PREFACE

IAU Colloquium 191, on the Environment and Evolution of Binary and Multiple Stars, was sponsored by IAU Commission 26 (Double and Multiple Stars), with the support of Commissions 30, 34, 37 and 42; Division IV was the co-ordinating division. The scientific organizing committee was chaired jointly by Christine Allen (México) and Colin Scarfe (Canada), and included Sverre Aarseth (United Kingdom), Francis Fekel (United States), William Hartkopf (United States), Gloria Koenigsberger (México), Patricia Lampens (Belgium), Hugo Levato (Argentina), Eugene Milone (Canada), Bo Reipurth (United States), Luis Felipe Rodríguez (México), Andrei Tokovinin (Chile) and Mauri Valtonen (Finland).

The meeting was held in honour of one of the pioneers of Mexican astronomy, Arcadio Poveda, many of whose contributions are in the field of the meeting. The principal sponsor within Mexico was his home institution, the Universidad Nacional Autónoma de México (UNAM), through the Coordinación de la Investigación Científica, Dirección General de Asuntos del Personal Académico, and the Instituto de Astronomía. Moreover, the meeting took place in the city of his birth, Mérida, Yucatán, between February 3 and 7, 2003. The local organizing committee was chaired by Christine Allen, and included Fernando Angeles, Salvador Cuevas, Jesús Galindo, Arturo Iriarte, Alejandro Ruelas, Erika Sohn, and Juan Carlos Yustis.

In addition to UNAM, the following Mexican institutions provided support: Universidad Autónoma de Yucatán, Consejo Nacional de Ciencia y Tecnología (CONACYT), Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Ayuntamiento de Mérida, and Secretaría de Turismo del Estado de Yucatán. We wish to express our thanks to all for their contributions.

The meeting was attended by seventy-six people from twenty-three countries. It continued a long tradition of successful topical meetings organized by IAU Commission 26. Its topic was in part a sequel to IAU Symposium 200, which concentrated on binary star formation, extending to the role binaries' environment plays in their subsequent evolution, and how they in turn affect that environment. A significant type of environment is that of a star cluster, and for clusters the meeting was a sequel to one that took place in Calgary, Canada in 1995. Now, of course, that subject has been extended with the detection of numerous binaries in nearby galaxies by means of major surveys or as byproducts of gravitational microlensing studies. Moreover we are now discovering low-mass objects such as planets within binary systems, and part of the meeting was concerned with their role.

The meeting was organized around eighteen invited talks, with contributed papers related to them presented either orally or as posters. Ample time was provided for poster viewing, and for discussion following each oral presentation. The difficult task of summing up was ably handled, with wit and humour, by Edward Guinan, whose ad hoc illustrations were a source of delight. Some of them are included with his summary paper in this volume.

In the evenings we were able to listen to two public lectures unconnected to the subject matter of the meeting, one by Jesús Galindo on Mayan Astronomy, and one by Arcadio Poveda himself, on the Chicxulub event, which took place not far from the site of the meeting. On a third evening, we were treated to a delightful concert of Mexican music, by local musicians. At the end of the meeting, most participants were taken on a half-day tour to Uxmal, one of the great Mayan archaeological sites near to Mérida. That tour included a banquet at Uxmal itself, followed by a sound and light show after dark.

After the meeting, a few papers were published elsewhere, and two invited talks were merged into a single paper by agreement between their authors and the editors. But two invited talks, “Binaries in Open Clusters: Orbital Parameters and Stellar Astrophysics”, by Robert Mathieu, and “A New Formalism for Studying Three-Body Interactions”, by Rosemary Mardling, and three contributed ones, “Chandra and Integral investigation of the Binary Nature of η Carinae”, by Yousaf Butt, “Eclipsing Binaries in the Magellanic Clouds: Galaxy Distance and Structure” and “Light-Travel Time and Astrometric Orbits to Detect Low-Mass Companions of Eclipsing Binaries”, both by Edward Guinan, have not resulted in contributions to this volume. In addition a paper entitled “Speckle Interferometry of Low-Mass Multiple Systems Discovered by Hipparcos”, by Yuri Balega, was not read because its author was unable to travel to México because his visa arrived too late, and one entitled “Multiplicity Statistics of Very Low-Mass Stars”, by Thierry Forveille, was read by Stephane Udry in its author’s absence; neither has led to a contribution to this volume. The editors have decided to proceed without all of the above papers, regretfully aware that the volume would be the poorer as a result.

Many authors provided their papers promptly, but others were long delayed. This is however, only part of the reason for the length of time that has elapsed between the meeting and the appearance of this volume. The editors’ other commitments account for the rest. We regret this delay and thank all those who did provide their contributions promptly, as well as the many people and institutions whose support made Colloquium 191 possible, including Rosario Sánchez, Gorgonio Cerón and Eugenia Allen for their indefatigable efforts in the on-site conference office, and Helga Poveda for taking the participants’ companions on several outings.

Christine Allen & Colin Scarfe
Editors of the proceedings