

Editorial

The Sao Paulo Advanced School of Astrobiology – SPASA 2011

The SPASA 2011 organizers and Rocco Mancinelli

This special edition of the international *Journal of Astrobiology* is devoted to articles based on the lectures presented during the Sao Paulo Advanced School of Astrobiology: Making Connections – SPASA 2011. This was the first international school of astrobiology organized in Brazil and marked the dawn of this field of research in Brazil, combining a selection of international and Brazilian lecturers with significant experience in astrobiology, and an enthusiastic audience of students and young researchers from Brazil and the world. This opportunity was made possible by funding provided by Sao Paulo Research Foundation – FAPESP, which covered all costs of organization and logistics for all lecturers and participants. The enthusiasm of FAPESP coordinators with its program of Advanced Schools of Science and astrobiology itself encouraged us to attempt and successfully organize SPASA 2011, and now to envision its continuation in future schools.

The subtitle: Making Connections was chosen by the organizers because the school was designed to allow the natural creation of connections: between and among disciplines, as astrobiology is intrinsically inter- and multidisciplinary; among researchers and students – many of the young students had their first contact with renowned researchers at this school. Because the students will likely be colleagues in the near future, it is essential that they start their collaborations and contacts as soon as possible. The intensive academic and field activities provided by the school increased personal interactions and hopefully, created long-lasting bonds.

The papers published in this special edition offer a broad panorama of how modern astrobiology is being structured, and how it is evolving with time and being adapted to the environment and cultures of different countries. In Brazil, for example, astrobiology is being solidly developed by a group of young researchers who see that one of the greatest contributions that the Brazilian research community can provide is a deep understanding of the terrestrial ecosystems, their complex interrelations and connections, and their response to an evolving planet, due to its internal planetary systems, feedback with biology and astrophysical influences.

In this edition, you will quickly journey through important events in the history of the Universe. It begins with the formation of the first elements, during the Big Bang and following through to the stars being formed today, from the lightest Hydrogen to the heaviest elements on the periodic table, still being discovered. All this chemical richness is then combined with the cooling of the Universe and formation of planets, giving rise to the prebiotic universe from which arose the first replicating systems exhibiting Darwinian evolution. Life arose and evolved on Earth to occupy almost every known environment; from its surface to the depths of the deepest mines, from the tops of the Andes to the bottom of the oceans, in boiling acid/alkaline springs to the fluid inclusions in ice; from fresh water to inclusions in salt crystals. We are just beginning our quest for habitable environments outside Earth, in the Solar System and beyond that will, one day, answer the question “Are we alone?”.