

ISIE 2019 CONFERENCE

10TH INTERNATIONAL CONFERENCE ON INDUSTRIAL ECOLOGY

TSINGHUA UNIVERSITY BEIJING, CHINA

JULY 7th-11st, 2019

PROGRAMME

V1.0

Conference Schedule

| | | |
|--------------------------------|-------------|---------------------------------------|
| SUNDAY 7-July | 09:00-12:00 | Registration |
| | 15:00-17:00 | ISIE Annual Goup Meeting |
| | 17:00-18:00 | Journal of Industrial Ecology Meeting |

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|--------------------------------|-------------|-------------------|
| MONDAY 8-July | 08:00-08:30 | Registration |
| | 08:30-09:00 | Opening Ceremony |
| | 09:00-10:30 | Plenary Session |
| | 10:30-11:00 | Coffee Break |
| | 11:00-12:30 | Parallel Sessions |
| | 12:30-14:00 | Lunch |
| | 14:00-15:30 | Parallel Sessions |
| | 15:30-16:00 | Coffee Break |
| | 16:00-17:30 | Parallel Sessions |

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|---------------------------------|-------------|-----------------------------|
| TUESDAY 9-July | 08:00-08:30 | Registration |
| | 08:30-10:00 | Plenary Session |
| | 10:00-10:30 | Coffee Break |
| | 10:30-12:00 | Parallel Sessions |
| | 12:00-13:30 | Lunch |
| | 13:30-15:00 | Parallel Sessions |
| | 15:00-16:00 | Poster Session&Coffee Break |
| | 16:00-18:00 | Section Meetings |

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| WEDNESDAY 10-July | 08:00-08:30 | Registration |
| | 08:30-10:00 | Plenary Session |
| | 10:00-10:30 | Coffee Break |
| | 10:30-12:00 | Parallel Sessions |
| | 12:00-13:30 | Lunch |
| | 13:30-19:00 | Tours |
| | 19:00-22:00 | Conference Banquet |

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|-----------------------------------|-------------|-------------------|
| THURSDAY 11-July | 08:00-08:30 | Registration |
| | 08:30-10:00 | Parallel Sessions |
| | 10:00-10:30 | Coffee Break |
| | 10:30-12:00 | Poster Session |
| | 12:00-13:30 | Lunch |
| | 13:30-15:00 | Parallel Sessions |
| | 15:00-16:30 | Closing Ceremony |

Programme overview

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|---------------------|--------------------------|--|---|---|---|---|---|--|---|--|-------------|-------------|-------------|-------------|-------------|
| Sunday, 7th July | 15:00-17:00 | Pre-conference meeting 01-Annual Gourp Meeting | | | | | | | | | | | | | |
| | | Venue: Room A | | | | | | | | | | | | | |
| | 17:00-18:00 | Pre-conference meeting 02-Journal of Industrial Ecology meeting | | | | | | | | | | | | | |
| | | Chaired by: Venue: Room A | | | | | | | | | | | | | |
| | 18:00-20:00 | Dinner | | | | | | | | | | | | | |
| | | Venue: Banquet venue A | | | | | | | | | | | | | |
| Monday, 8th July | 8:00-8:30 | Registration | | | | | | | | | | | | | |
| | | Venue: Auditorium | | | | | | | | | | | | | |
| | 8:30-9:00 | Opening Ceremony | | | | | | | | | | | | | |
| | | Chaired by: Venue: Auditorium | | | | | | | | | | | | | |
| | 9:00-10:30 | Plenary Session-China's contribution to eco-civilisation | | | | | | | | | | | | | |
| | | Chaired by: Venue: Auditorium | | | | | | | | | | | | | |
| | 10:30-11:00 | Tea and Coffee | | | | | | | | | | | | | |
| | 11:00-12:30 | MS-01-Circular economy 1 | MS-02-Enviromental footprint 1 | MS-03-Nexus of energy, water, food, and waste 1 | MS-04 -Urban Sustainability 1 | MS-05 Corporate Sustainability Reporting 1 | MS-06-Complex theories and tools for industrial ecology 1 | Special session-04-Physical Supply- Use Tables (PSUTs) and Physical Input- Output Tables PIOTs): Methodologies for Generation and Applications | Special session-02- Aquaculture in focus - Can fish farming be the key to sustainably feeding the global population | Special session-03- Developments in Hybrid Life Cycle Assessment | | | | | |
| | | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: |
| | | Venue: Room A | Venue: Room B | Venue: Room C | Venue: Room D | Venue: Room E | Venue: Room F | Venue: Room G | Venue: Room H | Venue: Room I | | | | | |
| 12:30-14:00 | Lunch | | | | | | | | | | | | | | |
| | Venue: Canteen | | | | | | | | | | | | | | |
| 14:00-15:30 | MS-07-Circular economy 2 | MS-08-Environmental footprint 2 | MS-09-Nexus of energy, water, food, and waste 2 | MS-10- Industrial Ecology Management and Policy 1 | MS-11- Sustainable Production and Consumption | MS-12-Life cycle assessment, design, and management 1 | Special session-04- Evidence-based Decision Making for Industrial Ecology (1) | Special session-05-IE Advances in China (1) | Special session-06-Future Pathways for scenario modelling in Industrial Ecology | | | | | | |
| | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | |
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| 15:30-16:00 | Tea and Coffee | | | | | | | | | | | | | | |
| 16:00-17:30 | MS-13-Circular economy 3 | MS-14 - Environment Input- Output Analysis 1 | MS-15-Urban sustainability 2 | MS-16-Industrial symbiosis, eco-industrial parks | MS-17-sustainable development | MS-18-Eco-innovation | Special session-04- Evidence-based Decision Making for Industrial Ecology (2) | Special session-05-IE Advances in China (2) | Special session-7- I towards the next generation of Environmental Extended Input Output analysis specially explicit integration of LCA, MFA and IOA | | | | | | |
| | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | |
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| Tuesday, 9th July | 8:00-8:30 | Registration | | | | | | | | | | | | | | | | | | | | | |
| | | Chaired by: Venue: Auditorium | | | | | | | | | | | | | | | | | | | | | |
| | 8:30-10:00 | Plenary Session-Circular metabolism and climate | | | | | | | | | | | | | | | | | | | | | |
| | | Chaired by: Dr. Matthew Eckelman (Northeastern University) Venue: Auditorium | | | | | | | | | | | | | | | | | | | | | |
| | 10:00-10:30 | Tea and Coffee Break | | | | | | | | | | | | | | | | | | | | | |
| | 10:30-12:00 | TS-01-Circular economy 4 | TS-02-Environmental footprint 3 | TS-03-Nexus of energy, water, food, and waste 3 | TS-04-Integrated models | TS-05-Environmental input-output analysis-2 | TS-12-Green supply chain | Special session-08-Ex ante life cycle assessment of emerging technologies | Special session-9-Policy Instruments in IE Models | Special session-10-Product lifespans and obsolescence | | | | | | | | Mrs. Tamar Makov (Yale, Center for Industrial Ecology, School of Forestry and Environmental Studies) | | | | | |
| | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Dr. Stefano Cucurachi (Leiden) | Chaired by: | Dr. Gjalt Huppes (CML, Leiden University) | Chaired by: | | |
| | | Venue: | Room A | Venue: | Room B | Venue: | Room C | Venue: | Room D | Venue: | Room E | Venue: | Room F | Venue: | Room G | Venue: | Room H | Venue: | Room I | | | | |
| | 12:00-13:30 | Lunch | | | | | | | | | | | | | | | | | | | | | |
| | | Venue: Canteen | | | | | | | | | | | | | | | | | | | | | |
| 13:30-15:00 | TS-07-Circular economy 5 | TS-08-Environmental footprint 4 | TS-09-Resource productivity and sustainability 1 | TS-10-Social dimensions of industrial ecology 1 | TS-11-Life cycle assessment, design, and management 2 | TS-06-Environmental input-output analysis 3 | TS-11-Circular economy 6 | Special session-11-Progress on Open Science in Industrial Ecology | Special session-12-Urban Mining for a Circular Economy: Stocks and Flows of Materials in the Urban Environment | | | | | | | | Dr. Rupert Myers (University of Edinburgh) | Chaired by: | Dr. Voet Ester van der (Leiden University) | | | | |
| | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | | | |
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| 15:00-16:00 | Poster session-01&Tea and Coffee Break | | | | | | | | | | | | | | | | | | | | | | |
| | Chaired by: Venue: Poster venue | | | | | | | | | | | | | | | | | | | | | | |
| 16:00-18:00 | Section meeting | | | | | | | | | | | | | | | | | | | | | | |
| | Chaired by: Venue: Room A | | | | | | | | | | | | | | | | | | | | | | |
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| Wednesday, 10th July | 08:00-8:30 | Registration | | | | | | | | | | | | | | | | | | | | | |
| | | Chaired by: Venue: Auditorium | | | | | | | | | | | | | | | | | | | | | |
| | 8:30-10:00 | Plenary Session-Global supply chains and environmental footprints | | | | | | | | | | | | | | | | | | | | | |
| | | Chaired by: Prof. weiqiang chen (Chinese Academy of Sciences) | | | | | | | | | | | | | | | | | | | | | |
| | | Venue: Auditorium | | | | | | | | | | | | | | | | | | | | | |
| | 10:00-10:30 | Tea and Coffee Break | | | | | | | | | | | | | | | | | | | | | |
| | 10:30-12:00 | WS-01-Circular economy 7 | WS-02-Environmental footprint 5 | WS-03-Nexus of energy, water, food, and waste 4 | WS-04-Complex theories and tools for industrial ecology 2 | WS-05-Life cycle assessment, design, and management 3 | WS-06-Complex theories and tools for industrial ecology 3 | WS-07-Industrial ecology contributing to SDGs 2030-1 | Special session-13-Building a research community for the built environment's material stocks and flows | Special session-14-Chinese Graduate Student Forum on Resource Sustainability | | | | | | | | Dr. Alessio Miatto (Yale University) | Chaired by: | Mr. Yang Guo (Tsinghua University) | | | |
| | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | Chaired by: | | | |
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| | 12:00-13:30 | Lunch | | | | | | | | | | | | | | | | | | | | | |
| | Venue: Canteen | | | | | | | | | | | | | | | | | | | | | | |
| 13:30 | Transfer | | | | | | | | | | | | | | | | | | | | | | |

