

Acharya Prafulla Chandra Ray Memorial Lecture Series

Organized by
CSIR-NIIST, Thiruvananthapuram

2015 Lecture by

Prof. Kankan Bhattacharyya FNA, FASc, FNASc
(Sr. Professor, IACS, Kolkata)

at
**National Institute for Interdisciplinary Science and Technology
(CSIR-NIIST), Thiruvananthapuram**

on
August 03, 2015
(Monday)

Programme

August 03, 2015 (Monday)

Venue: Auditorium, CSIR-NIIST, Thiruvananthapuram

03:30 PM – 04:00 PM: Registration & Tea

04:00 PM – 04:15 PM: Welcome & Introductory Remarks

Dr. A. Ajayaghosh
(Director, CSIR-NIIST, Thiruvananthapuram)

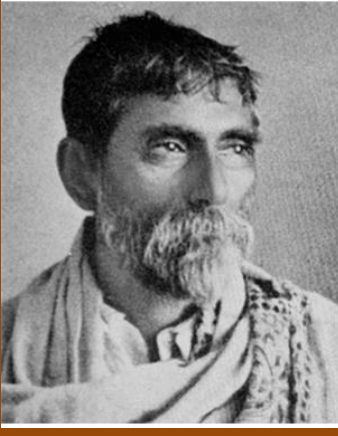
**04:15 PM - 05:15 PM: Acharya Prafulla Chandra Ray
Memorial Lecture**

Prof. Kankan Bhattacharyya
(Sr. Professor, IACS, Kolkata)

Title: "The Life and Works of Acharya Prafulla Chandra Ray"

05:15 PM - 05:20 PM: Vote of Thanks
Dr. K. R. Gopidas
(Head, CSTD, CSIR-NIIST)





आचार्य प्रफुल्ल चंद्र रे स्मारक व्याख्यान शृंखला

आयोजक

सीएसआईआर - एनआईआईएसटी
तिरुवनंतपुरम

3 अगस्त 2015 को
(सोमवार)

प्रो. कंकण भट्टाचार्य, एफएनए, एफएएससी, एफएनएससी
(वरिष्ठ प्रोफेसर, आईएसीएस, कोलकाता)

द्वारा
2015 व्याख्यान

स्थान : सीएसआईआर - राष्ट्रीय अंतर्विषयी विज्ञान तथा प्रौद्योगिकी संस्थान
तिरुवनंतपुरम

कार्यक्रम

3 अगस्त 2015 (सोमवार)

स्थान: ओडिटोरियम, सीएसआईआर-एनआईआईएसटी, तिरुवनंतपुरम

03:30 बजे- 04:00 बजे : पंजीकरण एवं चाय

04:00 बजे - 04:15 बजे : स्वागत एवं आरंभिक टिप्पणी

डॉ. ए. अजयघोष

(निदेशक, सीएसआईआर-एनआईआईएसटी, तिरुवनंतपुरम)

04:15 बजे - 05:15 बजे :

आचार्य प्रफुल्ल चंद्र रे स्मारक व्याख्यान शृंखला

प्रो. कंकण भट्टाचार्य

(वरिष्ठ प्रोफेसर, आईएसीएस, कोलकाता)

शीर्षक: " आचार्य प्रफुल्ल चंद्र रे का जीवन और कार्य "

05:15 बजे – 05:20 बजे

: धन्यवाद प्रस्ताव

डॉ.गोपीदास

(प्रधान, सीएसटीडी, सीएसआईआर-एनआईआईएसटी)



Prof. Kankan Bhattacharyya studied in Presidency, Kolkata and Calcutta University. In 1978, he joined Mihir Chowdhury's laboratory at the Indian Association for the Cultivation of Science (IACS), Kolkata to work on nanosecond laser spectroscopy and studied nanosecond dynamics, two photon absorption and high-resolution spectroscopy in Spholskii matrix at low temperature to obtain his PhD degree (1984). He then joined Notre Dame Radiation Laboratory, USA, to work with Dr. P. K. Das on nanosecond laser flash photolysis and photochemistry. In 1986, he moved to Columbia University to learn the novel surface second harmonic generation (SSHG) technique from K. B. Eisenthal. Bhattacharyya returned to India (1987) and joined IACS.



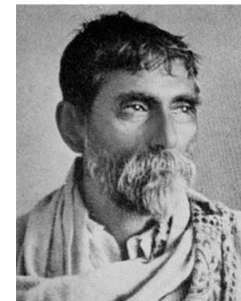
At Columbia, Bhattacharyya studied absolute orientation of organic molecules at the water surface from the measurement of the phase of SSHG light and also showed that acid-base properties at the water surface is markedly different from that in bulk. At IACS, he built a SSHG set-up, a picosecond TCSPC set-up, a femtosecond up-conversion set-up and most recently, a confocal microscope. His primary research interest is in femtosecond laser spectroscopy, particularly, directed towards unravelling dynamics in organized and biological systems. His studies span solvation dynamics, proton/electron transfer, energy transfer (FRET) and anisotropy decay. The systems range from proteins and surfactant assemblies to cyclodextrin, polymer, and nano-porous solids (zeolites, sol-gel glass). His most significant discovery is that water molecules, confined in a nanocavity, display an ultraslow component of solvation dynamics which is 100-1000 times slower compared to bulk water. He has demonstrated that one can selectively study dynamics in different regions of an organized assembly (i.e. spatially resolve) through variation of excitation wavelength. He also showed that proton transfer in nano-confined systems is substantially slower compared to that in bulk water. Dr. Bhattacharyya has guided 29 PhD students.

