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Remembering Shakuntala Devi – The Human Computer

Shakuntala Devi was an Indian writer and mathematical genius popularly known as the "human computer". Her brain was a human calculator and she could make complicated mathematical calculations and effortlessly speak out the results! She was born in Bengaluru, India, on 4 November 1929 to an orthodox Kannada Brahmin family. Her family was a very poor one as her father hardly made enough to make ends meet. She could not even receive a formal education because of her family's dire financial situation. Her father discovered his daughter's ability to memorise numbers while teaching her a card trick when she was about three years old.

She travelled the world demonstrating her arithmetic talents, including a tour of Europe in 1950 and a performance in New York City in 1976. In 1988, she travelled to the US to have her abilities studied by Arthur Jensen, a professor of psychology at the University of California, Berkeley. Jensen tested her performance of several tasks, including the calculation of large numbers. Examples of the problems presented to Devi included calculating the cube root of 61,629,875 and the seventh root of 170,859,375. Jensen reported that Devi provided the solution to the above mentioned problems (395 and 15, respectively) before Jensen could copy them down in his notebook. Jensen published his findings in the academic journal *Intelligence* in 1990.

In 1977, at Southern Methodist University in Dallas, she gave the 23rd root of a 201-digit number in 50 seconds. It had taken 4 minutes for a professor to write the problem on the board. Shakuntala Devi got it in 50 seconds. Her answer, 546,372,891, was confirmed by calculations done at the US Bureau of Standards by the UNIVAC 1101 computer, for which a special program had to be written to perform such a large calculation that took more than a minute for the Univac 1101computer to figure out the answer.

On 18 June 1980, she demonstrated the multiplication of two 13-digit numbers—7,686,369,774,870 and 2,465,099,745,779—picked at random by the Computer Department of Imperial College London. She correctly answered 18,947,668,177,995,426,462,773,730 in 28 seconds. This event was recorded in the 1982 *Guinness Book of Records*. Devi was also an astrologer and an author of several books, including cookbooks and novels.

She started the Shakuntala Devi Education Foundation Public Trust to provide quality education to children from underprivileged backgrounds. She also helped spread global awareness about India's contribution towards mathematics. In 1969 she was awarded the title of the 'Most Distinguished Woman of the Year' by the University of Philippines. She received the 'Ramanujan Mathematical Genius' Award in Washington D.C in 1988.

In April 2013, she was admitted to a hospital in Bengaluru with respiratory problems and complications of the heart and kidneys. This great daughter of Mother India passed on 21 April 2013. She was 83 years old then.

ACADEMIC NEWS:

Publications:

Journals:

Pritam Bhattacharjee, **Arijit Dey**, Kunal Das, Swarnendu Kumar Chakraborty and Rajat Subhra Goswami, "Implementation of ternary logic in QCA using SPICE Macro-Modeling", Journal of Engineering Technology, **5**(2) pp. 143-155, (July 2016), ISSN: 0747-9964, Impact factor: 0.9 (indexed in SCI).

Arijit Saha, "Birefringent network forming a rotator", Optik **127** (15), pp. 5914-5919 (August 2016), ISSN: 0030-4026, Impact factor: 0.769 (indexed in both SCI and Scopus).

Sarit Chakraborty, Susanta Chakraborty, Chandan Das, Parthasarathi Dasgupta, "Efficient two phase heuristic routing technique for digital microfluidic biochip", *IET Computers & Digital Techniques*, **10**(5), pp. 233-242 (September 2016), ISSN:1350-2387, Impact Factor 0.517.

Conferences:

Gitosree Khan, **Sabnam Sengupta**, Anirban Sarkar, "Modeling and Analysis of Enterprise Cloud Bus using a Petri Net Based Approach", 3rd International Doctoral Symposium on Applied Computation and Security Systems (ACSS 2016) Kolkata, Aug-2016, published in Advanced Computing and Systems for Security, **568** of the series Advances in Intelligent Systems and Computing, pp 17-36.

Dipankar Majumdar, **Subhasis Mallick**, "Cuckoo search algorithm for Constraint Satisfaction and Optimization", Proc. *Second IEEE International Conference on Research in Computational Intelligence and Communication Networks 2016*, Sept-2016, pp. 235-240

Debjani Chakraborty, "*Women Empowerment: some issues*", ASHE-2016 National Conference on Applied Science And Humanities In Engineering, ISSN: 0976-9048, First Impression-2016, pp. 183, Sep-2016

Debjani Chakraborty, "*Narrative and Short stories*", ASHE-2016 National Conference on Applied Science And Humanities In Engineering, ISSN: 0976-9048, First Impression-2016, pp. 17, Sep-2016.

INSTITUTIONAL NEWS:

Participation:

Prof. B. N. Chatterji was invited as the Guest of Honour at the International Conference in Electronics and Communication Engineering, ICECE-2016, at Vijianagaram during July 29-30, 2016 which was organized by Jawaharlal Nehru Technological University, Kakinada (JNTUK). He delivered invited talk on "Development of Electronics and Communication Engineering during last seven decades".

Students Publications

Ranita Banerjee, **Indra Kanta Maitra**, Samir Kumar Bandyopadhyay, "A Survey On Relevant Edge Detection Technique For Medical Image Processing", European Journal of Biomedical and Pharmaceutical sciences, **3**(7), pp. 317 – 327, July 2016, ISSN: 2349-8870, SJIF Impact Factor 3.881. Ranita Banerjee is a student of Dept. of Electronics & Communication Engineering.

Surajit Mandal, **Badhan Kumar Das**, **Arnav Chakraborty**, **Abhishek Roy**, "A Novel Technique of Optical Image Encryption Using Fresnel Transform", International Journal of Advanced Research in Computer Science and Software Engineering, **6**(7), pp. 247-250, July 2016, ISSN: 2277 128X, Impact Factor 2.5. Badhan Kumar Das, Arnav Chakraborty, and Abhishek Roy are students of Dept. of Electronics & Communication Engineering.

Student Achievements

Debdyut Hajra, Preetam Datta, Abhishek Chowdhuri, Anurag Chaudhuri, students of Dept. of Electronics & Communication Engineering, won 2nd prize in "Hackathon – Building Apps for a Better Future", an app development competition organized by Microsoft, Nasscom 1000 Start-up, US Consulate General, held at American centre. They made a virtual reality app to diagnose psychotic diseases like Schizophrenia, delusions and various types of phobia. The event was organized during 23-24 July 2016.

Arunava Dhar, student of Dept. of Electronics & Communication Engineering, won the 1st prize in "Hues" – painting competition in "Wavicle", an inter-college competition organized by the Techno India SPIE Student Chapter. The event was held during 26-27 July 2016.

Commencement of New Academic Session

The academic session for the odd semester commenced from 2nd August 2016 for all continuing batches of B. Tech and MCA.

Orientation Programme

The students of first year, B. Tech joined BPPIMT family on 9th August 2016. A Freshers' Orientation program for the new entrants was organized at the Institute in presence of the Principal, Dean, Registrar, all HODs, faculty and staff members of the Institute. The students of each discipline were also taken to their respective departments where they were familiarized with the