YOUNG ROUMANIAN SCIENTISTS

Roumanian scientists from Roumania and abroad met last September in the Victoria Palace of Bucharest for a conference aimed at building bridges between Roumanian researchers. The conference "Diaspora în cercetarea ştiinţifică românească" (Diaspora in Roumanian scientific research) was organized by the Office of the Prime Minister Călin Popescu-Tăriceanu, the National Authority for Research, and the Roumanian Academy. The collaborations between the Roumanian scientists from Roumania and Diaspora, made possible due to the remarkable recent progress in the research infrastructure in Roumania, could greatly contribute to revigorating the Roumanian scientific research.

This special issue of *Revue Roumaine de Chimie* is the first of a series dedicated to introducing to the Roumanian scientific community young Roumanian scientists with outstanding contributions to their fields of research. The issue includes nine articles on the design, synthesis, and characterization of molecules and materials with important biotechnological applications; the functioning of metalloenzymes, the caspase cysteine protease, and the bacteriorhodopsin proton pump; how the membrane dipole potential affects the interaction between lipid membranes and pore-forming peptides; the pharmacophore-based approach in chemioinformatics; computational models of neurons.

Narcis Avarvari (Université d'Angers, CNRS) reviews the synthesis and structural characterization of compounds that can be utilized as precursors for conducting chiral materials. The article by Mihail Barboiu and his co-workers at the Institut Européen des Membranes (CNRS) presents supramolecular architectures that are self-sorted based on constitutional interactions. Sofia Pascu (University of Bath) gives a detailed discussion of the alternating copolymerization of olefines and carbon monoxide, and of the various catalysts used. Radu Silaghi-Dumitrescu ("Babes-Bolyai" University of Cluj Napoca) reviews density functional theory computations on the mechanism of cytochrome c and cytochrome cd1 nitrite reductases. Cristina Pop (The Burnham Institute for Medical Research, La Jolla) used a combination of experimental techniques to understand how caspases, proteases that are implicated in the programmed cell death, are regulated inside the cell. Ana-Nicoleta Bondar (University of California at Irvine) reviews a set of detailed computational studies on the mechanism of bacteriorhodopsin proton pumping. Dragos Horvath (Université Louis Pasteur, Strassbourg) gives a general presentation of computational modeling and assessment of pharmacophores. Tudor Luchian ("Alexandru Ioan Cuza" University, Iaşi) carried out experiments to understand how the membrane dipole potential can be used to assess the mechanisms of protein/membrane interactions, and to manipulate the susceptibility of cells towards antimicrobial peptides. Sorinel Oprisan (College of Charleston, Charleston) developed a theoretical model of the dopamine neurons that reproduces features observed in experiments with the tetrodoxin or the apamin neurotoxins.

The selection of the invited contributions to this first special issue is incomplete. We hope, however, that this special issue will contribute to introducing to the Roumanian scientific community the researchers presented here, and will provide useful references for those interested in the research topics addressed.

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Ana-Nicoleta Bondar and Petre T. Frangopol, Guest Editors