



IAMC 2019

Twelfth Annual Meeting of the IAMC
Tsukuba, Japan

2 - 4
DECEMBER
2019

Programme (as of 27 NOV 2019)

Day 1: Monday, December 2nd, 2019

09:00	09:30	Opening Session			
09:30	10:45	Plenary Session 1: Climate policy in Asia and IAM research			
10:45	11:15	<i>Break</i>			
11:15	13:00	Plenary Session 2: Elements of successful transition			
13:00	14:00	<i>Lunch and group photo</i>			
14:00	15:45	Parallel Session 1A DEEP 1	Parallel Session 1B NATIONAL 1	Parallel Session 1C IMPACTS 1	Parallel Session 1D METHODS 1
15:45	16:15	<i>Break</i>			
16:15	18:00	Parallel Session 2A DEEP 2	Parallel Session 2B NATIONAL 2	Parallel Session 2C IMPACTS 2	Parallel Session 2D METHODS 2
18:00	19:30	Poster Session: Slot 1 (with cocktails and tapas)			
19:30	21:00	Poster Session: Slot 2 (with cocktails and tapas)			

Day 2: Tuesday, December 3rd, 2019

09:00	10:45	Parallel Session 3A DEEP 3	Parallel Session 3B NATIONAL 3	Parallel Session 3C IMPACTS 3	Parallel Session 3D SD 1
10:45	11:15	<i>Break</i>			
11:15	13:00	Parallel Session 4A MITIGATION 1	Parallel Session 4B NATIONAL 4	Parallel Session 4C LAND BASED	Parallel Session 4D SD 2
13:00	14:00	<i>Lunch</i>			
14:00	15:45	Parallel Session 5A MITIGATION 2	Parallel Session 5B TRANSITION	Parallel Session 5C CLIMATE	
15:45	16:15	<i>Break</i>			
16:15	18:00	Parallel Session 6A MITIGATION 3	Parallel Session 6B DEMAND	Parallel Session 6C EXTENSIONS	

Day 3: Wednesday, December 4th, 2019

08:30	08:45	Plenary Session 3: Report on IPCC Special Report on Land			
08:45	10:25	Plenary Session 4: New directions for representing climate impacts in IAMs			
10:25	10:45	<i>Break</i>			
10:45	12:00	Plenary Session 5: Digital revolution			
12:00	13:15	Final session			
13:15	14:30	<i>Lunch</i>			
14:30	16:00	SWG on Evaluation and Diagnostics		SWG on Scenarios	
16:00	16:30	<i>Break</i>			
16:30	18:00	SWG on Scenarios for Climate-related Financial Analysis		SWG on Data Protocols and Management	

Detailed Programme

Day 1: Monday, December 2nd, 2019

09:00-09:30 **OPENING SESSION** Room: 102
Chair: Detlef VAN VUUREN (PBL)

09:00-09:15 **Opening remarks on behalf of NIES**
Chiho WATANABE (NIES)

09:15-09:30 **Opening remarks on behalf of IAMC**
John WEYANT (Stanford University)

09:30-10:45 **PLENARY SESSION 1** Room: 102
Climate policy in Asia and IAM research
Chair: Detlef VAN VUUREN (PBL)

09:30-09:45 **China's recent climate policy agenda and its modelling implication**
Fu SHA (Energy Foundation)

09:45-10:00 **Climate policy development in Japan**
Kazuhiro WADA (Government of Japan)

10:00-10:15 **IAM analysis of Asian climate Policy**
Mikiko KAINUMA (NIES)

10:15-10:45 **Open discussion with panel**

10:45-11:15 *Break*

11:15-13:00 **PLENARY SESSION 2** Room: 102
Elements of successful transition
Chair: Detlef VAN VUUREN (PBL)

11:15-11:35 **Climate change and sustainable development**
Keywan RIAHI (IIASA)

11:35-11:55 **Scenario analysis in climate-related financial disclosures**
Satoshi IKEDA (Chief Sustainable Finance Officer, Government of Japan)

11:55-12:15 **Analysis of feasibility**
Massimo TAVONI (RFF-CMCC and Politecnico di Milano)

12:15-12:35 **Achievements and needs for the climate change scenarios framework**
Brian O'NEILL (Frederick S. Pardee Center for International Futures at the University of Denver)

12:35-13:00 **Open discussion**

13:00-14:00 *Lunch and group photo*

14:00-15:45 PARALLEL SESSION 1A Room: 201A
Deep mitigation scenarios – DEEP 1
 Chair: Detlef VAN VUUREN (PBL), Elmar KRIEGLER (PIK), Sergey PALTSEV (MIT)

14:00-14:05 **Introduction**
 Detlef VAN VUUREN (PBL), Elmar KRIEGLER (PIK), Sergey PALTSEV (MIT)

14:05-14:30 **A new scenario logic to meet the Paris Agreement long-term temperature goal**
 Joeri Rogelj (IIASA and Imperial College London), Daniel Huppmann (IIASA), Volker Krey (IIASA), Keywan RIAHI (IIASA), Leon Clarke (University of Maryland), Matthew Gidden (IIASA), Zebedee Nicholls (University of Melbourne), Malte Meinshausen (University of Melbourne and PIK)

14:30-14:55 **How to shape a carbon price path**
Jessica STREFLER (PIK), Elmar Kriegler (PIK), Nico Bauer (PIK), Gunnar Luderer (PIK), Robert Pietzcker (PIK), Ottmar Edenhofer (PIK)

14:55-15:20 **Assessing SSP IAM 1.5°C-2°C Scenarios from a power system perspective with a detailed Hourly Global Electricity model**
Maarten BRINKERINK (University College Cork), James Glynn (MaREI Centre, University College Cork), Brian Ó Gallachóir (MaREI Centre, University College Cork), Paul Deane (MaREI Centre, University College Cork)

15:20-15:45 **Power-to-heat: The potential for direct industry electrification**
Silvia MADEDDU (PIK), Falko Ueckerdt (PIK), Jürgen Peterseim (University of Technology Sydney, Institute for Sustainable Future), Karthik Ajith Kumar (PIK), Christoph Krüger (Geoscience Faculty Utrecht University), Gunnar Luderer (PIK)

14:00-15:45 PARALLEL SESSION 1B Room: 201B
National mitigation scenarios - NATIONAL 1
 Chair: Jae EDMONDS (PNNL), Jiang KEJUN (ERI), Toshihiko MASUI (NIES)

14:00-14:05 **Introduction**
 Jae EDMONDS (PNNL), Jiang KEJUN (ERI), Toshihiko MASUI (NIES)

14:05-14:30 **Global stocktake of long term strategies in the seven largest emitting regions**
Elmar KRIEGLER (PIK), Christoph Bertram (PIK), Falko Ueckerdt (PIK), CD-LINKS Consortium

14:30-14:55 **Energy System Transition and Low-Emission Pathways in Australia, Brazil, Canada, China, EU, India, Indonesia, Japan, Republic of Korea, Russia, and United States**
 Panagiotis Fragkos (E3Modelling), Heleen Van Soest (PBL), Roberto Schaeffer (COPPE/UFRJ), Luke Reedman (CSIRO), Alexandre Köberle (Imperial College), Nick Macaluso (ECCC), Alessia De Vita (E3Modelling), Fu Sha (NCSC), Jiang Kejun (ERI), Ritu Mathur (TERI), Rizaldi Boer (BAU), Retno Gumilang Dewi (CREP-ITB), Diego SILVA HERRAN (IGES), Shinichiro Fujimori (Kyoto University and NIES), Chan Park (UOS), George Safonov (HSE), Gokul Iyer (PNNL)

