

Brief Summary of MATEIT-2008

The Second National Conference on Mathematical Techniques: Emerging Paradigms for Electronics and IT Industries (**MATEIT-2008**) will be held New Delhi, India from **September 26-28, 2008**. This conference is organized at Deen Dayal Upadhyaya College, University of Delhi and sponsored by University Grants Commission (UGC), Govt. of India and Co-Sponsored by IEEE-EDS Delhi Chapter, India, Society for Microelectronics and VLSI, New Delhi, India.

The contemporary and future course of world development is characterized by unprecedented interaction between the places of learning and the industry. Knowledge economy thrives on the synergy between the two. As the learning paradigm moves further from data and information, one sees a convergence and confluence of diverse disciplines. Take for example the dynamics of interplay between mathematics and electronics in driving the driver of the futuristic technologies, which is the IT. These two disciplines underlie the core of numerous success stories across wide spectra of industries. Various applications of mathematics in branches of science and technology are Cryptography, Aerodynamics, Porous Media and Finance, Communication and Information Security, Computer Security and Verification, Modeling of Passive & Active Microwave Components, IC Modeling and Process Design & Synthesis, Weather Modeling and Prediction, Rash Simulation, Design of Experiments, Support Vector Machine and Optical Pattern and Object Recognition, Text Categorization, Time Series Prediction, Gene Expression Profile Analysis, Uncertainty in Model Parameter Values, Stage-wise, Nested, and Periodic Decision-making, Statistical Quality Control and many more. The *semiconductor industry* and their products are growing rapidly and circuit designs get smaller and more complex. Semiconductor device simulation, based on mathematical models, is a useful tool for predicting the behavior of the semiconductor device prior to the fabrication and thus can be used to reduce greatly the cost and time of device development cycle.

Despite a huge list of applications, mathematics is often invisible outside the technical work group because its role in a successful project is not publicized. Industrial mathematicians tend to work in groups not entirely devoted to mathematics, and to collaborate with scientists and engineers from other disciplines. In order to understand and to keep pace with the latest developments in the field of Electronics and IT industry, the life-lines of the present and future generation one should understand the mathematical basics behind it. The purpose of this conference is to explore and give an insight to the latest trends of the Mathematical Techniques in the Electronics and IT Industries.