Preface

More than 35 years after their discovery, neutron stars continue to present new surprises and challenges. Radio pulsars are the most common manifestation of neutron star, and many of the properties of these sources have now been well-established. However, the stunning success of the Parkes Multibeam Pulsar Survey and other recent efforts have greatly expanded the sample of radio pulsars, revealing many new unique systems.

Meanwhile, high-energy astrophysics has now definitely come of age, thanks to the superb series of data-sets which the *Chandra X-ray Observatory* and *XMM-Newton* have provided in the last few years. Many new young neutron stars have been identified in X-rays by these missions — some of these new sources are traditional rotation-powered neutron stars, but these are now accompanied by the exotic "anomalous X-ray pulsars" and "soft gamma-ray repeaters" (both of which are now thought to be ultra-highly magnetized neutron stars, or "magnetars"), and the mysterious "central compact objects", now seen to be embedded in many young supernova remnants. The relations and connections between these different manifestations of young neutron star are yet to be clearly established.

While all these beautiful data have been accumulating, there has been a growing appreciation that a full understanding of young neutron stars must include a study of the environments in which they are born and then evolve: a neutron star is formed in a supernova explosion, then drives a relativistic wind bubble into the resulting expanding supernova remnant, and ultimately travels outward at high velocity into the ambient interstellar medium. These successive interactions can be powerful probes of neutron star properties, and also provide wonderful physical laboratories for studying various associated processes.

The 2003 IAU General Assembly, in Sydney, Australia, marked an opportunity to bring together the diverse groups of researchers working on all these issues, for a focused Symposium on "Young Neutron Stars and their Environments". We are pleased to present here the conference proceedings resulting from this meeting.

We thank the Scientific Organizing Committee for the care they put into assembling the oral program, in particular Dick Manchester and Frank Verbunt for their tireless efforts in coordinating the entire process of proposing for and then organizing this meeting in the 18 months leading up to this event. We also gratefully acknowledge the Local Organizing Committee, led by Simon Johnston, who efficiently dealt with numerous logistical details. Finally, we thank all the staff associated with the IAU General Assembly, who provided a smooth running and highly enjoyable meeting.

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