

IIT Bombay is organising an Institute Colloquium on Wednesday, March 2, 2011. The details are as follows:



Speaker: **Dr. Nitish V. Thakor**
Professor of Biomedical Engineering, Electrical and
Computer Engineering and Neurology,
Johns Hopkins University, USA

Title : **Building the Brain Machine Interface - Engineer's
Journey into Brain and Mind**

Day & Date : Wednesday, March 2, 2011

Time : 5.15 p.m.

Venue : Lecture Hall No. 22, Second Floor,
Victor Menezes Convention Centre

All are invited.

Abstract:

The idea of connecting brain (and mind) to a computer or a machine evokes ideas bordering on science fiction. But like many sci-fi concepts, if founded on rigorous scientific and engineering principles, they turn to reality soon enough in unexpected way. The concept of brain machine interface (BMI) is now a reality thanks to our ability to build sensors and probes for the brain, decode the brain signals and interpret these to serve useful functions – such a control of a computer (cursor, mouse, typing), a wheel chair (for paralyzed) or a prosthetic arm (for amputees). Indeed, our BMI program has been stimulated by the compelling need to control dexterous prosthetic limbs by amputees. But in the process of solving this very complex and high tech problem, we have now developed technologies of microelectrodes and microelectronics for neural interface and neural signal analysis and information decoding, and prosthetics/robotics control. We have also learned more about the neural code, organization of brain, and how mind (thoughts, actions) controls the brain (neurons and their coded output). I will present my journey as an electrical engineer from IIT Bombay to a Neuroengineer at Johns Hopkins building neural interfaces and brain machine interface. I will share the current state of the art and stimulate discussions on future directions for the field of Brain Machine Interface.

About the Speaker:

Dr. Nitish V. Thakor served on the faculty of Electrical Engineering and Computer Science of the Northwestern University from 1981 to 1983, and since then he has been with the Johns Hopkins University, School of Medicine, where he is currently serving as a Professor of Biomedical Engineering. He conducts research on neurological instrumentation, biomedical signal processing, micro and nanotechnologies, neural prosthesis, and clinical applications of neural and rehabilitation technologies. He has authored more than 170 peer-reviewed publications on these subjects. He is Editor in Chief of IEEE Transactions on Neural and Rehabilitation Engineering.

Currently Dr. Thakor directs the Laboratory for Neuroengineering and is also the Director of the NIH Training Grant on Neuroengineering. He is actively engaged in developing international scientific programs, collaborative exchanges, tutorials and conferences in the field of Biomedical Engineering.

Dr. Thakor is a recipient of a Research Career Development Award from the National Institutes of Health and a Presidential Young Investigator Award from the National Science Foundation. He is a Fellow of the American Institute of Medical and Biological Engineering, IEEE and Founding Fellow of the Biomedical Engineering Society. He is also a recipient of the Centennial Medal from the University of Wisconsin School of Engineering, Honorary Membership from Alpha Eta Mu Beta Biomedical Engineering Student Honor Society and Distinguished Service Award from IIT Bombay.