

Proceedings of the XXIII Conference
on Applied Crystallography

Krynica Zdrój, Poland, September 20–24, 2015

Editors of the Proceedings:

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and

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WARSAW

POLISH ACADEMY OF SCIENCES
INSTITUTE OF PHYSICS

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Institute of Materials Science, University of Silesia, Chorzów, Poland

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Financial support:

International Union of Crystallography
Committee of Crystallography, Polish Academy of Science
Institute of Materials Science, University of Silesia, Chorzów, Poland

Scope:

The programme covers methods of structural investigations of materials to be used in industrial practice as well as real structure of such materials.

The following topics are suggested:

Development of methods and techniques in the X-ray studies: quantitative analysis, crystal structure refinement by the Rietveld method, stress, strain and crystallite size determination, small angle scattering; Crystal structure determination methods; Crystallography of phase transformations; Crystallography computing - software and data base; Texture analysis of materials; Material structures: metals and alloys, superalloys, ceramics, polymers, thin films, quasicrystals, amorphous materials, nanomaterials, molecular crystals, structure of interfaces.

Preface

The International Conference on Applied Crystallography is organised by the Institute of Materials Science of the University of Silesia every three years. During the last decades it has become one of the most important series of meetings of materials scientists, physicists, chemists dealing with materials structure and its effect on the material properties. The Conference is also a platform for propagating new methods of structural studies for application to materials utilised in industrial practice. Studies of the real structure of materials have become a special mark of these conferences. Often the conferences are accompanied by summer schools devoted to X-ray or electron crystallography methods.

This volume contains most of the topics presented at the XXIII Conference on Applied Crystallography that took place 20 - 24 September 2015 in Krynica Zdrój, one of the oldest Spa in Poland, situated in a beautiful surrounding of the Beskid Mountains. The Conference consisted of four days of lectures, 11 of them were given at plenary sessions and 40 - at oral session. It is worth to mention that during the Conference 2 oral sessions for young scientists took place, during which the scientists below 30 could present their achievements. Additionally, 96 papers were presented during poster sessions. The Conference was attended by 159 participants from 20 countries including China, India, Vietnam, Egypt, Israel, Maroco, Spain, Finland and others. Very high scientific level of the Conference was ensured by participation of lecturers from the leading scientific centres. Among them was Dan Shechtman from Israel, the winner of the Nobel Prize in Chemistry in 2011 for the discovery of quasicrystals, and also Vincent Favre-Nicolin, France, Andrew Fitch, France, Ute Kolb, Germany, Bogdan Kotur, Ukraine, János Lábár, Hungary, Reinhard Neder, Germany, Václav Petříček, the Czech Republic and Maria Gdaniec and Janusz Wolny from Poland.

The success of the XXIII Conference on Applied Crystallography would have been possible without financial support from different institutions among them the International Union of Crystallography and Polish Committee of Crystallography Polish Academy of Sciences to whom I would like to express my thanks.

Finally, I would like to thank all the members of the Scientific Committee and the Organising Committee who helped to select the most interesting talks covering as wide as possible spectrum of the participants scientific interests. My special thanks go to dr Maciej Zubko — the conference secretary and to dr Jacek Krawczyk — II conference secretary, who successfully dealt with the correspondence, conference website, finances and lodging and with the run of the Conference. I thank also our scientific staff and Ph.D. students for all the technical support during the sessions.

Danuta Stróż
Chairman of the Conference