

Foreword

The series of by now traditional international Summer Schools/Conferences "Let's Face Chaos through Nonlinear Dynamics" began in the year 1993 on the initiative of a group of undergraduate students of the various faculties at the University of Ljubljana, under the leadership of Mrs. Maja Malus, a student of electrical engineering at the time (now a medical doctor at Harvard), under the scientific guidance of Professors Marko Robnik, Aneta Stefanovska and Igor Grabec. Since 1996 the Schools/Conferences are held exclusively at the University of Maribor, under the organization of CAMTP - Center for Applied Mathematics and Theoretical Physics, every three years. This year we have 41 invited lecturers, most of them are leaders in this sphere of science, and 30 other participants from all over the world, from four continents, many of them from the world top groups, and quite a few of them being successful young PhD researchers. Also, according to the richness of the scientific and cultural programme, it is probably one of the best, as you can see in the following pages of this Book of Programme.

The character of our Schools/Conferences is strongly international. The profile of the School/Conference is strongly interdisciplinary, with the focus on the rich variety of problems in nonlinear science, in mathematics, natural sciences and engineering in the field of chaos, synergetics and theory of complex systems, but physics is by far the most important discipline. As for the scientific level we believe that we are gathering the worldwide leadership and elite, not only among the invited speakers, but also quite pronounced in the other participants, most of them are very talented and productive young scientists from some of the best research groups in the world. So, our gatherings in Maribor have the following dimensions: High level science, internationality, interdisciplinarity, special attention to young students and scientists, promoting them and also helping them financially (especially for those coming from financially weak countries), and finally the cultural dimension which ties together science and life, in a cosmopolitan spirit in mutual respect of all cultures of the world. The Science is something special, it is the Culture of the World, a universal culture indeed, like music.

As the main organizer of the Schools/Conferences, I have made every effort to make your stay in Maribor scientifically as profitable as possible, also culturally as much enjoyable as possible, hoping that you will not only acquire new knowledge, but also successfully present your own research work, and make new scientific collaborative links and creative friendships. This is the most important face of the Maribor gatherings, highly successful and appreciated so far.

I should like also to emphasize the personal component of the 8th School/Conference, namely the fact that it is dedicated to the 65th birthday of Professor Predrag Cvitanović (born on 1 April 1946), from Georgia Institute of Technology, Atlanta, USA. We feel honoured by his attending of our Schools and Conferences since 1999, by the fact that he accepted our invitation to act as Honorary Director, along with the four other distinguished scientists and colleagues, namely Professors Giulio Casati of Como, Theo Geisel of Göttingen, Siegfried Grossmann of Marburg and Hermann Haken of Stuttgart. Our Schools/Conferences have been dignified by the presence of Professor Predrag Cvitanović, and his lecturing already since the year 1999 (4th School/Conference). Professor Predrag Cvitanović's contributions to science are immense and brilliant. He, as a great educator, has always paid a special attention to young people and supported them strongly. He is one of the initiators of the nonlinear science and of the physics of complex systems. His main contributions are in the field of classical and quantum chaos, statistical physics, theory of turbulence, and much more. His brilliant scientific contributions to this field of theoretical physics are of permanent value and are appreciated by all generations of scientists. We consider it a privilege to celebrate his 65th birthday at our 8th School/Conference, enjoying the opportunity to thank him sincerely for his great work and contributions to science and culture. Science is the universal culture, it is indeed Culture of the World. We look forward to our gathering in Maribor 2011 to cheerfully celebrate Professor Predrag Cvitanović's 65th birthday and to review his enormous scientific life opus and his current research work. It is on Tuesday 5 July 2011, at 21:00 hours, that we shall start the official celebration of his 65th birthday by a chamber music concert, performed by the very young Slovenian piano trio "Infinitum", followed by a celebration and reception in the Kazinska dvorana of the Slovenian National Theatre in Maribor.



Professor Predrag Cvitanović

Last but not least, I should thank all the Members of the international Organizing Committee for their support and help: The Honorary Directors Giulio Casati, Predrag Cvitanović, Theo Geisel, Siegfried Grossmann and Hermann Haken, and the Members: Yoji Aizawa, Tokyo, Tassos Bountis, Patras, Dean Korošak, Maribor, Tomaž Prosen, Ljubljana, Valery Romanovski, Maribor, Andreas Ruffing, Munich and Aneta Stefanovska, Lancaster. Among the local organizers my very special thanks go again to coworkers at CAMTP, namely Dr. Janez Kaiser for his help in setting up the home pages and Mr. Benjamin Batistić for lots of technical work in preparing the information and the programme books.

Our special gratitude must be acknowledged to our respected general sponsors: The Slovenian Research Agency ARRS, Ministry of Higher Education, Science and Technology of the Republic of Slovenia, the University of Maribor represented by the Rector Professor Danijel Rebolj, the City of Maribor, represented by the Mayor of the Town, Mr. Franc Kangler, GEN Energija and ELES Slovenija.

At the very end, thanks go to all participants for coming to Maribor and contributing to a traditionally productive and enjoyable friendly scientific atmosphere.

I wish you all a scientifically successful and culturally pleasant stay in Maribor, and of course, please enjoy the Maribor Festival Lent 2011, the fireworks, and all the cultural programme, the concerts, the mountains, the excursions and trips, the Slovenian cuisine and wines.

Professor Dr. Marko Robnik
— Director of **CAMTP** —
— Director General of the Summer School/Conference —

Maribor, 12 June 2011