14:55-15:20 **EU Effort-Sharing: required system transformations and implied carbon prices**
Renato RODRIGUES (PIK), Gunnar Luderer (PIK), Robert Pietzcker (PIK)

15:20-15:45 **Assessment of Negative Emissions Technologies (NETs) for Brazil**
Isabela TAGOMORI (COPPE/UFRJ), Gerd Angelkorte (COPPE/UFRJ), Fábio da Silva

(COPPE/UFRJ), Francielle Carvalho (COPPE/UFRJ), Camilla de Oliveira (COPPE/UFRJ), Pedro Rochedo (COPPE/UFRJ), Alexandre Szklo (COPPE/UFRJ), Roberto Schaeffer (COPPE/UFRJ)

14:00-15:45 **PARALLEL SESSION 1C** Room: 202A
Impacts of climate change and impact of adaptation - IMPACTS 1
 Chair: Stephanie WALDHOFF (PNNL), Shinishiro FUJIMORI (NIES)

14:00-14:05 **Introduction**
 Stephanie WALDHOFF (PNNL), Shinishiro FUJIMORI (NIES)

14:05-14:30 **Economic Evaluation of Climate Change Impacts and Adaptation in the United States: Comparing Models and Methods**
Allen FAWCETT (US EPA), James McFarland (US EPA), Mei Yuan (MIT), Elodie Blanc (MIT), John Reilly (MIT), Jeremy Martinich (US EPA), Marcus Sarofim (US EPA), Jameel Alsalam (US EPA)

14:30-14:55 **Sector-wide Estimation of Economic Impacts of Climate Change Considering Variations in Exposure and Vulnerability Represented by SSP Scenarios**
Jun'ya TAKAKURA (NIES), Shinichiro Fujimori (Kyoto University and NIES), Naota Hanasaki (NIES), Tomoko Hasegawa (Ritsumeikan University), Yasushi Honda (University of Tsukuba), Toshichika Iizumi (National Agriculture and Food Research Organization), Chan Park (University of Seoul), Kiyoshi Takahashi (NIES), Qian Zhou (North China Electric Power University), Yasuaki Hijioka (NIES)

14:55-15:20 **Adaptive capacity scenarios in the SSP framework for use in IAMs**
 Johannes Emmerling (RFF-CMCC), Enrica De Cian (Ca' Foscari University of Venice and CMCC), Marinella Davide (CMCC), Shouro DASGUPTA (CMCC and Ca'Foscari University of Venice), Franziska Piontek (PIK)

15:20-15:45 **Capturing Energy-Water-Economy Interactions in an Integrated Modeling Framework: the economic impacts of water shortages on the Western power grid**
Karen FISHER-VANDEN (Penn State University), Vijay Kumar (Penn State University), Richard Lammers (University of New Hampshire), Joseph Perla (Penn State University), Mort Webster (Penn State University)

14:00-15:45 **PARALLEL SESSION 1D** Room: 202B
Methodological issues - METHODS 1
 Chair: Massimo TAVONI (RFF-CMCC and Politecnico di Milano), Jessica STREFFLER (PIK)

14:00-14:05 **Introduction**
 Massimo TAVONI (RFF-CMCC and Politecnico di Milano), Jessica STREFFLER (PIK)

14:05-14:30 **Insights from carbon pricing estimates methods**
Sara GIAROLA (Imperial College London), Daniel Crow (Imperial College London), Adam Hawkes (Imperial College London)

14:30-14:55 **Coupling IAMs to Reduced Complexity Climate Models: methodological procedures in the context of the IPCC's Sixth Assessment Report**
Matthew GIDDEN (IIASA), Zebedee Nicholls (Australian-German Climate & Energy College), Daniel Huppmann (IIASA), Edward Byers (IIASA), Robert Gieseke (PIK), Jared Lewis (Institut für Meteorologie, Freie Universität Berlin), Sven Wilner (PIK), Malte Meinshausen (Australian-German Climate & Energy College), Keywan Riahi (IIASA)

14:55-15:20 **Application of Custom Neural Networks in Transport Sectors Energy Service Demand Estimation for SSPs**
Siddarth JOSHI (University College Cork), Brian O' Gallachoir (University College Cork), James Glynn (University College Cork)

15:20-15:45 **An integrated multi-objective appraisal of mitigation and climate engineering under uncertainty**
Giacomo MARANGONI (RFF-CMCC and Politecnico di Milano), Klaus Keller (Penn State University), Massimo Tavoni (RFF-CMCC and Politecnico di Milano)

15:45-16:15 *Break*

16:15-18:00 PARALLEL SESSION 2A Room: 201A
Deep mitigation scenarios – DEEP 2
 Chair: Detlef VAN VUUREN (PBL), Elmar KRIEGLER (PIK), Sergey PALTSEV (MIT)

16:15-16:40 **Does a global power grid reduce mitigation costs?**
 Bas VAN RUIJVEN (IIASA), Fei Guo (IIASA), Behnam Zakeri (IIASA), Volker Krey (IIASA), Keywan Riahi (IIASA)

16:40-17:05 **Comparing quantitative industry decarbonization perspectives towards 2050 for Europe**
Mariësse VAN SLUISVELD (PBL), Harmen Sytze de Boer (PBL), Andries Hof (PBL), Detlef van Vuuren (PBL), Clemens Schneider (Wuppertal Institute), Stefan Lechtenboehmer (Wuppertal Institute)

17:05-17:30 **Assessing the sectoral value of CCS, given the new economics of VRE technologies**
Neil GRANT (Grantham Institute, Imperial College London), Ajay Gambhir (Grantham Institute, Imperial College London), Tamaryn Napp (Grantham Institute, Imperial College London), Adam Hawkes (Grantham Institute, Imperial College London)

17:30-18:00 **Biomass in the European electricity system: Where do we need it and where do we want it?**
Mariësse LEHTVEER (Chalmers University of Technology), Mathias Fridahl (Linköping University)

16:15-18:00 PARALLEL SESSION 2B Room: 201B
National mitigation scenarios - NATIONAL 2
 Chair: Jae EDMONDS (PNNL), Jiang KEJUN (ERI), Toshihiko MASUI (NIES)

16:15-16:40 **EU-India Cooperation on Low Carbon Transportation**
 Vaibhav Chaturvedi (Non-Profit Research Think Tank), Poonam NAGAR KOTI (Council on Energy, Environment and Water)

16:40-17:05 **India's New Biofuel Policy for climate change mitigation and its implications on land-use requirements**
Chandan KUMAR JHA (Indian Institute of Management), Vartika Singh (Indian Institute of Management), Miodrag Stevanovic (PIK), Ranjan Kumar Ghosh (Indian Institute of Management), Jan Philipp Dietrich (PIK), Hermann Lotze-Campen (PIK and Humboldt-Universität zu Berlin), Alexander Popp (PIK)

17:05-17:30 **A sub-national scenario modeling framework applied to the Indus River Basin**
 Simon Parkinson (IIASA and University of Victoria), Adriano Vinca (IIASA and University of

Victoria), Ansir Ilyas Lahore (University of Management Sciences), Edward Byers (IIASA), Peter Burek (IIASA), Yoshihide Wada (IIASA and Utrecht University), Keywan RIAHI (IIASA)

17:30-18:00 **Quantifying the deep decarbonization strategies of energy system in Thailand towards 2050**
Bundit LIMMEECHOKCHA (Sirindhorn International Institute of Technology, Thammasat University), Puttipong CHUNARK (Sirindhorn International Institute of Technology, Thammasat University)

