

Celebration of
127th
Birth Anniversary of Satyendra Nath Bose
 and
24th
S.N Bose Memorial Lecture

| Programme |

- 10.30 am Garlanding the bust of
Satyendra Nath Bose
- 10.45 am Opening of new Bose Archive
- 11.00am High Tea
- 11.30am Lecture by **Professor Debashis Mukherjee**,
S.N. Bose Chair Professor, SNBNCBS
- Title of the Talk:
**"Emergence of Modern Science in
 Colonial India: the German Connection"**
- 3.00pm 24th S.N. Bose Memorial Lecture- By
Professor Supriyo Datta
 Thomas Duncan Distinguished Professor of
 Electrical and Computer Engineering,
 Purdue University, USA
- Title of the Talk:
**"Mesoscopic Physics: A New Perspective on
 Transport"**
- 4.30 pm Tea



**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

127TH

**BIRTH ANNIVERSARY OF
 SATYENDRA NATH BOSE**

and

24TH

S.N BOSE MEMORIAL LECTURE

by

Professor Supriyo Datta

Thomas Duncan Distinguished professor of
 Electrical and Computer Engineering, Purdue University, USA

Title:

Mesoscopic Physics: A New Perspective on Transport

on

| 1st January, 2020 |

Professor Samit Kumar Ray

Director

Venue :
 Silver Jubilee Hall,
 S. N. Bose National Centre for Basic Sciences
 JD Block, Sector-III, Salt Lake City,
 Kolkata - 700 106, India

Mesoscopic Physics: A New Perspective on Transport

by

Professor Supriyo Datta



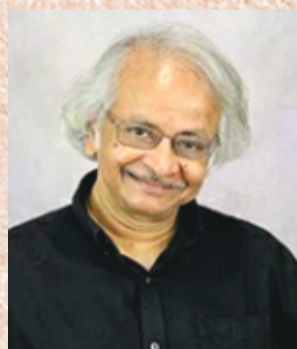
Abstract

Mesoscopic physics is generally regarded as a specialized topic dealing only with small conductors. I would like to argue that it goes beyond that: It leads to a new perspective on the general problem of transport that should be a part of undergraduate textbooks. Specifically, I will show how a mesoscopically inspired approach provides a transparent view of (1) conductivity, (2) thermoelectricity, (3) microscopic origin of resistance and (4) spin-charge conversion in materials with spin-momentum locking.

Reference:

S. Datta, "Lessons from Nanoelectronics: A. Basic Concepts, B. Quantum Transport," World Scientific Press, Second Edition (2017)

Professor Supriyo Datta: A Brief profile



Supriyo Datta is an Indian born American researcher. He has been called "one of the most original thinkers in the field of nanoscale electronics." He is currently the Thomas Duncan Distinguished professor at the School of Electrical Engineering at Purdue University.

A recipient of the Frederick Emmons Terman Award from the American Society of Engineering Education in 1994, and the Presidential Young Investigator Award from the National Science Foundation in 1984, he is a Fellow of the Institute of Electrical and Electronics Engineers, the Institute of Physics and the American Physical Society. He was elected to the National Academy of Engineering in 2012.

Prof. Datta was the Director of NASA Institute for Nanoelectronics and Computing (INAC) from 2002-2007.

He is known for pioneering approach to quantum transport which has been widely adopted in the field of nanoelectronics. He is also known for innovative theoretical proposals that have inspired new fields of research including molecular thermoelectricity, negative capacitance devices, and spintronics.

**Past Speakers of
 S.N. Bose Memorial Lecture**

Leon Van Hove	1988
B M Udgaonkar	1990
H E Stanley	1991
C H Llewellyn Smith	1992
E C G Sudarshan	1994
V Singh	1995
B V Sreekantan	1996
Kazuo Fujikawa	1996
Sir Sam F Edwards	1996
CNR Rao	1999
R A Mashelkar	2000
Albert Libchaber	2001
Jayant V Narlikar	2002
Martin Blume	2003
SRS Varadhan	2004
Abhay Asthekar	2005
Rashid A Suyaev	2007
Ashoke Sen	2008
Wolfgang Ketterle	2009
Masashi Hayakawa	2010
T Ramasami	2010
Graham R Fleming	2011
Wolfgang Ketterle	2018



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| 1st January, 2020 |



সত্যেন্দ্র নাথ বসু রাষ্ট্রীয় মৌলিক বিজ্ঞান কেন্দ্র
 Satyendra Nath Bose National Centre for Basic Sciences