Late B.P. Poddar
(1920-1981)
Founder
B.P. Poddar Group

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

academic programmes of the individual departments and were introduced to the faculty members and technical staffs. The students were also addressed by the Professional counselor to help them get oriented in the new environment. Regular classes for first year started on 10th August, 2016.

Seminar

Prof. Indranil Sengupta, IIT KGP delivered a lecture on "Research methodology and pedagogy" on 2nd July 2016. Principal Prof. (Dr.) Sutapa Mukherjee, Dean Prof. B. N. Chatterji, HODs of all departments and faculty members of the Institute participated in the seminar.

SPIE Student Chapter Activity

Students of SPIE student chapter conducted a School Awareness Programme at Scottish Church Collegiate School on 7th July 2016. Four members from SPIE student's chapter arranged a workshop for students in the school. They made the school students aware about the importance of light in our daily life and its application as a renewable source of energy. They exhibited some models and examples on this subject.

Student Chapter Leadership Workshop and Conference on Optics and Photonics in San Diego, California

Swarnav Mukhopadhyay, represented BPPIMT in Optics and Photonics conference. It was a great opportunity for networking with others and build up the network further. The conference was highly inspiring and motivating event for students who want to do research work. Swarnav showcased all the events organized by SPIE student chapter .

Faculty Development Programme

Dept. of Information Technology, BPPIMT organized a Faculty Development Programme on "Use of ICT for online and blended learning" during 8th-9th July and on 30th July 2016. Spreading the use of Information and Communications Technology (ICT) in education is a MHRD initiative and is aimed to give a direction in initiating a learner oriented teaching learning environment. This FDP was also aimed to extend this connection for imparting knowledge, transitioning towards a more active learning environment. Faculty and technical staff members from all departments participated in the programme. Discussions on learning management system LMS: MOODLE was a major thrust area in the programme.

Workshop by Dept. of Applied Science & Humanities

Dept. of Applied Science & Humanities, BPPIMT organized a workshop on "Innovative experiments by open source hardware and software" on 5th July 2016. Prof. Sandeep S. Ghugre, Scientist G, Nuclear Physics division, UGC-DAE-CSR-KC delivered the talk.

Workshop by Dept. of Electrical Engineering

Dept. of Electrical Engineering, BPPIMT organized a workshop on "Advancement in power engineering and popular electrical drives in robotics". Dr. Asit. K. Datta, Ex-Professor, Calcutta University, delivered the Keynote address. Dr. Sudipta Debnath, Associate Professor, Jadavpur University, delivered a lecture on "Power quality detection and classification". Dr. Jitendra Nath Bera, Professor, Calcutta University, delivered a talk on "Different issues on BLDC drives". Ms. Sudipta Chakrabory, Associate Professor, BPPIMT talked on "Different issues on air-borne tactical mission". A demonstration on "Application of Adrino Uno in speed control of DC motor used in robotics" was carried out by Ms. Tista Banerjee, Assistant Professor, BPPIMT.

Seminar on Algorithm and Its Application

The Seminar on "Algorithm and Its Application" (SAA 2016) was organized by the department of Computer Science and Engineering on 3rd September 2016 . The seminar aimed to find solutions to broad algorithmic problems in the context of the various applications of algorithms. During the seminar, eminent speakers from Academia and Industry enlightened on the algorithmic perspective on various domains like Data Science, Big Data Analytics, Cognitive Computing and VLSI and gave an overview of the state of the art and existing challenges. The speakers list includes Prof. Swapan Bhattacharya, Professor Jadavpur University and ex-Director of NIT Surathkal & Durgapur, Dr. Debapriyo Mazumdar from ISI Kolkata, Dr. Sandipan Sarkar from TCS and Prof. Indranil Sengupta from IIT KGP along with our alumni entrepreneur Mr. Anurag Prajapat from Codeblix.

Workshop on Python Programming

To keep the students abreast with recent technologies, Dept. of CSE organized a two week long Workshop on Python Programming from 5th July-16th July, 2016. Mr. Bikromadittya Mondal, as a coordinator of the event conceptualized and developed the entire program with the help of other faculty members and technical staff. The workshop was conducted for a group of CSE students and it was divided into three modules. Also external speaker and examiners were invited to impart some knowledge in these emerging domains and to judge the projects assigned to students at the end of the course.

