. We are so keen to capture our present that we are forgetting to live the present. We fill with photographs what we have missed.

Speed can't be measured in time terms alone. It is relative, as are distance and time. Because of speed, we have begun to regard many things as 'impractical luxury'. We can't see the beauty in slow moving butterflies, or the colours it spreads. True, slow speed is a nuisance, cognitively speaking, but that is also needed for our cognitive health.

It is time we ask ourselves a few questions. Does speed liberate or enslave us? Does speed increases or decreases our efficiency? Does speed add or curtail time for leisure? Does speed bring people closer, or helps in creating deep divisions? Can't imaginative ideas emerge in the moments of idleness? Does speed bring crisis of attention? Are we losing the "ability to endure the long shot, the slow dissolve, the sustained monologue?" Are we entering into the age of shock and suspense? Are we missing subtlety, amidst plenty?



Purnendu Ghosh
Chief Editor of Publications

ACADEMY ACTIVITIES

Academy Announcements

- The Nomination Forms have been sent to the INAE Fellowship seeking nominations for election of Foreign Fellows. The last date of receipt of nominations for Foreign Fellows is May 31, 2017.
- Nominations have been invited for Innovative Student Projects Award 2017. The last date of the receipt of nominations is July 7, 2017.
- Nominations have also been invited for INAE Innovator Entrepreneur Award. The last date of the receipt of nominations is May 8, 2017.

INAIE-ATSE Sustainable Urban Water Management Workshop

The INAE-ATSE joint Workshop was held on March 13-16, 2017 at Jodhpur. Prof. CVR Murty, Director, IIT Jodhpur was the coordinator from INAE and Prof. Tony Wong was the coordinator from ATSE. The Workshop had a well-structured Agenda and useful recommendations are expected to be generated. Eight delegates from Australia and 25 experts from various organisations participated in the Workshop. The Workshop was inaugurated by Dr. B. N. Suresh, President, INAE, on the 13 March 2017. And the most revered moment was the participation of the Maharaja of Jodhpur, His Highness Gaj Singh II, who delivered a pre-dinner talk on Water thoughts for the participants to dwell on.



Dr BN Suresh, President, INAE Delivering his Address

The Workshop was aimed at starting the conversation, focusing on a selected number of priority themes, and influencing a transformative change in the way urban water services are delivered and managed in cities. These are necessary in responding to future uncertainties and vulnerability brought about by an increasing world population that are concentrated in cities, a continually evolving economic and governance structure and a changing climate. During the Workshop, the focus was on: Availability and Distribution, Quality and Treatment, and Policy and Management of water in Urban Areas. Speakers and Participants were intensely engaged in deliberations along three tracks, namely: (1) Integrated Approach to Improving Sanitation & Sewerage Services, (2) Securing Urban Water Supply through Coordinated Demand & Supply Side Innovative Management, and (3) New Urban Water Governance & Community Engagement for Integrated Urban Water Services.

During the breakout sessions of the Workshop, the Participants were divided into three groups. They discussed and explored following four issues (along each of the said three tracks), namely: (a) Identifying and Understanding the Challenges, (b) Inter-linkages and Cross-Disciplinary Issues, (c) Emerging Knowledge, Technology and Innovative Solutions, and (d) Strategies and Implementation Plans. The diverse and dynamic group of Speakers and Participants provided in-depth insights, priority projects and series of policy interventions to develop the required position paper, beneficial to both, India and Australia. Shortly, the speakers shall bring out a report in the form of a Position Paper. This Position Paper will provide road map along these three tracks – as to what India's and Australia's focus should be and as to which approach the two countries should take towards making WATER a sustainable resource in the years to come.



Group Photograph of the Delegates

INAIE-NAEK Workshop on "High Temperature Materials"

The two and half day joint Workshop between Indian National Academy of Engineering (INAIE) and National Academy of Engineering of Korea (NAEK) on "High Temperature Materials" was held on March 16-17, 2017 at Indian Institute of Science, Bangalore. Dr. AR Upadhyay, Dr. Raja Ramanna DRDO Distinguished Fellow, Aeronautical Development Agency, Ministry of Defence, Govt of India, Bangalore and Prof Dipankar Banerjee, Indian Institute of Science, Bangalore were the Coordinators of the event from INAE side. The workshop was inaugurated by Dr. V.K. Aatre, former Scientific Advisor to the Defence Minister and Secretary, Department of Defence Research and Director General, Defence Research and Development Organisation. Dr. B. N. Suresh, President INAE addressed the participants and the Korean delegates on the first day. Dr. Kyung Ho Shin, KIST, leader of the Korean delegation participated in the inaugural function and addressed the delegates. Both Dr. Aatre and Dr. Suresh emphasized on the necessity for concrete steps in following up the workshop with an identification of focused collaborative programmes prior to the next joint meeting to be held in Korea. Dr. Banerjee elaborated on the workshop programme and also proposed a Vote of Thanks.



