



# Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)  
Old Bombay Road, Gachibowli, Hyderabad – 500 032, Telangana, India

**Management and Technology Division**

## **Creativity and Innovation Management in Research**

12 – 16 March 2018

(Under National Programme for Training of Scientists and Technologists working in Government Sector, Min of Science & Technology, by Department of Science & Technology (DST))



(An ISO 9001:2015 Certified, AICTE & CTE Recognized)

**Centre for Promotion of Professional Excellence**

## INTRODUCTION

The purpose of Science & Technology propounded by Thomas Huxley (Collaborator of Charles Darwin) was not only to achieve knowledge but also the alleviation of human sufferings.

If we have progressed today to metamorphose yesterday's world into a global village the credit goes to several hundreds of known and unknown scientist and inventors. Their path was also not very comfortable they came across the impediments set by the political and social bodies beside state of the art facilities. They starved hard to do untiring research to give comfort to the suffering humanity which had pinned its hopes on scientific community to alleviate the standard of living. Those were the difficult days.

But today in so called progressive and modern era where we have the access to unlimited knowledge, most advance facilities and several thousands of Scientist and people are officially engaged in active research, it is a matter of concern that very few quality researches are not taking place in India. It is rather more surprising that very few of these researches see the light of the day and gets converted in to commercial service or product.

Perhaps we have to look these issues with a different angle and perspectives. Are we missing on much needed creativity and innovational approach while doing the conceiving the research problem / work and also during commercializing it? Is there any disconnect between the scientific community and the needed environments, since majority of the MNC have Indians onboard with them and producing wonder. Why it is not happening in India. Are we doing research for others?

At the Indian Science Congress of 1947, Pundit Jawaharlal Nehru said, *"I do believe firmly that the only right approach to world problems and to our national problems is the approach of science, that is to say, of the spirit and method of science"*.

The 21st century has introduced us to major advances in science and technology. However, a large proportion of our population is yet to learn, utilise and reap its benefits for solving everyday problems. While the foundations of modern India were based on the vision of propagating science in the country, we still have much to do to inspire India's scientific temper.

So how does one ignite the scientific inquisitiveness of the 500 million young Indians? How does one make science relevant to local communities and excite communities to innovate to solve their problems?

With these sentiments ESCI took up the challenge of doing a programme on these vital issues to sensitise our participants (who are most valuable National Assets) to harness potential of Creativity and Innovations in their research activities. We hope that this programme will give sufficient stimuli and guidance to overcome the barriers in their difficult path of research work and provide new ideas by way of interaction with expert faculties, eminent scientists, thinkers, and also through professional and social visits and also some of the stress bursting techniques using Yoga/Mediation or culture activities.

## OBJECTIVES

- To sensitize the participants on managing research activities through creativity and Innovative interventions.
- To explore Creative and innovative techniques in Commercializing R&D to enhance National Growth and Development

## PROGRAMME CONTENT:

- Leadership Challenges in 21 Century
- Introduction to Creativity & innovation Management in Research
- Role of Creativity in Organizational Growth.
- Goals of Creativity – Creating new ideas.
- Barriers to creativity Management in Research.
- Application of creativity at the workplace for maximizing individual and team productivity.
- Creativity in Problem solving and decision making in Research.
- Developing a creative work culture in the organization in Research.
- Strategies for applying creativity – Lateral thinking, brainstorming, six thinking hats.
- Meditation & Yoga Stress Busters.
- Social and Technical Study Tours
- Visit to 3 D Printing Lab.
- Group Discussions

## METHODOLOGY

Methodology of the programme includes class room Sessions with Lecture/discussion with audio visual aid, benched marked video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences, etc. All the sessions will be interactive demanding active participation from all the members. CMI will be the main method of instruction.

## ADVISORY COMMITTEE

**Lt Gen (Retd) (Dr) V J Sundaram PVSM, AVSM, VSM, FIE Advisor Micro & Nano System, NRDF, Bangalore.**

## FACULTY

The faculty (Resource persons) consists of experts from industry, research establishments, academia and experts who are involved in research and have used creative ideas that worked, besides that from ESCI.

