Indian Academy of Sciences

ACADEMY PUBLIC LECTURE

Indian Institute of Science

3 PM, 23 February 2018

Faculty Hall, Indian Institute of Science, Bengaluru

HOW THINGS BREAK

The Mechanics of Dynamic Fracture

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Professor Krishnaswamy Ravi-Chandar received his Bachelor's degree in Physics from Bangalore University, his diploma in Aeronautical Engineering, with honors, from the Madras Institute of Technology, MS and Ph.D. in Aeronautics from California Institute of Technology. His research interests are in the general area of mechanics of materials. He is well-recognized for his fundamental work on mechanisms and mechanics of deformation and failure. He has published more than 150 archival journal articles on fracture, instabilities, fragmentation, and authored a book titled Dynamic Fracture. He received the Murray Medal from the Society for Experimental Mechanics in 2004 and the Drucker Medal from the American Society of Mechanical Engineers in 2015. He has served on numerous professional organizations: as a member of the US National Committee on Theoretical and Applied Mechanics (2003–present; Vice-Chair: 2016–2018), member of the Congress Committee of the International Union of Theoretical and Applied Mechanics, President of the American Academy of Mechanics, President of the International Congress on Fracture and member of the Executive Committee of the Applied Mechanics Division of the ASME.

All things break! Such breakage – fracture – often creates spectacular failure patterns, but more importantly, has significant technological and scientific implications as well as societal costs. The physical characterization and mathematical modeling of fracture has attracted much attention over the past century from engineers, physicists and mathematicians. This lecture is aimed at an overview of two aspects of this problem, one that focuses on analyzing the continuum mechanics problem of determining the stress, deformation and energy flow in a region and the other at the physical aspects of dynamic fracture that explores fracture mechanisms and the associated dynamics.

Prof. Vikram Jayaram will chair

Live webcast:
http://www.youtube.com/c/IndianAcademyofSciences

High tea will be served after the lecture.
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ALL ARE WELCOME