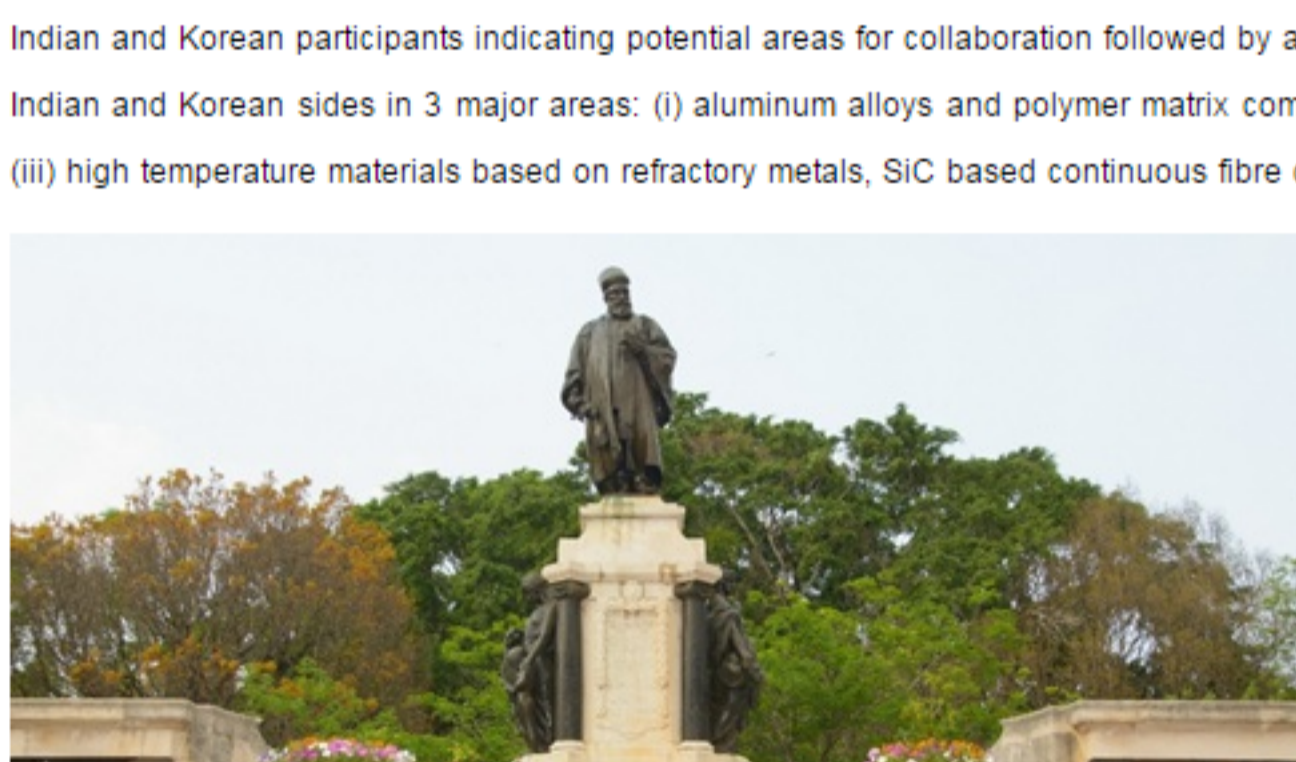
Inauguration: Dr. Shin, Leader Korean Delegation, Addresses the Delegates

The workshop was attended by 11 participants from the Republic of Korea, with 7 talks on various topics, and 20 participants from India with 13 talks. The programme covered the current and future directions in high temperature materials ranging from high temperature alloys & polymer matrix composites to and ultra high temperature composites, as envisaged by the Indian and Korean participants. Participants from India included scientists from DRDO, DAE, ISRO, CSIR and DST and from IISc & IIT Kharagpur while participants from Korea included scientists from Korea's major academic and R&D institutions and industry. Applications in DAE, ISRO, DRDO and A-USC power plants were covered in the last two sessions including the status in Korean industry.



Dr. BN Suresh, President INAE, Meets The Korean Delegates

The workshop concluded with a Panel Discussion between INAE and NAEK experts to bring out the recommendations and Way Forward for the subject workshop. The coordinators of the Panel Discussion were Dr. V. K. Aatre, Dr. Kyung Ho Shin, Prof. Vikram Jayaram, and Prof. Dipankar Banerjee. Brief presentations were made by the Indian and Korean participants indicating potential areas for collaboration followed by a discussion from the participants. The INAE identified coordinators from Indian and Korean sides in 3 major areas: (i) aluminum alloys and polymer matrix composites (ii) titanium and nickel base superalloys and high temperature steels, and (iii) high temperature materials based on refractory metals, SiC based continuous fibre composites and ultra high temperature ceramic matrix composites.