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| | 14:30-18:00 | Tour | | | | | | | | | | | | | | | |
| | | Venue: Tour Group 1: The Great Wall; Tour Group 2: The Forbidden City | | | | | | | | | | | | | | | |
| | 18:00 | Transfer | | | | | | | | | | | | | | | |
| | 19:00-21:00 | Banquet | | | | | | | | | | | | | | | |
| | 21:00-22:00 | Venue: Banquet venue B | | | | | | | | | | | | | | | |
| | | Transfer | | | | | | | | | | | | | | | |
| Thursday, 11th July | 08:00-8:30 | Registraton | | | | | | | | | | | | | | | |
| | | Chaired by: Venue: Auditorium | | | | | | | | | | | | | | | |
| | 08:30-10:00 | ThS-01 Environmental footprint + Life cycle assessment, design, and management 1 | ThS-02-Environmental footprint 6 | ThS-03-Urban sustainability 3 | ThS-04-Life cycle assessment, design, and management 4 | ThS-05-Social-economic metabolism 1 | ThS-06-Social-economic metabolism 2 | Special session-15- Managing national and global supply chain towards environmental sustainability | Special session-16- Conference travel by the ISIE community how to reduce emissions | Special session-17-Is Industrial Ecology gender transformative | | | | | | | |
| | | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: |
| | | Venue: | Room A | Venue: | Room B | Venue: | Room C | Venue: | Room D | Venue: | Room E | Venue: | Room F | Venue: | Room G | Venue: | Room H |
| | 10:00-10:30 | Tea and Coffe Break | | | | | | | | | | | | | | | |
| | 10:30-12:00 | Poster Sessions | | | | | | | | | | | | | | | |
| | | Chaired by: Venue: Poster venue | | | | | | | | | | | | | | | |
| | 12:30-13:30 | Lunch | | | | | | | | | | | | | | | |
| | | Venue: Canteen | | | | | | | | | | | | | | | |
| | 13:30-15:00 | ThS-07-Eco-civilization | ThS-08-Industrial ecology contributing to SDGs 2030 2 | ThS-09-Social-economic metabolism 3 | ThS-10-Industrial Ecology Management and Policy 2 | ThS-11-Environmental footprint + Life cycle assessment, design, and management 2 | ThS-12-Open science for sustainability | Special session-18-How can industrial ecology contribute to eco-civilisation in cities of the Global South? | Special session-19-Panel Discussion on Teaching Urban Sustainability | Special session-20-Industrial Ecology for Sustainable Plastics | | | | | | | |
| | | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: | Chaired by: |
| | Venue: | Room A | Venue: | Room B | Venue: | Room C | Venue: | Room D | Venue: | Room E | Venue: | Room F | Venue: | Room G | Venue: | Room H | |
| 15:00 | Closing Ceremony | | | | | | | | | | | | | | | | |
| | Chaired by: Venue: Auditorium | | | | | | | | | | | | | | | | |

Detailed Programme

10th International Conference on Industrial Ecology 07 - 11 July 2019



Sunday, 7 July

- 3pm **Pre-conference meeting 01-Annual Gourp Meeting**
Room A
- 5pm **Pre-conference meeting 02-Journal of Industrial Ecology meeting**
Room A
- 6pm **Dinner**
Banquet venue A

Monday, 8 July

- 8am **Registration**
Auditorium
- 8:30am **Opening Ceremony**
Auditorium
- 9am **Plenary Session-China's contribution to eco-civilisation**
Auditorium
- 9am **Untitled Event**
Room A
- 10:30am **Tea and Coffee**
- 11am **MS-01-Circular economy 1**
Room A
- 11am **Critical review of methods and tools to measure CE at company level**
» [Mr. Erik Roos Lindgreen](#), Prof. Roberta Salomone, Mrs. Tatiana Reyes

