## The role of New approaches in studying sustainable governance: experimental RESEARCH and ModelLing OF Governance PROCESSES

**Date:** October 03-04, 2011

**Organizers:** **Institute for Forecasting, Slovak Academy of Sciences** (IF SAS), the Centre for Transdisciplinary Study of Institutions, Evolution and Policies[[1]](#footnote-1) (**CETIP**), Centre of Excellence of the Slovak Academy of Sciences **CESTA** (Centre for Interdisciplinary Research and Social Strategies).

**Venue:** Institute of Management of Slovak University of Technology in Bratislava, Slovakia, Vazovova 5, 812 43 Bratislava

**Funding:** COST Action IS0802 “Transformation of Global Environmental Governance” http://transformation- geg.org, Centre of Excellence of the Slovak Academy of Sciences **CESTA** Nadácia TATRA BANKY [www.nadaciatatrabanky.sk](http://www.nadaciatatrabanky.sk) and the Institute for Forecasting, Slovak Academy of Sciences (IF-SAS) <http://www.prog.sav.sk> , Institute of Management of Slovak University of Technology (UM STU).

**Workshop in brief:**

**The main objective of the workshop is to demonstrate if and how experimental and modelling techniques can substantially contribute to environmental governance and the design of effective management strategies under the given complexity.**

The workshop targets at interdisciplinary researchers in the area of environmental governance, political sciences, psychology, sociology, philosophy and environmental sciences. It will take the form of keynote lectures, lab sessions and the discussions. The workshop is the contribution to the debate on innovative ideas and challenges of multi-method application and collaborative research in interdisciplinary environmental research as being a part of open series of Training Institutes initiated by the European Society for Ecological Economics (ESEE).

The workshop is an activity of the Working Group 2 of the COST Action IS0802 "The Transformation of Global Environmental Governance: Risks and Opportunities (TGEG), <http://transformation-geg.org/> organized in collaboration with the Virtual Scientific Laboratories (VSL) [www.virtualsciencelab.org](http://www.virtualsciencelab.org). It is a result of the Centre of excellence SPECTRA+ and among launching activities of the Centre of Excellence of the Slovak Academy of Sciences **CESTA** (Centre for Interdisciplinary Research and Social Strategies).

**Program:**

Sunday October 2nd: Arrival and check-in

Monday October 3rd: 9:00 – 17:00 Workshop, 19:00 Dinner

Tuesday October 4th: 9:00 – 17:00 Workshop, Departures

The participation is by invitation only. Please contact the coordinators if you require further information about possible participation in the workshop.

**Workshop outline:**

Experimental research and modelling approaches aim to determine and model empirically how individuals and groups make choices. The importance of experimental and modelling approaches is dramatically increasing in the present complex and globalised world as they are capable of addressing issues under uncertainty and multiple agent arenas of choice facing conflicts of interests (Poteete et al. 2010). Under controlled (laboratory) conditions experiments can analyze and predict human behaviour. They attempt to test novel instruments and examine how incentives and institutions affect decisions in real world situation. The significance of game theory in social sciences has also been recognised by being awarded Nobel Prize for Economics in 1994, 2005 and 2009. Earth system analysis has made tremendous progress in developing integrated computer-based models that bring together with sophisticated techniques vast arrays of data from numerous components of the earth system. However, one crucial component of the present earth system is hardly reflected in integrated models: human activities, including in particular the self-steering capacities of human societies and collective action problems. While the emergence of the Anthropocene and of earth system transformation calls for new strategies in earth system management (Amsterdam Declaration 2001) or earth system governance (Biermann 2007; Biermann et al. 2010), these governance processes themselves are hardly linked with integrated modelling programs. Whereas some elements of social systems are included in integrated modelling (such as population dynamics, energy consumption, or economic growth expectations) the governance process itself, although vital for understanding future developments of the earth system, has remained a “black box” in integrated modelling. Studies of typical problems of social dilemmas associated with public goods and common pool resources can find direct application in resource and environmental governance (Ostrom et al. 1994). The compelling reason for the application of the experimental and modelling approach to environmental governance is the interdependence of agents, their actions and strategies (Dinar et al. 2008). The Bratislava workshop will provide an opportunity to focus on other-regarding preferences in the context of social norms that facilitate and direct human cooperation i.e., agents that care not only about their own pay-offs but collective interests and processes (Gintis et al. 2008).

