Molecular and Supramolecular Information Processing

From Molecular Switches to Logic Systems

Edited by Evgeny Katz

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Edited by a renowned and much cited chemist, this book covers the whole span of molecular computers. The contributions by all the major scientists in the field provide an excellent overview of the latest developments in this rapidly expanding area. A must-have for all researchers working on this hot topic. Perfectly complements Biomolecular Information Processing, also by Professor Katz, and available as a two-volume set.

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- Binary Logic with Synthetic Molecular and Supramolecular Species
- Photonically Switched Molecular Logic Devices
- Engineering Luminescent Molecules with Sensing and Logic Capabilities
- Supramolecular Assemblies for Information Processing
- Hybrid Semiconducting Materials
- Towards Arithmetic Circuits in Sub-Excitable Chemical Media
- All Kinds of Behavior are Possible in Chemical Kinetics:
  A Theorem and Its Potential Applications to Chemical Computing
- Kabbalistic-Leibnizian Automata for Simulating the Universe
- Electrochemistry, Emergent Patterns and Inorganic Intelligent Response
- Electrode Interfaces Switchable by Physical and Chemical Signals Operating as a Platform for Information Processing
- and more

Evgeny Katz received his Ph.D. in Chemistry from Frumkin Institute of Electrochemistry (Moscow) in 1988. He was a senior researcher in the Institute of Photosynthesis (Pushchino), Russian Academy of Sciences (1988-1991), a Humboldt fellow at Technische Universität München (Germany) (1992-1995), and a research associate professor at the Hebrew University of Jerusalem (1995-2006). Since 2006 he is Milton Kerker Chaired Professor at the Department of Chemistry and Biomolecular Science, Clarkson University, NY (USA). He has (co)authored over 300 papers in the areas of biocomputing, biointerfaces, biosensors and biofuel cells (Hirsch-index 65). Professor Katz serves as Editor-in-Chief for IEEE Sensors Journal and a member of editorial boards of many other journals.

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