

FOREWORD

Quantum chemistry is a wide and rapidly developing field of research which lies between the historically determined bordelines of mathematics, physics, chemistry and biology. It is not surprising, therefore, that quantum chemistry has certain characteristics of each of these sciences. Concomitantly, there are differences in methodology and the plethora of topics. Theoretical models of the electronic structure of molecules play a particularly important role because they can provide bridges between the empirical concepts of chemistry and the fundamental laws of physics.

Having this in mind, the Editorial Board of *Croatica Chemica Acta* decided to dedicate one of the special issues to the theoretical models of chemical bonding. This idea was welcomed with great enthusiasm and the researchers responded to such an extent that the issue had to appear in two parts. The authors had been invited to present their opinion and results of recent investigations freely and without severe space limitations. Several authors' review articles were included in order to obtain critical assessment of recent development. No attempts were made to avoid overlapping between papers since it is interesting to shed light on some topics from different standpoints. The quality of the pudding can be tested only by eating, as the English say. Hence, much emphasis has been given to applications of models.

The submitted papers cover whole spectrum of themes and concepts. A wide diversity of papers reflects the versatility of quantum chemistry, its interdisciplinary nature and the »thousand flowers« attitude of the guest Editorial Board on the other hand. It is hoped that the present theoretical issue will contribute to the further development of conceptual quantum chemistry, to a better understanding between experts of different profiles and consequently to stronger links between different fields. If this special issue is even partially successful in achieving this goal, we will feel greatly rewarded for our efforts.

As guest Editor, I would like to express my gratitude and appreciation in the first place to all authors for the papers of outstanding quality. Special thanks go to the members of the guest Editorial Board Drs. M. Eckert-Maksić, J. Hendeković, S. Niketić, and T. P. Živković for their help in organizing material and shaping the issue. Finally, it is my pleasure to thank Mrs. V. Mikulčić, for her extensive administrative work.

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