



# Fondation Francqui-Stichting

Fondation d'Utilité Publique - Stichting van Openbaar Nut

## ***Complex Systems: a Fundamental Science Perspective***

***(Hotel le Méridien, Brussels, September 3-6, 2008)***

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### *Programme*

#### **Wednesday September 3, 2008**

9:30-10:00 Professeur **Pierre Van Moerbeke**, Executive Director Francqui Foundation & Université Catholique de Louvain - Belgium - *Welcome address*

10:00-11:00 Professor **Grégoire Nicolis**, Université Libre de Bruxelles, Interdisciplinary Center for Nonlinear Phenomena and Complex Systems - Belgium - *Nonequilibrium complex systems, networks and information processing*

#### **Coffee break**

11:30-12:30 Professor **Steven Smale**, University of California, Dept. of Mathematics, Berkeley – USA - *Theory of consensus and flocking*

#### **Lunch**

14:00-15:00 Professor **Gregory Chaitin**, IBM Research - New York-USA - *Leibniz, Complexity and Incompleteness*

15:00-16:00 Professor **Peter Grassberger**, University of Calgary, Dept. of Physics & Astronomy - Canada - *Mutual information : from time sequences to sequence alignment*

#### **Coffee break**

16:30-17:30 Professor **Itamar Procaccia**, The Weizmann Institute of Science, Dept. of Chemical Physics, Rehovot–Israel - *How mysterious is the mysterious glass transition ?*

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#### **Thursday September 4, 2008**

10:00-11:00 Professor **Hermann Haken**, Universität Stuttgart Institut für Theoretische Physik, Germany - *Synergetics : from lasers to brains*

#### **Coffee break**

11:30-12:30 Professor **Predrag Cvitanovic**, Georgia Institute of Technology, School of Physics, USA - *Geometry of turbulence : a stroll through 61,506 dimensions*

#### **Lunch**

14:00-15:00 Professor **J. Robert Dorfman**, University of Maryland, Institute for Physical Science

and Technology, USA - *Adventures in kinetic theory*

15:00-16:00 Professor **Giovanni Gallavotti**, Università di Roma La Sapienza, Dipartimento di Fisica, Italy - *Thermostats and reciprocity*

#### Coffee break

16:30-17:30 Professor **Christopher Jarzynski**, University of Maryland, Dept. of Chemistry and Biochemistry, Institute for Physical Science and Technology, USA - *What have we learned recently about the arrow of time ?*

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#### Friday September 5, 2008

10:00-11:00 Professor **Mitchell J. Feigenbaum**, The Rockefeller University, New York–USA - *Pattern Selection and Distant Boundaries*

#### coffee break

11:30-12:30 Professor **Raymond Kapral**, University of Toronto, Chemical Physics Theory Group, Dept. of Chemistry, Canada - *Synthetic Self-Propelled Nanomotors*

#### Lunch

14:00-15:00 Professor **Peter Schuster**, Institut für Theoretische Chemie, Wien-Austria - *Complex behaviour from simple molecular systems*

15:00-16:00 Professor **Bailin Hao**, Fudan University, Department of Physics, China - *Nice pieces of mathematics from real genome data*

#### Coffee break

16:30-17:30 Professor **Jean-Louis Deneubourg**, Université Libre de Bruxelles, Interdisciplinary Center for Nonlinear Phenomena and Complex Systems, Belgium - *Collective decision-making : insects and robots*

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#### Saturday September 6, 2008

10:00-11:00 Professor **Uzy Smilansky**, The Weizmann Institute of Science, Dept. of Physics of Complex Systems, Rehovot-Israel - *Can one count the shape of a drum?*

#### coffee break

11:30-12:30 Professor **Stuart A. Rice**, University of Chicago, USA - *Control of Dynamics in Complex Quantum Systems*

12:30-13 :00 Professor **Pierre Gaspard**, Université Libre de Bruxelles, Interdisciplinary Center for Nonlinear Phenomena and Complex Systems, Belgium - *Concluding remarks*