16:15-18:00 PARALLEL SESSION 2C

Room: 202A

Impacts of climate change and impact of adaptation - IMPACTS 2

Chair: Stephanie WALDHOFF (PNNL), Shinishiro FUJIMORI (NIES)

16:15-16:40 **A Pathway of Global Food Supply Adaptation in a World with Increasingly Constrained Groundwater**

Mohamad HEJAZI (PNNL), Sean Turner (PNNL), Katherine Calvin (PNNL), Page Kyle (PNNL), Son Kim (PNNL)

16:40-17:05 **Future projection of water, food, bio-energy, ecosystem and land investigated with an integrated Earth System Model (MIROC-INTEG)**

Tokuta YOKOHATA (NIES), Tsuguki Kinoshita (Ibaraki University), Gen Sakurai (National Agriculture and Food Research Organization), Yadu Pokhrel (Michigan State University), Akihiko Ito (NIES), Yusuke Satoh (NIES), Etsushi Kato (The Institute of Applied Energy), Shinichiro Fujimori (Kyoto University and NIES), Kaoru Tachiiri (Japan Agency for Marine-Science and Technology), Tomohiro Hajima (Japan Agency for Marine-Science and Technology), Kiyoshi Takahashi (NIES), Naota Hanasaki (NIES), Seita Emori (NIES)

17:05-17:30 **Impact of water availability on coal-based power plants in India under RCP 4.5 and 8.5 scenarios**

Saritha VISHWANATHAN (Indian Institute of Management-Ahmedabad), Amit Garg (Indian Institute of Management-Ahmedabad), Vimal Mishra (Indian Institute of Technology, Gandhinagar), Harsh Shah (Indian Institute of Technology, Gandhinagar), Sriya Arra (Indian Institute of Technology, Gandhinagar), Sahil Jain (Indian Institute of Technology, Gandhinagar), Anusha Gupta (Indian Institute of Technology, Gandhinagar), Heet Patel (Indian Institute of Technology, Gandhinagar)

17:30-18:00 **How will concurrent and recurrent extreme events impact global agricultural markets in the next decade? A stochastic partial-equilibrium framework**

Thomas CHATZOPOULOS (European Commission, JRC), Ignacio Pérez Domínguez (European Commission, JRC), Marcel Adenaueuer (OECD, Trade and Agriculture Directorate), Andrea Toreti (European Commission, JRC), Matteo Zamperi (European Commission, JRC)

16:15-18:00 PARALLEL SESSION 2D

Room: 202B

Methodological issues - METHODS 2

Chair: Massimo TAVONI (RFF-CMCC and Politecnico di Milano), Jessica STREFFLER (PIK)

16:15-16:40 **Habit Formation in DICE**

Adrien Fabre (Paris School of Economics), Mohammad MOHAMMADI KHABBAZAN (University of Hamburg)

- 16:40-17:05 **Informed citizen panels for finding preferred energy and IAM scenarios: the example of Swiss electricity supply in 2035**
Evelina TRUTNEVYTE (University of Geneva), Xexakis George (University of Geneva), Hansmann Ralph (ETH Zurich), Volken Sandra (ETH Zurich)
- 17:05-17:30 **Historic development of IAMs in the climate science-policy interface**
Lisette VAN BEEK (Utrecht University), Detlef van Vuuren (Utrecht University and PBL), Maarten Hajer (Utrecht University), Peter Pelzer (Utrecht University)
- 17:30-18:00 **Final Discussion**
- 18:00-19:30 **Poster Session 1** Room: Multi-purpose room
 Chair: Brian O'NEILL (Denver)

Land-based mitigation

- 1 **Better Representing Land-Use Technologies in National IAM**
 Gerd Angelkorte (PPE/COPPE/UFRJ), Pedro ROCHEDO (PPE/COPPE/UFRJ), Alexandre Szklo (PPE/COPPE/UFRJ), Roberto Schaeffer (PPE/COPPE/UFRJ), André Lucena (PPE/COPPE/UFRJ), Isabela Tagomori (PPE/COPPE/UFRJ), Alexandre Koberle (Imperial College London)
- 2 **Integrated assessment of bioenergy potential for Japan**
Wenchao WU (NIES), Tomoko Hasegawa (Ritsumeikan University), Shinichiro Fujimori (Kyoto University), Kiyoshi Takahashi (NIES), Ken Oshiro (Kyoto University)

Deep mitigation scenarios

- 3 **Uran-Leap Modelling for Coordinated Emission Reduction of Greenhouse Gas and Air Pollutants in Beijing-Tianjin – Hebei: A Case Study of Jinnan China**
Sha CHEN (Beijing University of Technology), Yingying Liu (Beijing University of Technology), Jin Hu (Beijing University of Technology), Kejun Jiang (Energy Research Institute)
- 4 **The potential of ammonia as marine fuel in climate mitigation**
Mariliis LEHTVEER (Chalmers University of Technology), Julia Hansson (IVL Swedish Environmental Research Institute) Selma Brynholf (Chalmers University of Technology), Erik Fridell (IVL Swedish Environmental Research Institut)
- 5 **Paris is burning: quantifying limits to mitigation and Carbon Dioxide Removal (CDR) and implications for technological and societal change**
Dale ROTHMAN (University of Denver), Andrew Lockley (University College London), Jonathan Köhler (Fraunhofer ISI)
- 6 **Electrification in 1.5C Scenarios**
Shogo SAKAMOTO (Central Research Institute of Electric Power Industry)

Impacts of climate change and impact of adaptation

- 7 **Modelling the economic-wide impacts of the autonomous and planned adaptation measures of flood in Indonesia: Dynamic CGE model**
Ambiyah ABDULLAH (NIES), Toshihiko Masui (NIES)

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- 8 **An integrated water-energy-economic model for simultaneous assessment of climate change adaptation and mitigation options in river basins**
Maksud BEKCHANOV (ZEF)
- 9 **The nonlinear impacts of global warming on regional economic production: An Empirical Analysis from China**
Junjie CHANG (Beijing Institute of Technology), Yi-Ming Wei (Beijing Institute of Technology), Xiao-Chen Yuan (Beijing Institute of Technology), Hua Liao (Beijing Institute of Technology), Bi-Ying Yu (Beijing Institute of Technology)
- 10 **The demand-based adaptation strategy for urban heat stress**
Ara KIM (Kyunghee University), Gayoung Yoo (Kyung Hee University)
- 11 **Interlinkage effects of adaptation and mitigation policies for integrated assessment models**
Yong Jee KIM (Korea Environment Institute), Seo Hyung Choi (Korea Environment Institute), Daesoo Kim (Korea Environment Institute), Yeora Chae (Korea Environment Institute)
- 12 **An Assessment of Global Macro-Economic Impacts caused by Sea Level Rise Using SSPs and RCPs framework**
Osamu NISHIURA (Kyoto University), Shinichiro Fujimori (Kyoto University), Makoto Tamura (Institute for Global Change Adaptation Science, Ibaraki University)
- 13 **Effect on the Earth system of realizing a 1.5°C warming climate target after overshooting to the 2°C level**
Kaoru TACHIIRI (Japan Agency for Marine-Earth Science and Technology - JAMSTEC), Diego Silva Herran (Institute for Global Environmental Strategies), Xuanming Su (Japan Agency for Marine-Earth Science and Technology - JAMSTEC), Michio Kawamiya (Japan Agency for Marine-Earth Science and Technology - JAMSTEC)

