

Brief Biography of Professor Mustansir Barma



Mustansir Barma is a distinguished theoretical physicist, who has made important contributions in the field of Statistical Physics. His research focuses on unraveling the interesting physics that results from the cooperative interactions present in large complex systems. The nature of his work is interdisciplinary, and spans across nonequilibrium statistical physics, biological physics, soft matter systems. His study on

fluctuation dominated phase ordering which shows a novel, delicate balance between giant fluctuations and long range order, finds application in a variety of soft matter systems. His work on aggregation-fragmentation dynamics explains large condensates and temporal intermittency observed in intra-cellular transport of proteins.

He has been a faculty member in Tata Institute of Fundamental Research (TIFR) Mumbai from 1977-2015. During 2007-2014 he has served as the Director of TIFR. Since 2015 he is Professor Emeritus in TIFR Centre for Interdisciplinary Sciences (TCIS) in Hyderabad, where he is currently appointed as DAE-Homi Bhabha Chair Professor. His academic honors and awards include DAE-Homi Bhabha Chair Professorship since 2018, G. M. Modi Award for Innovative Science and Technology in 2015, Padma Shri award of the Government of India in 2013, J.C. Bose Fellowship of the Department of Science and Technology in 2007-2017, S.N. Bose Birth Centenary Award of the Indian Science Congress in 2007, Shanti Swarup Bhatnagar Prize for the Physical Sciences in 1995, Young Scientist Award of the Indian National Science Academy in 1980. He has received fellowship of various academic bodies including Indian Academy of Sciences (Bangalore), Indian National Science Academy (New Delhi), National Academy of Sciences (Allahabad), Academy of Sciences for the Developing World (TWAS), (Trieste, Italy). He has served as member of Scientific Advisory Council to the Prime Minister during 2010 – 2014 and Scientific Advisory Committee to the Cabinet during 2008-2012. During 1999 - 2002 he was a member of IUPAP C3 Commission on Statistical Physics, and in 2002 – 2005 he was chairman of the same committee. He was vice-president of IUPAP during 2009-2014. He was a member of International Jury for the L'Oreal-UNESCO Award for Women in Science in 2002 – 2003. He is a member of Board and Executive Council of the Institute of Mathematical Sciences, Chennai (2001 – present), of Council of the Saha Institute of Nuclear Physics, Kolkata (2008 – present). He served as an honorary faculty member at Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore during 1998 – 2001, and since 2018 he is an Adjunct faculty member at Ramakrishna Vivekananda University, Belur.



BOSE-125 Distinguished Lecture

on

TWENTIETH DECEMBER

2018

सत्येन्द्र नाथ बसु की 125 वीं जयंती

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125th Birth Anniversary of Satyendra Nath Bose



सत्येन्द्र नाथ बसु राष्ट्रीय मौलिक विज्ञान केन्द्र
Satyendra Nath Bose National Centre for Basic Sciences

Shared Histories and Correlations

Professor Mustansir Barma

ABSTRACT

How do correlations arise in a many-particle system? Normally, one thinks of interactions, but a distinct and potent source of correlations is “shared histories”: When particles are in the same dynamically evolving environment, the resulting inter-particle correlations are often very strong, and are accompanied by clustering with large fluctuations. This talk will bring out the unusual features of such states in simple models of particles on fluctuating surfaces. Correlations have simple scaling properties in space and time; the key point is that scaling functions are singular, a feature which has strong physical implications. Such singular scaling functions have also been found recently in an equilibrium Ising model with long-range interactions.



**S. N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES
KOLKATA**

Director
and

Staff and students of S. N. Bose National Centre for Basic Sciences
request the pleasure of your company at the

BOSE-125 Distinguished Lecture

by

Professor Mustansir Barma

TIFR Centre for Interdisciplinary Sciences
Tata Institute of Fundamental Research, Hyderabad

on

Thursday, 20th December, 2018 at 4:00 pm

to celebrate

125th Birth Anniversary of Professor Satyendra Nath Bose

Prof. Samit Kumar Ray
Director

Venue :

Silver Jubilee Hall

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