New Book Announcement

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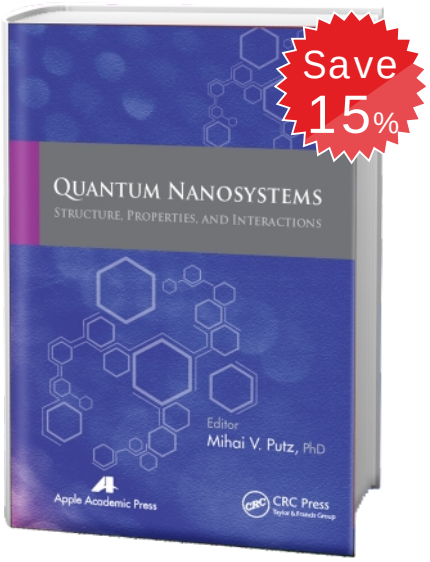

Quantum Nanosystems

Structure, Properties, and Interactions

Editor: Mihai V. Putz, PhD
Associate Professor of Theoretical Physical Chemistry, Laboratory of Structural and Computational Physical Chemistry for Nanosciences and QSAR; Biology-Chemistry Department, West University of Timisoara, Romania

This new reference book presents the work from contributors from various fields, of various ages, and from different countries, creating a valuable collection of research that will advance the fundamental and innovative techniques of nanosystems and their interactions.

The book includes these important features:

- an introduction to the physics and chemistry of nanosystems
- identification of the current open themes in nanosciences, such as nano-electrochemsitry, nano-solar cells, molecular magnets, spongy carbon and nanostructures, etc.
- routes to the experimental design of new and intelligent materials (e.g. with self-assembly and self-integrated properties)
- computational algorithm and theoretical methods in modeling experimental data on nanosystems' properties (such as magnetic, optical, spectral, etc.)
- quantum fundamental interpretation of newly identified phenomena (nano-cooperative effects, convective nanoparticle motions, many-body nanosystems' interaction)
- controlled design of nanosystems and particles and their possible and envisaged use in ecology (nano-carriers), energy conversion and savings (nano-solar cells), medicine (new dentistry and bones materials), etc.
- a unitary view on matter structure and reactivity, at nano-scale, while unifying the atomic and molecular interactions through an integrated and multifunctional (particle) quantum evolution.

The need for new materials that are economically feasible and multifunctional in design becomes more acute as the natural physical and chemical resources (natural energy and fuels) reveal either their limits or reveal the difficulties and increasing costs in storage, transport, and conversion. Consequently, intelligent materials, with self-assembly, self-regenerating, storage and directional properties are on the forefront of both fundamental and technical research in academia and industry worldwide. This book helps to respond to these challenges.

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ABOUT THE EDITOR

Mihai V. Putz is a laureate in physics (1997) with an MS degree in spectroscopy (1999), and PhD degree in chemistry (2002), with many post doctorate stages: in chemistry (2002-2003) and in physics (2004, 2010, 2011) at the University of Calabria, Italy, and Free University of Berlin, Germany, respectively. He is currently Associate Professor of theoretical and computational physical chemistry at West University of Timisoara, Romania. He has made valuable contributions in computational, quantum, and physical chemistry through seminal works that appeared in many international journals. He is actively promoting a new method of defining electronegativity, DFE (Density Functional Electronegativity), among new enzyme kinetics (Logistic Enzyme Kinetics), and of new structure-activity relationship (SPECTRAL-SAR) model for a unitary quantum approach of the chemical reactivity targeting the bio-, pharmaco and ecological analytical description.

Recently, he is Editor-in-Chief of the *International Journal of Chemical Modelling* and *the International Journal of Environmental Sciences*. He is member of many professional societies and has received several national and international awards from the Romanian National Authority of Scientific Research (2008), the German Academic Exchange Service DAAD (2000, 2004, 2011) and the Center of International Cooperation of Free University Berlin (2010). He is the leader of the Laboratory of Computational and Structural Physical Chemistry in the Biology-Chemistry Department of West University of Timisoara, Romania, where he conducts research in the fields of quantum chemistry and quantitative-structure activity relationships (QSAR). In 2010 Mihai V. Putz was declared through a national competition the Best Researcher of Romania.

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