

## XIth International Conference on Small-Angle Scattering

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SAS-99 Co-Chairmen and Guest Editors

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**George D. Wignall**

Guest Editors

The XIth International Conference on Small-Angle Scattering (SAS99) explored the role of small-angle scattering in a broad range of scientific disciplines concerned with the correlation of structure, interaction, and properties of complex materials. Contributions to the scientific program demonstrated that scattering when complemented with other techniques or when analyzed with physically meaningful computational models provides new insights into structure and dynamics of solids, soft matter, and solutions. Excellent papers and posters, many of them now given in these proceedings, demonstrate that scattering methods, the underlying physics and theory, the requisite instrumentation, and its application to increasingly complex materials are actively advanced by researchers in all disciplines, and equally fast in neutron and X-ray diffraction.

Many aspects of these developments were discussed by the 293 high-spirited SAS99 participants from 23 countries who presented their results in 311 contributions, 170 of them given orally and 141 as posters. After thorough review 107 papers were accepted for publication. Four parallel sessions were required to accommodate the programs in alloys and ceramics, biology, colloids, complex fluids, polymers, polymer processing, surface and interface, theory and technique, and ultra small-angle scattering. The well attended sessions in nearby but separate auditoriums were a compliment to the insightful work of the Scientific Program Committee in shaping a representative and diverse program from the submitted abstracts.

Each of the four conference days opened with a plenary session of three invited lectures that highlighted novel experimental techniques on Monday, addressed the sometimes hairy challenges in complex materials the next day, and summarized advances in experimental techniques on Thursday. The Wednesday plenary session was a tribute to Paul W. Schmidt, who had passed away earlier that year in the middle of an active career. H. Brumberger, the initiator and chairman of the first conference in this triennial series, remembered Paul Schmidt as a friend and colleague, and the following plenaries built on Paul's pioneering work on supercritical fluids, fractal structures, and the nanostructure of ceramic oxides. This main conference day concluded with the fascinating Conference Lecture by J. Squire, who led his audience through the 'movements in a molecular symphony – diffraction probing of nature's linear motor'.

Recognizing that achievements in small-angle scattering are rarely rewarded by professional and scientific organizations, and aiming to further recognize the scientific achievements of Paul Schmidt, R. Triolo sponsored four awards consisting of a gold and three silver medals. H. Brumberger, D. Schaefer, and R. Triolo agreed to define criteria and select worthy recipients from the conference participants. The Paul W. Schmidt Award for a significant contribution at SAS99 was given to G. D. Wignall of Oak Ridge. The three silver medals were reserved for early-career scientists. For her outstanding oral presentation C. Maurizio (U. Padova) was recognized, and the awards for best posters in small-angle methods and in applied small-angle scattering were won by Y. A. Akpalu (NIST) and M. Müller (ESRF). R. Triolo will continue to sponsor these awards for the next several years with the hope that one of the small-angle special interest groups will adopt them.

The award nominations were indeed a challenge as about half of the participants at SAS99 were early-career scientists or students. Strong multidisciplinary research programs at universities as well as new opportunities created by an increasing number and diversity of experimental facilities at synchrotrons and next-generation neutron sources appear to attract investigators in all disciplines. The members of the International Advisory Board anticipated this trend and had encouraged the organizers to explore frontiers in low-resolution structure determination by inviting the participation of young investigators. Their innovative research, broad spectrum of interest and enthusiastic

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participation in discussions is a key factor that gives this unique technique-oriented conference series vitality and future. The generous support by the DOE Office of Basic Energy Sciences was particularly valuable in making SAS99 affordable to students.

It was therefore fitting to hold two workshops in advance of SAS99. The one-day 'Introduction to Small-Angle Scattering' workshop was organized by S.-H. Chen on May 14, 1999. About 70 attendees followed the six challenging lectures that presented the physics and frontiers of current work on dispersed media, surfactants, polymer films, and bicontinuous materials, as well as the available analysis tools for best information recovery. Each lecturer provided notes that are available on request. Equally well attended was a second workshop organized on May 16, 1999 by J. D. Barnes and T. C. Irving on 'Software and Data Formats for Small-Angle Scattering'. Its presentations and discussions built on the

CANSAS initiative of the previous year in Grenoble and advanced ongoing work to provide free data formats and ready access to existing data reduction and analysis packages.

The organizers thank the Guest Editors for their tireless work in managing the review and in editing the 107 accepted conference papers in this special issue of the *Journal of Applied Crystallography*. We thank G. Kostorz, the Editor, and P. R. Strickland, the Managing Editor, of the Journal for their patience and dedication in providing the small-angle community with a superbly produced reference volume. The exceptional skills and efforts of K. Moore and D. Hoare in the Journal's field office at SAS99 were essential to provide authors and guest editors with guidance and encouragement. We thank Ann Emrick, the organizing secretary, Donna Zadow, Denise Kranz and Janet Sikora for their limitless energy and unwavering enthusiasm that benefited all participants.

