



Dr. Sivarim (left), Prof. J.P. Kennedy, and Prof. Kubisa during the inaugural session of IP 2005, Goa, India.

address on the first day of the symposium. IUPAC representative, Prof. Kubisa gave an introduction to IUPAC and discussed the activities of the polymer division. Prof. J.P. Kennedy gave brief opening remarks, highlighting the evolution of the field of ionic polymerization and its present relevance.

The elegance of ionic polymerizations is the ability to synthesize polymers with well-defined architectures without any side reactions such as termination and transfer. The topic of atom-transfer radical polymerization which has similar attributes of ionic polymerization with respect to control of the polymerization was also included in the symposium.

The technical program, which was organized into morning and afternoon sessions, consisted of 52 oral presentations and 38 posters presentations. Each session was chaired by two eminent scientists, one from India and another from abroad. The order and sequence of presentations were carefully blended so that each session consisted of established and young practitioners in the fields of anionic, cationic, and controlled radical polymerization. Several scientists from India involved in these areas were also invited to speak at various technical sessions.

The symposium also featured well-received evening lectures, which covered topics such as the emergence and growth of the polymer industry in India and the emergence of India as an R&D hub for the global chemical and polymer industry. In order to provide maximum opportunities for interaction among participants, the symposium was held with no parallel sessions and speakers were provided with 25 minutes for their presentations.

The papers presented at the symposium will be published in a future issue of *Macromolecular Symposia*. In the meantime, a conference report has been published in *Macromol. Chem. Phys.* 2006, **207**, 637-639 (2006).

Dr. S. Sivaram <sivaram@ems.ncl.res.in>, director of the National Chemical Laboratory in Pune, India, served as the conference chairman.

European Science Education Research

by Roser Pintó

The 5th International Conference of the European Science Education Research Association (ESERA) was held in Barcelona, Spain, from 28 August to 2 September 2005. More than 500 researchers in science education from around the world, but mainly from Europe, met at this biannual event.

The conference was organized by Prof. Roser Pintó, from Universitat Autònoma de Barcelona. The executive committee of ESERA, a local organizing committee, a scientific committee, and a honor committee helped in the organization of the event.

The main topic of the conference was "Contributions of Research to Enhancing Students' Interest in Learning Science." In many western countries there has been a decrease in students' interest in learning science and choosing scientific careers, in particular in the physical sciences. The goal of the conference was to enable the science education research community to address this issue through research-based insights. At the conference, more than 400 contributions of research—organized around 20 different foci, such as teacher education, new curriculums, gender issues, environmental education, informal education, ICTs—were presented and discussed.

The conference program included six plenary sessions from internationally well-known keynote speakers; a panel session with editors of high-impact international research journals, nine parallel sessions for the presentation of research results, and a final open debate about "Where the Research in Science Education is Going On."

Other activities included social events, an ESERA general assembly and the formal opening and closing ceremonies, with the assistance of different educational and research policy authorities, representatives from the four catalan organizing universities (Universitat Autònoma de Barcelona, Universitat de Barcelona, Universitat Politècnica de Barcelona and Universitat Pompeu Fabra) and representatives from the European Commission Research Directorate. The conference was sponsored by the Educational and Research administrations of Catalonia, ESERA and IUPAC.

Prof. John Leach, from the University of Leeds (United Kingdom), discussed the potentiality of science education research in his lecture "Contested

Territory: The Actual and Potential Impact of Research on Teaching and Learning Science on Students' Learning." Prof. Andrée Tiberghien, from the University of Lyon (France), presented research results in "Studying Science Teaching Practices in Relation to Learning." Prof. David Treagust, from Curtin University of Technology (Australia), discussed "Research-Based Innovative Units for Enhancing Student Cognitive Outcomes and Interest in Science." Prof. Ivo Cap, from the University of Zilina (Slovakia), discussed informal education in his talk. Prof. Paolo Guidoni, from the University Federico II (Italy), introduced in his talk a possible model for dealing with students' understanding. Finally, Prof. Yasmin Kafai, from the University of California (United States), discussed "Children's Apprenticeship in Learning Science by Design."

The quality of participants' presentations was ensured by a double-blind review process performed by more than 80 reviewers and organized by 20 chairpersons, experts in each of the conference subtopics. Around 10 simultaneous parallel sessions took place for each of the 9 sessions for participants. These were generally arranged around specific topics to promote significant discussion among participants.

One of the important aims of the conference was to provide opportunities for training young researchers, 150 of whom were able to attend. Conference organizers provided a reduced early registration price and provided extra panel session time to encourage young researchers' active participation. A roundtable with different editors from a variety of international research journals in the field was also organized to provide an opportunity for "face to face" interaction, with the aim of motivating and facilitating young researchers to publish their research results in high-level publications.

The next ESERA conference will be held in Malmo, Sweden, 21-26 August 2007. More information is available at <www.naturfagsenteret.no/esera/conference.html>.

Prof. Roser Pintó <roser.pinto@uab.es> was part of the organizing committee for ESERA and is a professor at the Universitat Autònoma de Barcelona.



www.esera2005-cresils.org

New Directions in Teaching, Learning, and Evaluating the Chemical Sciences at the Tertiary Level

by Neelakanthi E. Gunawardena

Towards Modernizing Chemical Science Education in Sri Lankan Universities was held 11-12 March 2006 in Colombo. The conference, which attracted nearly 80 percent of Sri Lankan academics in the chemical sciences, is the first step toward replacing the current knowledge-based education system with modern teaching methods.

Four experts in chemistry education were brought in under the sponsorship of IUPAC's Flying Chemists Program* and its Scientifically Emerging Regions program. The Royal Society of Chemistry, UK, and the University Grants Commission of Sri Lanka were the other two sponsors. The conference was organized by the Department of Chemistry of the University of Kelaniya in collaboration with the Chemical Sciences Section of the Sri Lanka Association for the Advancement of Science and the Sri Lankan branch of the Royal Society of Chemistry.

The conference provided timely assistance to the country's effort to upgrade undergraduate chemistry education. Currently, the quality of university graduates does not match the needs of the labor market in Sri Lanka. Further, the conference was of historical significance for no such gathering of academics in the chemical sciences has ever been held. Thus, a great enthusiasm was evident among the academics who participated in the conference.

The opening session was attended by the minister of science and technology of Sri Lanka, the vice chancellor of the University of Kelaniya, and the chairman of the University Grants Commission of Sri Lanka. In this session, Prof. Peter Atkins (University of Oxford, UK), introduced IUPAC as the body that governs and sets standards in chemistry. He also described the Flying Chemists Program and introduced the other major sponsor of the conference, the Royal Society of Chemistry, UK.

The first plenary lecture, titled "Educating a Chemist; the Challenge and the Opportunity," was

*For more information about the FCP see <www.iupac.org/standing/cce/FCP.html> or <www.iupac.org/projects/2005/2005-030-1-050.html>.