Key questions to address are:

* *Can experiments and modelling contribute to the better understanding of the conditions of effective environmental governance?*
* *How can communication increase cooperation in environmental governance?*
* *What is the effect of informal rules and resource regimes on social dilemmas?*
* *In what way can ecological dynamics in the experimental design affect outcomes of decision-making and the co-evolution of ecosystems and institutions?*
* *Could experiments and modelling be employed as tools enhancing learning and capacity building for effective environmental governance?*

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## program of the Workshop

Institute of Management of Slovak University of Technology, Vazovova 5 Bratislava

**3 October 2011**



9:00-9:30 **Registration and Welcome with refreshment room: 501**



9:30-10:00 **Opening**  Koloman Ivanička, UM STU, director

Tatiana Kluvankova-Oravska IF SAS vice-director

Daniel Compagnon TGEG Cost Action IS08029



## 10:00-12:00 Session 1: ModelLing OF Governance PROCESSES room 501

Chair: Daniel Compagnon, WG 2 COST Action IS0802



10:00 -10:30 **Modelling international environmental** Martine de Vos, PBL

**regimes to help understanding**

**their effectiveness**

10:30-11:00 **Fuzzy concept as framework to model** Maros Finka

**governance and institutions** UMSTU

11:00-12:00 **Discussion**



12:00-13:00**Lunch**



13:00**-**17:00 **Session 2: Common pool resource experiment**

Chairs: Marco Janssen, CSID, ASU

Tatiana Kluvankova-Oravska, Veronika Chobotova, CETIP, IF-SAS



* Originated from the innovative work of Ostrom et al. (1994); Cardenas et al. (2008) participants will take part on web based version of lab experiment to simulate decision situation in which individuals respond in practice on social dilemmas in collective actions of the commons.



19:00 **Dinner**



**4 October 2011 *room 501***



## 9:30-12:00 SESSION 3: experimental RESEARCH and ModelLing OF Governance PROCESSES

Chair: Maros Finka



9:30 -11:00 **Experimental methods and** Marco Janssen, CSID, ASU

**Agent Based Modelling for**

**collective action and the commons**



11:00-11:15 **Coffee Break**

11:15-11:30 **Methods and Practice** Marco Janssen, CSID, ASU



Tatiana Kluvankova Oravska, Lenka Sláviková CETIP, IF-SAS

Andrej Udovc, UL, Slovenia

11:30-12:00 **Discussion**



12:00-13:00**Lunch**



13:00**-**16:00 **Session 4: Research skills, Collaborative research**

Chair: Veronika Chobotova, CETIP, IF-SAS



1300 -1330 **Challenges in the interpretation** BeataStehlikova, UM STU

**of statistical data**

13:30-1400 **Multiple methods and collaborative** Veronika Chobotova, CETIP

**research interdisciplinary research:** Veronika Poklembova, CETIP

**Experience from pilot PhD course in Bratislava**



14:00-14:15 **Coffee Break**

14:15-16:00 **Discussion** **and exchange of students: research ideas in the field of experimental**



**approaches and modelling**



16:00 **End of the Workshop**



**References:**

Biermann, F. 2007. ‘Earth system governance’ as a crosscutting theme of global change research. Global Environmental Change. Human and Policy Dimensions 17: 3-4, 326-337.

Biermann, F., et al. 2010. Earth system governance: A research framework. International Environmental Agreements: Politics, Law and Economics 10: 4, 277-288.

Dinar, A., Albiac, J., and J. Sanchez-Soriano (eds.) 2008. Game Theory and Policy Making in Natural Resources and the Environment. Rutledge Explorations in Environmental Economics. Rutledge Abingdon, pp. 343.

Gintis, H., Bowles, S., Boyd R., and E. Fehr. 2005. Moral Sentiments and Material Interests. The Foundations of Cooperation in Economic Life. MIT Press.

Ostrom, E., Gardner, R., and J. Walker. 1994. *Rules, Games, and Common-pool Resources*. Ann Arbor, MI: The University of Michigan Press.

Poteete, A., Janssen, M., and E. Ostrom. 2010. Working together: collective action, the commons, and multiple methods in practice. Princeton University Press, Princeton, NJ.

**Speakers:**

* **Daniel Compagnon** **TGEG Cost Action IS0802**
* **Veronika Chobotova**: Center for Trans-disciplinary Study of Institutions, Evolution and Policies, Institute for Forecasting of the Slovak Academy of Sciences **(CETIP,** **IF-SAS)**
* **Maros Finka**: Department of Spatial Planning, Institute of Management of Slovak University of Technology*,***UM STU**
* **Marco Janssen**: Center for the Study of Institutional Diversity of Arizona State University, **(CSID, ASU)**
* **Tatiana Kluvankova-Oravska**: Center for Trans-disciplinary Study of Institutions, Evolution and Policies, Institute for Forecasting of the Slovak Academy of Sciences **(CETIP,** **IF-SAS)**
* **Veronika Poklembova**: Center for Trans-disciplinary Study of Institutions, Evolution and Policies, Institute for Forecasting of the Slovak Academy of Sciences **(CETIP,** **IF-SAS)**
* **Beata Stehlikova**, Department of Spatial Planning, Institute of Management of Slovak University of Technology*,* **(UM STU)**
* **Andrej Udovc:** Biotechnical faculty University of Ljubljana, Slovenia **(UL)**
* **Martine de Vos**, Netherlands Environmental Assessment Agency **(PBL)**

1. ***CETIP*** *is research centre dedicated to trans-disciplinary research and training, primarily in the region of Central and Eastern Europe. Main concern is to support flexible research teams and interdisciplinary cooperation across natural and social sciences. CETIP ambition is also to provide a platform for science and policy interface. Research Foci of CETIP are* Human Dimensions of Global Environmental Change and Co-evolution of institutional and technology change. [↑](#footnote-ref-1)