

BOSE INSTITUTE
103rd
FOUNDATION DAY CELEBRATION

30th November, 2019
PROGRAMME

Venue : Main Campus, 93/1, A. P. C. Road, Kolkata-700 009

11:00 –13:00	Garlanding the busts of Acharya J.C. Bose at Centenary Campus, Salt Lake Campus, Madhyamgram Campus and Darjeeling Campus
14:00 –14:15	Floral offerings at the Samadhi, Main Campus
14:30 –14:35	Invocation
14:35 –14:45	Reception of the Chairperson and the Speaker of the 81 st Acharya J. C. Bose Memorial Lecture
14:45 –15:00	Welcome Address and Director's Report : Prof. (Dr.) Uday Bandyopadhyay, Director
15:00 –15:05	Introduction of Prof. Subhash Kak Speaker of the 81 st Acharya J.C . Bose Memorial Lecture
15:05 –15:55	81 st Acharya J. C. Bose Memorial Lecture
15:55 –16:00	Felicitation of Prof. Subhash Kak Prof. Samit K Ray
16:00 –16:10	Distribution of Sir Nilratan Sircar Prize, Prof. B. B. Biswas Outstanding Student Award and Prof. Shyamadas Chatterjee Outstanding Award (in the area of Physical and Environmental Science)
16:15 –16:25	Chairperson's Address by Prof. Samit K Ray
16:25 –16:30	Vote of thanks NATIONAL ANTHEM
16:30 –17:15	High Tea
17:30 –19:00	Cultural Programme

PAST LECTURERS

Rabindra Nath Tagore	: 1938	Prof. Niharranjan Ray	: 1980
Prof. M.N. Saha	: 1939	Prof. Sukumar Sen	: 1981
Prof. S. S. Bhatnagar	: 1940	Prof. B.K. Bachhawat	: 1982
Dr. J. C. Ghosh	: 1941	Swami Lokeshwarananda	: 1983
Sir Cyril S. Fox	: 1943	Prof. N.S. Subbarao	: 1984
Dr. K.P. Biswas	: 1944	Prof. R.C. Majumder	: 1985
Dr. P. Parija	: 1945	Prof. C.N.R. Rao	: 1986
Dr. S.K. Mitra	: 1946	Prof. S. Chandrasekher	: 1987
Dr. J. N. Mukherjee	: 1947	Dr. A.P. Mitra	: 1988
Prof. K.N. Bhal	: 1948	Prof. O. Siddiqi	: 1989
Dr. K.C. Mehta	: 1949	Dr. S. R. Ramachandran	: 1990
Dr. S.K. Banerji	: 1950	Prof. P.N. Tandon	: 1991
Dr. P.C. Mahalanobis	: 1951	Prof. H. Sarat Chandra	: 1992
Prof. R.C. Majumder	: 1952	Dr. U.R. Rao	: 1993
Dr. N.K. Bose	: 1953	Dr. S.Z. Qasim	: 1994
Prof. S.N. Bose	: 1954	Dr. P.K. Iyenger	: 1995
Dr. S.I. Hora	: 1955	Dr. G. Padmanaban	: 1996
Dr. A.C. Ukil	: 1956	Prof. V. Ramalingaswami	: 1997
Dr. D.N. Wadia	: 1957	Prof. N.K. Ganguly	: 1998
Dr. S. Radhakrishnan	: 1958	Dr. R.A. Mashelkar	: 1999
Sir Jehangir Gandhi	: 1959	Prof. P. Balaram	: 2000
Dr. V.R. Khanolkar	: 1960	Prof. Ramanath Kowsik	: 2001
Dr. B.C. Guha	: 1961	Dr. Pushpa M. Bhargava	: 2002
Dr. G.N. Ramachandran	: 1962	Prof. M. S. Valiathan	: 2003
Dr. S. Bhagavantan	: 1963	Prof. Asok Sen	: 2004
Shri Asoke Mehta	: 1964	Prof. Rajesh Kochhar	: 2005
Prof. P. Maheshwari	: 1965	Prof. V. S. Ramamurthy	: 2006
Dr. Atma Ram	: 1966	Swami Jitatananda	: 2007
Acamedician A.I. Oparin	: 1967	Prof. F. P. Marconi	: 2008
Dr. B.D. Nag Chowdhuri	: 1968	Prof. J. N. Mohanty	: 2009
Dr. Homi N. Sethna	: 1969	Prof. André Béteille	: 2010
Prof. Priyadarajan Ray	: 1970	Swami Atmapriyananda	: 2011
Dr. N.K. Bose	: 1971	Shri Gopal Krishna Gandhi	: 2012
Prof. M. S. Swaminathan	: 1972	Professor Mushirul Hasan	: 2013
Dr. A. Srinivasan	: 1973	Dr. Srikumar Banerjee	: 2014
Dr. A. Ramachandran	: 1974	Dr. T. Ramasami	: 2015
Dr. B. Mukherjee	: 1975	Prof. Raghavendra Gadagkar	: 2016
Prof. G.P. Talwar	: 1976	Prof. Ada Yonath	: 2017
Dr. Raja Ramanna	: 1977	Prof. T. V. Ramakrishnan	: 2018
Prof. (Mrs.) A. Chatterjee	: 1978		
Prof. S.K. Mukherjee	: 1979		

