



DATE 01/12/2022

TIME 11:30 AM

VENUE Silver Jubilee Hall

 <https://meet.google.com/joq-cadv-ndc>

 [SNBoseNationalCentreforBasicSciences](https://www.youtube.com/SNBoseNationalCentreforBasicSciences)

TITLE

Navigating Complexity by Scientific Common Sense

ABSTRACT

The talk will be focused on the central role of ideas and scientific common sense even in the cutting-edge science, rather than an exclusive reliance on the state-of-art infrastructure alone.

Examples will be from some of our work on self-assembly and self-organization in soft materials by control of instabilities. The basic principles will be illustrated by some select examples of self-organization in highly confined systems, e.g., in thin (5 nm-100 nm) films, micro/nano fabrication, electrospinning, nature-inspired science and others. The talk will also interweave some oncoming challenges, opportunities and directions in science, technology and innovation with emphasis on problem solving by being interdisciplinary, multidisciplinary, trans-disciplinary and out-of-disciplinary! This part may briefly introduce an assortment of emerging concepts such as Academic Social Responsibility, Grass-roots Innovations, Convergence and Co-arising of Technologies, Gender and Diversity in Science, Rise of Intelligent Machines in Industry 4.0 and maybe even that eternal debate on 'basic' vs 'applied'! The idea is not to arrive at a final view on any of these multi-faceted notions, but to encourage awareness and debate on the issues that concern the practice of science on the level of university education and beyond in a rapidly changing, increasingly connected world.

SPEAKER

Prof. Ashutosh Sharma, Indian Institute of Technology Kanpur



Prof. Ashutosh Sharma is currently a full Professor and Institute Chair Professor at Indian Institute of Technology (IIT) Kanpur. Prof. Sharma had been the Head of Chemical Engineering, and the founding PI & Coordinator of Nanosciences Center and Advanced Imaging Center at the IIT Kanpur. He received his Ph.D. from the State University of New York at Buffalo (SUNYAB; 1988), his MS from the Pennsylvania State University (1984) and B. Tech. from IIT Kanpur (1982).

Prof. Sharma's research interests are diverse, spanning a wide spectrum in nanotechnology; thin polymer films; nanocomposites and devices in energy, health and environment; functional interfaces; micro / nano-mechanics of soft matter; nano-patterning and nanofabrication; colloid and interfacial engineering; biomaterials & biosurfaces; wetting and adhesion.

Prof. Ashutosh Sharma has received numerous honours and awards, which include inaugural Infosys Prize in Engineering and Computer Science, TWAS Science Prize of The World Academy of Sciences, Bessel Research Award of the Humboldt Foundation, J.C. Bose Fellowship, S. S. Bhatnagar Prize, Homi J. Bhabha Award of UGC, The Syed Husain Zaheer Medal and the Meghnad Saha Medal of INSA, to mention a few.

Prof. Sharma is an elected Fellow of The Indian National Science Academy; The Indian Academy of Sciences; The National Academy of Sciences, India; and Indian National Academy of Engineering, The World Academy of Sciences (TWAS) and the Asia-Pacific Academy of Materials.

Prof. Sharma is the former Secretary to the Government of India (January 2015 to August 2021), heading the Department of Science and Technology (DST), and Chairman of Science and Engineering Research Board (SERB) and Technology Development Board (TDB). He has made immense contribution in new policies and programs related to: infrastructure and human capacity building; innovation and startups; surveying, mapping and geospatial data; R&D in advanced manufacturing, waste processing, clean energy, quantum technologies and cyber-physical systems; industry-academia cooperation; science communication; women scientists; and major international collaborations in the areas of priority for the nation.

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