

JOINT TECHNOLOGY DAY PUBLIC LECTURE

(IISER MOHALI-PEC CHANDIGARH)



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Venue : Lecture Hall 5, LHC Complex, IISER Mohali

Time : 4 pm

Date : May 12, 2016

Title : Materials Science ↔ Engineering ↔ Technology: Challenges & Opportunities

Abstract

Success in technology development is rare and laudable. In India, May 11 is celebrated as the *National Technology Day* to commemorate the success of the nuclear explosion (Operation Shakti) carried out on that day in 1998, in Pokhran, Rajasthan, and subsequently, the first test flight of the maiden indigenous aircraft (Hansa 3) and test firing of the medium range missile (Trishul) on the same day, in later years. Technology is certainly not the first, but rather the last and most difficult milestone in any endeavour to translate fundamental knowledge from basic science to engineering and eventually to a useful product or process. While we celebrate technology day, it will be apt to address the distinctions and/or correlations between science, engineering and technology and present a few examples of each to drive home the point, particularly concerning engineering materials.

If science is driven by the primary urge to learn about nature and the origins of certain truths or phenomena, engineering or technology utilize that fundamental body of knowledge to convert it into viable and useful products or processes and offer tangible benefits to society or humanity at large. In simple words, if science is 'know-why' and engineering is 'know-how', then technology is 'know-what (sells)'. In my short discourse, I intend to cite selected examples of research endeavors from our own research group at IIT Kharagpur aimed at fundamental understanding of novel scientific properties, a few engineering projects oriented towards developing innovative products/processes conducted at CSIR-CGCRI, Kolkata, and finally, only a few of the latter drives graduating into successful technology development at the same laboratory through sustained effort and teamwork. Finally, I would like to briefly mention about the recently-launched national program called IMPacting Research INnovation and Technology (IMPRINT) by Government of India in order to promote translational research through collaboration between academia and industry under ten representative technology domains.