

# Innovation & Technology Enterprise: Idea to Entrepreneurship [#171031J02]

## Overview

This course focuses on the conceptualization, design and development of technology-oriented products in the field of electrical, electronics, computer and software. It integrates innovation strategies, product planning, marketing, design, manufacturing and financing of new product development. This course also integrates design thinking concept into the product development process. Case studies are presented that showcases how simple ideas can lead to successful technologies and products in the marketplace.

Along with the coherent introduction to the basics of innovation the course presents all facets of ideation, innovation, enterprise and entrepreneurship. This course gives students an opportunity to conceptualize and design a product that they can eventually prototype as a further follow-up when the course ends. This is done with technology playing the key role of enabling the products.

The major topics include idea generation & ideation, innovation, design thinking methodology, inventive thinking, opportunity identification and evaluation, customers' needs generation, product specifications, concepts design and product architecture, testing, manufacturing and commercialization.

Further, Intellectual property and its relationship with all facets of new technology product design are also covered in depth. The Practical aspects of innovation and new product development are also discussed at large with emphasis on ICT.

The Key objectives for this course are as follows:

- To harness the power of human innovation & technology for entrepreneurship
- To understand the product & business development processes
- To appreciate the multi-disciplinary approach to new product creation
- To acquire the confidence & competence in starting a new technology enterprise.

<b>Course Information</b>	<b>Duration: 30<sup>th</sup> July 2018 – 10<sup>th</sup> August 2018</b> <b>Place: Department of E&amp;I Engg., NIT Silchar, Assam, India</b> <b>Total Contact Hours: 26 hrs in 12 days (14 hrs Lecture and 12 hrs Tutorials)</b>	
<b>Who can attend</b>	<ul style="list-style-type: none"> <li>▪ Students at all levels (BTech/MSc/MTech/PhD).</li> <li>▪ Executives, engineers and researchers from manufacturing, service and government organizations including R&amp;D laboratories.</li> <li>▪ Faculty from academic and technical institutions.</li> <li>▪ All those who are planning to have startups.</li> <li>▪ Others who want to learn the basic and advanced concepts dealing with technology based enterprises and entrepreneurship related activities.</li> </ul>	
<b>Registration Fee</b>	<ul style="list-style-type: none"> <li>▪ Participants from abroad: USD 500</li> <li>▪ Industry/ Research Organizations: Rs. 10000/-</li> <li>▪ Academic Institutions                             <ul style="list-style-type: none"> <li>○ Faculty: Rs. 5000/-</li> <li>○ External Students: Rs. 1000/-</li> <li>○ Internal PG &amp; PhD Students: Rs. 500/-</li> <li>○ Internal UG Students: Nil</li> </ul> </li> </ul> <p>The above registration fee is towards instructional materials, computer use for tutorials, 24 hr. free internet facility, high refreshments etc. The outstation participants will be provided twin sharing accommodation on payment basis in Institute Guest House on availability.</p> <p><b>Number of participants for the course will be limited to fifty.</b></p>	

# The Faculty



**Dr. Hari Krishna Garg** is currently working as an Associate Professor in Department of Electrical & Computer Engineering, NUS Singapore. He obtained his BTech degree in electrical engineering from IIT Delhi, India, in 1981, and ME & PhD degrees in electrical engineering from Concordia University, Canada, in 1983 and 1985, respectively. He also obtained his MBA degree from Syracuse University, USA, in 1995. Dr. Hari has been affiliated with Syracuse University, USA, National University of Singapore, Singapore, and Philips Consumer Communications, USA in various academic and industrial positions. He has extensive experience in academic work, leadership, and research supervision. He held a senior position in a product development team during his industrial affiliation. His areas of interests are wireless/mobile telecoms (research & enterprise), signal & image processing, technology entrepreneurship, and enterprise & start-ups.

Dr. Hari has extensive research experience in his areas of expertise. He has published over 150 journal and conference papers, 4 books, and over 10 patents granted in USA, India, Singapore, and Australia. In addition, Dr. Hari has worked as consultant to companies providing expert guidance on patent and other technology related matters. He is also an entrepreneur and has founded multiple technology companies namely YuViTime Pte Ltd., Manovega Communications Pte Ltd., Fatte Telecom Pte Ltd. and Purple ACE Pte Ltd. He is also a recipient of numerous awards namely:

- Received FA Gerard prize for the year 1983 awarded to the most deserving graduate of Master of Engineering program at Concordia University.
- SIMagine 2002, Cannes, France(Worldwide GSM Developer contest organized by SchlumbergerSema, Samsung, Telefonica Moviles and Orange): Won Bronze Medal & euro € 10,000 winner. Name of entry: Peer-2-Peer Advertising Platform.
- SIMagine 2003, Cannes, France(Worldwide GSM Developer contest organized by SchlumbergerSema, Samsung, Telefonica Moviles and Orange): Won Telefonica Moviles Award. Name of entry: JustDial.

He has also been conferred with major grants for his outstanding contribution. They are:

- **SeSaMe Center:** One of the 4 principal investigators (PI) on a grant awarded by NRF (National Research Foundation) for research work on sensor-based cyber-physical systems, funding amount: Singapore \$ 10,000,000 (ten million),2012-2017.
- **PI:** Ministry of Education, Singapore grant, entitled, "Design & Implementation of Robust Multiple-Input Multiple Output (MIMO) Orthogonal Frequency Division Multiplexing (OFDM) Transceiver for 4G Wireless Communication," funding amount: Singapore \$ 129,500, 2007-2010,.
- **PI:** Ministry of Education, Singapore grant, entitled, "Design of High Precision Localization & Range Extension Techniques for Ultra-Wide-Band (UWB) Wireless Communication Networks," funding amount: Singapore \$ 260,000, 2007-2011.