- **Lt Gen (Retd) (Dr.) VJ Sundaram PVSM, AVSM, VSM, FIE**
- **Dr. Chaitanyamoy Ganguly**, Padmshree, Distinguished Scientist
- **Mr. Surendra Kumar**, Former Independent Director HAL & Former Director ARDE
- **Dr KS Ratnakar**, Director, Global Education & Research Centre

- **Dr AP Natarajan**, Director Victoria Training Foundation
- **Prof. P. Achutha Rao** , Coordinator (Industry Relations) MSME
- **Mr. Navneet Bhushan**.Director of CRAFTITI CONSULTING
- **Dr G Padmanabham**, Director, International Advanced Research Centre (ARCI), Hyderabad
- **Gp Capt (Retd) BS Phillora** FIE, Dean of Studies (ESCI) &Head, Management & Technology and Design & prototyping Centre Division, ESCI

#### TARGET PARTICIPANTS:

The target group under the scheme are Scientists / technologists holding Scientific posts/ working in scientific Ministries/Departments of Govt of India and State Governments, Autonomous Institutions/public Sector undertaking of Central /State Govt , Research and Development Institutions /Research Laboratory of Central /State government, Central /State universities/Colleges, state Science & Technology Councils.

For the purpose of this Training programme under the scheme Scientists have been classified in to three Groups mentioned below:-

<b>Junior</b>	<b>0-9 years of Service in Group "A"</b>	<b>Scientists "B", "C" &amp; equivalent</b>
<b>Middle</b>	<b>09-21 Years of Service in Group "A"</b>	<b>Scientists "D", "E", "F" and equivalent</b>
<b>Senior</b>	<b>21 And Above Service in Group "A"</b>	<b>Scientists "G", "H" and equivalent</b>

- Organisations are requested to send the nominations based on the guidelines given by DST Vide their Letter No. A-33011/1/02/2017-Trg. dated 22 Nov 17. For this programme, total 25 vacancies exists which will be filled on first come first serve basis.
- While nominating from academicians / professors etc. kindly ensure that only those who are having PhD/ M. Tech degrees and actively involved in research and development (R&D) are selected.

#### PROGRAMME VENUE, DATES & TIMINGS

**Venue: Engineering Staff College of India (ESCI) Campus, Old Bombay Road, GachiBowli, Hyderabad. 500032. TS, India.**

#### DATES

**12 – 16 March 2018**

#### TIMINGS

On the first day Registration will commence at 0900 h. On all other days the programme timings will be from 0945-1715 h with breaks in between for tea and lunch.

#### COURSE DIRECTOR

**Gp Capt (Retd) BS Phillora**

**Sr. Faculty &HoD Management & Technology Division ESCI**

**Course Fee:** The course is being conducted free of Cost for Participants sponsored by DST. During this residential programme of 5 days duration, each participant will be provided with course material, course kit, single AC accommodation, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme free of cost.

#### Registration:

**Online registration** shall be available on ESCI website. ([URL:www.esci.org](http://www.esci.org))

**Please access our brochure through Link:** <http://esci.org/index.php/mt-upcoming-trainings>

To register, manually please send your nominations giving details of name, designation, contact address, email address, mobiles no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to:

#### Head, Management & Technology Division

Engineering Staff College of India

Old Bombay Road, Gachi Bowli, Hyderabad 500 032, AP India

Phone: Direct (040) 6630 4111,6630 4112 & 6630 4105

Fax : 040-66304103

Email : [mt@esci.org](mailto:mt@esci.org) Web portal : [www.esci.org](http://www.esci.org)

#### For registration Contact:

Mr. L.V. Rao Programme Manager:

Mob 09949145865

#### Certification:

**A certificate of participation will be awarded to each participant on conclusion of the programme.**

#### General Information

- ESCI encourages participants to present case studies from their respective organizations.
- For the convenience of the outstation participants ESCI will facilitate pickup and drop from Airport / Railway Station/ Bus stations, if travel plans are received at least 3 days in advance along with mobile number by fax or email.
- ESCI provides complimentary accommodation a day prior to the commencement and after the conclusion of the programme. (Check in at 12:00Hrs a day prior to the commencement & Check out at 12:00 hrs a day after completion of the programme.)
- Well developed Information Centre and internet facilities are available to the participants free of cost.



# About Engineering Staff College of India



**GENESIS** Engineering Staff College of India (ESCI's) is a unique Institution set up in October, 1981 by the premier body of engineers, The Institution of Engineers (India).

