



BOSE INSTITUTE



(AN AUTONOMOUS INSTITUTE UNDER
DEPARTMENT OF SCIENCE & TECHNOLOGY, GOVT. OF INDIA)

107TH FOUNDATION DAY

84TH ACHARYA J. C. BOSE MEMORIAL LECTURE
30TH NOVEMBER, 2023





BOSE INSTITUTE
KOLKATA



OBSERVANCE OF

107TH FOUNDATION DAY

AND

84TH ACHARYA J. C. BOSE MEMORIAL LECTURE

PROGRAMME

30th November, 2023

HOMAGE

12:00 - 13:30 ... Floral Offerings at the Samadhi, Main Campus
Garlanding the busts of Acharya J. C. Bose at
Unified Academic Campus, Centenary
Campus, Madhyamgram Campus,
Falta Campus, Shyamnagar Campus, and
Darjeeling Campus

MAIN PROGRAMME

15:00 - 15:05 ... Invocation

15:05 - 15:20 ... Welcome Address & Director's Report by
Prof. (Dr.) Uday Bandyopadhyay
Director, Bose Institute

15:20 - 15:30 ... Introduction to the Speaker by
Prof. Sanjay Kumar Ghosh, Bose Institute

15:30 - 16:15 ... 84th Acharya J. C. Bose Memorial Lecture by
Prof. Dr. Paolo Giubellino

16:15 - 16:25 ... Chairman's Address by
Jörg Blaurock

16:25 - 16:30 ... Vote of Thanks by the Chairman of
the Foundation Day Committee

NATIONAL ANTHEM



**BOSE INSTITUTE
KOLKATA**



OBSERVANCE OF

107TH FOUNDATION DAY

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

84TH ACHARYA J. C. BOSE MEMORIAL LECTURE

Speaker

PROF. DR. PAOLO GIUBELLINO

Scientific Managing Director
Facility for Antiproton and Ion Research in Europe GmbH (FAIR GmbH)
GSI Helmholtzzentrum für Schwerionenforschung GmbH
Darmstadt, Germany

Titled

**INDIA AND BIG SCIENCE: A SUCCESS PATH FOR
THE 21ST CENTURY**

on

30th November, 2023 at 3.00 pm

JÖRG BLAUROCK

Technical Managing Director
Facility for Antiproton and Ion Research in Europe GmbH (FAIR GmbH)
GSI Helmholtzzentrum für Schwerionenforschung GmbH
Darmstadt, Germany
will preside over the programme.

Venue:

Unified Academic Campus
Block EN, Plot No.-80, Sector-V
Salt Lake City
Kolkata - 700 091

Prof. (Dr.) Uday Bandyopadhyay
Director
Bose Institute

“The true laboratory is the mind, where behind illusions we uncover the laws of truth.”

- Sir J. C. Bose



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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. Jarija	: 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. D.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. Maheshwar i	: 1965	Prof. V. S. Ramamurthy	: 2006
Dr. Atma Ram	: 1966	Swami Jitatmananda	: 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. Seethna	: 1969	Prof. André Béteille	: 2010
Dr. P.R. Ray	: 1970	Swami Atmapriyananda	: 2011
Dr. N.K. Bose	: 1971	Shri Gopal Krishna Gandhi	: 2012
Prof. 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. Subhash Kak	: 2019
Prof. S.K. Mukherjee	: 1979	Prof. Gautam R. Desiraju	: 2021
		Prof. Ashutosh Sharma	: 2022



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ABSTRACT

India and Big Science: A Success Path for the 21st Century

Science in this century is driven by large international infrastructures, which are realized by groups of nations pooling their know-how and resources. In an increasingly interdependent world, India's scientific community has embarked on a remarkable journey that transcends borders and demonstrates its commitment to unraveling the mysteries of the universe and develop cutting-edge technologies. India is playing a leading role on the global stage and is a key player in a number of international mega-science projects. In my lecture I will address the reasons for Big Science, the transformative potential of international collaboration, the unique educational opportunities it creates and the limitless horizons of scientific exploration on a global scale.

A special attention will be devoted to the current Renaissance of Nuclear Physics, and its role in society and in our understanding of the Universe.



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ABOUT THE SPEAKER



PROF. DR. PAOLO GIUBELLINO

Scientific Managing Director

Facility for Antiproton and Ion Research in Europe GmbH (FAIR GmbH)

GSI Helmholtzzentrum für Schwerionenforschung GmbH

Darmstadt, Germany

Paolo Giubellino is an accomplished experimental physicist, renowned for his work in High-Energy Nuclear Collisions, particularly focused on recreating the conditions akin to the early moments of the universe, featuring ultra-dense and hot matter.

His academic journey commenced with studies at Turin University and the University of California in Santa Cruz, providing the foundation for his involvement in heavy-ion experiments at CERN in Switzerland.

Since the early 1990s, Dr. Giubellino has held several senior positions at CERN's ALICE experiment. Within the ALICE Collaboration, comprising 1600 scientists from 169 institutions across 42 countries, he held significant roles, eventually to be elected to lead the collaboration from January 1st, 2011.

Paolo Giubellino's scientific contributions began at the CERN SPS and have continued as a stalwart presence in the Large Hadron Collider program. His leadership within the ALICE Collaboration led to the approval and ongoing construction of an Upgrade proposal for the ALICE experiment, spanning 2020 to 2028.

In addition to his pioneering work in nuclear physics, he has made remarkable strides in the development of particle detection technologies, serving as a member of the Instrumentation Panel of the International Committee for Future Accelerators (ICFA) since August 2000.

Beyond his scientific contributions, Paolo Giubellino He has served in many scientific committees and advisory panels in China, the Czech Republic, France, Germany, Italy, Korea, Japan, Mexico, Russia, South Africa and Spain. His commitment to international collaboration has led to his promotion and leadership in programs funded by the European Union, NATO, and various bilateral agreements. He also participates in the International Advisory Committees of numerous scientific conferences.

Since January 2017, Paolo Giubellino has assumed the role of Joint Scientific Managing Director at GSI Helmholtzzentrum für Schwerionenforschung GmbH and Facility for Antiproton and Ion Research GmbH, where his research remains steadfastly focused on high-energy heavy ion collisions and the matter they produce. GSI is one of the world renown Nuclear Physics laboratories, home of many scientific discoveries, including six of the elements of the periodic table. FAIR is a new international laboratory currently under construction, one of the largest new scientific facilities in the world. FAIR is recognized as one of the leading European scientific infrastructures.

Throughout his career, Paolo Giubellino has garnered numerous honors, including two Honoris Causa Doctorates, the Lise Meitner Prize of the European Physical Society (2014) and the Enrico Fermi Prize, the highest honor from the Italian Physical Society (2013). In 2011, Giubellino was appointed spokesperson of ALICE. In 2012, he was honored with the title of "Commendatore della Repubblica Italiana" by the Italian president for his scientific contributions. In 2016, he was elected into the Academia Europaea for his exceptional scientific achievements.