



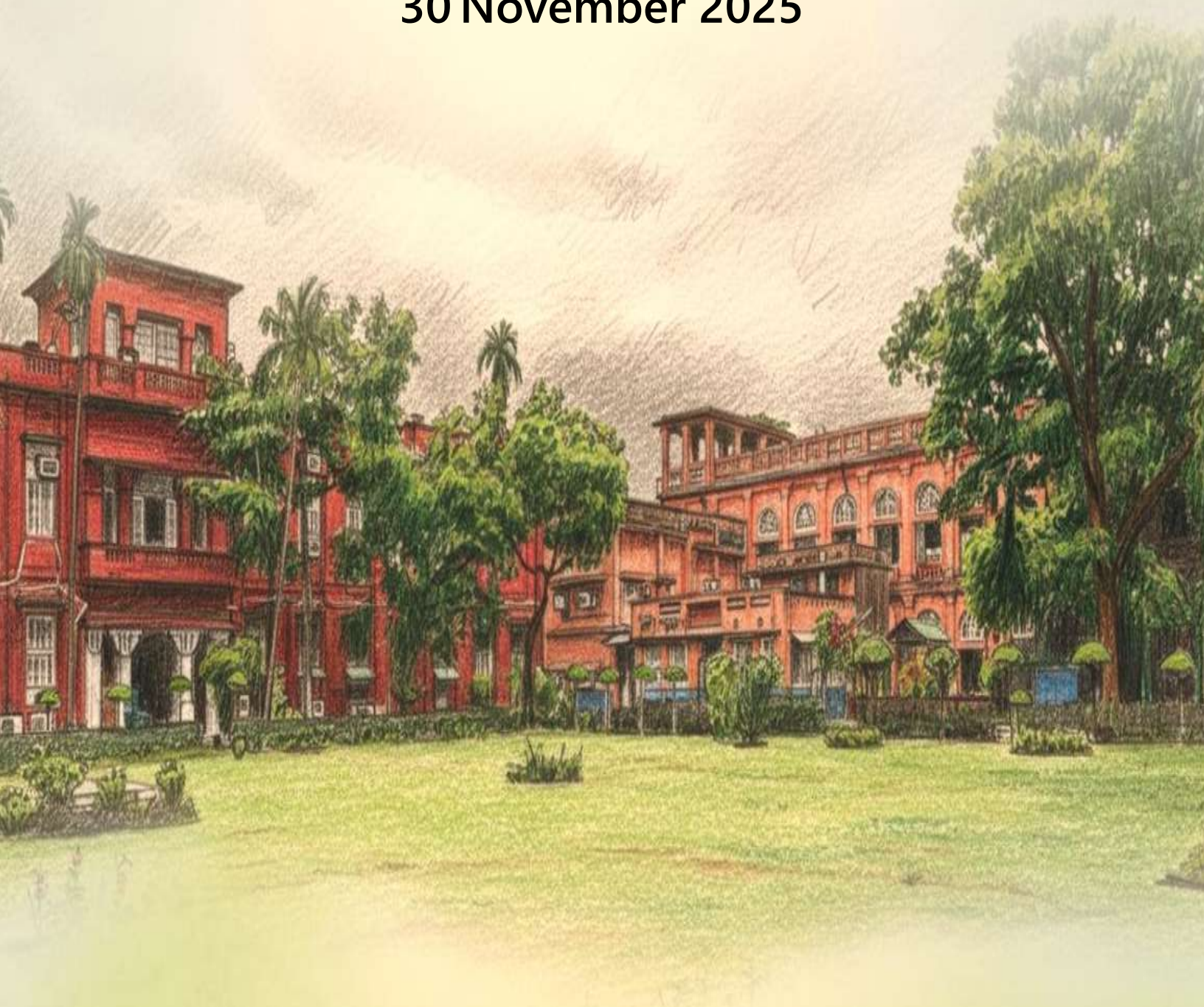
BOSE INSTITUTE

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

109TH FOUNDATION DAY

86TH ACHARYA J. C. BOSE MEMORIAL LECTURE

30 November 2025





BOSE INSTITUTE

KOLKATA

**CELEBRATION OF
109TH FOUNDATION DAY**

and

86TH ACHARYA J. C. BOSE MEMORIAL LECTURE

P R O G R A M M E

30 November 2025

12:00 - 12:30 ...	Homage Floral Offerings at the Samadhi of Acharya J. C. Bose at Main Campus
12:30 - 14:30 ...	Lunch
14:30 - 14:35 ...	Invocation
14:35 - 14:50 ...	Welcome Address & Director's Report by Prof. Kaustuv Sanyal, Director, Bose Institute
14:50 - 15:20 ...	Addresses by Dignitaries
15:20 - 15:30 ...	Introduction to the Speaker by Prof. Chandrima Shaha, CSIR-Indian Institute of Chemical Biology, Jadavpur, Kolkata
15:30 - 16:15 ...	86 th Acharya J. C. Bose Memorial Lecture by Dr. Soumya Swaminathan
16:15 - 16:25 ...	Chairman's Address by Prof. Chandrima Shaha, CSIR-Indian Institute of Chemical Biology, Jadavpur, Kolkata
16:25 - 16:30 ...	Vote of Thanks by the Chairman of the Foundation Day Committee