Modelling climate change in IAMs & carbon budgets

- 14 **Regional and sectoral attributions of recent climate change**
Xuanming SU (Japan Agency for Marine-Earth Science and Technology - JAMSTEC), Kaoru Tachiiri (Japan Agency for Marine-Earth Science and Technology - JAMSTEC), Katsumasa Tanaka (NIES), Michio Watanabe (Japan Agency for Marine-Earth Science and Technology - JAMSTEC)
- 15 **Asserting the climate benefits of the coal-to-gas shift across temporal and spatial scales**
 Katsumasa TANAKA (NIES), Otávio Cavalett (Norwegian University of Science and Technology), William Collins (University of Reading), Francesco Cherubini (Norwegian University of Science and Technology)

Sustainable development strategies

- 16 **Ancillary Benefits of Reducing Global Food Loss and Waste**
Shinichiro FUJIMORI (Kyoto University and NIES), Kou Kushibe (Kyoto University)
- 17 **Conditions and mechanism behind co-benefits of CO₂ emissions reduction and ambient PM_{2.5} concentration reduction in China and India**
Keii GI (Research Institute of Innovative Technology for the Earth - RITE), Fuminori Sano (Research Institute of Innovative Technology for the Earth - RITE), Ayami Hayashi (Research Institute of
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- Innovative Technology for the Earth - RITE), Keigo Akimoto (Research Institute of Innovative Technology for the Earth - RITE)
- 18 **Climate and Health Benefits of Phasing Out Iron & Steel Production Capacity in China**
Boshu LI (College of Environmental Sciences and Engineering, Peking University)
- 19 **Sustainability of the energy sources versus energy and raw materials demand till 2100**
Sebastien RICHEL (GISOC)
- 20 **Using Genuine Savings for climate policy evaluation with an integrated assessment mode**
Koji TOKIMATSU (Tokyo Institute of Technology)

Methodological issues

- 21 **Evaluating long-term subnational reference scenarios of the energy system**
Matthew BINSTED (JGCRI/PNNL), Gokul Iyer(JGCRI/PNNL), Leon Clarke (PNNL / University of Maryland)
- 22 **Range Analysis of the Linear-Programming Bottom-up Energy Systems Model**
Takuya HARA (Toyota Central R&D Labs., Inc.)
- 23 **Sustainability check for Integrated Assessment models**
Oleg LUGOVOY (Environmental Defense Fund, USA)
- 24 **Analysing policy robustness based on Shared Socioeconomic Pathways in an integrated assessment study with portfolio analysis over multiple objectives in eastern Africa**
Alexandros NIKAS (National Technical University of Athens), Haris DOUKAS (National Technical University of Athens), Aikaterini Forouli (National Technical University of Athens), Dirk-Jan Van de Ven (Basque Centre for Climate Change), Jon Sampedro (Basque Centre for Climate Change)
- 25 **Intelligent Decision Cubes for Financial Risk Management ---- An Hybridization Approach to Predict, Align and Optimize Financial Risks**
Stefan PICKL (UBw München COMTESSA DKKV)
- 26 **Modeling Regional Water Quality Impacts of Global Climate Change and Adaptation Strategies**
Stephanie WALDHOFF (JCGRI), Jia Li (US EPA), Xuesong Zhang (JGCRI), Jefferson Cole (US EPA)
- 27 **The MESSAGEix Integrated Assessment Model and the ix modeling platform (ixmp): An open framework for integrated and cross-cutting analysis of energy, climate, the environment, and sustainable development**
Behnam ZAKERI (IIASA), Paul Kishimoto (IIASA), Daniel Huppmann (IIASA), Matthew Gidden (IIASA), Oliver Fricko (IIASA), Peter Kolp (IIASA), Clara Orthofer (IIASA), Michael Pimmer (IIASA), Nikolay Kushin (IIASA), Adriano Vinca (IIASA), Alessio Mastrucci (IIASA), Keywan Riahi (IIASA), Volker Krey (IIASA)
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19:30-21:00 **Poster Session 2**

Room: Multi-purpose room

Chair: Detlef VAN VUUREN (PBL), John WEYANT (Stanford)

Economic impact of mitigation

- 28 **Economic Impacts of Climate Change and Air Pollution through Health and Labor Supply Perspective in China: An Integrated Assessment Model Analysis**
Hai HUANG (Tsinghua University), Mengzhen Zhao (Ministry of Education and Tsinghua University), Jin Li (Tsinghua University), Can Wang (Tsinghua University)
- 29 **Estimating health co-benefits of China's climate policies to meet the 2°C target**
Chenfei QU (Tsinghua University), Xi Yang (Tsinghua University), Shuxiao Wang (Tsinghua University), Xiliang Zhang (Tsinghua University)
- 30 **The atmospheric double dividend: air quality co-benefits of climate policy across sectors and regions**
Peter RUSS (European Commission, Joint Research Centre), Toon Vandyck (European Commission, Joint Research Centre), Kimon Keramidas (European Commission, Joint Research Centre), Stephane Tchong-Ming (European Commission, Joint Research Centre), Matthias Weitzel (European Commission, Joint Research Centre), Rita Van Dingenen (European Commission, Joint Research Centre)
- 31 **The impact of China's renewable energy development on material consumption and carbon emissions in the industrial sector**
Yanhua WANG (Renmin University of China), Ke Wang (Renmin University of China), Qinrui Xiahou (Renmin University of China)

National mitigation scenarios

- 32 **China's pathway and policy analysis by 2050: Lessons from CEMF02 study**
Ji GAO (Environmental Defense Fund, Beijing Representative Office), Shuo Gao (Environmental Defense Fund, Beijing Representative Office), Kejun Jiang (Energy Research Institute)
- 33 **Willingness to pay promoted renewable energy penetration in power sector to a low carbon society in Japan**
Lu GAO (NIES), Yuki Hiruta (NIES), Shuichi Ashina (NIES)
- 34 **Investigating the potentials of CO₂ and air pollutants mitigation by the energy transition: A case study in South Korea based on energy demand model**
Hocheol JEON (Korea Environment Institute), Daesoo Kim (Korea Environment Institute)
- 35 **Industrial Decarbonization Under Japan's National Mitigation Scenarios: A Multi-Model Analysis**
Yiyi JU (Institute of Future Initiative, The University of Tokyo), Masahiro Sugiyama (Institute of Future Initiative, The University of Tokyo)
- 36 **Analysis of Japanese energy system toward net-zero CO₂ emissions with TIMES-Japan - role of BECCS and DAC**
Etsushi KATO (Institute of Applied Energy), Atsushi Kurosawa (Institute of Applied Energy)

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- 37 **Impact of Fine Particulate Matter Concentration on Green Energy Transition with Photovoltaic Generation**
Somi JUNG (Hanyang University), Dongwoo Kim (Hanyang University)
- 38 **Estimating the Future Emission Pattern of Iron and Steel Industry in China Using AIM/Enduse Model**
Zhaoling LI (NIES), Tatsuya Hanaoka (NIES)
- 39 **The low carbon transition pathway for China through 2050: A sectoral perspective**
Junling LIU (Tsinghua University), Ke Wang (Renmin University of China), Ji Zou (Renmin University of China), Ying Kong (Tsinghua University; York University)
- 40 **“Laundering” the Co2 emissions: the role of carbon removal technologies in meeting stringent national climate change mitigation targets: the case of Switzerland**
Evangelos PANOS (Paul Scherrer Institute), Christian Bauer (Paul Scherrer Institute), Tom Kober (Paul Scherrer Institute)
- 41 **Societal expectation for scenarios: Results from a pilot stakeholder workshop in Japan**
Masahiro SUGIYAMA (University of Tokyo), Kengo SUZUKI (Tsukuba University)
- 42 **Implications of international NDC pledges on the US coal industry**
Stephanie WALDHOFF (PNNL-JGCRI), Jae Edmonds (PNNL-JGCRI), Jonathan Huster (PNNL-JGCRI)
- 43 **Scenario modeling for emission pathway and the related synergies in China’s steel and cement sectors**
Shaohui ZHANG (Beihang University)

