

R. A. MASHELKAR ENDOWMENT LECTURE SERIES ON ADVANCED MATERIALS

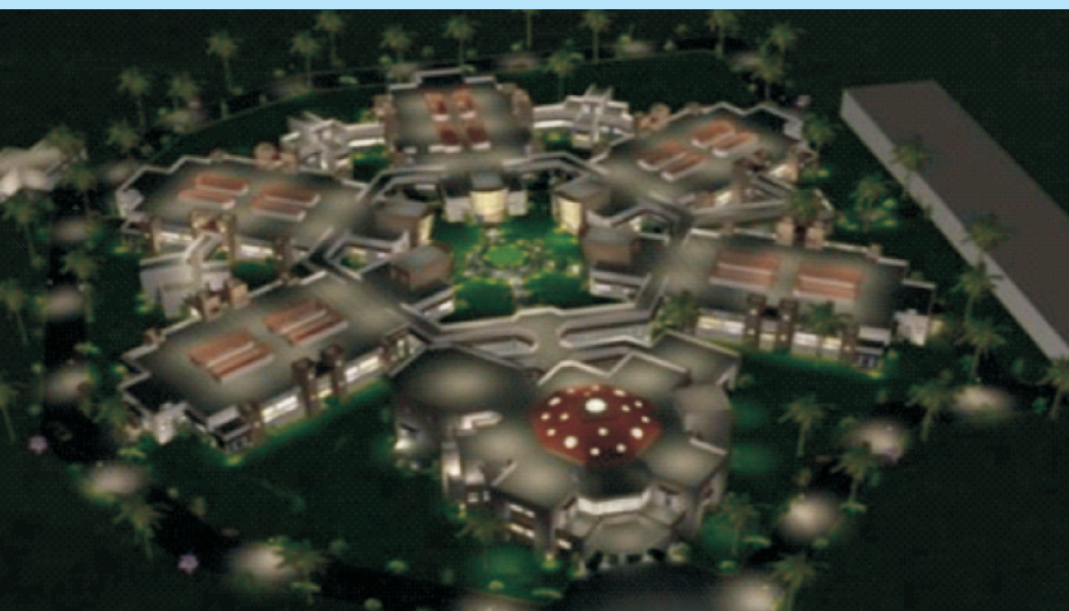
Living and Driven Soft Matter

PROF. SRIRAM RAMASWMAY

Hosted by : **CSIR-National Chemical Laboratory, Pune**

Date : 5 April 2017 (Wednesday) • Time : 04.00 pm

Venue : SSBLT



The Polymers and Advanced Materials Laboratory (PAML), inaugurated on April 1, 2010, has been built by NCL with the vision to support high quality interdisciplinary materials research and education. Students and faculty pursuing active research in organic, inorganic, polymeric, hybrid and bio-inspired materials work together in a collaborative research environment in the 65000 square feet area of the laboratory. The motto of PAML is to drive large and ambitious research programs that are aligned with the National Agenda, and to partner with industry for successful translation of the science. The building houses modern laboratories that are equipped with state-of-the-art materials characterization facilities such as small angle x-ray scattering, powder diffractometer, 3D-dynamic light scattering, confocal laser scanning microscope, fluorescence microscope, rheometers, chromatography, thermal analysis and spectroscopy techniques. PAML also houses specialized equipments for materials synthesis such as vacuum lines for living polymerization, CVD, high power lasers and micro-fabrication. Research in PAML is also supported by NCL-wide facilities such as the electron microscopy facility, the NMR resource centre, the computational cluster and the digital information resource centre. The laboratory houses a hundred-seat lecture theatre, a conference room equipped with video conferencing and teleconferencing facilities and several smaller meeting rooms to enable scientific interactions.

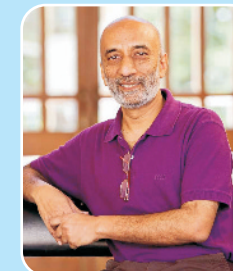
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About the speaker : Sriram Ramaswamy is a theoretician with broad interests in nonequilibrium, soft-matter and biological physics. His research helped found the field of Active Matter, which studies the collective behavior of objects, such as motile organisms, that convert local energy input into autonomous motion.

Sriram was educated at the University of Maryland (BS, High Honors, 1977) and at the University of Chicago (PhD, 1983). He conducted postdoctoral research at U Penn from 1983-86 and has been on the faculty of the Department of Physics, Indian Institute of Science since 1986. He is also an Adjunct Professor at TIFR and was the Centre Director for the TIFR Centre for Interdisciplinary Sciences in Hyderabad from 2012-2016. Sriram is a Fellow of the Royal Society (elected 2016) and the American Physical Society (elected 2016). He is also a Fellow of the Indian National Science Academy & the Indian Academy of Sciences. Among the awards he has received for his research are the Shanti Swarup Bhatnagar Prize for Physical Sciences (2000), H K Firodia Vijnana Ratna (2016), G. D. Birla Prize for Science (2006) and the Infosys Prize (2011).

Abstract : For some years now I have been working on the physics of systems far from thermal equilibrium, in the context of fluids, liquid crystals and other soft systems. A big part of this work has been on "active matter", in which driving takes place intrinsically, at the level of the constituent degrees of freedom. My talk will summarise some of this research. After an introduction, my talk will discuss topics drawn from our recent research on living and non-living active fluids as well as some surprises in sedimentation.

Dr. Mashelkar is a leading scientist and a visionary science leader of India. He is a National Research Professor at CSIR-NCL. A chemical engineer by training, his research interests are in the field of polymeric material science and engineering, with specific interest in non-Newtonian fluids, smart hydrogels and recently in polymeric nanomaterials for smart delivery applications. Dr. Mashelkar served as the Director of CSIR-NCL and then as the Director General of the Council of Scientific and Industrial Research (CSIR). Chairman of India's National Innovation Foundation for over a decade, Dr. Mashelkar has been championing a culture of innovation and balanced intellectual property rights regime in India. He is a Fellow of Royal Society (FRS), Foreign Fellow of the US National Academy of Science, US National Academy of Engineering and American Academy of Arts and Science. Thirty Universities have honored him with honorary Doctorate.



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"The organizing committee would like to acknowledge the generous donation from Prof. J. B. Joshi to NCL- Research Foundation, the sponsor of this event"



Dr. R. A. Mashelkar

Chancellor AcSIR & President,
Global Research Alliance and
Former Director, CSIR-National
Chemical Laboratory, Pune

The Programme is open to all.