

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. The 7th School/Conference is the largest, according to the number of invited lecturers (49), whilst it is third largest as to the number of other participants (about 38). Also, according to the richness of the scientific and cultural programme, it is probably the best, as you can see in the following pages of this Book of Programme.

The character of our Schools/Conferences is strongly international, we have invited lecturers and participants from all over the world, from almost all continents, and the national component of the Slovenian participants in total (invitees and others) is about 10%. They are 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, without any nationalisms, but rather in mutual respect of all cultures of the world. In fact, it is one of my by now quite popular sayings, that "The Science is the Culture of the World", it is 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 to make it 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 7th School/Conference, namely the fact that it is dedicated to the 65th birthday of Professor Giulio Casati (born on 9 December 1942), from University of Insubria at Como, Italy, (since 2005 also distinguished Professor of the of National University of Singapore), where he is working continuously since the foundation of this university, in which he was involved as the main founder. We feel honoured by his attending of our Schools and Conferences since 1994, by the fact that he accepted our invitation to act as Honorary Director, along with the four other distinguished scientists and colleagues, namely Professors Predrag Cvitanović of Atlanta, Theo Geisel of Göttingen, Siegfried Grossmann of Marburg and Hermann Haken of Stuttgart. Our Schools/Conferences have been dignified by the presence of Professor Giulio Casati, and his lecturing already since the year 1994 (2nd School/Conference). Professor Giulio Casati's contributions to science are immense and brilliant, not only in research, but in the general culture of science. He has organized so many historically important conferences, workshops, schools and other meetings, that it is impossible to list here all of them, and thus he contributed to the evolution of the scientific thought as well as to the evolution of the general social and cultural value of science. In these activities he 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 quantum information and quantum computers, and much more. His invaluable 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 7th 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 2008 to cheerfully celebrate Professor Giulio Casati's 65th Birthday and to review his enormous scientific life opus and his current research work. It is on Tuesday 8 July 2008, at 21:00 hours, that we shall start the official celebration of his 65th birthday by a chamber music concert, performed by the young

Slovenian cellist Niko Sajko, followed by a celebration and reception in the Kazinska dvorana of the Slovenian National Theatre in Maribor.

But there is yet another personal component. At our gathering we shall remember life and scientific opus of Professor Boris Chirikov of Novosibirsk, Russia, who passed away on 12 February 2008. He was working at the Budker Institute of Nuclear Physics and is the father of classical and quantum chaos in physics. His ideas, results and motivations are brilliant and were very influential worldwide over past four decades, although not yet sufficiently well recognized. He has educated a number of excellent younger scientists who now work at universities worldwide, and was also associated with our schools and conferences, namely he was the main invited lecturer at the 2nd School & Conference in Ljubljana in 1994. Professor Giulio Casati was one of the most important collaborators of Professor Boris Chirikov over the many years. We want to remember Professor Chirikov and pay respect for his great scientific life work.

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, 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, Mr. Benjamin Batistić for lots of technical work in preparing the programme book in which Mr. Gregor Vidmar was also involved.

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At the very end, thanks go to all participants for coming to Maribor and contributing to a traditionally productive and enjoyable friendly scientific atmosphere. Without the financial and intellectual contribution by the participants, this event would be absolutely impossible.

I wish you all a scientifically successful and culturally pleasant stay in Maribor, and of course, please enjoy the Maribor Festival Lent 2008, the fireworks, and all the cultural programme, the mountains, the excursions and trips, the Slovenian cuisine and wines, the concerts, and the art exhibition, authored by Mrs. Edita Mileta in Kavarna ART of the Hotel PIRAMIDA.

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

Maribor, 6 June 2008