Transitions and feasibility assessment

- 44 **Optimal mix of climate-related energy in global power systems**
Cheng-Ta CHU (Imperial College London), Adam Hawkes (Imperial College London)

Modelling energy demand and the impact of behavioural change

- 45 **A method to assess the impact of the spatial concentration of households on hourly electricity consumption**
Yuki HIRUTA (NIES), Gao Lu (NIES), Shuich Ashina (NIES)
- 46 **The Opportunity Cost of the Refusal to a Global Dietary Change**
Pedro ROCHEDO (COPPE/UFRJ), Bruno Cunha (COPPE/UFRJ), Angelo Gurgel (EESP-FGV), André Lucena (COPPE/UFRJ), Rafael Garaffa (COPPE/UFRJ), Roberto Schaeffer (COPPE/UFRJ), Alexandre Szklo (COPPE/UFRJ)
- 47 **Decomposition analysis of changes in per capita consumption: a tool for identifying lifestyle changes within scenarios**
Mariësse VAN SLUISVELD (Netherlands Environmental Assessment Agency), Nicole van den Berg (Utrecht University), Andries Hof (Netherlands Environmental Assessment Agency), Lewis Akenji (University of Helsinki), Vanessa Timmer (Utrecht University), Oreane Edelenbosch (Politecnico di Milano), Detlef van Vuuren (Netherlands Environmental Assessment Agency & Utrecht University)
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- 48 **Transport electrification requires renewable energy penetration to mitigate climate change**
Runsen ZHANG (Hiroshima University), Runsen Zhang (Hiroshima University), Shinichiro Fujimori (Kyoto University)

SSP updates and extensions

- 49 **Starved and stuffed: Using anthropometrics to estimate future food demand and food waste under an advancing nutrition transition**
Florian HUMPENÖDER (PIK), Benjamin Leon Bodirsky (PIK), Jan Philipp Dietrich (PIK), Eleonora Martinelli (PIK), Antonia Stenstad (PIK), Prajal Pradhan (PIK), Sabine Gabrysch (PIK), Abhijeet Mishra (PIK), Isabelle Weindl (PIK), Chantal Le Mouël (National Institute of Agricultural Research, France), Susanne Rolinski (PIK), Lavinia | Baumstark (PIK), Xiaoxi Wang (PIK), Jillian Waid (PIK), Hermann Lotze-Campen (PIK), Alexander | Popp (PIK)
- 50 **Analysing sustainable pathways and carbon reduction trajectories based on SSPs in Los Angeles to achieve a carbon neutral and sustainable city**
Miho KAMEI (Institute for Global Environmental Strategies)
- 51 **Projection of Subnational Economy under the Shared Socioeconomic Pathways in China**
Jiachen WANG (Tsinghua University), Yidan Chen (Tsinghua University), Fang Guo (Tsinghua University) Can Wang (Tsinghua University), Wenjia Cai (Tsinghua University)

Others

- 52 **Improved Strategy of Intended Nationally Determined Contributions under Shared Socioeconomic Pathways**
Rong HAN (Center for Energy & Environmental Policy Research, Beijing Institute of Technology), Yi-Ming Wei (Center for Energy & Environmental Policy Research, Beijing Institute of Technology)
- 53 **Climate Change Scenario Services: General concept and first products of the SENSES project**
Elmar KRIEGLER (PIK), Cornelia Auer (PIK), The SENSES consortium (SENSES project)
- 54 **Modeling 1-hour resolution 100% renewable systems with R and energyRt**
Oleg LUGOVOY (Environmental Defense Fund, USA)
- 55 **Tradeoffs between regionally equitable and cost-efficient allocation of decentralized renewable electricity generation**
Evelina TRUTNEVYTE (University of Geneva), Jan-Philipp Sasse (University of Geneva)
- 56 **The unbalance between CO2 emission and value added along the inter-regional trade in China: A study based on MRIO from 2002 to 2012**
Yaxin ZHANG (SKLESPC and Tsinghua University), Can Wang (SKLESPC and Tsinghua University)

Day 2: Tuesday, December 3, 2019

09:00-10:45 PARALLEL SESSION 3A Room: 201A
Deep mitigation scenarios – DEEP 3
 Chair: Detlef VAN VUUREN (PBL), Elmar KRIEGLER (PIK), Sergey PALTSEV (MIT)

09:00-09:25 **A general equilibrium analysis of the economic impacts and benefits of achieving 1.5 and 2-degree targets in China by 2050**
Xiaorui LIU (College of Environmental Sciences and Engineering, Peking University), Hancheng Dai (College of Environmental Sciences and Engineering, Peking University, Beijing)

09:25-09:50 **Feasibility study of China's electric power sector transition to zero emissions by 2050**
Oleg LUGOVOY (Environmental Defense Fund, USA), Kejun Jiang (ERI), Shuo Gao (Environmental Defense Fund, China), Ji Gao (Environmental Defense Fund, China)

09:50-10:20 **Final Discussion**

10:20-10:45 No schedule

09:00-10:45 PARALLEL SESSION 3B Room: 201B
National mitigation scenarios - NATIONAL 3
 Chair: Jae EDMONDS (PNNL), Jiang KEJUN (ERI), Toshihiko MASUI (NIES)

09:00-09:25 **A plant-by-plant assessment of accelerated coal power phase-out in China under the Paris climate goals**
Ryna Yiyun CUI (University of Maryland), Nathan Hultman (University of Maryland), Haewon McJen (JGCRI-PNNL), Sha Yu (JGCRI-PNNL), Diyang Cui (University of Maryland), Morgan Edwards (University of Maryland), Arijit Sen (University of Maryland), Kaihui Song (University of Maryland)

09:25-09:50 **The Role of Emission Allowance Allocation in China's Cap and Trade Carbon Market: A General Equilibrium Analysis**
Hancheng DAI (Peking University), Yana Jin (The College of William and Mary), Xiaorui Liu (Peking University)

09:50-10:15 **Make 2/1.5°C pathway Feasible: Way for Low Carbon City in China**
Kejun JIANG (ERI)

10:15-10:45 **A Cross-sectoral Integrated Assessment of NDC Alternatives for Madagascar**
 Larissa P. N. DE OLIVEIRA (ECN part of TNO), Francesco Dalla Longa (ECN part of TNO), Bob van der Zwaan (ECN part of TNO, University of Amsterdam, Johns Hopkins University)

09:00-10:45 PARALLEL SESSION 3C Room: 202A
Impacts of climate change and impact of adaptation - IMPACTS 3
 Chair: Stephanie WALDHOFF (PNNL), Shinishiro FUJIMORI (NIES)

09:00-09:25 **Modeling Climate Change Impacts and Adaptation: An Analytical Framework and Application in the U.S. Agriculture Sector**
Allen FAWCETT (US Environmental Protection Agency), Stephanie Waldhoff (JGCRI-PNNL),

Xuesong Zhang (JGCRI-PNNL), Jia Li (US Environmental Protection Agency), Jefferson Cole (US Environmental Protection Agency), Richard Moss (JGCRI-PNNL)