- 11:15am **E-waste and the socioeconomic implication of backyard recycling in China and Nigeria**
» [Mr. Kaustubh Thapa](#), Dr. Walter J. V. Vermeulen, Dr. Pauline Deutz, Dr. Zengwei Yuan, Dr. Olawale Olayide
- 11:30am **Evaluating Performance of Circular Economy Based on Ecological Network Analysis: a framework and application**
» [Dr. Xin Tian](#), Ms. Han Gao, Dr. Feng Shi
- 11:45am **Product lifecycle management as an enabler of circular product design**
» [Ms. Anna Diaz Tena](#), Ms. Estephania Delgadillo, Mrs. Tatiana Reyes, Prof. Rupert Baumgartner
- 12pm **A study of Industrial symbiosis model and implementation of Indigenous circular economy practice on an Indian industrial area**
» [Mr. Gokulram Azhaguvel](#)
- 12:15pm **Proposition of Transformation Strategies for Recycling Industries through the Practices of Circular Economy**
» [Mr. YUWEI LEE](#), Prof. Yuh-Ming LEE
- 11am **MS-02-Enviromental footprint 1**
Room B
- 11am **Connecting Research and Practice of Sustainable Conference Events: Case Study at the University of Illinois at Chicago**
» Dr. Tasneem Chowdhury, [Mr. Junjun Zheng](#), Ms. Connie He Ping, Dr. Ning Ai, Dr. Thomas Theis
- 11:15am **The real material footprint of final consumption**
» [Mr. Carl-Iohan Södersten](#), Dr. Richard Wood, Prof. Thomas Wiedmann
- 11:30am **Environmental assessment of introducing car sharing in Mumbai Metropolitan Region transport network**
» Mr. Deepjyoti Das, [Dr. Pradip Kalbar](#), Dr. Nagendra Rao Velaga



Continued from **Monday, 8 July**

11:45am **Tracking national progress relative to planetary boundaries**
 » [Dr. Richard Wood](#), Dr. Konstantin Stadler, Dr. Daniel D Moran, Dr. Peter Jorgensen, Dr. Nina Eisenmenger, Prof. Henrique Pereira, Dr. Alexandra Marques, Prof. Arnold TUKKER

12pm **Integrating Building Information Modelling (BIM) in Life Cycle Assessment for Early Stages of Design**
 » [Ms. Amanda Ng](#), Mr. Oliver Heckmann, [Ms. Lynette Cheah](#), Mr. Michael Budig

12:15pm **The role of services and capital in footprint modelling**
 » [Dr. David Font Vivanco](#)

11am **MS-03-Nexus of energy, water, food, and waste 1**
 Room C

11am **Energy use of the blockchain: Moving from wild west to best practice energy analysis approaches**
 » [Prof. Eric Masanet](#), Mr. Nuoa Lei, Dr. Jonathan Koomey

11:15am **Integrated Optimization Analysis of Urban Food-Energy-Water Nexus Based on Systematic Mathematical Modeling Approach: A Case Study of Beijing**
 » [Ms. Pengpeng Zhang](#), Prof. Lixiao Zhang, Dr. Yan Hao

11:30am **Scaling of Urban Energy and Water Flows and Typology of Chinese Cities**
 » [Dr. Shen Qu](#), Mr. Chenyang Shuai, Prof. Ming Xu

11:45am **Food-Energy-Water-CO2 Nexus of Technological and Agro-Ecological Alternatives for Sustainable Watershed Management**
 » [Mr. Kyuha Lee](#), Dr. Sami Khanal, Dr. Bhavik Bakshi

12pm **Locating the mitigation potential of environmental impacts within the urban food supply chain**
 » [Dr. Yuanchao Hu](#), Prof. Shenghui Cui

11am **MS-04 -Urban Sustainability - 1**
 Room D

11am **What determines cities' adaptation actions: evidence from 221 cities globally**
 » [Dr. Beibei Liu](#), Mr. Boqun Wu

11:15am **Urbanization Induced Consumption of Building Materials**
 » [Dr. Georg Schiller](#), Ms. Julia Roscher, Ms. Tamara Bimesmeier

11:30am **Urban typologies and building use for assessing non-profit and commercial urban rooftop agriculture potential in cities: a Mediterranean case study**
 » [Ms. Perla Zambrano](#), Ms. Susana Toboso-Chavero, Dr. Alejandro Josa, Dr. Joan Rieradevall, Dr. Santiago Gassó, Dr. Fernando Pérez, Dr. Juan Marchan, Dr. Ramón Alamús, Dr. Xavier Gabarrell

11:45am **The Potential for Emissions Reductions with Residential Demand Response**
 » [Dr. Jeremiah Johnson](#), Ms. Madeline Macmillan

12pm **Spatial dependence of air pollution's impact on urban economic development and its agglomeration characteristics**
 » [Dr. Wei Fang](#), Prof. Haizhong An, Prof. Xiangyun Gao, Dr. Shupei Huang

11am **MS-05 Corporate Sustainability Reporting -1**
 Room E

11am **Will the Transition to "Product as a Service" (PaaS) Increase the Willingness to Publish Corporate Sustainability Reports?**
 » [Mr. Chia-Yu Lin](#), [Prof. Yuh-Ming LEE](#)

11:15am **Investigating real-world variation in CO2 emissions of freight vehicles with GPS and driver activity data**
 » [Mr. Lih Wei Yeow](#), Prof. Lynette Cheah



Continued from **Monday, 8 July**

11:30am **Will Air Pollution Affect the Regional Economy— A Case Study from the Spatial Perspective**

» [Ms. Shurui Jiang](#), Dr. Chazhong Ge, Ms. Yue Wang, Prof. Chuanzhong Li, Prof. Lei Shi, Prof. Zhong Ma

11:45am **Evaluation on Producers' EPR Performance—Based on the Self-disclosure Information of Enterprises**

» [Ms. Zhaoxuan Luo](#), Dr. Xin Tong

12pm **Approaching Natural Carbon Sequestration in Campus Sustainability**

» [Mr. Michael Charles](#), Dr. Bhavik Bakshi

12:15pm **Benefits of plant-level Substance Flow Analysis - Application to carbon reporting in an aluminium smelter**

» [Mr. Romain Billy](#), Mr. Louis Monnier, Mr. Even Nybakke, Prof. Daniel Mueller

11am **MS-06-Complex theories and tools for industrial ecology-1**

Room F

11am **Multidisciplinary design optimization of trigeneration systems combined with renewable energy generation and electricity storage in Atlanta Georgia**

» [Mr. Osvaldo Broesicke](#), Mr. Junchen Yan, Dr. John Crittenden

11:15am **Historical Penetration Patterns of Automobile Electronic Control Systems**

» [Ms. Eliette Restrepo](#), Dr. Amund N. Loevik, Mr. Rolf Widmer, Dr. Patrick Waeger, Prof. Daniel Mueller

11:30am **A Novel Method of Propagating and Analyzing Uncertainty in Life Cycle Assessment**

» [Mr. Hanjiro Ambrose](#), Prof. Alissa Kendall

11:45am **Resilience in the supply chains of Cobalt**

» Ms. Esther van de Camp, Dr. Sabine Luning, Prof. Steven B.Young, Dr. Rene Kleijn, [Dr. Benjamin Sprecher](#)

12pm **Does economic complexity support decoupling of material use and economic growth? A panel data regression analysis of linkages between economic complexity, resource consumption and resource efficiency**

» [Dr. Heming Wang](#), Dr. Fengmei Ma, Prof. Heinz Schandl

12:15pm **Resilience from combining centralized and decentralized infrastructure**

