



THE BPPIMT - NEWSLETTER

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Remembering Meghnad Saha-The Great Astrophysicist



'Meghnad Saha's place in the history of astrophysics and in the history of modern science in India is unique', wrote Subrahmanyan Chandrasekhar (1910-95). Saha's theory of thermal ionisation, which explained the origin of stellar spectra, was one of India's most important contributions to world science during the 20th century. It was an epoch-making discovery. Arthur Stanley Eddington (1882-1944), while writing on stars in the Encyclopaedia Britannica, described Saha's theory of thermal ionisation as the twelfth most important landmark in the history of astronomy since the first variable star (Mira Ceti) discovered by Saha made important contributions in different branches of physics.

It was Saha who first started the teaching and training in nuclear physics in the country. The first cyclotron in the country was built with Saha's initiatives. Saha was a great institution builder. Among the institutions that he built were: National Academy of Sciences, India, at Allahabad, Indian Physical Society, Kolkata, National Institution of Sciences of India. Saha was an active member of the National Planning Committee constituted by the Indian National Congress in 1938 with Jawaharlal Nehru as its Chairman.

He was the Chairman of the Indian Calendar Reform Committee constituted by the Council of Scientific and Industrial Research in 1952. He was an elected Independent Member of the Indian Parliament. He advocated large-scale industrialization for social development.

Meghnad Saha was born on October 06, 1893 in the village of Seoratali in the Dhaka (then Dacca) district (now in Bangladesh) of undivided India. He was the fifth child of his parents, Jagannath Saha and Bhubaneswari Devi. At the age of seven, Saha joined the village primary school and from the very beginning he demonstrated an unusual aptitude for learning. He had his initial schooling at Dhaka Collegiate School, and later moved to Dhaka College. He was also a student at the Presidency College, Kolkata; a professor at Allahabad University from 1923 to 1938, and thereafter a professor and Dean of the Faculty of Science at the University of Calcutta until his death in 1956. He became Fellow of the Royal Society in 1927. He was president of the 21st session of the Indian Science Congress in 1934. Meghnad Saha's best-known work concerned the thermal ionisation of elements, and it led him to formulate what is known as the famous 'Saha equation'.

ACADEMIC NEWS:

Publications:

Journals:

M. H. Khan, S. Pal, **E. Bose** published the paper titled "Nonlinear behavior and universal scaling of ac conductivity in $(100-x)$ $\text{BaTiO}_3/(x)$ $\text{La}_{0.7}\text{A}_{0.3}\text{MnO}_3$ ($A = \text{Pb}/\text{Ca}$) composites" in *Phys. Scr.*, **89**, 025802 (Jan 2014), Impact factor: 1.032, ISSN: 1402-4896.

Surajit Mandal published the paper titled "Evaluation of polychromatic image quality of a birefringent lens by means of optical transfer function" in the *International Journal Optik*, **125** (1), 121-125 (Jan 2014), Impact factor: 0.769, ISSN: 0030-4026.

S Biswas, M. H. Khan, S. Pal, **E. Bose** published the paper titled "The effects of Mn substitution on magnetization reversal properties in $\text{Gd}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ " in *J. Supercond. Nov. Magn.* **27** (2), 463-468 (Feb 2014), Impact factor: 0.702, ISSN: 1557-1939.

M. H. Khan, S. Pal, **E. Bose** published the paper titled "Nature of temperature- and magnetic-field-dependent conduction mechanism in electron-doped $\text{Ca}_{0.85}\text{R}_{0.15}\text{MnO}_3$ ($R = \text{Pr}, \text{La}$) manganites" in *Phys. Status Solidi (b)*, **251** (3), 559-564 (Mar 2014), Impact factor: 1.489, ISSN: 1521-3951.

Binoy K. Biswas, Asish Bandyopadhyay and Pradip K. Pal published the paper titled "A study on quality of weld in flux cored arc welding Process" in *Int. J. Precision Technology*, **4** (1-2), 81-95 (Apr 2014), ISSN 1755-2060 (Print), 1755-2079 (Online) (without impact factor).

