



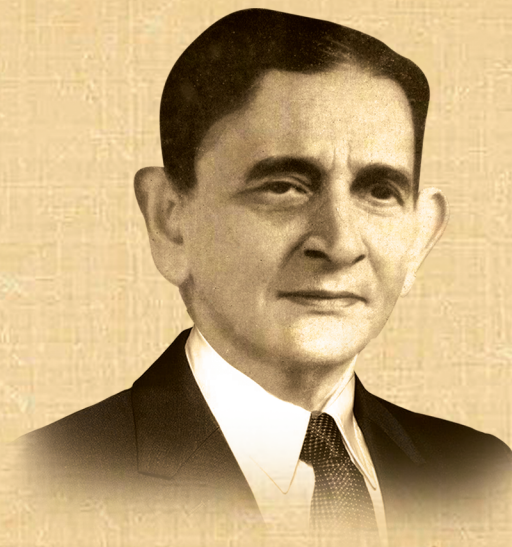
DR. SATINATH MUKHOPADHYAY

MD DM FRCP (London)
Fellow, National Academy of Medical Sciences (India)
Professor, Department of Endocrinology & Metabolism
IPGMER & SSKM Hospital, Calcutta

- 272 publications. h-index: 46; Citations: 29,035
- Member, executive committee, Indian Society for Bone and Mineral Research
- Associate Editor, Diabetic Medicine, UK
- Member, Governing Council: Worldwide Cardio-Diabetes, New York, USA
- WIDF- outstanding achievement award, Mayo Clinic, Rochester, Minnesota, USA
- Tutor- Diploma/MSc (Endocrinology), University of South Wales, Cardiff, UK
- Visiting Professor, Manchester Royal Infirmary, University of Manchester, UK
- Research areas: Insulin resistance and periodontitis, metabolic bone disease, reproductive endocrinology



D. M. BOSE MEMORIAL LECTURE 2022



**138th Birthday of
Prof. Debendra Mohan Bose**

26th November, 2022 at 3.00 p.m.

**BOSE INSTITUTE
KOLKATA**



“Impact of Vitamin D Deficiency on Skeletal and Non-skeletal Health”

DR. SATINATH MUKHOPADHYAY

Professor, Department of Endocrinology & Metabolism
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Abstract

Vitamin D, the sunshine hormone, is essential for bone mineral acquisition in children and maintenance of bone health in adults. It has existed on this planet for >500 million years, long before the appearance of skeletal architecture of its inhabitants. Phytoplanktons, on exposure to solar UVB radiation, make large amounts of ergosterol (vitamin-D₂). In the hypercalcic water of the primordial sea, calcium absorption by the early life forms were either direct or phytoplankton-assisted. Calcium assimilation was a challenge for the terrestrial life forms, necessitating the evolution of a robust vitamin-D system on their skin. Alongside the asteroids, vitamin D deficiency might have also contributed to the extinction of the Dinosaurs. Fish can't synthesize Vitamin-D; they are fully dependent on dietary vitamin D. The amphibians, reptiles and most mammals depend on sunlight for vitamin D. Birds can't make any vitamin D in their feathered skin. Oily secretions, rich in vitamin-D precursors, are spread on their feathers and aligned to sunlight, which they ingest during preening. Cats and dogs cannot make any vitamin D in their skin and depend entirely on diet. In humans, while skin pigmentation evolved to prevent excessive exposure to sunlight, it had to devolve during migration away from the equator to allow enough vitamin D synthesis. 30 mins. exposure of the face, neck and hands to sunlight between 10am and 3pm meets the recommended daily allowance for vitamin D. Latitude, altitude, season, skin type, sunscreen, aging and clothing affect vitamin D production in the skin. Very few foods contain vitamin D naturally, making vitamin D deficiency a common problem both in children and in adults.



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Bose Institute Observes

138th Birthday of Prof. Debendra Mohan Bose

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Staff Members of Bose Institute
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D. M. BOSE MEMORIAL LECTURE 2022

on

26th November, 2022 at 3.00 p.m.

Speaker

DR. SATINATH MUKHOPADHYAY

Professor, Department of Endocrinology & Metabolism
IPGMER & SSKM Hospital, Calcutta

Titled

“Impact of Vitamin D Deficiency on Skeletal and Non-skeletal Health”

Prof. Syamal Roy

ICMR Emeritus Scientist, CSIR-Indian Institute of Chemical Biology, Kolkata
Former Vice Chancellor, Cooch Behar Panchanan Barma University
has kindly consented to 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

“In a day, when you don't come across any problems - you can be sure that you are travelling in a wrong path”

-Swami Vivekananda