

Preface

The 7th International Conference on Mechanical Stress Evaluation by Neutrons and Synchrotron Radiation (MECASSENS) was held at the Crowne Plaza Hotel in Coogee beach. This biennial conference has proven to be essential for those concerned with the mechanical stress evaluation of materials and components using neutron and synchrotron radiation. MECASSENS also gives an interesting "snap-shot" of progress in the field and lively discussions accompanied many of the papers.

The wide array of oral and poster presentations focussed on the following key topics:

- Stress evaluation using neutrons, synchrotron radiation and X-rays;
- Development of measurement methods and instrumentation;
- Material processing and residual stresses;
- The influence of residual stresses on the physical and mechanical properties of materials and components;
- Measurement and assessment of residual micro-stresses and intergranular stresses;
- Residual strains and stresses in complex materials (e.g. multi-phase and biomaterials);
- Industrial applications of residual stress analysis using neutrons, synchrotron radiation and X-rays; and
- Complementary techniques for residual stress measurements.

A total of 92 students, scientists and engineers from seventeen countries gave presentations or posters. Participating countries included: Japan (19), Australia (15), United Kingdom (14), United States (7), Germany (7), France (4), South Korea (4), China (3), Poland (3), Canada (2), Denmark (2), Austria (1), The Netherlands (1), The Czech Republic (1), The Slovak Republic (1), South Africa (1), and Hungary (1). 14 of the attendees were graduate students. 42 attendees were from Universities, 43 from National Laboratories and 4 from Industry.

We thank all the authors for their contribution showing the importance of neutron and synchrotron radiation in the evaluation of mechanical stresses and for making the Conference a success.

Lyndon Edwards
Conference Chair

Head, Institute of Materials Engineering
Australian Nuclear Science and Technology Organisation
Lucas Height, Sydney
NSW, Australia

Organizing Committee

Prof. Lyndon Edwards (ANSTO, Institute of Materials Engineering)

Dr. Ondrej Muránsky (ANSTO, Institute of Materials Engineering)

Dr. Cory J. Hamelin (ANSTO, Institute of Materials Engineering)

Dr. Vladimir Luzin (ANSTO, Bragg Institute)

Dr. Anna M. Paradowska (ANSTO, Bragg Institute)

Dr. John Daniels (The University of New South Wales)

Ms. Kelly Cubbin (ANSTO, Institute of Materials Engineering)