Introduction

This volume contains the papers presented during the 2nd international conference on "Diffusion and Reactions, from Basis to Applications" held in Zakopane, Poland, on 14 - 18 September 1999. It was organized by the Faculty of Materials Science and Ceramics, University of Mining and Metallurgy, Kraków, and the Polish Chemical Society. The support of the Polish State Committee for Scientific Research, and of the Professional School of Business in Kraków is gratefully acknowledged. The conference was organized in order to foster interaction between the various groups working in this field.

The participants included 55 scientists from 10 countries. The most numerous contingents were from Russia, Ukraine, USA, Japan, Germany, France, Holland and Poland.

The program was rich in content. There were 12 invited and 28 oral presentations, plus 45 posters. The topic of the plenary discussion was one of the most interesting problems of diffusion today: diffusion in multicomponent and multiphase systems.

The Conference focused on recent progress, and unsolved problems, in diffusion and reaction mechanisms. Four general topics were addressed: reactive diffusion, interdiffusion, self diffusion and phase transformations and grain boundary diffusion and composite materials.

The quality of the presentations and the ample time for discussion created a stimulating atmosphere. I express my deepest appreciation to the authors and referees for their cooperation in editing this volume. I also offer my profound gratitude to the members of the organizing committee, and in particular to Dr Z. Grzesik and R. Bachorczyk, for their assistance in organizing the conference.

I hope that this volume will be useful to all scientists and students interested in diffusion, and that it will contribute to the development of the field. It can be recommended to researchers working in the areas of solid state chemistry, high temperature corrosion, metallurgy and materials science.

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Kraków, January 2000