103rd FOUNDATION DAY
CELEBRATION

81st ACHARYA JAGADIS
CHANDRA BOSE
MEMORIAL LECTURE

30TH NOVEMBER, 2019



BOSE INSTITUTE
KOLKATA

COMPUTATION, INDIAN SCIENTIFIC TRADITION, AND ARTIFICIAL INTELLIGENCE

Prof. Subhash Kak
Regents Professor Emeritus,
Oklahoma State University, Stillwater

ABSTRACT

The lecture will describe the lesser known history of the computational aspects of the Indian scientific tradition that has relevance to current controversies in artificial intelligence. Specifically, the role Indian ideas of physics played in Nikola Tesla's research on energy-mass transformation, and the influence of the Navya Nyaya School – that arose in Bengal and Bihar – on the development of mathematical logic will be described. Further the debates in Indian scientific literature on the nature of consciousness and how it might interact with matter will be described in relation to the current theories of consciousness proposed by neuroscientists, physicists, and logicians.



BOSE INSTITUTE
KOLKATA

Director
and

Staff Members of Bose Institute
request the pleasure of your company at the

103rd FOUNDATION DAY CELEBRATION

and

81st ACHARYA JAGADIS CHANDRA BOSE MEMORIAL LECTURE

by

Prof. Subhash Kak
Regents Professor Emeritus,
Oklahoma State University, Stillwater

titled

**COMPUTATION, INDIAN SCIENTIFIC TRADITION,
AND ARTIFICIAL INTELLIGENCE**

on

30th November, 2019 at 2.00 p.m.

Prof. Samit K Ray
Director
S N Bose National Centre for Basic Sciences
has kindly consented to preside over the programme

Venue :
Bose Institute
Lecture Hall, 93/1, A P C Road
Kolkata 700 009

Prof. (Dr.) Uday Bandyopadhyay
Director

ABOUT THE SPEAKER



Subhash Kak is Regents Professor Emeritus at Oklahoma State University in Stillwater. His research is on cybersecurity, artificial intelligence, quantum computing, archaeoastronomy, and history of science, and he has also written extensively on the social impacts of AI. He coined the term *quantum neural computing* which is a theory of brain processing that is partly classical and partly quantum. He is currently a member of Indian Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC).

Born in Srinagar, Kashmir, he obtained his Ph.D. degree from Indian Institute of Technology, Delhi. Beginning his academic career at IIT Delhi, in 1979 he joined Louisiana State University where he became the Donald C. & Elaine T. Delaune Distinguished Professor. He moved to Oklahoma State University in 2007 as head of Computer Science Department and as Regents Professor.

In archaeoastronomy research, he made the surprising discovery that the ancient Indians knew that the sun and the moon are approximately 108 times their respective diameters from the earth. This knowledge was coded into temple architecture, in the 108 poses of Indian classical dance, and the 108 prayer beads of the *japa mālā*. He was the editor for the Indian Subcontinent Area for the UNESCO project on archaeoastronomy sites around the world.

His work has been showcased in the popular media including Discovery and History channels, PBS, Public TV in Europe, and in several documentaries on science and art. He is the author of twenty books that include his autobiography *The Circle of Memory*.