» [Prof. Valerie Thomas](#)

11am **Special session-01-Physical Supply- Use Tables (PSUTs) and Physical Input-Output Tables PIOTs): Methodologies for Generation and Applications**

Room G

Chaired by: Dr. Shweta Singh

11am **Toward detailed physical tables for substance flow analyses**

» [Prof. José Mogollón](#)

11:15am **Input-Output Modeling for Nationwide Material Flow Analysis of Single-use Plastics**

» [Dr. Jun Nakatani](#), Mr. Tamon Maruyama, Prof. Yuichi Moriguchi

11:30am **Computational approach to generate physical input output tables (PIOTs).**

» [Mr. Venkata Sai Gargeya Vunnava](#), Dr. Shweta Singh

11am **Special session-02-Aquaculture in focus - Can fish farming be the key to sustainably feeding the global population**

Room H

Chaired by: Dr. Helen A Hamilton



Continued from **Monday, 8 July**

11am **The efficiency and carbon footprint of the German meat supply chain**
 » [Ms. Li Xue](#), Mr. Neele Prass, Dr. Sebastian Gollnow, Dr. Jennifer Davis, Dr. Silvia Scherhauser, Prof. Karin öStergren, Prof. Shengkui Cheng, Prof. Gang Liu

11:15am **Animal welfare – A new extension for EXIOBASE and its application to dietary changes**
 » [Dr. Laura Scherer](#), Dr. Paul Behrens, Prof. Arnold TUKKER

11:30am **Internalizing External Costs of Industrial Agricultural Production – A Framework towards the True Pricing of Food**
 » [Mrs. Amelie Michalke](#), Dr. Tobias Gaugler, Mr. Maximilian Pieper

11:45am **Distinguishing environmental impacts of household food spending patterns among U.S. demographic groups**
 » [Mr. Joe Bozeman III](#), Dr. Weslynn Ashton, Dr. Thomas Theis

12pm **The change of environmental and health impacts during the dietary transition in global developing countries**
 » [Dr. Pan He](#), Prof. Giovanni Baiocchi, Prof. Zhu Liu, Prof. Klaus Hubacek

12:15pm **Possible influence of climate change on grain self-sufficiency at country level considering adaptation measures**
 » [Dr. Taoyuan Wei](#)

11am **Special session-03-Developments in Hybrid Life Cycle Assessment**
Room I
 Chaired by: Prof. Thomas Wiedmann

11am **Hybrid LCA routines in an input-output virtual laboratory applied to precinct carbon footprint assessment**
 » Ms. Man Yu, [Prof. Thomas Wiedmann](#)

11:15am **The streamlined hybridization of Life Cycle Assessment and Environmentally Extended Input-Output databases, application to Ecoinvent and Exiobase**
 » [Mr. Maxime Agez](#), Dr. Guillaume Majeau-Bettez, Prof. Manuele Margni, Prof. Anders Strømman, Prof. Réjean Samson

11:30am **LiSET: a method for the lifecycle screening of emerging technologies**
 » [Ms. Christine Roxanne Hung](#), Dr. Linda Ager-Wick Ellingsen, Dr. Guillaume Majeau-Bettez

12:30pm **Lunch**
Canteen

2pm **MS-07-Circular economy 2**
Room A

2pm **The automobile transition and materials implications in China: a dynamic material flow analysis approach**
 » [Ms. Wu Chen](#), Ms. Xin Sun, Prof. Jianxin Yang, Prof. Gang Liu

2:15pm **Brakes on the circular economy: global lessons from examining U.S. material flows**
 » [Dr. Daniel Cooper](#), Ms. Yongxian Zhu

2:30pm **Policy Analysis and Assessment of China's "Urban Mining" Model Base Construction Program: Practices and Lessons**
 » [Ms. Jinghan Di](#), Dr. Zongguo Wen

2:45pm **A least-cost 2050 recycling technology roadmap to increase global end-of-life aluminum recycling rates**
 » [Ms. Yongxian Zhu](#), Dr. Daniel Cooper

3pm **THE CIRCULAR ECONOMY IN THE CONTEXT OF REGIONAL DEVELOPMENT: AN ANALYSIS OF LITERATURE**
 » [Mr. MILTON CHAGAS](#), Dr. Armando Caldeira-Pires, [Ms. Emilia Faria](#), Ms. Maria Cristina Pegorin



Continued from **Monday, 8 July**

3:15pm **Socio-integrated municipal solid waste management in an era towards circular economy and sustainable development measures: the case of Belo Horizonte**
 » Mrs. Maryegli Fuss, Dr. Witold-Roger Poganietz, Mrs. Leila Regina Da Silva, Dr. Raphael Tobias Vasconcelos Barros

2pm **MS-08-Environmental footprint 2**
 Room B

2pm **Analysing the biophysical basis of iron and steel supply chain networks using a global physical input-output model**
 » Mr. Hanspeter Wieland, Dr. Martin Bruckner, Dr. Stefan Giljum

2:15pm **Scarcity-Weighted Water Footprint and Virtual Water Trade in the Belt and Road Region: an Environmental Input-Output Analysis**
 » Ms. Qingyan Liu, Dr. Kai Fang

2:30pm **Spatio-temporal variability of urban Horeca food consumption and its environmental effects in China**
 » Ms. Yunyun Li, Prof. Gang Liu, Dr. Xiaojie Liu, Dr. Ling-en Wang, Prof. Shengkui Cheng

2:45pm **What is my share? Assessing the environmental impacts of secondary consumption**
 » Mrs. Tamar Makov, Mr. Paul Wolfram, Dr. Vered Blass

3pm **How China's middle-class prosperity affect material footprint through consumption pattern change? A study based on machine-learning and MRIO**
 » Dr. xinzhu zheng

3:15pm **What is the consumption-based land use footprint of urban and rural residents in USA?**
 » Dr. Lin Zeng, Prof. Anu Ramaswami

2pm **MS-09-Nexus of energy, water, food, and waste 2**
 Room C

2pm **A Study of Differential Household Food-Energy-Water-Waste Nexus Metabolisms: Reflections on Bottom-Up Resource Accounting.**
 » Mr. Paul Currie, Prof. Josephine Musango

2:15pm **Quantifying the diversity of the water-energy-emission nexus**
 » Dr. Chunyan Wang, Prof. Ming Xu, Prof. Gustaf Olsson, Prof. Yi Liu

2:30pm **Global water use associated with energy supply, demand and international trade in China**
 » Mr. Bin Chen, Ms. Yitong Liu

2:45pm **Increasing resource circularity by integrating urban agriculture and decentralized organic waste management**
 » Mr. Till Weidner, Prof. Aidong Yang

3pm **Drivers and barriers for institutionalizing emergent cross-sectoral symbioses at the food-energy-water nexus**
 » Ms. Rachel Greer, Dr. Timo Von Wirth, Dr. Derk Loorbach

3:15pm **Environmental Impacts of Phosphorus Recovery in Wastewater Treatment**
 » Ms. Madeline Sena, Prof. Andrea Hicks, Dr. Matt Seib

2pm **MS-10- Industrial Ecology Management and Policy -1**
 Room D

2pm **Linking material flows to a national integrated energy model**
 » Dr. Matthew Eckelman

