

# International Symposium & Public Lecture “Integrated Science for Sustainable Transitions”

Under the Patronage of Mrs Margit Fischer, First Lady of Austria

Wednesday, 29 April 2015

International Institute for Applied Systems Analysis (IIASA), Laxenburg/Vienna, Austria

## Symposium Program

Dedicated to the Memory of Dr Mike Raupach

- 13:30-14:00 Arrival and registration with coffee and pastries; *Conference Center Foyer Area*
- 14:00-14:30 **Welcome and Introduction by Pavel Kabat** (Director General and Chief Executive Officer of IIASA, member of the Leadership Council for the United Nations Sustainable Development Solutions Network and Professor of Earth System Science at Wageningen University) **and James P Syvitski** (Executive Director, CSDMS (Community Surface Dynamics Modeling System) University of Colorado-Boulder and IGBP Chair, International Geosphere-Biosphere Programme, Royal Swedish Academy of Sciences)
- 14:30-15:30 **Panel Session: “Emerging Trends in Integrated Science”**
- **Future Earth - Cheikh Mbow** (IGBP SC Member and Senior Scientist on Climate Change and Development at the World Agroforestry Centre (ICRAF))  
*Future Earth is the global research platform providing the knowledge and support to accelerate our transformations to a sustainable world, bringing together and in partnership with existing programmes on global environmental change.*
  - **World Climate Research Program - Guy Brasseur** (WCRP-JSC Chair and Senior Scientist at the Max Planck Institute for Meteorology)  
*The WCRP aims to facilitate analysis and prediction of Earth system variability and change for use in an increasing range of practical applications of direct relevance, benefit and value to society.*

**Chaired by  
Ramesh  
Ramachandran**

- **The World in 2050 & IIASA Nexus Approach - Nebojsa Nakicenovic** (Deputy Director General and Deputy CEO of IIASA, Professor of Energy Economics at the Vienna University of Technology and Director of Global Energy Assessment (GEA))

*The World in 2050 project brings together world-leading modelling teams to develop and assess possible pathways to achieve sustainable development, across the whole spectrum of sustainability challenges, within a safe and just operating space of a stable planet.*

*IIASA is developing a suite of new methodologies and approaches to simultaneously model and assess current and future challenges across multiple sectors, e.g., food, energy, water, etc, including potential synergies and tradeoffs.*

- **Austrian Academy of Sciences – Georg Brasseur** (President of the Division of Mathematics and Natural Sciences at the Austrian Academy of Sciences)

*The Austrian Academy of Sciences is the leading Austrian institute for science and research; it stands for social discourse, the transfer of knowledge and basic research at the highest international level.*

*Followed by general discussion*

**15:30-16:30 Panel Session: “Creative Approaches to Integrated Science”  
Including a selection of early to mid career scientists**

- **Anne Goujon** (Research Scholar, World Population Program, IIASA) – *France*
- **K.C. Samir** (Project Leader, World Population Program, IIASA) – *Nepal*
- **Petr Havlik** (Research Scholar, Ecosystems Services and Management Program, IIASA) – *Czech Republic*
- **Ian McCallum** (Research Scholar, Ecosystems Services and Management Program, IIASA) – *Canada*
- **Jessica Jewell** (Research Scholar, Energy Program, IIASA) - *USA*
- **Joeri Rogelj** (Research Scholar, Energy Program, IIASA) – *Belgium*

*Chaired by  
James Syvitski*

*Followed by general discussion*

16:30-17:30 Panel Session: "Working Across Scales to Understand the Earth System"

- **Priya Shyamsundar** (IGBP SC Member and Executive Director for the South Asian Network for Development and Environmental Economics (SANDEE))
- **Martin Claussen** (IGBP SC Member, Head of the Department "The Land in the Earth System" at the Max Planck Institute for Meteorology and Professor for Meteorology at the Meteorological Institute of the University of Hamburg)
- **Eduardo Brondizio** (IGBP SC Member and Professor, Anthropology Department, Indiana University)
- **Peter Cox** (AIMES Co-Chair and Professor of Climate System Dynamics at University of Exeter)
- **Pauline Dube** (Vice-Chair IGBP SC and Associate Professor in the Department of Environmental Science at the University of Botswana)
- **Helmut Haberl** (GLP Representative, Associate Professor and Deputy Head of the Institute of Social Ecology at Alpen-Adria University Klagenfurt)

*Chaired by  
Pavel Kabat*

*Followed by general discussion*

17:30-18:30 Drinks reception; *Conference Center Foyer Area*

18:30-20:00 **Public Lecture: "Global Change and the Earth System: A Planet in Transition" by Professor Will Steffen** (Executive Director of the ANU Climate Change Institute at the Australian National University)

**Abstract:** This tour of Earth System science begins in the 1980s, when a large body of research began to coalesce around the major components of the planetary environment. This natural-science-driven, bottom-up approach aim to understand the "planetary machinery", and delivered new insights into the Earth's major cycles, for example, water and carbon. Complex system science deepened our understanding, introducing concepts such as switch-and-choke points, abrupt changes, and limit cycles. Humans came sharply into the picture 15 years ago with Paul Crutzen's introduction of the Anthropocene, the proposed new geological epoch of planet Earth. A few years later the Great Acceleration graphs showed that the human enterprise and the Earth System began to evolve in lock-step from the middle of the 20th century. New types of scholarship – the social sciences and economics – joined with natural scientists to explore the implications of the Anthropocene and the Great Acceleration. Finally, humanities scholars have added the critical knowledge that illuminates the development of our societies through time and explores our relationship to the rest of nature. Critically, they have challenged us with the simple but profound question: just where on Earth are we going?

20:00 Bus transfer to Vienna