

Guest Comment

The Joint Symposium on Electron and Ion Swarms and Low Energy Electron Scattering, a satellite meeting of the XVII International Conference on the Physics of Electronic and Atomic Collisions (ICPEAC), was held at Bond University, Queensland in July 1991. This satellite meeting was the second occasion that two traditional ICPEAC satellites, The International Swarm Seminar series and the Electron–Molecule Scattering and Photoionisation satellite, were combined in order to bring together delegates from two largely diverse areas of low energy physics. The first such occasion was in 1985 at the time of the XIV ICPEAC at Stanford University.

As their titles suggest the individual satellite meetings deal with quite different subject matter. The Swarm Seminar series concentrates on both experimental and theoretical treatments of the collective behaviour of electrons and ions in gases—electron and ion transport, electron attachment and ionisation, and their role in the description of gas-discharge phenomena. On the other hand the Electron–Molecule Scattering and Photoionisation meeting has a more fundamental focus in both quantifying and describing the dynamics of the individual collision processes that can occur between beams of low energy charged particles/photons and atoms and molecules. In some cases swarm and beam techniques can be used to study identical processes and thus provide a complementary approach to an experimentally difficult energy regime. In both cases the quantitative information that each can provide regarding cross sections and rate coefficients is crucial to advanced modelling studies of gas discharges, in particular those discharges which are fundamental for many modern technological processes.

The meeting was attended by 100 delegates from 15 countries and the program contained 8 invited review talks, 25 invited progress reports and 36 contributed papers which were presented as posters. The content of the review papers and several of the progress reports are reproduced in this issue of *Australian Journal of Physics*. The scope of the meeting was extremely broad and included such diverse topics as electron–molecule scattering cross sections derived from both beam and swarm techniques, theoretical treatments of electron–molecule scattering, electron attachment, photodetachment and photoionisation experiments, the measurement of dissociation cross sections and, in particular, the nature of the fragments which result from dissociation reactions, electron and ion transport theory, and both applied and fundamental aspects of gas discharges and their technological uses.

Many people and organisations contributed to making this meeting successful. The scientific success of such a meeting relies mostly on the input and enthusiasm of the delegates and it would not have been possible to support many of our local and overseas speakers and students without the substantial financial support that we received from the Australian Department of Industry, Technology and Commerce and the US National Science Foundation, under the Bilateral Science and Technology Program. It is a pleasure to acknowledge the efforts of Vince McKoy and Sandor Trajmar in obtaining support from the National Science

Foundation and coordinating the participation of our US colleagues. We also wish to thank the other local organisers, Robert Crompton and Kailash Kumar for their assistance, and the members of our International Advisory Panel who assisted in putting together a successful program. Finally we would like to thank the *Australian Journal of Physics* and its editor, Peter Robertson, for the publication of the proceedings.

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