

# Preface

After DIMETA-82 several international conferences were organized concerning diffusion: Bombay (1984), Berlin (1986), Hawai (1987), Cincinnati (1987). Hence DIMETA-82 had a good international resonance, we decided to organize the next one. Many participants at the Berlin Conference agreed to attend a further conference on diffusion.

Starting the organization of the conference we asked many colleagues listed under the Scientific Advisory Committee about the main topics to be treated at the conference and about the invited speakers. After a vivid correspondence and successive approaching we arrived at the final programme.

In the preparatory work of the programme Professor Ja. E. Geguzin (Kharkov) took an important part. The very sad message arrived in January 1988 that Professor Geguzin died on 12 December 1987 and the participants remembered him with a short silence.

The programme was very rich. There were 49 invited talks and more than 125 posters. The invited speakers were chosen by the members of the Scientific Advisory Committee and a final decision was made through a correspondence with the members of the International Programme Committee. The topics of the plenary discussion on Tuesday was one of the most interesting problems of diffusion nowadays: fast diffusion.

The invited papers covered the following main items a) Volume Diffusion, b) Grain-boundary diffusion, c) Technical aspects and applications. Special emphasis was given to new problems (diffusion in high  $T_c$  superconductors, diffusion in metallic glasses and nanocrystalline materials etc) and to the fields of diffusion in metals which have extended defects (dislocations, grain boundaries, solid-solid interfaces, particles of second phases with a stress field around them). One of the aims of the conference was to emphasize the importance of the relation between these extended defects (and their structure) and diffusion.

According to the final registration the number of participants was about 170 scientists from 20 countries. The ratio of eastern and western participants is 70 to 100; about 31 came from overseas (Argentina, Brasil, Canada, Japan, USA). The most numerous participation, between 10 and 30 members, was from France, Germany, Hungary, Japan, Soviet Union and USA.

Because of the very rich programme the chairmen of the oral sessions were asked to keep strictly the time table and leave free time for personal discussions in the breaks.

In course of the social programme the participants visited Nagyvácsány, attended a horse show and had the possibility to make a short round on a coach. They visited the old Kinizsi castle of the middle ages and tasted famous Hungarian wines.

During the breaks and poster sessions many personal discussions, exchange of mind were done. We hope that the conference has been fruitful for all the participants and that we shall have the pleasure to greet everybody at the next DIMETA.

We express our deepest appreciation to our colleagues G. Erdelyi, I. Goeoeoy, I. Harangoz6, S . Kiss and I.A. Szab6 for continuous help in organizing, to the administrative staff of the Roland Et>tv5s Physical Society, to Mrs and Miss Beke and to our students R. Pino Plasencia and L. Dar6czy for their technical assistance. The final form of the manuscript could not be finished without the help in typing and preparing drawings by Mrs. S. Szabados.

We hope that these Proceedings will be very useful for all scientist interested in diffusion. Debrecen, April 1989

**Dr. D.L. Beke**

secretary of the conference

**Prof. Dr. F.J. Kedves**

chairman of the conference