Day I: Monday, Sept. 15, 2014

8:00 Opening registration desk

Time	Speaker	Title
8:40 – 9:00	**Organizers**	**Opening Ceremony**
9:00 – 9:45 **Chair:** Stefano Lepri	**Keynote Talk (1):** **Yuri Manin**	**Physics in the world of ideas: Complexity as energy**
9:45 – 10:15	————————	**Coffee Break**
10:15 – 10:35 **Chair:** Cecilia Pannetta	Dmitry Kasatkin	Transient sequences in a network of excitatory coupled Morris-Lecar neurons
10:35 – 10:55	Pier Luigi Gentili	The development of chemical artificial intelligence processing fuzzy logic
10:55 – 11:15	Hiromichi Suetani	Weak sensitivity to initial conditions for generating temporal patterns in recurrent neural networks: A reservoir computing approach
11:15 – 11:35	Oleg Maslennikov	Synchronization and control in modular networks of spiking neurons
11:35 – 11:55	Burton Voorhees	Birth-Death models of information spread in structured populations
11:55 – 12:15	Neslihan Avcu	Coexistence of deterministic and stochastic bistability in a 1-D Birth-Death process with Hill type nonlinear birth rates

12:30 – 13:30	**————————**	**Lunch**
13:30 – 13:55 **Chair:** Dmitry Bratsun	Ivan Zelinka	Does evolutionary dynamics need randomness, complexity or determinism?
13:55 – 14:15	Roman Senkerik	A Brief survey on the chaotic systems as the pseudo random number generators
14:15 – 14:35	Andrés Anzo	Emergent behaviors on co-evolutionary networks of chaotic dynamical systems
14:35 – 14:55	Roman Senkerik	Chaos driven PSO – on the influence of various CPRNG implementations: An initial study
14:55 – 15:15	Tomas Vantuch	Evolutionary-based ARIMA models for stock price forecasting
15:15 – 15:35	Sergej Čelikovský	On some false chaos indicators when analyzing sampled data
15:35 – 15:55	Gaihua Fu	A spatial model for infrastructure network generation and evolution
15:55 – 16:25	**————————**	**Coffee Break**
16:25 – 16:45 **Chair:** Burton Voorhees	Raimundas Jasinevicius	Intellectualized home environment as a complex system
16:45 – 17:05	Cecilia Pennetta	Desertification transition in semi-arid ecosystems and directed percolation
17:05 – 17:25	Hideaki Mouri	Lognormality observed for additive processes: Application to turbulence

17:25 – 17:45	Pavel Šedek	The prediction of tropospheric ozone using a radial basis function network
17:45 – 18:05	Tatyana Smaglichenko	Physical experiments and stochastic modeling to clarify a complexity of the system “the source of seismic energy – the ground”
18:30 – 20:30	**_____**	**Welcome Party**

_____ End of Day I _____

Day II: Tusday, Sept. 16, 2014

8:30 Opening registration desk

Time	Speaker	Title
9:00 – 9:45 **Chair:** Ivan Zelinka	**Keynote Talk (2):** **Antonio Politi**	**Collective dynamics in neural networks**
9:45 – 10:15	_____	**Coffee Break**
10:15 – 12:15	**TUTORIALS: Module I** **Tut 1:** Stefano Ruffo	Large deviations theory is a useful extension of the law of large numbers
12:30 – 13:30	_____	**Lunch**
13:30 – 15:15	**TUTORIALS: Module I** **Tut 2:** Ivan Zelinka	Evolutionary algorithms and deterministic chaos: Perspectives in theory and applications
15:15 – 15:45	_____	**Coffee break**
15:45 – 17:30	**TUTORIALS: Module I** **Tut 3:** Duccio Fanelli	Deterministic and stochastic pattern formation
19:00 – 23:00	_____	**Symposium Photo** **Social Events**