NATIONAL ANTHEM

16:45 – 17:30...	High Tea
17:30 – 18:30...	Cultural Programme



BOSE INSTITUTE
KOLKATA

**CELEBRATION OF
109TH FOUNDATION DAY**

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

86TH ACHARYA J. C. BOSE MEMORIAL LECTURE

Speaker

Dr. Soumya Swaminathan

WHO's Chief Scientist

Former Director General of the Indian Council of Medical Research (ICMR)
Ministry of Health and Family Welfare, Government of India

titled

Fragile Futures: The Climate Crisis and Its Toll on Women and Children

on

30 November 2025 at 3.00 pm

Prof. Chandrima Shaha

CSIR-Indian Institute of Chemical Biology
Jadavpur, Kolkata

will preside over the programme.

Venue:

Bose Institute Rajabazar
93/1, A.P.C. Road
Kolkata - 700 091

RSVP: <https://forms.office.com/r/5qwt3TTZLq>

Or scan

(Please RSVP by 24 November 2025)



Prof. Kaustuv Sanyal
Director
Bose Institute



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PAST LECTURERS

Shri Rabindranath Tagore	: 1938	Prof. Sukumar Sen	: 1981
Prof. M. N. Saha	: 1939	Prof. B. K. Bachhawat	: 1982
Prof. S. S. Bhatnagar	: 1940	Swami Lokeswarananda	: 1983
Dr. J. C. Ghosh	: 1941	Prof. N. S. Subbarao	: 1984
Sir Cyril S. Fox	: 1943	Prof. R.C. Majumder	: 1985
Dr. K. P. Biswas	: 1944	Prof. C. N. R. Rao	: 1986
Dr. P. Jarija	: 1945	Prof. S. Chandrasekher	: 1987
Dr. S. K. Mitra	: 1946	Dr. A. P. Mitra	: 1988
Dr. J. N. Mukherjee	: 1947	Prof. O. Siddiqi	: 1989
Prof. K. N. Bhal	: 1948	Dr. S. R. Ramachandran	: 1990
Dr. K. C. Mehta	: 1949	Prof. P. N. Tandon	: 1991
Dr. S. K. Banerji	: 1950	Prof. H. Sarat Chandra	: 1992
Dr. P. C. Mahalanobis	: 1951	Dr. U. R. Rao	: 1993
Prof. R. C. Majumder	: 1952	Dr. S. Z. Qasim	: 1994
Dr. N.K. Bose	: 1953	Dr. P. K. Iyenger	: 1995
Prof. S. N. Bose	: 1954	Dr. G. Padmanaban	: 1996
Dr. S. I. Hora	: 1955	Prof. V. Ramalingaswami	: 1997
Dr. A. C. Ukil	: 1956	Prof. N. K. Ganguly	: 1998
Dr. D. N. Wadia	: 1957	Dr. R. A. Mashelkar	: 1999
Dr. S. Radhakrishnan	: 1958	Prof. P. Balaram	: 2000
Sir Jehangir Gandhi	: 1959	Prof. Ramanath Kowsik	: 2001
Dr. V. R. Khanolkar	: 1960	Dr. Pushpa M. Bhargava	: 2002
Dr. B. C. Guha	: 1961	Prof. M. S. Valiathan	: 2003
Dr. D. N. Ramachandran	: 1962	Prof. Asok Sen	: 2004
Dr. S. Bhagavantam	: 1963	Prof. Rajesh Kochhar	: 2005
Shri Asoke Mehta	: 1964	Prof. V. S. Ramamurthy	: 2006
Prof. P. Maheshwari	: 1965	Swami Jitatmananda	: 2007
Dr. Atma Ram	: 1966	Prof. F. P. Marconi	: 2008
Acamedician A. I. Oparin	: 1967	Prof. J. N. Mohanty	: 2009
Dr. B. D. Nag Chowdhuri	: 1968	Prof. André Béteille	: 2010
Dr. Homi N. Seethna	: 1969	Swami Atmapriyananda	: 2011
Dr. P. R. Ray	: 1970	Shri Gopal Krishna Gandhi	: 2012
Dr. N. K. Bose	: 1971	Prof. Mushirul Hasan	: 2013
Prof. S. Swaminathan	: 1972	Dr. Srikumar Banerjee	: 2014
Dr. A. Srinivasan	: 1973	Dr. T. Ramasami	: 2015
Dr. A. Ramachandran	: 1974	Prof. Raghavendra Gadagkar	: 2016
Dr. B. Mukherjee	: 1975	Prof. Ada Yonath	: 2017
Prof. G. P. Talwar	: 1976	Prof. T.V. Ramakrishnan	: 2018
Dr. Raja Ramanna	: 1977	Prof. Subhash Kak	: 2019
Prof. (Mrs.) A. Chatterjee	: 1978	Prof. Gautam R. Desiraju	: 2021
Prof. S. K. Mukherjee	: 1979	Prof. Ashutosh Sharma	: 2022
Prof. Niharranjan Ray	: 1980	Prof. Dr. Paolo Giubellino	: 2023
		Prof. Sankar K. Pal	: 2024



