

SCIENCE AND CULTURE

NOVEMBER-DECEMBER 2008/VOLUME 74/NOS. 11-12

A JOURNAL OF NATURAL AND CULTURAL SCIENCES

PUBLISHED BY THE
**INDIAN SCIENCE
NEWS ASSOCIATION**

EDITORIAL BOARD

S. C. Roy

Editor-in-Chief

N. D. Paria

Parimal Chandra Sen

Associate Editors

Amalendu Bandyopadhyay

Syamal Chakraborty

N. C. Datta

Amit Krishna De

Vinod Kumar Gupta

Samarjit Kar

Sudhendu Mandal

Members of the Editorial Board

COLLABORATORS

S. Aditya

Ananta Krishnan

Amiya Bagchi

A. K. Barua

Biman Basu

B. B. Biswas

Indrani Bose

Sankar Chakravorti

R. N. Chatterjee

D. P. Chattopadhyay

J. K. Datta Gupta

Dibyendu Ganguli

Irfan Habib

A. K. Hati

S. Kailas

Abhijit Lahiri

Balaram Majumdar

Biswapati Mukherjee

S. P. Mukherjee

G. Prathap

R. R. Rao

P. K. Ray

Prabir Roy

S. P. Sengupta

EDITORIAL

The Legacy Continues

— *Sibaji Raha*

... 397

ARTICLES

Sir J. C. Bose : The Unsung Inventor of Marconi's
Wireless Receiver

— *Varun Aggarwal*

... 399

J. C. Bose's Double-Prism Experiment Using Single
Photon States Vis-a-vis Wave-Particle Duality

— *Dipankar Home*

... 408

The Story of the Twisted Fiber

— *K Thyagarajan and Ajoy Ghatak*

... 416

Learning, Memory and Intelligence in Plants :
Insights of Acharya Jagadish Chandra Bose
Then and Now

— *Bikas K. Chakrabarti, Jun-Ichi Inoue
and Rahul Banerjee*

... 423

Ascent of SAP

— *B. K. Chatterjee*

... 433

Acharya J. C. Bose : His Pioneering Contribution
to Plant Physiology and Biophysics

— *B. B. Biswas*

... 439

Transgeneration Memory of Stress In Plants

— *Barbara Hohn*

... 444

Sir Jagadis Chandra Bose : An Innovative Scientist
and Founder of Interdisciplinary Research
in Plant Biology

— *Agépati S. Raghavendra*

... 449

OPINION

Inconsistencies, Gaps and Lack of Objectivity in
Biographies : The Case of Acharya J. C. Bose

— *S. C. Dutta Roy*

... 454

Contd. next page.



Indian Science News Association

President

Prof. B. B. Biswas

Vice-Presidents

Professor Arabinda Kumar Das

Dr. Alok Krishna Gupta

Professor Sankar Kumar Pal

Professor P. K. Ray

Professor M. S. Swaminathan

Professor S. K. Talapatra

Hony. Secretaries

Professor Naresh Chandra Datta

Professor Sudhendu Mandal

Hony. Treasurer

Professor Amalendu Bandyopadhyay

Council Members

Professor (Mrs.) Julie Banerji

Dr. Satyabrata Chakrabarti

Shri Manas Pratim Das

Dr. Satya Brata Dasgupta

Dr. K. P. Dhara

Dr. Dibyendu Ganguli

Dr. H. S. Maiti

Dr. Sisir Kumar Majumdar

Dr. Balam Majumder

Dr. Hemanta Kumar Majumder

Professor Biswapati Mukherjee

Professor Debasish Mukherjee

Professor Chittabrata Palit

Professor Sibaji Raha

Professor Siddhartha Ray

Dr. Amal Roy Chowdhury

Professor Jnanabrata Sil

Members of the Editorial Board are also members of the Council

FOCUS

Bose Institute

— Samarjit Kar ... 459

RESEARCH COMMUNICATION

Stigma Receptivity of *Pentapetes phoenicea* Linn. with Reference to Esterase Activity

— Sandip Choudhury, Subrata Mondal and Sudhendu Mandal ... 463

Latex Production From Immature Papaya (*Carica papaya* L.) Fruits After Harvest : A New Approach

— B. C. Mazumdar ... 466

Genetic Characterization of Spike Mutants and Seed Coat Colour in Isabgol (*Plantago ovata* Forsk.)