09:25-09:50 **Empirical temperature and precipitation responses for irrigated and rainfed maize in U.S. counties**

Mary Ollenberger (Appalachian Laboratory, University of Maryland Center for Environmental Science), Abigail Snyder (JGCRI-PNNL), Stephanie WALDHOFF (JGCRI-PNNL)

09:50-10:15 **Potential influence of climate change on grain self-sufficiency considering adaptation measures**

Taoyuan WEI (CICERO), Tianyi Zhang (Chinese Academy of Sciences), Xuefeng Cui (Beijing Normal University), Yu Liu (Chinese Academy of Sciences), Solveig Glomsrød (CICERO)

10:15-10:30 **Current activities as part of ISIMIP.**

Franciska PIONTEK (PIK)

10:30-10:45 **Final Discussion**

09:00-10:45 PARALLEL SESSION 3D

Room: 202B

Sustainable development strategies - SD1

Chair: Detlef VAN VUUREN (PBL), Jessica STREFFLER (PIK)

09:00-09:05 **Introduction**

Jessica STREFFLER (PIK), Detlef VAN VUUREN (PBL)

09:05-09:25 **Resource efficiency and circular economy policies: macroeconomic impacts and implications for labour markets**

Ruben BIBAS (OECD), Jean Chateau (OECD), Elisa Lanzi (OECD)

09:25-09:45 **Pursuing the SDGs: Integrated Scenario Analysis**

Barry HUGHES (Pardee Center, University of Denver)

09:45-10:05 **The importance of socioeconomic condition in achieving climate mitigation and SDGs**

Jing-Yu LIU (Shanghai Jiaotong University and NIES), Shinichiro Fujimori (Kyoto University and NIES), Kiyoshi Takahashi (NIES), Tomoko Hasegawa (Ritsumeikan University), Wenchao Wu (NIES), Toshihiko Masui (NIES)

10:05-10:25 **Optimal Global Benefit-Cost Analysis on Air Pollution and Climate - Policies that saves lives**

Lara Aleluia Reis (RFF-CMCC), Laurent DROUET (RFF-CMCC), Massimo Tavoni (RFF-CMCC and Politecnico di Milano)

10:25-10:45 **Improved food distribution reconciling growing food demand and the environment**

Tomoko HASEGAWA (Ritsumeikan University), Petr Havlík (IIASA), Stefan Frank (IIASA), Amanda Palazzo (IIASA), Hugo Valine (IIASA)

10:45-11:15 *Break*

11:15-13:00 PARALLEL SESSION 4A Room: 201A
Economic impact of mitigation - MITIGATION 1
 Chair: Shinishiro FUJIMORI (NIES), Sergey PALTSEV (MIT), Massimo TAVONI (RFF-CMCC)

11:15-11:20 **Introduction**
 Shinishiro FUJIMORI (NIES), Sergey PALTSEV (MIT), Massimo TAVONI (RFF-CMCC and Politecnico di Milano)

11:20-11:45 **The Potential Economic Value of Article 6 of the Paris Agreement**
James EDMONDS (PNNL), Sha Yu (PNNL), Dirk Forrister (IETA), Joe Aldy (Harvard University), Nate Hultman (University of Maryland), Ryna Cui (University of Maryland), Stephanie Waldhoff (PNNL), Leon Clarke (University of Maryland), Stefano De Clara (IETA), Clayton Munning (IETA), Ghassem Asrar (PNNL)

11:45-12:10 **The public costs of climate induced financial instability**
Massimo TAVONI (RFF-CMCC and Politecnico di Milano), Francesco Lamperti (RFF-CMCC), Valentina Bosetti (RFF-CMCC)

12:10-12:35 **Macroeconomic mitigation costs - When and What flexibilities revisited in a second-best framework**
Meriem HAMDY-CHERIF (CIRED), Christophe Cassen (CIRED)

12:35-13:00 **Quantifying the trade-off between cost efficiency and transfers in international climate mitigation agreements**
Nico BAUER (PIK), Anselm Schultes (PIK), Christoph Bertram (PIK), Gunnar Luderer (PIK), Elmar Kriegler (PIK), Ottmar Edenhofer (PIK)

11:15-13:00 PARALLEL SESSION 4B Room: 201B
National mitigation scenarios - NATIONAL 4
 Chair: Jae EDMONDS (PNNL), Jiang KEJUN (ERI), Toshihiko MASUI (NIES)

11:15-11:40 **Japan's emission pathways in the context of the 2°C goals and their implications for the mid-century strategy**
Ken OSHIRO (Kyoto University), Shinichiro Fujimori (Kyoto University and NIES), Keii Gi (Research Institute of Innovative Technology for the Earth), Heleen van Soest (PBL), Christoph Bertram (PIK), Jacques Després (European Commission, JRC), Toshihiko Masui (NIES), Pedro Rochedo (COPPE/UFRJ), Mark Roelfsema (PBL), Zoi Vrontisi (E3M-Lab, National Technical University of Athens)

11:40-12:05 **Assessment of Japan's 2050 mitigation goal and the relevance of uncertain nuclear policy**
Diego SILVA HERRAN (IGES, NIES), Shinichiro Fujimori (Kyoto University and NIES), Mikiko Kainuma (IGES, NIES)

12:05-12:30 **Potential Impact of GHG Mitigation Policy in Indonesia**
Marissa MALAHAYATI (NIES), Toshihiko Masui (NIES)

12:30-13:00 **Final Discussion**

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- 11:15-13:00 **PARALLEL SESSION 4C** Room: 202A
Land-based mitigation - LAND-BASED
 Chair: Laurent DROUET (RFF-CMCC)
- 11:15-11:20 **Introduction**
 Laurent DROUET (RFF-CMCC)
- 11:20-11:45 **The potential contribution of biomass and bioenergy for near-term national mitigation: A geospatial analysis in China**
Yuwei WENG (Tsinghua University and Joint Center for Global Change Studies), Yaoyu Nie (Tsinghua University and Joint Center for Global Change Studies), Wenjia Cai (Tsinghua University, Joint Center for Global Change Studies, and Tsinghua-Rio Tinto Joint Research Center for Resources Energy and Sustainable Development),
- 11:45-12:10 **Peatland protection and restoration is key for future transformation pathways**
Florian HUMPENÖDER (PIK), Kristine Karstens (PIK), Hermann Lotze-Campen (PIK), Jens Leifeld (Agroscope), Lorenzo Menichetti (Swedish University of Agricultural Sciences), Alexandra Barthelmes (Greifswald Mire Centre), Alexander Popp (PIK)
- 12:10-12:35 **Reconciling differences on anthropogenic forest CO2 fluxes between IAMs and country reporting**
 Giacomo Grassi (JRC), Detlef VAN VUUREN (PBL), Elke Stehfest (PBL), Simone Rossi (JRC), Alessandro Cescatti (JRC), Joanna Isobe House (Bristol University), Alexander Popp (PIK), Joeri Rogelj (IIASA)
- 12:35-13:00 **Final Discussion**
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- 11:15-13:00 **PARALLEL SESSION 4D** Room: 202B
Sustainable development strategies - SD2
 Chair: Stephanie WALDHOFF (PNNL), Detlef VAN VUUREN (PBL), Jessica STREFFLER (PIK)
- 11:15-11:35 **Environmental and Economic Co-benefits: Implications of Reducing Alcoholic Beverage Consumption**
Xiaoxi WANG (China Academy for Rural Development, Zhejiang University), Benjamin Leon Bodirsky (PIK), Isabelle Weindl (PIK) Xu Zhao(Hohai University), Miodrag Stevanović (PIK), Jan Philipp Dietrich (PIK), Hermann Lotze-Campen (PIK), Alexander Popp (PIK)
- 11:35-11:55 **Co-benefits of low carbon futures for local air pollution in India**
Saritha VISHWANATHAN (Indian Institute of Management- Ahmedabad), Peter Rafaj (IIASA), Amit Garg (Indian Institute of Management- Ahmedabad), Gregor Kiesewetter (IIASA), Wolfgang Schöpp (IIASA), Volker Krey (IIASA)
- 11:55-12:15 **Health co-benefits of implementing the Paris Agreement in China's power sector**
Xueqin CUI (Tsinghua University), Wenjia Cai (Tsinghua University), Shaohui Zhang (Beihang University), Haoran Li (Tsinghua University), Can Wang (Tsinghua University), Gang He (Stony Brook University)
- 12:15-12:35 **Exploring the Implications of Asian Climate Change Mitigation Actions to Sustainable Development Goal**
Shinichiro FUJIMORI (Kyoto University and NIES), Kiyoshi Takahashi (NIES), Hancheng Dai (Peking University), Tomoko Hasegawa (Ritsumeikan University), Jing-Yu Liu (NIES), Tetsuya
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Matsui (Forestry and Forest Products Research Institute), Haruka Ohashi (Forestry and Forest Products Research Institute), Yang Xie (Beihang University)