2:15pm **Mapping the alignment between traditional LCIA-methods, criticality assessments and LCIA-methods including aspects of criticality for application guidance concerning sustainable material resource management**
 » Mr. Hampus André, Dr. Maria Ljunggren Söderman



Continued from **Monday, 8 July**

2:30pm **Re-examination on Estimation Methods for WEEE Generation in China**

» [Ms. Huiting HUANG](#), Dr. Xin Tong

2:45pm **The optimum period of Power Purchase Agreement in Independent Power Producer : A case study of Taiwan**

» [Mr. 邱 邱](#), Ms. Ssu-li Chang

3pm **Spatial and Temporal Patterns of Wind Power In-Use Stocks in China**

» [Mr. Juhua Yang](#), Prof. Lixiao Zhang

3:15pm **Cars, EVs and battery recycling forecasts and economic models**

» Dr. JP Skeete, [Dr. Oliver Heidrich](#), Dr. Mohammad Ali Rajaeifar, Dr. Graeme Hill, Prof. Peter Wells

2pm **MS-11- Sustainable Production and Consumption**

Room E

2pm **Scenarios for future copper demand and supply in China**

» [Ms. Di Dong](#), Dr. Luis Tercero, Dr. Antonia Loibl, Mr. Matthias Pfaff, Prof. Arnold TUKKER, Dr. Voet Ester van der

2:15pm **Evaluation of sharing services from the perspectives of environmental loads, consumers' perceptions and providers' opinions: A case study of bike sharing and clothes sharing in Bangkok, Thailand**

» [Mr. Akinari Son](#), Prof. Kiyu KURISU, Dr. Jun Nakatani, Dr. Sarunnoud Phuphisith, Prof. Yuichi Moriguchi

2:30pm **The market response to the central environmental re-supervision impacts on heavily polluting enterprises**

» [Ms. Di Chen](#), Dr. Xue Tan, Prof. Lei Shi, Ms. Yue Wang

2:45pm **Geothermal power in China: Development and performance evaluation**

» [Dr. Mingyue Pang](#), Prof. Lixiao Zhang

3pm **Influence factor analysis for energy requirements of urban and rural household consumption in China**

» [Dr. Guangwu Chen](#), Prof. Thomas Wiedmann, Ms. Yuhan Zhu

3:15pm **Industrial reactive nitrogen flow analysis focusing on Japanese economy**

» [Dr. Kiwamu Katagiri](#), Dr. Azusa Oita, Prof. Kazuyo Matsubae, Prof. Tetsuya Nagasaka

2pm **MS-12-Life cycle assessment, design, and management-1**

Room F

2pm **Multi-Actor Life Cycle Sustainability Prioritization under Hybrid Information: A Methodological Framework**

» [Mr. Jingzheng Ren](#)

2:15pm **Life Cycle Assessment of Mexican Tortilla and the potential for industrial symbiosis in production facilities**

» [Mrs. Mariana Ortega](#), [Dr. Gemma Cervantes Torre-Marín](#)

2:30pm **Parametric LCA of CCHP system integrated with solar energy and energy storage**

» [Mr. Lunchen Yan](#), Mr. Osvaldo Broesicke

2:45pm **Life Cycle Assessment of Industrial Scale Production of Spirulina Tablets in China**

» [Prof. Wenguang Zhou](#)

3pm **Life Cycle Assessment of Rare Earth Oxides Production in China: A Comprehensive Analysis**

» [Ms. Yu Liu](#), Dr. PENG WANG, Prof. weiqiang chen

3:15pm **Methods to Decompose Uncertainties in Life Cycle Assessment**

» [Ms. Yuwei Qin](#), Prof. Sangwon Suh

2pm **Special session-04-Evidence-based Decision Making for Industrial Ecology**

Room G

Chaired by: Dr. Xiao Li



Continued from **Monday, 8 July**

2pm **Policy learning toward policy change in China: the case of circular economy policies**

» [Mr. Chengming Fan](#), Prof. Junming Zhu

2:15pm **Beyond efficiency: rebound effect and spillover effect of household climate actions**

» [Mr. Yiming Liu](#), Prof. Harn Wei Kua

2:30pm **Towards Policy Design for Sustainable Consumption and Production: From environmental policy to socio-economic technology policy**

» [Dr. Yasuhiko Hotta](#)

2:45pm **Industrial symbiosis potential and urban infrastructure capacity in Mysuru, India**

» [Mr. Matthew Gordon](#), Prof. Marian Chertow, Prof. Eric Masanet, Ms. Kate Logan

3pm **How Do Incremental Policies Contribute to a Sustainable Energy Transition?**

» [Prof. Clinton J. Andrews](#)

3:15pm **Behavioral public policy for sustainable consumption: social comparison for residential water conservation**

» [Ms. Zhen Du](#), Prof. Junming Zhu

2pm **Special session-05-IE Advances in China**

Room H

Chaired by: Dr. Lei Shi

2pm **Special session-06-Future Pathways for scenario modelling in Industrial Ecology**

Room I

Chaired by: Dr. Tomer Fishman

2pm

Resource Efficiency for Climate Change Mitigation in Housing Buildings and Light-Duty Vehicles

» [Prof. Edgar Hertwich](#), Prof. Saleem Ali, Mr. Peter Berrill, Dr. Luca Ciacci, Dr. Tomer Fishman, Prof. Seiji Hashimoto, Dr. Niko Heeren, Prof. Beijia Huang, Ms. Aishwarya Iyer, Mrs. Stefanie Klose, Mr. Reid Lifset, Prof. Eric Masanet, Prof. Elsa Olivetti, Dr. Stefan Pauliuk, Dr. Qingshi Tu, Mr. Paul Wolfram

2:15pm

Development pathways of building stocks

» [Dr. Niko Heeren](#), Mr. Peter Berrill, Dr. Tomer Fishman, Dr. Stefan Pauliuk, Prof. Edgar Hertwich

2:30pm

Material efficiency and its contribution to climate change mitigation in Germany - A scenario analysis until 2050

» [Dr. Stefan Pauliuk](#), Dr. Tomer Fishman, Dr. Niko Heeren, Prof. Edgar Hertwich

2:45pm

Adopting econometric and data-driven approaches to material stock & flow scenarios

» [Dr. Tomer Fishman](#), Prof. Edgar Hertwich

3pm

Using Scenarios from Integrated Assessment Models in Prospective LCA

» [Dr. Angelica Mendoza Beltran](#), Dr. Brian Cox, Dr. Chris Mutel, Prof. Detlef Van Vuuren, Dr. David Font Vivanco, Mr. Sebastiaan Deetman, Dr. Oreane Edelenbosch, Dr. Jeroen Guinee, Prof. Arnold TUKKER

3:30pm

Tea and Coffee

4pm

MS-13-Circular economy 3

Room A

4pm

Circular Economy: Evaluating Waste Scenarios of Consumer Products

» [Ms. Madeline Somers](#), Prof. Jose Alfaro

4:15pm

The Transition to a Circular Economy- The effects of Circular Business Models in the Socio-Economic Metabolism

