

12th International Conference on Partial Orders in Applied Sciences

**Towards an Understanding of Complex Phenomenon:
Applying Partial Order Theory to Multi-Indicator
Systems**

University of Neuchâtel, Department of
Sociology

Fbg de l'Hôpital 27, 2000 Neuchâtel, Switzerland

October 26-27, 2018

PROGRAMME

Friday, October 26, 2018

- 12:30-13:00 Registration
- 13:00 **Welcome and Introduction**
Christian Suter (University of Neuchâtel, Switzerland)
Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany)
Tugce Beycan (University of Neuchâtel, Switzerland)
- 13:15-14:45 **Workshop Session 1: General role of Multi Indicator Systems**
Chair: Christian Suter (University of Neuchâtel, Switzerland)
Paper 1: Demands on and specification of indicators for modelling and simulation environmental systems
Jochen Wittmann (University of Applied Sciences HTW Berlin, Germany)
Paper 2: Indicators in the framework of partial order
Filomena Maggino (Sapienza University of Rome, Italy), Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany)
Paper 3: Complex information. A whistle-stop tour of contemporary statistics
Enrico Infante, Michele Marotta, Rosa Ruggeri Cannata, Fabio Sartori, Hionia Vlahou (European Commission-Eurostat)
- 14:45-15:00 Coffee Break
- 15:00-17:00 **Workshop Session 2: Indicator systems and their analysis**
Chair: Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany)
Paper 1: Building rankings from hierarchical systems of ordinal indicators
Marco Fattore (University of Milano-Bicocca, Italy), Alberto Arcagni (University of Milano-Bicocca, Italy)
Paper 2: Assessing inhomogeneous indicator-based typologies through the reverse clustering approach
Jan W. Owsinski (Polish Academy of Sciences, Poland), Jaroslaw Stanczak (Polish Academy of Sciences, Poland), Slawomir Zadrozny (Polish Academy of Sciences, Poland), Janusz Kacprzyk (Polish Academy of Sciences, Poland)
Paper 3: A partial ordering approach in aggregating dimensions of subjective well-being
Leonardo Salvatore Alaimo (Sapienza University of Rome, Italy), Paola Conigliaro (Sapienza University of Rome, Italy)

Paper 4: Conceptualising and evaluating dominance in sports
Fabio Sartori, Gemma Asero (European Commission- Eurostat)

17:00-17:15 Coffee Break

17:15-18:45 **Workshop Session 3: Posets 1**

Chair: Filomena Maggino (Sapienza University of Rome, Italy)

Paper 1: Tournaments tables, power-weakness ratio and Hasse diagrams: an informative combination for multi-criteria decision-making
Roberto Todeschini (University of Milano-Bicocca, Italy), Miriam Cortinovis (University of Milano-Bicocca, Italy), Francesca Grisoni (University of Milano Bicocca), Davide Ballabio (University of Milano-Bicocca, Italy), Viviana Consonni (University of Milano- Bicocca, Italy)

Paper 2: Evaluations as sets over lattices, Mathematical basis
Adalbert Kerber (University of Bayreuth, Germany)

Paper 3: Evaluations as sets over lattices, Application point of view
Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany), Adalbert Kerber (University of Bayreuth, Germany)

19:00 Apéro-Welcome Reception

Saturday, October 27, 2018

9:00-10:30 **Workshop Session 4: Posets 2**

Chair: Tugce Beycan (University of Neuchâtel)

Paper 1: Some efficient sampling designs based on partial order sets
Bardia Panahbehagh (Kharazmi University, Iran), Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany)

Paper 2: Introduction of weights in poset-based synthetic indicators
Giulio Caperna (Joint Research Center of the European Commission)

Paper 3: Crucial weights, towards an understanding of weightings by partial order theory
Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany), Lars Carlsen (Awareness Center, Denmark)

10:30-11:00 Coffee Break

11:00-12:30 **Workshop Session 5: Application of posets in social sciences**

Chair: Marco Fattore (University of Milano-Bicocca, Italy)

Paper 1: There is no such thing as a free lunch! Who is paying for our happiness?
Lars Carlsen (Awareness Center, Denmark)

Paper 2: Ranking Karnataka districts by the Multidimensional Poverty Index (MPI) and by applying simple elements of partial order theory

Tugce Beycan (University of Neuchâtel, Department of Sociology), B.P. Vani (ISEC, Bangalore), Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany), Christian Suter (University of Neuchâtel, Switzerland)

Paper 3: Measuring gender equality: a comparison of different techniques to build synthetic indicators

