EDITORIAL FOREWORD

This comprehensive volume of the *Journal of Mathematical Chemistry* constitutes the first of the special issues of our journal devoted to specialized topics. It contains the proceedings of an International Conference on the theme "Mathematical Chemistry". The Conference took place at the Galvez Hotel in Galveston, Texas, and was held during the week of March 5–9, 1989. The prime organizers were Professors D.J. Klein and W.A. Seitz, both of Texas A&M University at Galveston, Texas. The present volume contains refereed versions of most of the papers delivered at the Conference. The considerable task of arranging for the refereeing of the papers was undertaken by Professors D.J. Klein and M. Randić (Drake University, Des Moines, Iowa). I take this opportunity of thanking both of them for their very helpful collaboration. Their names appear as Special Guest Editors of this volume of our journal.

The Conference attracted close to one hundred participants from some ten different countries and represented the third in an ongoing series of major North-American Conferences on the theme of Mathematical Chemistry. The first two Conferences in this series were held at the University of Georgia in 1983 and 1987; the proceedings of both were subsequently published in book form [1,2]. Following in the tradition established at these earlier Conferences, it has been decided to produce a separate, hard-cover version of the present proceedings. This hard-cover version is to appear simultaneously with this special volume of the *Journal of Mathematical Chemistry*.

To facilitate the location and study of the papers delivered at the Conference, I have arranged them into five sections. The underlying idea was to group together papers that are somewhat related. The five sections are headed Arenes and Aromaticity, Polynomials and Eigenvalue Equations, Structure–Property Predictions, Treatment of Many-Electron Systems, and Miscellaneous Topics in Mathematical Chemistry. The Conference Theme Address which precedes the papers is based on the Conference banquet speech given by Professor P.-O. Löwdin (University of Florida, Gainesville, Florida; emeritus of Uppsala University, Uppsala, Sweden) on March 7, 1989. This speech has been placed to the fore since it provides an excellent introduction to these Conference proceedings.

Editorial foreword

It is interesting to observe that the series of North-American Conferences on Mathematical Chemistry appears to be gradually changing in character. Thus, whereas the first two of these Conferences were devoted almost exclusively to the chemical applications of graph theory, combinatorics and topology, the third has broadened in scope considerably to include topics such as quantum chemistry and solid-state chemistry. It is also worthy of mention that the frequency of the Conferences seems to be increasing: there were five years between the first and second Conferences, but only two years between the second and third Conferences. All of this would appear to support the contention that mathematical chemistry is currently a burgeoning area of international scientific research endeavor.

[1] R.B. King (ed.), *Chemical Applications of Topology and Graph Theory* (Elsevier, Amsterdam, 1983).
[2] R.B. King and D.H. Rouvray (eds.), *Graph Theory and Topology in Chemistry* (Elsevier, Amsterdam, 1987).

Dennis H. Rouvray

Editor