12:35-13:00 **Final Discussion**

13:00-14:00 *Lunch*

14:00-15:45 PARALLEL SESSION 5A Room: 201A
Economic impact of mitigation – MITIGATION 2
 Chair: Shinishiro FUJIMORI (NIES), Sergey PALTSEV (MIT), Massimo TAVONI (RFF-CMCC)

14:00-14:25 **Impact of global mitigation pathways on the economy of energy exporting regions: The case of Central Asia**
Behnam ZAKERI (IIASA), Volker Krey (IIASA), Holger Rogner (IIASA), Clara Orthofer (IIASA)

14:25-14:50 **Bioenergy with Carbon Capture and Storage (BECCS) in a 1.5°C Scenario: Regional Economic Impacts, Land Use Change and Food Prices**
 Mathilde Fajardy (Imperial College), Jennifer Morris (MIT), Howard Herzog (MIT), Niall Mac Dowell (Imperial College), Sergey PALTSEV (MIT)

14:50-15:15 **Structural Change in the long run - a case for constant, but time-varying elasticity of substitution?**
Yu ZHENG (RFF-CMCC), Johannes Emmerling (RFF-CMCC)

15:15-15:45 **Evaluation of alternative policy designs for Korean carbon market via an integrated model linking top-down and bottom-up models**
Hayeon JEONG (Korea Environment Institute), Yong-Gun KIM (Korea Environment Institute), Hyunhee KIM (Korea Environment Institute), Kibok Chang (Korea Environment Institute), Sung Won Kang (Korea Environment Institute) Insook Kim (Hanyang University), Younmo Koo (Seoul National University)

14:00-15:45 PARALLEL SESSION 5B Room: 201B
Transitions and feasibility assessment - TRANSITION
 Chair: Nico BAUER (PIK), Keywan RIAHI (IIASA), Bas VAN RUIJVEN (IIASA)

14:00-14:05 **Introduction**
 Nico BAUER (PIK), Keywan RIAHI (IIASA), Bas VAN RUIJVEN (IIASA)

14:05-14:23 **Exploring the implication of national innovation and technological capability in the context of climate mitigation**
Raphael APEANING (Stony Brook University)

14:23-14:41 **Uncertainties in committed emissions from coal power plant in China and the implications for 2°C and 1.5°C targets**
Mingjian YIN (Tsinghua University), Junling Liu (Tsinghua University), Ke Wang (Renmin University), Ji Zou (Renmin University), Ying Kong (Tsinghua University and York University)

14:41-14:59 **Policy options for the decarbonisation of the power sector through “Just transition” in Japan: Estimation of direct and indirect employment impact at the local level**
Akihisa KURIYAMA (IGES), Naoya Abe (Tokyo Institute of Technology)

14:59-15:17 **Estimating the radiological impact to the public in long-term energy scenarios in an Integrated Assessment Model**

Pedro ROCHEDO (COPPE/UFRJ), Elaine Rochedo (CNEN)

15:17-15:35 **Heterogeneous Societal Pathways to Deep Decarbonization in the U.S.**

Matthew BINSTED (JGCRI-PNNL), James Edmonds (PNNL), Leon Clarke (University of Maryland), Tom Wild (University of Maryland)

15:35-15:45 **Final Discussion**

14:00-15:45 PARALLEL SESSION 5C

Room: 202A

Modelling climate change in IAMs & carbon budgets - CLIMATE

Chair: Detlef VAN VUUREN (PBL)

14:00-14:05 **Introduction**

Detlef VAN VUUREN (PBL)

14:05-14:25 **Carbon budgets for ambitious mitigation goals and their integration with IAMs**

Myles ALLEN (University of Oxford), Stuart Jenkins (University of Oxford), Theo Dullin (ENSTA ParisTech), Matthew Ives (University of Oxford), Elizabeth Baldwin (University of Oxford)

14:25-14:45 **Distribution of climate sensitivity found in the latest climate model ensemble**

Junichi TSUTSUI (Central Research Institute of Electric Power Industry)

14:45-15:05 **A framework to estimate and track remaining carbon budgets for stringent climate targets**

Joeri Rogelj (Imperial College London and IIASA), Piers M. Forster (Priestley International Centre for Climate, University of Leeds), Elmar KRIEGLER (PIK), Christopher J. Smith (Priestley International Centre for Climate, University of Leeds), Roland Séférian (CNRM, Université de Toulouse, Météo-France, CNRS)

15:05-15:25 **Understanding and quantifying the incremental socio-economic benefits of improved climate science with respect to mitigation, avoided damage and adaptation costs.**

Olivier DESSENS (UCL)

15:25-15:45 **Final Discussion**

15:45-16:15 *Break*

16:15-18:00 PARALLEL SESSION 6A

Room: 201A

Economic impact of mitigation – MITIGATION 3

Chair: Shinishiro FUJIMORI (NIES), Sergey PALTSEV (MIT), Massimo TAVONI (RFF-CMCC)

16:15-16:40 **Co-benefits of Climate Change Mitigation in Improvement of Global Air Quality and Human Health**

Yazhen WU (College of Environmental Sciences and Engineering, Peking University), Hancheng Dai (Peking University), Yanxu Zhang (Nanjing University), Yang Xie (Beihang University), Shinichiro Fujimori (Kyoto University and NIES), Yasuaki Hijioka (NIES)

16:40-17:05 **Health and economic benefits of China's climate mitigation in 2030 and 2050**

Yang XIE (Beihang University), Yazhen Wu (Peking University), Yuqiang Zhang (Duke University)

17:05-17:30 **Incorporating Health Impacts into the Cost-benefits of Achieving China's INDC Targets at Province-level**

Shihui ZHANG (Tsinghua University), Robert Men (Yale University), Can Wang (Tsinghua University) Wenjia Cai (Tsinghua University)

17:30-18:00 **Final Discussion**

16:15-18:00 PARALLEL SESSION 6B Room: 201B
Modelling energy demand and the impact of behavioural change - DEMAND
 Chair: Bas VAN RUIJVEN (IIASA), John WEYANT (Stanford University)

16:15-16:20 **Introduction**
 Bas VAN RUIJVEN (IIASA), John WEYANT (Stanford University)