Korean Delegates Visit IISc

INAIE Innovator Entrepreneur Award

In order to increase the involvement with the industry, INAE has instituted the Innovator Entrepreneur Award with a view to encourage and recognize innovation and entrepreneurship among Young Engineers. The engineering innovations/inventions/concepts that have been actually realized and implemented in industry either in new processes or products would be given weightage. The award carries a cash prize of Rs 2 lakhs and the awardee would be conferred the same during the Awards Function to be held during the Annual Convention being held in December, each year.

Salient points of the guidelines of the award are as under:

- The award would be conferred on individuals and not organizations/corporates.
- The nominations would be sought from Fellows/CEOs/Directors/Heads of Industry, R&D organizations, Engineering institutions and Departments. Self nomination is not permitted.
- Both innovation and entrepreneurship together would be considered important and young innovators from Academia/Research Groups whose novel engineering/technic ideas have been translated into successful start up enterprises would be given preference.
- The patents/publications to be mentioned in the format for inviting nominations should be related to the work of the nominee only.
- Only one award would be given every year.
- Award would be conferred to an individual or a group of individuals not exceeding three persons.
- A nomination not selected would not be carried forward for the next year, however re-nomination is permitted.
- The upper age limit of the awardees would be 45 years.
- The Nominees should be Citizens of India
- The award would carry a citation and a cash prize of Rs 2 lakhs, to be shared by the group of individuals nominated for the award, not exceeding three persons.
- In case no nomination is found suitable, no award would be conferred during that year.
- There would be a three tier selection process wherein the initial shortlisting would be done by Selection Committee. The details of the shortlisted nominees would then be sent for Peer Review to the suggested experts from Industry. The shortlisted candidates would be called for presentation to the Selection Committee constituted for IP Award and Young Engineer Award. The Selection Committee would recommend the nominee for conferment of the Innovator Entrepreneur Award for approval of the Governing Council.
- The nominations would be invited in the prescribed Proforma each year and the last date of the receipt of nominations for this year is May 8, 2017.

An email has been sent to the INAE Fellowship for inviting nominations for the subject award.

INAIE on Facebook and Twitter

INAIE 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.

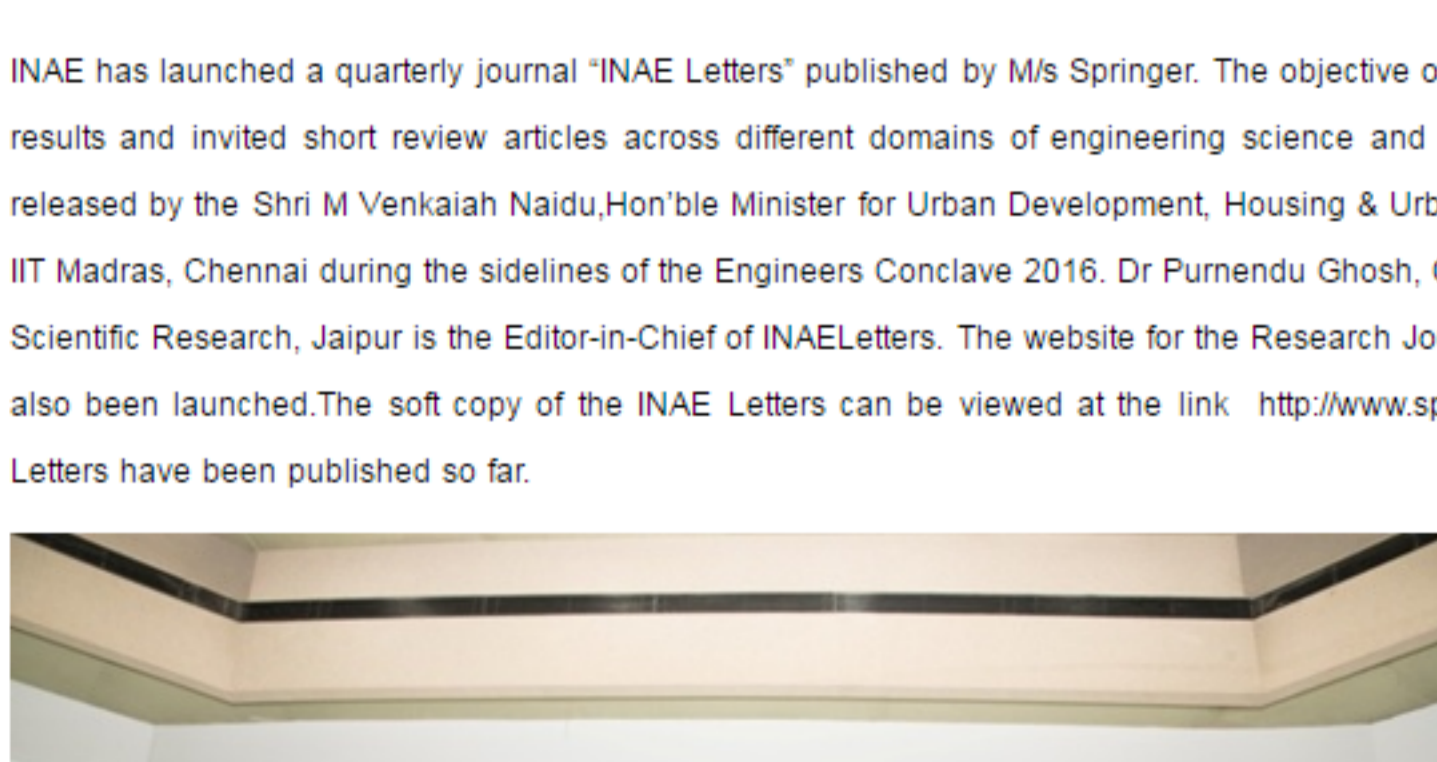
(a) Facebook: <https://www.facebook.com/pages/Indian-National-Academy-of-Engineering/714509531987607?ref=hl>

