International Journal of Bifurcation and Chaos, Vol. 20, No. 2 (2010) 195–196

DOI: 10.1142/S0218127410025648

EDITORIAL

The XVI Conference on *Nonequilibrium Statistical Mechanics and Nonlinear Physics* (MEDYFINOL'08) was held in Punta del Este, Uruguay, from December 1 to December 5, 2008. It was hosted by three Latin-American scientific institutions: Faculty of Exact and Natural Sciences, University of Buenos Aires, Argentina; Physics Institute, Faculty of Sciences, University of the Republic, Uruguay, and Faculty of Engineering, University of los Andes, Chile.

The MEDYFINOL is a traditional and regular meeting of the statistical and nonlinear physics Latin-American community. This XVI MEDYFINOL follows a series of meetings that took place in Mar del Plata, Argentina (2006), La Serena, Chile (2004), Colonia del Sacramento, Uruguay (2002), Huerta Grande, Córdoba (1999), Canela, Brazil (1997), Tucumán, Argentina (1996), San Carlos de Bariloche, Argentina (1995), Montevideo, Uruguay (1994), Mar del Plata, Argentina (1993), Mar del Plata, Argentina (1991), Santiago de Chile, Chile (1990), Puerto Iguazú, Argentina (1989), Mar del Plata, Argentina (1988), Lujan, Argentina (1987), and Lujan, Argentina (1986). The purpose of the MEDYFINOL series of meetings is to keep the Latin-America scientific community updated with new developments and directions in the statistics and nonlinear physics fields, to further collaborative international science programs, and to identify and discuss the most relevant issues in the area.

Statistical Mechanics and Nonlinear Physics are research areas that have developed a multidisciplinary character with many applications in biology, physiology, ecology, economics, sociology, etc. The XVI MEDYFINOL was attended by more than 150 participants from 18 countries: Argentina, Australia, Brazil, Belgium, Chile, France, Germany, Israel, Italy, Japan, Mexico, Peru, Spain, Switzerland, United States, United Kingdom, Uruguay, and Venezuela. It was very promising to see so many people, from young students to well-recognized senior scientists, participating in the meeting (see photo on p. 196).

The conference attracted very interesting presentations. There were about 40 invited talks, 30 contributed talks, and three poster sessions (more than 90 posters were presented). The topics covered included fundamentals of statistical physics, fluctuation phenomena, Brownian motion, entropy and other measures of information, complexity, granular material, structured and complex fluids, chaos and pattern formation, fluid dynamics, synchronization, complex networks, biological physics, neural networks, time series analysis, interdisciplinary physics, dynamics of social systems and econophysics.

The success of the XVI MEDYFINOL meeting can be attributed to the presence of eminent speakers, the high quality of the contributed papers, as well as significant student participation. As organizers, we hope that the XVI MEDYFINOL has provided an opportunity to develop scientific collaborations among Latin-American scientists, and contributed to the nucleation of new inter-institutional collaborating groups.

It is well known that it is extremely challenging to conduct research, and to organize scientific conferences, in developing countries. We wish to thank the following international agencies, as well as local agencies, for their economic help and support; without them, this conference would not have been possible: Facultad de Ingeniería, Universidad de los Andes, Chile; Anillo de Ciencia y Tecnología ACT15, Chile; Facultad de Ciencias, Universidad de la Republica, Uruguay; Comisión Sectorial de Investigación Científica (CSIC),

Uruguay; Programa de Desarrollo de las Ciencias Básicas (PEDECIBA), Uruguay; Centro Latinoamericano de Física (CLAF); Office Naval Research Global (USA); European Physical Society, Interdivisional Group of Physics for Development (IGPD); The Abdus Salam International Centre for Theoretical Physics (ICTP), Italy.

Orazio Descalzi (Universidad de los Andes, Chile)
Arturo Martí (Universidad de la República, Uruguay)
Cristina Masoller (Universitat Politècnica de Catalunya, Spain)
Osvaldo A Rosso (Universidad de Buenos Aires, Argentina; and
School of Electrical Engineering and Computer Science,
The University of Newcastle, Australia)