Indoor Games

The Intra college Indoor Games Tournament, 2016 was held in the Institute during 20-21st September, 2016. Students from all departments contested in Carrom (Singles, Doubles and Mixed Doubles), Chess and Table Tennis (Singles, Doubles and Mixed Doubles). Faculty and staff members also participated in the event.

Viswakarma Puja

Like each year, the Viswakarma Puja of the Institute has been celebrated on the 17th Sept, 2016 amidst much fervor, fun and frolic. The ever enthusiastic students garnished the platter of celebration with the right colours and flavours through their zeal and untiring efforts. Be it in the spectacular decoration of the idol or in the meticulous Puja arrangement or in the pious ambience of the venue the delicate touch and sincere thoughts of those involved were reflected. The students like every year offered their devotion to the God of Engineering in the form of Puspanjali, the sacred offering of flowers. The gala lunch added a unique hue to the festivities. The very next day the idol was immersed in the Ganges after performing proper rites.

Grey Matters

Grey Matters, the annual quiz competition of the Institute was held with fervor and enthusiasm by the Orator's Forum in association with the Alumni association on 24th September 2016. More than 500 students participated in the prelims and 6 teams with 2 contestants each, made it to the coveted final. After breathtaking competitive rounds, the winners were decided. Debdyut Hajra and Sutanu Khan of ECE department secured the 1st position, Rahul Mishra and Shubham Agarwal of CSE and ECE departments respectively were the runners up while Debanjan Guhathakurta and Ayush of CSE department finished at the 3rd position. The event came to an end with the distribution of Prizes by the Principal of the Institute, Prof. Dr. Sutapa Mukherjee.

Recent Activities of ED cell

Ms. Susmita Biswas, Ms. Anindita Roy Chaudhuri, Mr. Subhasis Mallick, faculty members of our institute attended FDP at IEM, Salt Lake, Kolkata, during 7-9th July 2016.

Pritam Mullick, E-leader of this institute secured first position in Code Mart-Compute Aid and B-Plan (Money Matters) events organized at EDGE 2016 (annual techno management fest), Techno India, Salt Lake.

Debdyut Hajra, E-leader, and three other college students participated and got second prize in a two day Hakathon, organized by NASSCOM, during 23-24th July 2016.

Webinar on WF100 course was arranged on 28th July 2016.

Orientation Course WF100 started from 10th August 2016 onward in the ED Cell in association with Wadhwani NEN.

Debdyut Hajra, Priyanka Kothari and Tushar Dhanuka, E-leaders of this institute attended a Seminar-cum-Workshop on 'Innovation and IP Creation- Imperatives of Professional Education' organized by TCGTBI and IIEST, Shibpur. Debdyut Hajra secured first position in the competitive event titled 'Innovation Pitch Contest' during 10-11th August 2016.

Entrepreneurial Workshop : Mr. Subhabrata Bhattacharjee, Regional Manager, National Entrepreneurship Network delivered a talk on Entrepreneurship Education on 27th August 2016. E-leaders also shared their experience gathered in various workshops.

Dr. Surajit Mandal attended a meeting on 'National Scheme on Entrepreneurship Development' held at IIM Calcutta Campus on 8th September 2016.

Achievements

Dr. Soumya Paul, Associate Professor and Head, Dept. of Computer Application acted as an Expert in the Selection Committee of Information Technology at ILEAD, Kolkata on 12.07.2016

Dr. Soumya Paul, Associate Professor and Head, Dept. of Computer Application, gave a talk on "Application of Mathematics and Statistics in Management" in the orientation programme at ILEAD on 28.07.2016.

Recognition

Dr. Soumya Paul, Associate Professor and Head, Dept. of Computer Application has been nominated as the Member of the Board of Studies for the subject of Computer Applications in September 2016 by Hon'ble Vice Chancellor of Maulana Abul Kalam Azad University of Technology, West Bengal (Formerly known as WBUT).

- **Editorial Committee**:   The Editorial Committee consists of a team of Faculty Members, with Prof (Dr.) B.N. Chatterji, Dean Academics as the Chief Editor, Prof (Dr.) Sutapa Mukherjee, Principal as the Chief Advisor and Dr. Arijit Saha Associate Professor as the Editor of the Newsletter.

- **Call for Contributions:**   Contribution for the Newsletter on the global and national news related to technical, economical, philosophical and general science etc. is solicited from all the members of the BPPIMT family and the students. The prospective contributors are requested to send their writings in about 200 words electronically to the mail address: bppimtnewsletter@bppimt.ac.in. Publication in the Newsletter is at the full discretion of the Editorial Committee.