



International Institute for
Applied Systems Analysis

Theory and Knowledge Systems for Sustainability Science

**October 22 - 24, 2013
Santa Fe, New Mexico 87501**

Agenda

Wednesday, October 23, 2013

- 8:15 Shuttle departs Hotel Santa Fe to Santa Fe Institute
- 9:00 - 9:30 Opening remarks and workshop objectives: **Nina Fedoroff** (KAUST and SFI), **Pavel Kabat**, (IIASA Director and CEO), **Molly Jahn** (U. Wisc.), **Luis Bettencourt** (SFI)

Session I: The current state of sustainability science (Moderator: Bob Scholes)

- 9:30-10:30 Discussion Panel 1: Are there theoretical foundations for sustainability science?

Panelists: **Simon Levin** (Princeton University), **Bill Clark** (Harvard University), **Geoff West** (SFI)

Format: 10 minutes for comments followed by discussion
- 10:30-11:00 **Coffee Break**
- 11:00-12:00 Discussion Panel 2: How do theory and practice interface today and where is there a need for new approaches?

Panelists: **Tony Janetos** (Boston University), **Ulf Dieckmann** (IIASA), **Nebojsa Nakicenovic** (IIASA)

Format: 10 minutes for comments followed by discussion
- 12:00-1:00 **Working Lunch**

Remarks by Pavel Kabat (IIASA): Integrating theory and knowledge systems into the global water futures initiative

Session II: Case studies and what can be learned from them (Moderator: Tony Janetos)

- 1:00-3:00 Discussion Panel 3: Case studies toward sustainability in complex social-ecological systems
 Panelists: **Ian Prosser** (CSIRO), **Bob Scholes** (CSIR, South Africa)
 Format: 15 minutes for comments followed by discussion
- 3:00-3:30 **Coffee Break**
- 3:30-4:30 Discussion Panel 4: What hypotheses about moving to sustainability emerge from case studies?
 Panelists: **Jen Dunne** (SFI), **Ilan Chabay** (Inst Advanced Sustainability Studies, Potsdam), **Michael Obersteiner** (IIASA)
 Format: 10 minutes for comments followed by discussion
- 6:30 **Wine & cheese at Nina Fedoroff's home, 320 Kearney Avenue (505) 820-6539)**
- 7:30 **Conference dinner at Santa Café, 231 Washington Avenue (505) 984-1788**

Thursday, 24, 2013

Session III: Urbanization and its implications for sustainability (Moderator: Geoff West)

- 9:00-10:30 Discussion Panel 5: Urbanization and urban systems: ecological impacts and innovation potential.
 Panelists: **Luis Bettencourt** (SFI), **Jessika Trancik** (MIT), **Ann Kinzig** (Arizona State)
 Format: 10 minutes for comments followed by discussion
- 10:30-11:00 **Coffee break**

Session IV: From practice to theory and theory to practice (Moderator: Simon Levin)

- 11:00-12:00 Discussion Panel 6: Critical transitions in complex social-ecological systems.
 Panelists: **Elena Rovenskaya** (IIASA), **Vasilis Dakos** (Estación Biológica de Doñana), **Omar Knio** (Duke Univ. and KAUST)
 Format: 10 minutes for comments followed by discussion
- 12:00-1:00 **Lunch Break**

- 1:00-2:15 Discussion Panel 7: Defining and staying in a safe operating space
Katherine Richardson (Univ of Copenhagen), **Anthony Wagar** (Willis Group), **Gerard Ostheimer** (USDA)
Format: 10 minutes for comments followed by discussion
- 2:15-2:30 **Coffee Break**
- 2:30-3:45 Discussion Panel 8: Bringing theory to practice and application
Are we monitoring the right parameters? How will we know when we are in a safe operating space for humanity? How do we more effectively integrate theoretical and data-based modeling through experimentation?
Discussants: **Pavel Kabat** (IIASA), **Molly Jahn** (University of Wisconsin)
Format: Discussion
- 3:45-4:00 Wrap-up and Next Steps: **Molly Jahn** (University of Wisconsin)
- 4:00 Adjourn
- 5:00 Shuttle departs Santa Fe Institute to Hotel Santa Fe