» [Mr. Carlos Pablo Sigüenza](#), Dr. Bernhard Steubing, Prof. Arnold TUKKER



Continued from **Monday, 8 July**

- 4:30pm **Estimation of global electric vehicle battery waste stream and associated resource recycling potential till 2050**
» [Mr. Chengjian Xu](#), Dr. Mingming Hu, Dr. Bernhard Steubing
- 4:45pm **How to determine the circularity of real material systems**
» [Prof. Helmut Rechberger](#), Ms. Julia Tanzer
- 5pm **An approach to re-directing capital and financial flows towards circular economy activities in South Africa**
» [Ms. Sarah O'Carroll](#), Dr. Lauren Basson, Dr. Henry Roman, Ms. Georgina Ryan, Ms. Catherine Pineo, Mr. Quinton Williams, Mr. Sam Smout, Ms. Taahirah Ghoor

4pm MS-14 - Environment Input-Output Analysis - 1
Room B

- 4pm **An Input-Output Framework for Quantifying the Role of Insect Pollinators for US Industry Sectors**
» [Ms. Alex Jordan](#), Prof. Christina Grozinger, Dr. Harland Patch, Prof. Vikas Khanna
- 4:15pm **Driving forces of changes in CO2 emissions of China**
» [Ms. Chen Pan](#)
- 4:30pm **Managing the Mitigation: Analysis of China's Provincial Carbon Transfer and Effectiveness of Mitigation Policies**
» [Dr. Yuning Gao](#), Ms. Meng Li, Prof. Yu Liu, Dr. Bo Meng
- 4:45pm **PM2.5-driven economic losses generated by the global trade**
» [Dr. Keisuke Nansai](#), Prof. Susumu Tohno, Dr. Satoru Chatani, Dr. Keiichiro Kanemoto, Prof. Shigemi Kagawa, Prof. Yasushi Kondo
- 5pm **Global Fossil Fuel Scarcity Driven by International Trade**
» [Ms. Cuiyang Feng](#), Dr. Jianchuan QI, Prof. Xu Tang, Prof. Sai Liang

4pm MS-15-Urban sustainability 2
Room C

- 4pm **The limited impact electro mobility will have on reaching climate change mitigation targets**
» [Dr. Mohammad Ali Rajaeifar](#), Dr. Oliver Heidrich, Prof. Felix Creutzig, Prof. Phil Blythe, Dr. Graeme Hill
- 4:15pm **Employment Footprints Accounting of Floating Population in Beijing**
» [Ms. Rui Wang](#)
- 4:30pm **Simulating the heating energy demand of residential building stock: A GIS-based bottom-up model**
» [Dr. Xining Yang](#), Dr. Mingming Hu, Dr. Bernhard Steubing
- 4:45pm **Impact of non-natural gas heating technologies on urban sustainability, using a quantitative GIS-based model**
» [. Teun Verhagen](#), Dr. Benjamin Sprecher
- 5pm **High resolution urban air quality mapping using fleet vehicles as mobile sensors**
» [Mr. Bu Zhao](#), [Mr. Long Yu](#), [Dr. Chunyan Wang](#), [Mr. Chenyang Shuai](#), [Prof. li Zhu](#), [Prof. Ming Xu](#)
- 5:15pm **CO2 emission characteristics and spatial distribution in mega cities-comparative study in China, Japan and South Korea**
» [Dr. Lu Sun](#), Dr. Minoru Fujii, Dr. Seiya Maki, Dr. Yi Dou, Dr. Tsuyoshi Fujita

4pm MS-16-Industrial symbiosis, eco-industrial parks
Room D

- 4pm **Greenhouse Gas Mitigation and Environmental Co-benefits in Chinese Industrial Parks by Decarbonizing Energy Infrastructure**
» [Mr. Yang Guo](#), Dr. Jinping Tian, Prof. Lujun Chen



Continued from **Monday, 8 July**

- 4:15pm **Integration of biorefineries for waste valorization in Ulsan Eco-Industrial Park, Korea**
 » [Mr. Izhar Hussain Shah](#), Dr. Shishir Kumar Behera, Dr. Eldon R. Rene, Prof. Hung-Suck Park
- 4:30pm **Developments in Industrial Symbiosis Scholarship, 1992-2017: Bibliometric analysis using library databases and Google Scholar**
 » Prof. Marian Chertow, [Mr. Koichi Kanaoka](#), Prof. Joo-Young Park
- 4:45pm **Industrial Smart Energy Sharing for promoting de-carbonized industrial park**
 » [Dr. Minoru Fujii](#), Dr. Satoshi Ohnishi, Dr. Yi Dou, Dr. Lu Sun, Dr. Liang Dong
- 5pm **Ecological Network Analysis of Urban-Industrial Ecosystems**
 » [Mr. Zackery Morris](#), Prof. Marc Weissburg, Prof. Bert Bras
- 5:15pm **Eco-industrial development in Ethiopia: the case of Hawassa Industrial Park**
 » [Ms. Doryn Negesa](#)
- 4pm **MS-17-sustainable development**
Room E
- 4pm **An optimization-based approach for sustainable management of shale gas energy-water nexus**
 » Ms. Elmira Mohammadi Shamlou, Prof. Radisav Vidic, [Prof. Vikas Khanna](#)
- 4:15pm **Trends and patterns in the contributions to water use from different anthropogenic drivers**
 » [Mr. Quanliang Ye](#), Prof. Arjen Y. Hoekstra, Prof. Sai Liang, Prof. Chao Zhang, Dr. Ranran Wang

- 4:30pm **Evaluation of Influential Factors and Possible Interventions towards Prevention of Waste Disposal in Open Spaces in Phnom Penh, Cambodia**
 » [Mr. Pagnarith Srun](#), Prof. Kiyo KURISU
- 4:45pm **Estimating global material trade based on the future global warming scenarios**
 » [Dr. Ryoko Morioka](#), Prof. Koji Tsuda, Dr. Kenichi Nakajima, Dr. Keisuke Nansai
- 5pm **Potentials and limits of Carbon Capture and Usage to close the carbon cycle in the German chemical and polymer sector**
 » [Mr. Simon Kaiser](#), Prof. Stefan Bringezu
- 4pm **MS-18-Eco-innovation**
Room F
- 4pm **Research on carbon footprint assessment system of food logistics**
 » [Prof. XIE JINGCI](#), Ms. LIU JIANJIAN
- 4:15pm **Co-benefits and trade-offs: Impacts on sectorial eco-efficiency from eco-industrial development (EID)**
 » [Dr. Liang Dong](#), Prof. (Anthony) Shun Fung Chiu, Prof. Hung-Suck Park
- 4:30pm **Evaluating industrial sustainability: a cross-country comparison**
 » Prof. Roberta Arbolino, Dr. Raffaele Boffardi, Prof. Alberto Simboli, [Prof. Giuseppe Ioppolo](#)
- 4:45pm **Sustainable Thinking: A Systematic Approach to Practicable Industrial Ecology**
 » [Mr. Levon Keusseyan](#)
- 5pm **Evaluating the Global Environmental Impacts of Different Silver Nanoparticle Synthesis Methods Using Life Cycle Assessment**
 » [Mrs. Sila Temizel Sekeryan](#), Prof. Andrea Hicks



Continued from **Monday, 8 July**

4pm **Special session-7-Towards the next generation of Environmental Extended Input Output analysis spacially explicit integration of LCA, MFA and IOA**
Room I
 Chaired by: Prof. Arnold TUKKER

