

Preface

This special issue of Defect and Diffusion Forum contains selected peer-reviewed papers presented at the Eighth International Conference on Diffusion in Solids and Liquids (DSL-2012) held at the Hotel Kalyon Istanbul, Turkey during the period 25th-29th June, 2012.

The goal of the conference was to provide a unique opportunity to exchange information, to present the latest results as well as to review the relevant issues on contemporary diffusion research. Young scientists were especially encouraged to attend the conference and to establish international networks with well-known scientists.

A number of topics were highlighted in the scope of special sessions and some of the presented papers are collected in this volume: *FLOW SYSTEMS, DESIGN AND OPTIMIZATION* (SS1) (by A.F. Miguel, L. Rocha), *DIFFUSION PROCESSES AND REACTIONS IN ENGINEERING ALLOYS* (SS2) (by H. Mehrer, G.E. Murch, I. Belova), *GRAIN BOUNDARIES AND INTERFACES: STRUCTURE, THERMODYNAMICS AND DIFFUSION PROPERTIES* (SS3) (by V.V. Popov, B. Straumal), *ALTERNATIVE ENERGIES* (SS4) (by G. Ferreira), *CARBON AND OXIDE NANOSTRUCTURES* (SS5) (by N. Yahya, G. Kozłowski, K. Koziol), *HEAT AND MASS TRANSFER IN POROUS MEDIA* (SS7) (by J.M.P.Q. Delgado), *NANO/BIO MATERIALS SYNTHESIS, CHARACTERIZATION, MODELING AND APPLICATIONS* (SS9) (by A. Shokuhfar), *HYDROGEN-RELATED KINETICS IN MATERIALS* (SS10) (by Y. Fukai, M. Wilde), *MICROSCOPY, MICROANALYSIS AND THEIR APPLICATION ON MATERIALS* (SS11) (by K. Shin).

More than 314 scientists and researchers coming from more than 51 countries attended the conference. The large number of presented papers emphasises the considerable academic and industrial interest in the conference theme. The editors wish to thank the authors and delegates for their participation and cooperation, which made this eighth conference especially successful.

Finally, we wish to express our warm thanks and appreciation to our colleagues and associates for their sustained assistance, help and enthusiasm during the preparation of the conference.

The ninth conference, DSL-2013, will be held in Madrid, Spain, from 24-28 June, 2013 (<http://www.dsl-conference.com/>).

January 2013

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Germany