WORKSHOP

COMPUTATIONAL ASPECTS OF SHORT RANGE PHENOMENA INCLUDED IN ICCS 2008 CONFERENCE, KRAKOW. POLAND

Technological trends make it desirable to blend methods from many disciplines for dealing with non linear phenomena and/or phenomena which are defined in a short range interval (either in the source variable, time-space , or in frequency). These localized problems can be treated with special modern tools from Mathematics, Chaos theory, or from Signal-Data Analysis where the sampling and modeling play a crucial role. Both the theoretical models and the applications will be considered, especially from the computational aspects, in any field of Modern Science and Applied Math (bio-mathematics, bio-informatics, medicine, nano-mechanics, economy, astrophysics, etc.). It is a technical session on theoretical and practical aspects of modelling suddenly emerging phenomena and on applications in physics, biology, medicine, which would have a large audience and it would be an opportunity of discovering new fundamental aspects using computer simulation (as virtual experiments).

The workshop- **COMPUTATIONAL ASPECTS OF SHORT RANGE PHENOMENA** would include (without being restricted) the following main topics:

1. Logical and Ontological Aspects of Transformations (formal logic, gedanken experiments)
2. Technical and Computational Aspects for Pulse Measurements (sampling procedures for estimating pulse parameters)
3. Specific Dynamical Aspects of Suddenly Emerging Phenomena (mathematical models for dynamics of pulses in physics and technics)
4.Mathematical Aspects of Pulses Sequences and Time Series (specific aspects of sequences of pulses and wavelets studied by a large-scale analysis)
5. Wavelets Analysis, Stochastic Aspects and Applications (application of stochastic methods in wavelets analysis and simulation of transitions in natural, biological and human sciences)