

**The First International Seminar on Applied Analysis and Synthesis of
Complex Systems (ASCS)**

June 28-29, 2004.

**International Institute for Applied Systems Analysis (IIASA),
Laxenburg, Austria.**

All IIASA research staff and participants of YSSP are cordially invited to attend this seminar, which aims at introducing the new development of the COE by Kyoto University, Japan, to IIASA and discussing about general modeling methodologies for complex systems.

COE OF KYOTO UNIVERSITY

The 21st Century COE (Center of Excellence) Program is an initiative by the Japanese Ministry of Education, Culture, Science and Technology (MEXT) to support universities establishing discipline-specific international centers for education and research, and to enhance the universities to be the world's apex of excellence with international competitiveness in the specific research areas. Our program of "Research and Education on Complex Functional Mechanical Systems" is successfully selected to be awarded the fund for carrying out new research and education as Centers of Excellence in the field of mechanical engineering in 2003 (five-year project), and is expected to lead Japanese research and education, and endeavor to be the top in the world.

The program covers general backgrounds in diverse fields as well as a more in-depth grasp of specific branches such as complex system modeling and analysis of the problems including; nonlinear dynamics, micro-mesoscopic physics, turbulent transport phenomena, atmosphere-ocean systems, robots, human-system interactions, and behaviors of nano-composites and biomaterials. Fundamentals of those complex functional mechanical systems are macroscopic phenomena of complex systems consisting of microscopic elements, mostly via nonlinear, large-scale interactions, which typically present collective behavior such as self-organization, pattern formation, etc. Such phenomena can be observed or created in every aspect of modern technologies.

Especially, we are focusing upon; turbulent transport phenomena in climate modeling, dynamical and chaotic behaviors in control systems and human-machine systems, and behaviors of mechanical materials with complex structures.

This seminar is held to introduce the outline of the COE program of Kyoto University to IIASA researchers and to deepen the shared understandings on novel complex system modeling and analysis, including novel climate modeling and carbonic cycle management, through joint academic activities by mechanical engineers and system engineers. In this seminar, we will invite the distinguished researcher in Europe as a keynote speaker and our works attained so far in the project will be presented by the core members of the project as well as by the other contributing members who participated in the project.

ORGANIZATION

The IIASA staff and the participants of the YSSP who wish to attend the seminar are kindly requested to email by Fri., June 24th to marek@iiasa.ac.at a short note specifying the session number(s) they plan to attend.