16:20-16:45 **A bottom-up analysis of the future of electricity demand in India: How much, by whom, and under what conditions?**
Mohd. Sahil ALI (Brookings India)

16:45-17:10 **Long-term energy service demand and the impact of behaviour change in rural and urban area of Indian states**
Satish YAWALE (NIES), Tatsuya Hanaoka (NIES)

17:10-17:35 **Estimation of CO2 emission reduction and economic impacts of ICT services using AIM/CGE [Japan]**
Machik SHINOZUKA (Nippon Telegraph and Telephone Corporation), Xiaoxi Zhang (Nippon Telegraph and Telephone Corporation), Yuriko Tanaka (Nippon Telegraph and Telephone Corporation), Yuko Kanamori (NIES), Toshihiko Masui (NIES)

17:35-18:00 **The role of building insulation and renovation in climate change mitigation pathways**
Vassilis DAIOGLOU (Utrecht University), Efstratios Mikropoulos (Utrecht University), David Gernaat (PBL), Detlef van Vuuren (PBL)

16:15-18:00 PARALLEL SESSION 6C Room: 202A
SSP updates and extensions - EXTENSIONS
 Chair: Laurent DROUET (RFF-CMCC), Nico BAUER (PIK), Brian O'NEILL (Denver)

16:15-16:20 **Introduction**
 Laurent DROUET (RFF-CMCC), Nico BAUER (PIK), Brian O'NEILL (Denver)

16:20-16:40 **Food Futures: Narratives of Food Systems for Diet and Nutrition along the Shared Socioeconomic Pathways (diet-SSPs)**
Benjamin BODIRSKY (PIK), Roberta Alessandrini (Queen Mary University of London), Hermine Mitter (Universität für Bodenkunde), Adrian Leip (IRC-Ispira), Prajal Pradhan (PIK), Antje Gonera (Nofima), Anna Birgitte Milford (Norwegian Institute of Bioeconomy Research), Katja-Maria Prexl (Nofima), Alberto Sanz Cobeña (Universidad Politécnica de Madrid), Isabelle Weindl (PIK), Hermann Lotze-Campen (PIK), Alexander Popp (PIK)

16:40-17:00 **The Strategic Role of Carbon Dioxide Removal and Solar Geoengineering under Alternative World Futures**
Dale ROTHMAN (University of Denver), Mariia Belaia (Harvard University), David Keith (Harvard University)

17:00-17:20 **Municipal Solid Waste Generation in Asia up to 2050 considering SSPs: CH4 Emissions from Landfill Sites vs CO2 Emissions from Incineration**

Tatsuya HANAOKA (NIES), Hiroyuki Ueda (Mitsubishi UFJ Research and Consulting), Tomohiro Tasaki (NIES), Kousuke Kawai (NIES)

17:20-17:40 **SSP extension in the sub-national context: regional heterogeneity and transition pathways in China**

Sha YU (JGCRI-PNNL), Leon Clarke (University of Maryland), Nathan Hultman (University of Maryland), Anand Patwardhan (University of Maryland)

17:40-18:00 **Final Discussion**

Day 3: Wednesday 4 December, 2019

08:30-08:45 PLENARY SESSION 3 Room: 102
Report on IPCC Special Report on Land
 Chair: Detlef VAN VUUREN (PBL)

08:30-08:45 **IPCC Special Report on Land**
 Kate CALVIN (PNNL)

08:45-10:30 PLENARY SESSION 4 Room: 102
New directions for representing climate impacts in IAMs
 Chair: Stephanie WALDHOFF (PNNL)

08:45-09:05 **The evolution of Integrated Assessment: developing the next generation of use-inspired tools**
 Karen FISHER-VANDEN (Penn State University)

09:05-09:25 **Climate change impacts: a CGE modeling approach**
 Shinichiro FUJIMORI (Kyoto University and NIES)

09:25-09:45 **Modeling inequality in IAMs**
 Francis DENNIG (Yale-NUS College)

09:45-10:05 **Linking process-based impacts to IAMs: Persistence and channels**
 Franziska PIONTEK (PIK)

10:05-10:25 **Open discussion**

10:25-10:45 *Break*

10:45-12:00 PLENARY SESSION 5 Room: 102
Digital revolution
 Chair: Elmar KRIEGLER (PIK)

10:45-11:05 **Overview on impacts of digital revolution on climate-relevant futures**
 Laurent DROUET (RFF-CMCC)

11:05-11:25 **Digital revolution enables the Low Energy Demand future**

Keywan RIAHI (IIASA)

11:25-11:45 **The digital revolution as stumbling block to a sustainable future**

Nico BAUER (PIK)

11:45-12:00 **Open discussion**

12:00-13:15

FINAL SESSION

Room: 102

Chair: John WEYANT (Stanford University)

12:00-12:15 **Reporting on new projects**

Jae EDMONDS (PNNL)

12:15-12:35 **Reporting back on SWGs**

John WEYANT (Stanford University)

12:35-12:55 **IAMC Database**

Bas VAN RUIJVEN (IIASA)

12:55-13:15 **Awards and Closing remarks**

John WEYANT (Stanford University)

13:15-14:30 *Lunch*

14:30-16:00 **Scientific Working Group Meetings**

Working Group on Evaluation and Diagnostics

Room: 201A

Working Group on Scenarios

Room: 201B

16:00-16:30 *Break*

16:30-18:00 **Scientific Working Group Meetings**

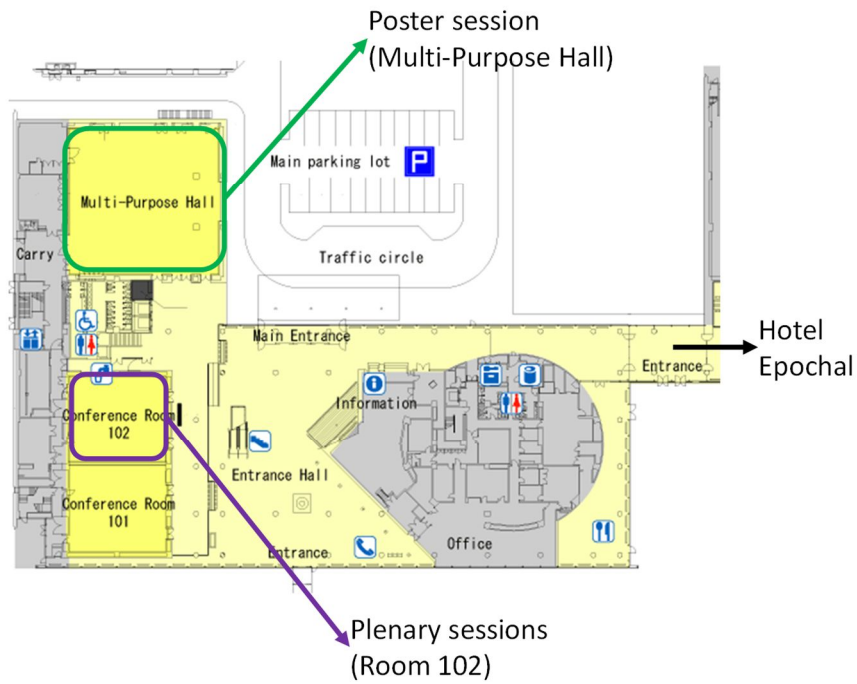
Working Group on Scenarios for Climate-related Financial Analysis

Room: 201A

Working Group on Data Protocols and Management

Room: 201B

1st floor, Tsukuba International Congress Center



2nd floor, Tsukuba International Congress Center