Tuesday, 9 July

8am **Registration**
Auditorium

8:30am **Plenary Session-Circular metabolism and climate**
Auditorium
 Chaired by: Dr. Matthew Eckelman

10am **Tea and Coffee Break**

10:30am **TS-01-Circular economy 4**
Room A

10:30am **Towards a circular bio-economy: Evaluating ideals versus constraints for biogas feedstock availability in the Netherlands**
 » Mrs. Dieu Linh Hoang, Dr. Chris Davis, Prof. Henk Moll, Dr. Sanderine Nonhebel

10:45am **Urban metabolism and circular economy: a bibliometric analysis and an integrative review of the literature**
 » Ms. Maria Cristina Pegorin, Dr. Armando Caldeira-Pires, Dr. Jacob S. Paulsen, Ms. Emilia Faria, Mr. MILTON CHAGAS

11am **Preferential material allocation for a circular economy: the challenges and possibilities of applying the cascading principle**
 » Mr. Kieran Campbell-Johnston, Dr. Walter J. V. Vermeulen, Dr. Sabrina Dermine-brullot

11:15am **Towards a methodological framework for developing estimates of non-hazardous industrial waste generation at a high spatial resolution in the U.S.**
 » Dr. Xiao Li, Dr. Daqian Jiang, Ms. Emma Johnson, Prof. Marian Chertow

11:30am **Transitioning to regenerative sustainability – towards a framework for systemic monitoring and measuring the post-occupancy performance of neighbourhoods**
 » Mr. Henrique Sala Benites, Dr. Paul Osmond

11:45am **Current Carbon Fibre Recycling Technologies from a Life Cycle Sustainability Perspective**
 » Dr. Fanran Meng, Prof. Steve Pickering, Dr. Jon Mckechnie

10:30am **TS-02-Environmental footprint 3**
Room B

10:30am **Assessing low-carbon lifestyles of consumer segments: An integrated analysis of consumer expenditure survey and time-use survey microdata**
 » Mr. Ryu Koide

10:45am **Don't put all eggs in one basket! – Insights on husbandry-specific environmental costs of egg production**
 » Ms. Kirsten Rademacher, Dr. Tobias Gaugler

11am **FINEPRINT: a spatially explicit physical trade framework to trace environmental impacts of resource extraction along global supply chains**
 » Mr. Hanspeter Wieland, Dr. Stefan Giljum, Dr. Martin Bruckner, Dr. Victor Maus

11:15am **Urban carbon flows across China driven by four megacities**
 » Dr. Shaoqing Chen, Ms. Huihui Long



Continued from **Tuesday, 9 July**

- 10:30am **TS-03-Nexus of energy, water, food, and waste 3**
Room C
- 10:30am **The Role of Phosphorus in Chinese Resilient Water-Energy-Food Security Nexus: from Biofuel Perspective**
» [Prof. Xiuheng Wang](#), Ms. Jingyu Miao, Dr. Jiechen Wu
- 10:45am **Changing trends and driving forces of virtual water transfers in China's electricity transmission network**
» [Prof. Chao Zhang](#)
- 11am **Food Waste Management: A Comparative Study of China and the U.S.**
» [Dr. Ning Ai](#), Dr. Zongguo Wen, Mr. Shantanu Pai, Mr. Junjun Zheng
- 11:15am **Investigating patterns of electricity, gas, and water consumption in large-scale buildings using machine learning**
» [Mr. Ali Movahedi](#), Mr. Dongwoo Lee, Mr. Mohamed Badhrudeen, Prof. Sybil Derrible
- 11:30am **Diets, inequalities, food flows, food miles and environmental sustainability of urban food systems: analysis of nine Indian cities**
» [Dr. Dana Boyer](#), Prof. Anu Ramaswami
- 11:45am **GHGs emission mitigation and water saving potentials in Chinese industrial parks by facilitating industrial symbiosis among infrastructure**
» [Ms. Wanqiu Hu](#), Dr. Jinping Tian, Prof. Lujun Chen
- 10:30am **TS-04-Integrated models**
Room D
- 10:30am **Combined Impacts of Biofuel Production and Agricultural Productivity Improvement on Land Dynamics of China**
» [Dr. sijian jiang](#)

- 10:45am **Health and Climate Benefits of EV Deployment in the Greater Toronto and Hamilton Area**
» [Ms. Yijun Gai](#), Ms. Laura Minet, Prof. Daniel Posen, Prof. Marianne Hatzopoulou
- 11am **Translating high-level scenarios and aggregate data to specific cases using super lists and matrix mathematics**
» [Dr. Timothy Baynes](#)
- 11:15am **Dissipation of metals: An interdisciplinary approach to a comprehensive phenomenological study**
» [Mr. Thomas Kippes](#), Prof. Armin Reller
- 11:30am **Predicting spatially explicit life cycle environmental impacts of crops under future climate scenarios with machine learning approaches**
» [Dr. Xiaobo Romeiko](#), Ms. Eun Kyung Lee, Dr. yulei pang, Dr. Xiaozhen Xue, Dr. Xuesong Zhang, Dr. Wangjian Zhang, Dr. Paul Adler
- 10:30am **TS-05-Environmental input-output analysis-2**
Room E
- 10:30am **Water withdrawals and consumption, and its impact on the sustainability of the national economy of the Peru**
» [Dr. Alexis Dueñas](#), Prof. Marco Gusukuma, Dr. Ramzy Kahhat
- 10:45am **Food consumption and natural resources: analysis of material flows and stocks, GHG emissions and land use of the food supply chain in Hungary**
» [Dr. Mihály Dombi](#), Dr. Andrea Karcagi-kováts, Dr. Andrea Bauer-gáthy, Dr. Zhi Cao, Prof. Gang Liu
- 11am **Comparing ecoinvent and Exiobase with a special focus on impact assessment results**
» [Dr. Bernhard Steubing](#), Dr. Arjan De Koning
- 11:15am **More for less: Deeper and more affordable decarbonization of the US light-duty vehicle sector is possible**
» [Mr. Paul Wolfram](#), Prof. Edgar Hertwich



Continued from **Tuesday, 9 July**

- 11:30am **Considering critical materials in a strategic planning for the German Energy Transition – discussing the relevance and supporting measures**
 » [Mrs. Maryegli Fuss](#), Dr. Witold-Roger Poganietz, Mr. Niklas Michael Wulff, Mr. Tobias Junne, Mr. Ali Abdelshafy
- 11:45am **Waste Input-Output Analysis of Prefectures in Japan to Promote Sound Material Cycles by Using Data in Official Reports Collected for Waste Management**
 » [Prof. Yasushi Kondo](#), Prof. Seiji Hashimoto, Dr. Masato Yamada, Mr. Yuki Ichisugi, Mr. Hirotaka Takayabu, Ms. Azusa Watanabe, Mr. Koichi Tachio, Mr. Osamu Yoneda
- 12pm **A dynamic Waste-Input-Output MFA of the circularity of steel with focus on Cr and Ni**
 » [Prof. Shinichiro Nakamura](#), Prof. Yasushi Kondo
- 10:30am **TS-12-Green supply chain**
Room F
- 10:30am **How to Track Corporate Actors across Space and Time (TRACAST)**
 » [Dr. Benjamin Goldstein](#), Dr. Joshua Newell
- 10:45am **A Study of the Relationship between Green Supply Chain Management and Business Performance among Canadian firms**
 » [Dr. Suzana Russell](#), Prof. Harvey Millar, Dr. Ramesh Venkat
- 11am **Renewable Carbon Feedstock for Polymers: Environmental Benefits from the Synergistic Use of Biomass and CO2**
 » [Mr. Marvin Bachmann](#), Mr. Leonard Müller, Mr. Benedikt Winter, Mr. Raoul Meys, Dr. André Sternberg, Prof. André Bardow
- 11:15am **Quantifying Social Sustainability in Reverse Supply Chain Management**
 » [Mr. Lukas Messmann](#), Dr. Christoph Helbig, Dr. Andrea Thorenz, Prof. Axel Tuma

