

## FOREWORD

More than 600 PhD students and scientists from the five continents have already attended the twelve sessions of the European Research Course on Atmospheres ("ERCA") which have been organized in Grenoble, France, since 1993. This never-failing popularity is the consecration of the original multidisciplinary character of the course, which allows participants with different academic backgrounds to broaden their scientific horizon and interact with lecturers who are leaders in their respective fields.

This popularity was also the consequence of the publication of a series of books which are the tangible products of the ever changing material of the successive sessions. Five books have already been published, and this volume is the sixth in the series.

It contains twenty chapters surveying a wide range of topics *From indoor air pollution to the search for Earth-like planets in the cosmos*. Particular emphasis is given to the astronomical theory of climate, the interaction between vegetation and climate, the role of clouds in the climate system, ice nucleation active bacteria, the role of Antarctica as a heat sink for the global atmosphere, diagnostic models, extreme climatic events, productivity in agricultural systems under climate change scenarios, the solar magnetic activity and climate, economic approaches to climate policies, energy and climate change, mercury in the environment, indoor air pollution, atmospheric chemistry of halogens, temperature lidars, the BepiColombo space mission to Mercury, the atmosphere of Mars, and the search for extrasolar habitable worlds.

I wish to thank again the authors for kindly giving some of their time to prepare the chapters of this new volume. I am also very grateful to Michele Poinot for her continuous help for the organization of the successive sessions, and to Estelle Bell, Isabelle Houlbert and Agnès Henri for editorial assistance.

Claude Boutron,  
Professor at the University  
Joseph Fourier of Grenoble  
(Institut Universitaire de France)  
Director of ERCA

29 October 2004