

Preface

This IAU Symposium 219: **Stars as Suns: Activity, Evolution, and Planets** captures some of the best of contemporary astrophysics, in demonstrating discoveries, challenging problems, and the many connections among researches in solar, stellar, and planetary physics. The Sun, being the only star in which we can confront physics in exquisite detail offers lessons that we can carry to and test against the stars. The linkage between solar physics and cool star research is strong and rewarding. And, now there are other stars with planets, which reveal unexpected and puzzling configurations to challenge both theory and observations. It is obvious that we have much to learn.

Throughout this Symposium, the speakers sought connections and similarities in these objects, but also were cautious of grasping the simple solutions. Nature remains complex. New results from space (*CHANDRA*, *FUSE*, *INTEGRAL*, *RHESSI*, *SOHO*, *TRACE*, and *XMM-NEWTON*) as well as powerful new techniques and facilities from the ground (the *SMA* and interferometry with the *VLTI*) are reported in these pages. Deep analysis of older observations of both sun and stars, and numerical modelling reveal not only new discoveries, but that gaps and problems with our understanding still exist! In addition the scientific excitement and challenge of addressing the characteristics and behavior of stars harboring planets is captured in many papers in this volume.

The IAU chose well in selecting Sydney, Australia for its XXV General Assembly. The scenery is striking, the flora and fauna unique, and the inhabitants friendly. The Australian ‘winter’ surprised us all with sunny 60 degree (F) days (15 C!). And the venue on the shores of Darling Harbor proved superb.

Assisting us on the Scientific Organizing Committee by planning the program and selecting contributions for publication included: Alan Boss (USA), Lawrence Cram (Australia), Dainis Dravins (Sweden), Edward Guinan (USA), Takeo Kosugi (Japan), Robert Lin (USA), Rafael Rebolo (Spain), Jürgen Schmitt (Germany), and Oddbjorn Engvold (Norway, *ex officio*). They are a group of scientists with broad interests, strong vision, and definite opinions! We appreciated their advice.

The speakers and authors deserve congratulations too, for informative, inspiring and well-prepared lectures. And several kindly stepped in as speakers and session chairs due to unexpected circumstances. The organizers appreciated everyone’s cooperation.

We are grateful to the IAU, for their support of the expenses of many participants, and for enabling the production of the CD-ROM inserted in this volume. Only in this way could we include the excellent poster papers presented

at the Symposium. In addition, many national organizations made possible the attendance of their astronomers. The American Astronomical Society deserves mention as well as the US National Aeronautics and Space Administration and the US National Science Foundation. The individual institutions of the Editors (the Smithsonian Astrophysical Observatory and ETH Zurich) also provided meeting support.

Scott Wolk of the Smithsonian Astrophysical Observatory earned our special appreciation for his artistically talented digital record of the meeting, and assistance in constructing the cover montage.

Arnold Benz and Andrea Dupree

Co-Chairs, IAU Symposium 219