Dr. Bhattacharyya has received several awards and honours that include B. C. Dev Prize of ISCA (1997), S. S. Bhatnagar Prize (1997), CSIR New Millennium Science Medal (2000); CRSI Silver Medal (2006), J. C. Bose Fellowship (2007), TWAS Prize in Chemistry of the Academy of Sciences for the Developing World (2007) and INSA Golden Jubilee Commemoration Medal (2010). He is a Fellow of all three Science Academies in India and a Fellow of Third World Academy of Sciences. Since 2008, Bhattacharyya is a senior Editor of Journal of Physical Chemistry. He is also associated with Chemistry-An Asian Journal, Bull. Chem. Soc. Japan & Chemistry Letters as Editorial Advisory Board Member.

Web: <http://www.iacs.res.in/physchem/pckb/>

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2015 Lecture by

**Prof. Kankan Bhattacharyya FNA, FASc, FNASc
(Sr. Professor, IACS, Kolkata)**

at

**National Institute for Interdisciplinary Science and
Technology (CSIR-NIIST), Thiruvananthapuram**

on

**August 03, 2015
(Monday)**

Dear Friends,

We are happy to institute a lecture series at CSIR-NIIST, Thiruvananthapuram to commemorate the birthday of Acharya Prafulla Chandra Ray, who is considered as the Father of Indian Chemistry. The first Acharya P. C. Ray Memorial Lecture will be delivered by Professor Kankan Bhattacharyya, a distinguished chemist of the country. You are cordially invited to participate.

Yours Sincerely,

A. Ajayaghosh

Director, CSIR-NIIST, Thiruvananthapuram

Tel: 0471-2490674 ; Fax : 0471-2491712

Email: director@niist.res.in

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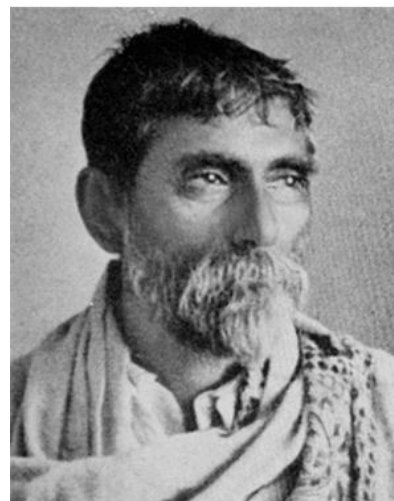
(Sr. Professor, IACS, Kolkata)

Title: "The Life and Works of Acharya Prafulla Chandra Ray"

05:15 PM - 05:20 PM: Vote of Thanks

Dr. K. R. Gopidas

(Head, CSTD, CSIR-NIIST)



Acharya Prafulla Chandra Ray (1861-1944) was born on 2 August 1861 in Raruli-Katipara, a village in the District of Khulna (in present day Bangladesh). His early education started in his village school. After attending the village school, he went to Kolkata, where he studied at Hare School and the Metropolitan College. The lectures of Alexander Pedler in the Presidency College, which he used to attend, attracted him to chemistry, although his first love was literature. He continued to take interest in literature, and taught himself Latin and French at home. After obtaining a F. A. diploma from the University of Calcutta, he proceeded to the University of Edinburgh on a Gilchrist scholarship

where he obtained both his B. Sc. and D. Sc. degrees.

In 1888, Prafulla Chandra made his journey back to India. Initially he spent a year working with his famous friend Jagadish Chandra Bose in his laboratory. In 1889, Prafulla Chandra was appointed as an Assistant Professor of Chemistry in the Presidency College, Kolkata. His publications on mercurous nitrite and its derivatives brought him recognition from all over the world. Equally important was his role as a teacher - he inspired a generation of young chemists in India thereby building up an Indian school of chemistry. Famous Indian scientists like Meghnad Saha and Shanti Swarup Bhatnagar were among his students.

Prafulla Chandra believed that the progress of India could be achieved only by industrialization. He set up the first chemical factory in India, with very minimal resources, working from his home. In 1901, this pioneering effort resulted in the formation of the Bengal Chemical and Pharmaceutical Works Ltd.

He retired from the Presidency College in 1916, and was appointed as Professor of Chemistry at the University Science College. By 1920, Ray had written about 107 papers in all branches of chemistry. In 1921 when Prafulla Chandra reached 60 years, he donated, in advance, all his salary for the rest of his service in the University to the development of the Department of Chemistry and to the creation of two research fellowships. The value of this endowment was about two lakh rupees. He eventually retired at the age of 75. In Prafulla Chandra Ray, the qualities of both a scientist and an industrial entrepreneur were combined. Acharya P. C. Ray is considered as the father of the Indian Chemistry and Pharmaceutical industry. (This modified excerpt was adapted from <http://www.tifr.res.in/~outreach/outreach/scientists.pdf>).