— Suparna Gupta and S. K. Ghose ... 470

Hardening – an Essential Step for Tissue Culture-raised Plants

— Amitava Roy and P. K. Saha ... 473

Concentrations of Dissolved Zn, Cu and Pb in and around Indian Sundarbans : A Time Series Analysis

— Kakoli Banerjee, Riti Bhattacharjee, Gahul Amin, Somnath Das and Abhijit Mitra ... 476

Cholera : A Clinical and Biochemical Overview

— Aryadeep Roy Choudhury ... 483

Molecular Taxonomy : An Approach Based on Molecular Markers

— Santanu De and Subhendu Bandyopadhyay ... 488

NOTES AND NEWS ... 494

EULOGY

An Appreciation of the late Sir J. C. Bose

— Birbal Sahni ... S1

Cover : Acharya J. C. Bose, his instrument and patent application.

**Members of the Advisory Committee
of
Indian Science News Association**

Professor Padmanabham Balaram	Bangalore
Professor D. Balasubramanian	Hyderabad
Professor B. B. Baliga	Mangalore
Professor Basudeb Barman	Kolkata
Professor A. K. Barua	Kolkata
Professor Ashok Nath Basu	Kolkata
Dr. M. K. Bhan	New Delhi
Professor Jagadish Chandra Bhattacharyya	Bangalore
Professor Samir Kumar Brahmachari	New Delhi
Professor Chandrashekhar Chakraborty	Kolkata
Dr. Purnendu Chatterjee	Kolkata
Professor Suranjan Das	Kolkata
Professor Asis Datta	New Delhi
Professor P. N. Ghosh	Kolkata
Dr. N. K. Ganguly	New Delhi
Professor S. N. Ghosh	Kolkata
Dr. H. K. Gupta	Hyderabad
Dr. K. Kasturirangan	Bangalore
Dr. R. A. Mashelkar	New Delhi
Dr. Govardhan Mehta	Bangalore
Professor M. G. K. Menon	New Delhi
Professor Yash Pal	New Delhi
Dr. T. Ramasami	New Delhi
Dr. Anuj Sinha	New Delhi
Dr. Bikash Chandra Sinha	Kolkata

**SCIENCE & CULTURE
ADVERTISEMENT**

RATE

	Single Insertion	
	(Full Page)	(Half Page)
COVER (Back)	Rs. 10,000/-	×
COVER (Front Inside)	Rs. 7,000/-	×
COVER (Back Inside)	Rs. 7,000/-	×
OTHER PAGES	Rs. 5,000/-	Rs. 3,000/-

N.B. : For colour or any other special types of advertisement—rates may be negotiated.

A discount of 20% for insertions in all issues in a year and of 15% for atleast three insertions will be allowed.

TO OUR READERS

Your appreciation of the journal makes us bold to suppose that some of your friends would also like to read **SCIENCE & CULTURE**, the premier scientific monthly of India devoted to the publication of the progress in pure and applied sciences. The Indian Science News Association has been conducting the journal for over 74 years with the editorial co-operation of eminent scientists of India with the object of promoting and diffusing knowledge laying special stress on the progress of scientific studies here and abroad, and advocating methodical application of science to problems of national regeneration.

Editorial correspondence should be sent to the Editor, *Science and Culture*, 92, Acharya Prafulla Chandra Road, Kolkata : 700 009. Manuscripts prepared in accordance with the Instruction to Contributors should be submitted in **Triplicate** and will not be returned unless accompanied with return postage.

Correspondence relating to subscription, advertisement and other matters should be addressed to the **Hony. Secretary, Indian Science News Association, 92, Acharya Prafulla Chandra Road, Kolkata : 700 009, Phone : 2350-2224. E-mail : scie2224@dataone.in, Website : www.scienceandculture-isna.org**

MEMBERSHIP FEE

Life Member	:	Rs. 1500.00
Ordinary Member (without journal)		Rs. 100.00
Ordinary Member (with journal)		Rs. 400.00

ANNUAL SUBSCRIPTION

Inland (Institution)	Rs. 1000.00
Foreign	U.S.\$ 125.00
Inland (Individual)	Rs. 400.00
Foreign (Individual)	US.\$ 60.00
Single Copy (Inland)	Rs. 80.00
Single Copy (Foreign)	\$ 20.00