_____ End of Day II _____

Day III: Wednesday, Sept. 17, 2014

8:30 Opening registration desk

Time	Speaker	Title
9:00 – 9:45 **Chair:** Natalja Strelkowa	**Keynote Talk (3):** **Rudolf Kalman**	**Complex systems: Why mathematics?**
9:45 – 10:15	————	**Coffee Break**
10:15 – 10:35 **Chair:** Roman Senkerik	Otto E. Rossler	*Cosmology 2.0:* Convergent implication of cryodynamics and global-*c* general relativity
10:35 – 10:55	Lewis Clark	Hidden quantum Markov models and open quantum systems with instantaneous feedback
10:55 – 11:15	Reza Boostani	An efficient strategy to handle complex datasets having multimodal distribution
11:15 – 11:35	Yoshinao Shiraki	Maximum likelihood estimation and integration algorithm for modeling complex systems
11:35 – 11:55	Marek Lampart	On dynamics of an electromechanical system supported by cylindrical helical spring damped by an impact damper
11:55 – 12:15	Fabien Tarissan	Comparing overlapping properties of real bipartite networks
12:15 – 12:35	Simona Olmi	Hysteretic transitions in the Kuramoto model with inertia
12:35 – 13:45	————	**Lunch**
13:45 – 15:30	**TUTORIALS: Module II** **Tut 1:** Natalja Strelkowa	Mathematical methods in synthetic biology

15:30 – 16:00	**————————**	**Coffee Break**
16:00 – 17:45	**TUTORIALS: Module II** **Tut 2:** Francesca Di Patti	The van Kampen expansion
17:45 – 18:15	**————————**	**Coffee Break**
18:15 – 20:00	**TUTORIALS: Module II** **Tut 3:** Franco Bagnoli	Phase transitions in probabilistic cellular automata

_____ End of Day III _____

Day IV: Thursday, Sept. 18, 2014

8:30 Opening registration desk

Time	Speaker	Title
9:00 – 9:45 **Chair:** Franco Bagnoli	**Keynote Talk (4):** **Karoline Wiesner**	**Complexity measures and physical principles**
9:45 – 10:15	_____	**Coffee Break**
10:15 – 10:35 **Chair:** Tatyana Smaglichenko	Renata Rychtarikova	Multifractality in imaging: application of information entropy for observation of inner dynamics inside of an unlabeled living cell in bright-field microscopy
10:35 – 10:55	Natalja Strelkowa	Trajectory tracking for genetic networks using control theory
10:55 – 11:15	Stepan Papacek	Modeling and optimization of microalgae growth in photobioreactors: a multidisciplinary problem
11:15 – 11:35	Quiñones Armando	Digital processing of toxoplasma gondii cysts in meat samples for human consumption in Colombia
11:35 – 11:55	Dmitry Bratsun	Modeling of tumour growth induced by circadian rhythm disruption in epithelial tissue
12:00 – 12:30	**Posters** Sergey Belyakin Joon Kim	Stabilization of hyperbolic chaos by the Pyragas method Bridging Nature and human systems: Self-organizing hierarchical open systems approach with visioneering
12:30 – 13:30	_____	**Lunch**

13:30 – 13:50 **Chair:** Jasinevicius Raimundas	Emanuele Massaro	Risk perception and epidemic spreading in multiplex networks
13:50 – 14:10	Jan Korbel	Applications of multifractal diffusion entropy analysis to daily and intraday financial time series
14:10 – 14:30	Doug McLeod	An economic approach to the evolution of an ecology
14:30 – 14:50	Ferney Beltran Velandia	Foraging multi-agent system simulation based on attachment theory
14:50 – 16:10	Felipe Lara-Rosano	Petri Net models of purposeful complex dynamic systems
16:15 – 16:45	**_____**	**Coffee Break**
16:45 – 18:45	**Barry Cooper [Chair]** **Karoline Wiesner** **Rudolf Kalman** **John Symons** **Yuri Manin** **Antonio Politi**	**Galilei-Turing Round-table**
18:45 – 19:15	**Organizers**	**Closing Ceremony**

_____ End of Day IV _____