(b) Twitter handle link <https://twitter.com/inaehq1>

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

Research Journal -INAIE Letters

INAIE has launched a quarterly journal "INAIE Letters" published by Ms 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 "INAIE Letters" was released by the Shri M Venkaiah Naidu, Hon'ble Minister for Urban Development, Housing & Urban Poverty Alleviation and Information & Broadcasting on Sep 1, 2016 at IIT Madras, Chennai during the sidelines of the Engineers Conclave 2016. Dr Purnendu Ghosh, Chief Editor of Publications, INAE and Executive Director, Birla Institute for Scientific Research, Jaipur is the Editor-in-Chief of INAE Letters. The website for the Research Journal "INAIE 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/41403>. Three issues of the Journal INAE Letters have been published so far.



(L to R) Dr BN Suresh, President, INAE, Shri Vinay Sheel Oberoi, Secretary, HRD; Hon'ble Minister, Shri M Venkaiah Naidu and Prof Bhaskar Ramamurthy, Director, IIT Madras during the release of INAE Letters

Creation of Data for INAE Expert Pool

INAIE 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 uploading their particulars on the INAE Expert Pool website. The INAE Fellows and Young Associates who have not uploaded their particulars are requested to submit their profile details online at the link <http://inaie.in/expert-search/index.php/inaie-members-form>

The details of the INAE expert Pool have since been shared with DST, TIFAC, Niti Aayog 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 March 2017

- INAIE Governing Council meeting Chaired by Dr BN Suresh, President, INAE on March 17, 2017 at INAE Office, Gurgaon

Academia Industry Interaction

AICTE-INAIE 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 know-how and expenditure on internal R&D, academics benefit by seeing their colleges/institutions. INAE together with All India Council for Technical Education (AICTE) launched "AICTE-INAIE 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 Jayanta Kumar Saha Deputy General Manager (Applications), Institute for Steel Development & Growth	Indian Institute of Engineering Sciences and Technology, Shibpur February 15-16, 2017	Delivered lectures on "Understanding of Engineering materials & their usage including processing" and "Interpretation of Codes & Standards and reading specification". According to the feedback from the engineering college the DVP has also helped in guiding project and identify topics on reinforcement bars for research.
Mr S Madavaan, Formerly Additional Director, CVRDE	Velammal Engineering College, Chennai March 1, 2017	Delivered lecture on "Drones Application in Defence". According to the feedback of the faculty coordinator, the DVP has guided projects on "Unmanned Vehicles" which was identified based on defence requirements. The DVP also participated in Curriculum revision. The scheme provides an opportunity for faculty and students to interact with the Industry Experts. This interaction helps the students to understand the industrial applications of their subjects and gives a deep insight about subject concepts.
Dr SK Kaushik, FNAE, Consulting Structural Engineer, Beas (Punjab)	Thapar University, Patiala March 6-7, 2017	Delivered Lectures on "Densification of Cementitious Matrices" and "Non -Destructive Testing & Evaluation of Civil Engineering Structures". According to the feedback from the engineering college, the industry specialist has also helped in designing new syllabi.

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

News of Fellows

1	Prof. S.N. Mukhopadhyay, FNAE, Adjunct Professor, BITS Pilani has authored a book on "Food Engineering: Process and Technology", Published by Viva Books, New Delhi, 2016.
2	Dr Purnendu Ghosh, FNAE, Executive Director, Birla Institute of Scientific Research, Jaipur has authored a book on "Looking into the mirror", Published by Bodhi Prakashan, Jaipur