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ABSTRACT

Fragile Futures: The Climate Crisis and Its Toll on Women and Children

Climate change is amplifying existing health risks and creating new threats, with women and children disproportionately affected due to biological, socio-economic, and structural vulnerabilities. Rising temperatures, more frequent heatwaves, extreme weather events, shifting vector ecology, and worsening air pollution are contributing to heightened burdens of disease, malnutrition, and psychosocial stress. For children, climate-related exposures are strongly linked to premature mortality, low birth weight, undernutrition, diarrheal disease, and respiratory infections. For women, impacts are wide-ranging: pregnancy complications, menstrual and reproductive health issues, cardiovascular risks, mental health stress, and heightened exposure to gender-based violence during disasters.

Recent evidence highlights that women and children from low-income households and disadvantaged socio-economic groups face compounded risks, including higher anaemia and undernutrition rates, poor access to antenatal care, and limited menstrual hygiene practices in heat-vulnerable districts. Women engaged in informal work, caregiving, and subsistence agriculture report severe income losses, heat-related illnesses, and mental health strain. Air pollution further exacerbates health risks, reducing bone density, worsening respiratory conditions, and affecting maternal and neonatal outcomes. Extreme heat also undermines household food security and widens gendered economic gaps.

MSSRF's scoping review (2024) and heat impact study (2025) provide strong evidence that climate crises deepen inequities in health, nutrition, and livelihoods. Field testimonies reveal women's daily struggles like heat stress, wage losses, strained caregiving roles, and disrupted family relationships, illustrating the urgent need for gender- and equity-sensitive climate action. Addressing these challenges requires robust research, decentralized adaptation planning, community-led innovations, and stronger health system preparedness, ensuring that women and children are central to climate resilience strategies.

Adaptation and solutions must prioritize equity, with women and children placed at the center of climate resilience strategies. Key pathways include decentralized and gender-responsive planning, heat action plans tailored for vulnerable populations, improved access to cooling, clean energy, water, and nutrition, and stronger integration of maternal and child health into climate adaptation policies. Community-led innovations, livelihood diversification, social protection, and health system preparedness are essential to reduce risks and build resilience. Empowering women through participation, resources, and leadership in climate action will not only safeguard health but also strengthen long-term adaptive capacity for households and communities.



Dr. Soumya Swaminathan

WHO's Chief Scientist

Former Director General of the Indian Council of Medical Research (ICMR)
Ministry of Health and Family Welfare, Government of India

Dr. Soumya Swaminathan is a globally renowned pediatrician and expert in tuberculosis and HIV research, with over 40 years of experience in clinical care and research. Her career has been dedicated to translating research into impactful health programmes and integrating science into health policy.

She recently served as the Chief Scientist at the World Health Organization (WHO), where she established the Science Division and also played a key role in coordinating global scientific efforts, including the establishment of Covax for equitable vaccine distribution during COVID-19. Earlier, she was the Director General of the Indian Council of Medical Research (ICMR) (2015-2017).

Since February 2023, she is the Chairperson of the MS Swaminathan Research Foundation (MSSRF) and the Principal Advisor to India's National Tuberculosis Elimination Programme. She co-chairs the global commission of "Our Common Air" and also chairs the Scientific Advisory Board of ICMR. She is a Fellow of the US National Academy of Medicine, Academy of Medical Sciences (UK), and all major science academies in India. She has also authored over 480 peer-reviewed publications. She holds honorary doctorates from Karolinska Institute, EPFL Lausanne, and McGill University.

Dr. Swaminathan's current focus is on addressing the health impacts of climate change on women and children, and transforming food systems to strengthen nutrition security.