## PHILOSOPHY & OBJECTIVES

The Primary objectives of ESCI are to impart professional and need based *Continuing Professional Development Programmes (CPDP)*

and training in frontier areas of Engineering and Management fields, simultaneously providing professional consultancy and technical services to the Industry. ESCI's operations are firmly grounded in its desire to act as a bridge between academic institutions, R&D laboratories and organizations in private and public sectors to promote the growth and increased availability of latest know-how and expertise to professional engineers, executives and managers in all these sectors.

## Functionalities of ESCI

- Climate Change.
- Civil & Transportation Engineering.
- Environment Management.
- Information Technology.
- Management & Technology.
- Power & Energy.
- Quality & Productivity.
- Water Resource Development.
- Skill Development Centre
- Design & Prototyping Centre
- Faculty Development Cell.

## SCHOOL OF PG STUDIES

School of PG Studies of ESCI conducts AICTE approved two Year full time Post-Graduate Diploma in Infrastructure Management (Power, Transport, Telecommunications & Civil) and PGDM. Aim of the courses is to build the capacity of the engineers and other graduates by imparting skills to make them effective and productive managers.

The PGDM (Infrastructure) is uniquely designed to amalgamate technical talent with the latest management techniques to transform them into Techno Managers in the core sectors of Civil, Power, Transportation and Telecommunication to handle challenges of massive development of infrastructure. Engineering Graduates from any branch are eligible for this program. The admission process for the new batch starts in January every

## TRAINING PROGRAMMES

Continuing Professional Development Programmes are formulated by ESCI from time to time and announced, on topics of current technology and relevance. In Addition to Open Programmes, ESCI also organizes and conducts customized in-house programmes to meet specific requirement of such organizations.

## CAMPUS & HOSTEL FACILITIES

The 70-acre sprawling Campus of ESCI is about 15 km from the centre of Hyderabad City. ESCI, situated in serene and tranquil surroundings, has its main building and five hostel blocks which can accommodate upto 150 participants. The hostel rooms are air conditioned and well furnished for comfortable stay of the participants and arrangements for catering and recreational activities on Campus are also provided

3D Printing lab



PV Solar Power plant 120 kw



## CLASS ROOMS

The 8 lecture halls are air conditioned and well equipped with all modern audio-visual aids to conduct concurrent programmes

**Chanakya Seminar Complex** has two lecture halls & seminar halls of seating capacity of 200+ for National & International Conferences and Seminars.

**Kautilya Complex** is a new addition, having 4 state of the art class rooms.

## INFORMATION CENTRE

ESCI Information Centre has a valuable collection of about 8000 books & reports and 100 periodicals including international journals. Online database EBSCO is available, which provides access to over 1100 national & international journals on Engineering & Management disciplines.

## FACULTY

ESCI has core faculty in all the engineering and management disciplines comprising of very senior engineers, eminent scientists and teachers who have rich experience. ESCI derives faculties from a large number of national and international organisations of high repute. They are drawn from industries, consulting firms, government organisations, academics and research institutions etc.

## CONSULTANCY ASSIGNMENTS

ESCI provides consultancy services to suit the requirement of clients in all engineering disciplines, Quality (ISO 9000/ISO 14000) Management & Technology areas. ESCI's group of thorough-bred consultants with their expertise executes these assignments and co-opts experts as necessary. ESCI has successfully executed many prestigious projects in the areas of water resources, power & energy, transportation, mining etc.

## COLLABORATIONS

ESCI's large number international and national collaborations provide reach and help continual improvement in quality of its activities.

**International** : German International Cooperation (giz), Germany, European Institute for Energy Research Electricite de France, Karlsruhe, Germany, Planning Transport Verkehr AG (PTV), Germany, Massachusetts Institute of Technology (MIT) USA, Kansas State University (USA), University of Illinois at Chicago (USA), British Council, Nigel Bauer & Associates, Marsden International, U.K and DFID, Govt. of UK.

**National** : Solar Energy Society of India, Ministry of Transport, Ministry of Power, Central Electricity Authority, Power Grid Corporation, UTL, NALCO, Bhilai Steel Plant, MPPTCL, MPPKVCL, PSEB, CBIP, CPRI, JNTU, CMC, C-DAC, FICCI Quality Forum, NTPC, BHEL, NHPC, DRDO, NFC, CIRE, NPC, ONGC, NMDC, Ordnance Factories Board, Coal India Ltd, all SEBs, and State Govt. Depts., In addition, ESCI makes use of the various bilateral agreements between its parent body, The Institution of Engineers (India), and professional bodies in many other countries to further its overall goals & activities.