Enrico di Bella (Università degli Studi di Genova, Italy), Filomena Maggino (Sapienza University of Rome, Italy), Lucia Leporatti (Università degli Studi di Genova, Italy)

12:30-14:00 Lunch Break (sandwiches)

14:00-16:00 **Workshop Session 6: Application of posets in environmental systems**

Chair: Jochen Wittmann (University of Applied Sciences HTW Berlin, Germany)

Paper 1: Dependent indicators for environmental evaluation of desalination plants

Ghanima Al-Sharrah (College of Engineering and Petroleum, Kuwait), Haitham M. S. Lababidi (College of Engineering and Petroleum, Kuwait)

Paper 2: Looking for Alternatives? Split-shots as an exemplary case

Lars Carlsen (Awareness Center, Denmark)

Paper 3: Implementation of Hasse Diagram technique in environmental risk assessment

Stefan Tsakovski (University of Sofia, Bulgaria)

Paper 4: Identifying drivers of land degradation in Xilingol, China, from 1975– 2015

Batunacun (Humboldt-Universität zu Berlin, Leibniz Centre for Agricultural Landscape Research (ZALF), Germany), Ralf Wieland (Leibniz for Agricultural Landscape Research (ZALF), Germany), Tobia Lakes (Humboldt-Universität zu Berlin, Germany), Claas Nendel (Leibniz for Agricultural Landscape Research (ZALF), Germany)

16:00-16:15 Coffee Break

16:15-17:45 **Workshop Session 7: Application of posets in biology and technical systems**

Chair: Lars Carlsen (Awareness Center, Denmark)

Paper 1: Fear and punitivity study in the prison population of Thuringia as an indicator-partial order of fear?

Stefan Markus Giebel (Criminological Department of Thuringia, Germany)

Paper 2: Indicators for sustainability assessment in the procurement of civil engineering services

Nora Pankow (Technische Universität Berlin, Germany), Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany), Jan Waschnewski (Berliner Wasserbetriebe,

Germany), Regina Gnirss (Berliner Wasserbetriebe, Germany), Robert Ackermann (Technische Universität Berlin, Germany), Matthias Finkbeiner (Technische Universität Berlin, Germany)

Paper 3: An attempt to explore survival strategies of African trees and bushes in two different landscape by partial ordering techniques
Ulfa A. Lenfers (Hamburg University of applied Sciences, Germany),
Rainer Bruggemann (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany)

17:45-18:00 **Concluding remarks**
Tugce Beycan (University of Neuchâtel, Switzerland)
Christian Suter (University of Neuchâtel, Switzerland)

19:30 Joint dinner (Restaurant Ananda, Fbg de l'Hôpital 31, 2000 Neuchâtel)

PROGRAMME NOTES

Registration Desk (Fbg de l'Hôpital 27, 2000 Neuchâtel, Institut de Sociologie, University of Neuchâtel)

Participants who have preregistered may pick up badges, conference programme and materials at the registration desk. For on-site-registration please contact the registration desk. The registration desk will be staffed on Friday and Saturday, October 26-27. Service hours are as follows:

Friday, October 26: 12:30-13:00 / Saturday, October 27: 8:30-9:00.

Time Allotment

15 min. for each presentation and the rest time of each session is for open floor discussion.

Presentation Equipment

One computer with Windows system and free WIFI will be available in conference room (Room 001, Fbg de l'Hôpital 27, 2000 Neuchâtel, Institut de Sociologie, University of Neuchâtel). For Mac users, please bring your own adapter and try to check before your session. For presenters, please send your presentation latest on Thursday, October 25, at 14:00, to tugce.beycan@unine.ch.

Welcome Reception, Coffee breaks, lunch break (Room 002, Fbg de l'Hôpital 27, 2000 Neuchâtel, Institut de Sociologie, University of Neuchâtel)

All conference participants are invited to the welcome reception on Friday, October 26 (in the evening, at 19:00).

Joint dinner

The joint dinner will be held at Restaurant Ananda (Fbg de l'Hôpital 31, 2000 Neuchâtel) on Saturday, October 27 (in the evening, at 19:30). For registration, please send an e-mail latest on Friday, October 19, to tugce.beycan@unine.ch.

Sightseeing tour in the old city center of Neuchâtel on Sunday, October 28 (in the morning)

For registration, please send an e-mail latest on Friday, October 19, to tugce.beycan@unine.ch
Meeting point for the tour: in front of the Institut de Sociologie, Fbg de l'Hôpital 27, 2000, Neuchâtel.