

## Special Session

on

### ***MONTE CARLO and QUASI-MONTE CARLO METHODS***

#### ABSTRACT

This special session will be focused on the following topics:

- Theory of the Monte Carlo and quasi-Monte Carlo methods for evaluating of multidimensional integrals, integral equations and linear algebra problems;
- Improvement and optimization of Monte Carlo algorithms; Statistical enhancement, error analysis;
- Numerics of stochastic (partial) differential equations;
- Complexity of high and infinite dimensional problems in the randomized setting and their tractability;
- Multilevel Monte Carlo;
- Parallel implementations of Monte Carlo algorithms for computationally intensive problems;
- Computational challenges posed by the modern micro- and nanoelectronics;
- Monte Carlo methods for classical and quantum transport simulations;
- Applications of Monte Carlo methods to modern semiconductor materials, devices and nanostructures;
- Limitations and practicality of Monte Carlo in conjunction with other numerical methods for device simulations.

Please, note the tight sequence of important deadlines which ensure the on-time (this will be done in the site of the conference) publication of the accepted papers in Springer Lecture Notes in Computer Science. Abstracts of one page, preferably in Latex, should be sent before **March 15, 2014** to: ***ivdimov at bas.bg***.