

## Short-Course on Technical Innovation

15<sup>th</sup>-16<sup>th</sup> January 2011

Auditorium, A-Block, Indian Institute of Technology Gandhinagar

For registration, please visit:

<https://spreadsheets.google.com/viewform?formkey=dDRUTm9pdURmZ1Q3OFoxSnJXWWZna2c6MQ>

### Course Description

#### **An Introduction to Technical Innovation** (Dr. C. V. Natraj)

In this session Dr. Natraj would trace some aspects of the evolution of Technical Innovation since the II World War. He would be highlighting the context, the drivers, the dimensions and the process of Innovation with appropriate references to Organization Structures. In the second session, he will cover the context and drivers of Innovation in the 21 Century stressing upon the importance of networks of Academia, industry, startup and Venture Capital in the current context. In the last session, he would discuss career progression paths available to a scientist/technologist and the skills and competency framework for developing oneself. He will propose that technology progression shares some principles with career progression and will end with a case history of Hindustan Lever Research Centre and its Innovation record since its inception in 1958.

#### **Innovation workshop** (Dr. M. V. Shankar and Dr. Balachandar Ramadurai)

The heart of Innovation is generating insightful ideas and taking them successfully to the Market. The Innovation process itself is like a journey where we start by identifying an unmet or unarticulated market need. The Innovator translates that unmet need into an innovation opportunity and defines problems to be solved. The Innovation evolves on its way through generation of new ideas, proof of concept, experimentation and an incubation phase that strengthens the Idea. The destination is reached when the Idea is developed into a Product and delivered to the Market. The workshop addresses some of the key concerns of Innovators: *Improved Conversion, Systematic Innovation, Accelerated Innovation, and Innovation for Emerging Markets*. The objective of the course is to learn the basic concepts of systematic innovation using Innovation Flow methodology, and learn to implement a systematic process to: Create innovative solutions to complex technological problems, Create strategic intellectual property around these innovative solutions, and Grow strong ideas or breakthrough inventions into successful innovations.

The Innovation workshop is focused on innovative problem solving and participants will learn to apply the innovations tools on real life problems.

## About the Instructors

**Dr. C. V. Natraj:** Dr. Natraj's scientific background is in Organic Chemistry. He subsequently developed an interest in Biology and in my career, has been required to look at a number of disciplines such as Physics, Chemical Engineering and Psychology with sympathy and understanding! He joined HLL in 1980 in their Research Centre and after a period of 6 years working as a nutrition scientist was asked to run the Personal Products R&D. This was his introduction to Innovation in a large company and a most enjoyable one it proved to be. He spent a couple of years in UK laboratory setting up a basic Foods Biology programme and returned to India as Director Research in HLL. He was also responsible for setting up the Unilever Research Laboratory in Bangalore and in 2000 took up the job of senior Vice President for Corporate Research for Unilever in the UK. For the next 9 years Dr. Natraj was responsible for articulating and executing the long term Research programme for Unilever globally. This was the period when he had an opportunity to experiment with different ways of creating economic value from science. The course he will be teaching draws from all his experiences over the years – particularly the last decade.

**Dr. M. V. Shankar:** Dr. Shankar is the Innovation Differentiation Leader at Honeywell Technology Solutions Lab Pvt Ltd, Bangalore. He has 13 years of research and development experience at GE, Dow Chemicals and Honeywell. He is the recipient of GE's Edison Inventor awards – Silver Medal, Innovation Excellence (GE), Excellence in Teaching (GE) and IISc best Thesis award & Gold Medal. He completed his PhD from IISc Bangalore.

**Dr. Balachandar Ramadurai:** Dr. Ramadurai is the innovation facilitator at MindTree. Prior to MindTree, Bala worked as a Research Scientist at GE Global Research in the sectors of energy, aviation, health-care, oil & gas, and nanotechnology. Prior to that Bala had also worked at Infosys as an open system software engineer. Bala has a PhD in Science and Engineering of materials from Arizona State University and a B.Tech. from IIT Madras.