



COMPLEXITY
SCIENCE
HUB
VIENNA

CSH WORKSHOP AGENDA

THEORY OF SAMPLE SPACE REDUCING AND EXPANDING PROCESSES

October 19-20, 2017

COMPLEXITY SCIENCE HUB VIENNA
ROOM 101
PALAIS STROZZI
JOSEFSTAEDTER STRASSE 39
A-1080 VIENNA

Abstract

Systems and processes with sample spaces or phase spaces that are not constant, but change over time seem to be at the heart of many complex systems. Yet the mathematical structures behind these processes are practically unexplored. The workshop aims to clarify the situation where we stand with our current understanding, if the current approaches that have been explored by the various groups can be unified, and where to go in terms of possibilities of further fundamental understanding of these processes and their statistics.

Workshop Organizers

Henrik Jensen, Imperial College London, External Faculty, CSH Vienna

Stefan Thurner, CSH Vienna, MUW, IIASA, SFI

Invited Participants

Tamas Biro, MTA Wigner Research Centre for Physics

Bernat Corominas-Murtra, MUW, Associate Faculty, CSH Vienna

Rudolf Hanel, MUW, Associate Faculty, CSH Vienna

Vittorio Loreto, Sapienza, CSH Vienna

Piergiulio Tempesta, Universidad Complutense de Madrid (via Skype)

ABOUT THE COMPLEXITY SCIENCE HUB VIENNA

The objective of CSH is to host, educate, and inspire complex systems scientists who are dedicated to collect, handle, aggregate, and make sense of big data in ways that are directly valuable for science and society. Focus areas include smart cities, innovation dynamics, medical, social, ecological, and economic systems. CSH is a joint initiative of AIT Austrian Institute of Technology, IIASA International Institute for Applied Systems Analysis, Medical University of Vienna, Vienna University of Technology, Graz University of Technology, and Vienna University of Economics and Business.

AGENDA

October 19, 2017

- 09:00 Welcome & Introduction
- Stefan Thurner, CSH Vienna, MUW, IIASA, SFI
 - Henrik Jensen, Imperial College London, External Faculty, CSH Vienna
- 09:05 Pairing model and explosive phase spaces and the trouble that causes for usual Boltzmann entropy
- Henrik Jensen, Imperial College London, External Faculty, CSH Vienna
- 09:55 Multiplicity and Entropy
- Stefan Thurner, CSH Vienna, MUW, IIASA, SFI
- 10:40 Coffee break
- 11:15 Presentation & Discussion
- Tamas Biro, MTA Wigner Research Centre for Physics
- 12:00 Skype Conference: Formal Group Entropies and Information Geometry
- Piergiulio Tempesta, Universidad Complutense de Madrid
- 13:00 Lunch break
- 14:00 Prediction games on expanding spaces
- Vittorio Loreto, Sapienza, CSH Vienna
- 14:45 Coffee break
- 15:15 SSR and SSE: Where are we now?
- Bernat Corominas-Murtra, MUW, Associate Faculty, CSH Vienna
- 16:00 Some thoughts on Driven Dissipative Systems & SSR processes
- Rudolf Hanel, MUW, Associate Faculty, CSH Vienna
- 17:00 Adjourn

October 20, 2017

- 09:00 Structured discussion on “Common Principles” moderated by Henrik Jensen
- 12:00 Lunch break
- 13:00 Structured discussion on “Joint projects and next steps” moderated by Stefan Thurner
- 16:00 Adjourn

The workshop is kindly supported by