

Report on Winter School on Soft Computing Tools, Simulation and Applications

January 10-14, 2006

**Organized by: Center for Soft Computing Research (CSCR): A National Facility
Indian Statistical Institute, Kolkata**

The school was inaugurated by Prof. Dwijesh Dutta Majumdar while Prof. Sankar K. Pal, Director of ISI presided over the inauguration ceremony held on Jan 10, 2006 during 10:15-10:45 AM.

The school was advertised in mid-October 2005 with deadline of December 10, 2005, and it received overwhelming response from researchers from different parts of the country. To honor this, we augmented the initial capacity of participants from 30 to 60. Still we had to turn down several sincere requests due to scarcity of space. The participants were from different institutes e.g., IISc Bangalore; IIT Madras, IIT Kanpur, IIT Kharagpur; NITs like Rourkela, Tiruchirappalli, Durgapur, Jalandhar, Surat, Silchar, Surathkal and Bhopal; Universities like Benaras Hindu University, Jadavpur University, Calcutta University, Burdwan University and Delhi University; Engineering colleges like Delhi College of Engg, Netaji Subhas Institute of Technology (NSIT) Delhi, BIT Mesra, Bapuji Institute of Engineering at Davangere-Karnataka, Saha Institute of Nuclear Physics at Kolkata, Gandhigram Rural Institute at Dhindigul-Tamil Nadu, Pragjyotish College at Guwahati-Assam. There were also participants from industries like C-DAC Kolkata, Defence Electronics Application Lab (DEAL) DRDO at Dehradun, Central Scientific Instruments Organization (CSIO) at Chandigarh. The category distribution of the participants was Industry – 8, Faculty – 25 and Students – 26. In addition, 35 researchers from ISI attended the school.

The speakers to the school were Prof. S. K. Pal (Principal Investigator, CSCR), Prof. M. K. Kundu (Co-Principal Investigator, CSCR), Prof. C. A. Murthy (Co-Principal Investigator, CSCR), Prof. B. B. Bhattacharya (Co-Principal Investigator, CSCR), Prof. B. Chanda (Co-Investigator, CSCR), Prof. S. Mitra (Co-Investigator, CSCR), Dr. A. Ghosh (Co-Investigator, CSCR), Dr. D. P. Mandal (Deputed Faculty from Machine Intelligence Unit, ISI), Mr. A. K. Deb (Asst. Professor, CSCR) and Mr. B. L. Narayan (Research Scholar, Machine Intelligence Unit, ISI). The topics discussed were Pattern Recognition and Machine Intelligence: relevance of Soft Computing, Image Processing, Data Mining, Neural Networks, Fuzzy Logic, Support Vector Machines, Genetic Algorithms, Wavelets and Applications, VLSI Applications of Soft Computing, Rough Set Hybridizations, Fractals and Web Mining. Moreover, participants were introduced to the simulation software MATLAB and they undertook hands-on practice sessions at the Center to familiarize themselves with MATLAB and its Soft Computing Toolboxes including Simulink.

Emphasis was given to make the lecture sessions interactive so that the participants can understand the effectiveness of soft computing paradigm in order to apply them in their domain areas. The lecture slides were made available to the participants in CD for their future recapitulation of the lectures and to delve deeper into any topic of interest. The school ended with a valedictory session chaired by Prof S K Pal where the certificates of participation were presented to the participants, and some of the participants shared their experiences regarding the school. While some of the participants from the NITs and engineering institutes expressed their keenness to undertake collaborative projects with the Center, participants from the industry and research scholars desired to have an application-oriented course focused on a specific soft computing tool or application or research area. Nevertheless, the experiences gained by the Center while conducting the school would surely be invaluable while undertaking any similar program in future.