Conference:

Tista Banerjee, Sumana Choudhuri, Kaushik Das Sharma published the paper titled "Speed Tracking Scheme for FOC based Induction Motor by Fuzzy Controller" in *International Conference on Control, Instrumentation, Energy & Communication (CIEC)*, 121-125, ISSN: 978-1-4799-2043-3 (Jan 2014).

Kunal Das, Debashis De, Sayantan Ghatak, and Mallika De published the paper titled "Re-programmable logic array for logic design and Its reliability analysis in QCA" in *Emerging Trends in Computing and Communication*, Springer **298**, 2014, 341-352, ISSN: 978-81-322-1816-6 (Mar 2014).

Dipannita Podder, **Kunal Das**, Debashis De, and Mallika De published the paper titled "Realization of bi-quinary coded decimal adder in quantum dot cellular automata" in *Emerging*



Trends in Computing and Communication, Springer **298**, 2014, 353-362, ISSN: 978-81-322-1816-6 (Mar 2014).

Arijit Dey, Kunal Das, Debashis De, and Mallika De published the paper titled "Online testable conservative adder design in quantum dot cellular automata" in *Emerging Trends in Computing and Communication*, Springer **298**, 2014, 385-394, ISSN: 978-81-322-1816-6 (Mar 2014).

Gitosree Khan et al published the paper titled "A probabilistic model for analysis and fault detection in the software system: An empirical approach" in *Emerging Trends in Computing and Communication*, Springer **298**, 2014, 253-265, ISSN: 978-81-322-1816-6 (Mar 2014).

Rupa Pal published the paper titled "Calculation of bridge function and thermodynamic properties of Lennard-Jones fluid using integral equation theory" in *Emerging Trends in Computing and Communication*, **298**, 395-406; ISSN 978-81-322-1816-6 (Mar 2014).

Recognition:

Prof. Dr. B. N. Chatterji, Academic Dean, BPPIMT delivered the Plenary lecture on "Content based retrieval of texture images" and chaired a Technical session in the 5th International Conference on Signal and Image Processing ICSIP 2014 at Bangalore during January 8-10, 2014.



Invited Lecture

Mr. Pramathesh Das, Associate Professor and HOD, EE Dept. has been invited by Intech Corporation, Kolkata to deliver lecture on "Interlock & Protection system of process plant" The lecture was delivered on 13th January 2014 in their auditorium.

Participation

Dr. Kakali Karmakar (Sur) and Ms. Rikhiya Dhar attended TEQIP-II sponsored short term course on "Mathematics : its Role and Application in Engineering and Technology" (MRAET 2014) Dated 13-17 January, 2014 organized by Department of Mathematics, National Institute of Technology(NIT), Durgapur.

Soumya Paul, Associate Professor and Head of Dept. of Computer Application has attended and participated one day Seminar on Norbert Wiener, Cybernetics, Humanity & Technology, organised by CSI Kolkata Chapter and Division II (software), IEEE Computer Society India Council & ISI Kolkata at ISI Kolkata on 07.03.2014.

INSTITUTIONAL NEWS:

Commencement of Even Semester

The even semester classes for all the streams started from 15th January 2014.

Saraswati Puja

Like every year, Saraswati Puja was celebrated on 4th Feb, 2014 with usual colour, devotion and mirth by the student fraternity of B. P. Poddar Institute of Management and Technology. The students in their revelries were joined by the staff and the faculty members which marked the juncture as yet another event of BPPIMT family. Festive decor, religious rites, Pushpanjali, Distribution of Prasad (the pious offerings to God of Knowledge and wisdom in form of fruits and sweets) were high points of the occasion. To add a flavor of completeness to the occasion, lunch was arranged for all. The following day, the idol was immersed in the Ganges after performance of prevailing rituals.

Seminar

A seminar on "Higher studies in France including availability of scholarship" was delivered by Mr. Amitava Das, Campus France Education Advisor and Education Section-in-Charge French Embassy.