He is also listed in: Who's Who Among Young Rising Americans, 1990  
Who's Who in the World, 1998.

## Course Co-ordinators



**Dr. Ranjay Hazra** is currently working as Assistant Professor in the Department of Electronics & Instrumentation Engineering, NIT Silchar, Assam, India since 1<sup>st</sup> August, 2016. He completed his Ph.D degree from IIT Roorkee in 2016. His research interest includes UWB Communication, D2D Communication, mmWave Communication, Cognitive Radio and Energy Harvesting.

## Course Co-ordinators

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**For details:** Please click on  
<http://www.gian.iitkgp.ac.in>

**For registration:** Please  
click on  
<http://www.gian.iitkgp.ac.in/GREGN/index>



**Dr. Arun Kumar Sunaniya** is working as Assistant Professor in the Department of Electronics & Instrumentation Engineering, NIT Silchar, Assam, India since 2014. His research interest includes Solar Cell, Devices and Image Processing.

## Course Outline

- Innovation & New Product Development (NPD) & NPD Organization
- Design Thinking Methodology
- Technology: trends, opportunities and challenges
- Opportunities identification, generation & evaluation
- Customers' needs
- Maslow's law and using technology to address human needs
- Presentation & public speaking
- Pitching new ideas & products
- Concept generation, selection & testing
- Patents & Intellectual Property
- Product Planning, Platform & Architecture
- Report writing & Communications
- Quality systems & product certifications
- Economics of NPD
- Design for manufacturing and environment.

## Expected Outcome

Upon successful completion of this course the participants should be able to:

- Develop a new technology/product idea that is patentable
- Develop new product specifications and its realization
- Comprehensive and realistic new product development plan including: manufacturing, parenting, economics, marketing, finance and project management.

## About Silchar

Silchar is the second largest town in the state of Assam. It was the kingdom of the Kachchari kings from 1755 to 1830. It was annexed to the British East India Company in 1833. The city has now attained a cosmopolitan status with inhabitants from all over India although Bengali speaking people constitute the majority. It is an educational and business hub in North East India next to Guwahati. Aesthetically the campus is very beautiful with greeneries and wet lands. During the month of July-August the weather in Silchar is quite humid. During this period, the average high is 35°C and the average low is 25°C.



## How to reach NIT Silchar

The city is well connected by Road, Train and Air. There are direct flights from Kolkata and Guwahati and trains from New Delhi, Kolkata, Guwahati, and Agartala. Daily bus services are available from Agartala, Guwahati, Aizawl, and Imphal. The Institute is located around 35 kms from the Silchar airport, 10 kms from the Silchar railway station, 14 kms from ISBT Silchar, and 8 kms from the heart of the Silchar town. Pre-paid taxi and auto services are available from Silchar.



GIAN Course  
On  
**Innovation & Technology Enterprise: Idea to Entrepreneurship**

**Registration Process**

**Registration Guidelines (Step-by-Step):**

1. First, 'web register' at GIAN 'Courses Registration Portal': <https://goo.gl/AhcCyS> by paying Rs. 500 in the GIAN portal. This is not the GIAN course fee which you intend to attend. If you're already registered in GIAN portal then skip this step.
2. Next, log into the GIAN portal and click 'Course Registration' tab on the GIAN Portal, and 'check box' to select this course (#171031J02) from the list. Click 'save' to register, and 'Confirm Course(s)' to confirm.
3. Now, pay the requisite Course Fee Either, in Demand Draft: In favour of "The Director, NIT Silchar" Payable at Silchar  
Or,  
**Pay through online banking to: The Director, NIT Silchar, A/C No: 10521277057, IFSC Code: SBIN0007061, MICR Code: 788002004.**  
(Keep the payment details (Transaction ID & date) for filling up the registration form)
4. Post payment, fill up the "Registration Form".
5. Next, email the following: (i) Registration form, (ii) Payment proof, (iii) Scan copy of valid Identity card/bonafide letter (in case you are a student), to course coordinator, at: [ranjayhazra87@gmail.com](mailto:ranjayhazra87@gmail.com) (You will get an acknowledgement within 48 hours).

**P.S.** Registering on the GIAN portal does not guarantee participation in the course. Please do not confuse web registration with course registration. You might have been 'shortlisted' after paying the 500/-, but your selection is subject to paying the requisite course fee to NIT.

For queries and clarifications, write to the Course Coordinator at:  
[ranjayhazra87@gmail.com](mailto:ranjayhazra87@gmail.com)

**N.B: Please retain the original receipt (in case Demand Draft)/one photocopy (in case online transfer) for on-spot submission/verification.**

**GIAN: Global Initiative of Academic Network**

**Course: Innovation & Technology Enterprise: Idea to Entrepreneurship**

(Course ID:#171031J02)

**30<sup>th</sup> July - 10<sup>th</sup> August, 2018**

Place: Dept. of E&I Engg., NIT Silchar

**REGISTRATION FORM**

GIAN Portal Application Number:

Full Name:

Category: (Industry/Academic/Student)

Organization:

Address:

Email Id:

Mobile Number:

Highest Academic qualification:

Payment option and details:

a. Demand draft:

Draft No.	Bank	Date	Amount

b. Online transaction

Transaction Id/ Ref. No.	Bank	Date	Amount

Accommodation Required: Yes/No *(please tick in the applicable field)*

**Date:**

**Place:**

**Signature of Applicant**