- 11:30am **Site-specific particulate matter health impacts from global coal power generation**
 » [Mr. Christopher Oberschelp](#), Dr. Stephan Pfister, Dr. Catherine Raptis, Prof. Stefanie Hellweg
- 10:30am **Special session-08-Ex ante life cycle assessment of emerging technologies**
Room G
 Chaired by: Dr. Stefano Cucurachi
- 10:30am **DEVELOPMENT AND INTERPRETATION OF FUTURE SCENARIOS IN LIFE CYCLE ASSESSMENT**
 » [Dr. Valentina Bisinella](#), Prof. Thomas Højlund Christensen, Prof. Thomas Fruergaard Astrup
- 10:45am **Up-scaling techniques used in prospective life cycle assessment of chemical technologies – a review**
 » [Ms. Natalya Tsoy](#), Dr. Jeroen Guinee, Dr. Bernhard Steubing
- 11am **Environmental and economic assessment of a biorefinery concept for production of bulk and fine chemicals**
 » [Dr. Matty Janssen](#), Dr. Sara Badr, Dr. Elin Svensson, Dr. Stavros Papadokonstantakis
- 10:30am **Special session-9-Policy Instruments in IE Models**
Room H
 Chaired by: Dr. Gjaltp Huppes
- 10:30am **Towards better practice of life cycle assessment through a system dynamics approach: using interrelationship among environmental sustainability, food system and dietary choice as a case study**
 » [Ms. Tianchu Lu](#), Dr. Anthony Halog
- 10:45am **Modelling future environmental impacts by using a demand model that integrates multiregional input-output analysis and agent-based modelling**
 » [Mr. Eivind Bjelle](#), Dr. Richard Wood, Dr. Kirsten Wiebe



Continued from **Tuesday, 9 July**

- 11am **Integrating policy instrumentation into Industrial Ecology modelling, or not**
» [Dr. Gjalt Huppes](#)
- 10:30am **Special session-10-Product lifespans and obsolescence**
Room I
Chaired by: Mrs. Tamar Makov
- 10:30am **Assessing the environmental savings potential of Preparation for Reuse for WEEE**
» [Ms. Sandra Boldoczki](#), [Dr. Andrea Thorenz](#), [Prof. Axel Tuma](#)
- 10:45am **Planned Obsolescence in Smartphones; Insights from Benchmark Testing**
» [Mrs. Tamar Makov](#), [Prof. Colin Fitzpatrick](#)
- 11am **Get your Phone out of the Drawer: revealed and stated preferences**
» [Dr. Vered Blass](#), [Dr. Anat Tchetchik](#), [Dr. Austin Nichols](#)
- 11:15am **Functionality-based Impact Assessment Framework for Information and Communications Technology (ICT) Products**
» [Ms. Lin Shi](#), [Prof. Adam Brandt](#)
- 11:30am **Product life of household appliances using the example of a repair shop over 15 years**
» [Dr. Janis Winzer](#)
- 12pm **Lunch**
Canteen
- 1:30pm **TS-07-Circular economy 5**
Room A

- 1:30pm **Economic feasibility of recycling rare earth oxides from end-of-life lighting technologies**
» [Mr. Yang Qiu](#), [Prof. Sangwon Suh](#)
- 1:45pm **Tracking e-waste flows in China: a road map**
» [Dr. Xin Tong](#)
- 2pm **Macro-Economic modelling of material flows in the Circular Economy**
» [Dr. Jan Brusselaers](#), [Mr. Theo Geerken](#), [Dr. Maarten Christis](#), [Mrs. Yoko Dams](#)
- 2:15pm **Opportunities for closed-loop steel recycling: a transparent and detailed analysis of UK steel flows**
» [Dr. Rick Lupton](#), [Dr. André Cabrera Serrenho](#), [Prof. Julian Allwood](#)
- 2:30pm **Closed-loop recycling of scrap alloys in passenger vehicles: Towards a consistent evaluation of its climate mitigation potential**
» [Dr. Qingshi Tu](#), [Prof. Edgar Hertwich](#)
- 1:30pm **TS-08-Environmental footprint 4**
Room B
- 1:30pm **Trans-provincial health impacts of atmospheric mercury emissions in China**
» [Prof. Sai Liang](#), [Dr. Long Chen](#), [Dr. Zhifu Mi](#), [Dr. Jianchuan Qi](#)
- 1:45pm **Develop a Coherent Accounting Method of Aquatic Ecosystem Services Valuation based on Emergy: A case of China**
» [Ms. Qing Yang](#), [Dr. Gengyuan Liu](#), [Prof. Mark Brown](#)
- 2pm **Provincial human appropriation of net primary production aboveground in China**
» [Ms. Xueqi Wang](#), [Prof. Gengyuan Liu](#)
- 2:15pm **Virtual scarce water trade and saving within China**
» [Prof. Xu Zhao](#)



Continued from **Tuesday, 9 July**

2:30pm **The effects of BIM input data quality on LCA results**
» [Dr. Matan Mayer](#)

2:45pm **Optimisation based analysis of water-footprint of the Indian diet**
» [Mr. Pranjal Jhaveri](#), Mr. Abhay Menon, Prof. Yogendra Shastri

1:30pm **TS-09-Resource productivity and sustainability 1**
Room C

1:30pm **Life cycle greenhouse gas emissions and freshwater consumption associated with Bakken tight oil**
» [Dr. Ian Laurenzi](#), Prof. Joule Bergerson, Dr. Kavan Motazed

1:45pm **The future of energy conversion efficiency**
» [Mr. Leonardo Paoli](#), Dr. Jonathan Cullen

2pm **Environmental impacts of the life cycle of gold extraction in the Peruvian Amazon**
» [Dr. Ramzy Kahhat](#), Mr. Eduardo Parodi, Mr. Gustavo Larrea, Mr. Carlos Mesta, Dr. Ian Vázquez-rowe

2:15pm **Accounting for unemployed capital in inclusive wealth**
» [Dr. Rintaro Yamaguchi](#)

2:30pm **Exergy efficiency of production processes by industries as an indicator in sustainability assessment**
» [Ms. Junxi Liu](#), Prof. Ichiro Daigo, Dr. Takeo Hoshino, Prof. Manabu Enoki

2:45pm **Reframing Local Material Loops for Circular Economy at Community Level**
» [Dr. Chen LIU](#)

1:30pm **TS-10-Social dimensions of industrial ecology-1**
Room D

1:30pm **Food-Energy-Water Footprints of Household Consumption in Columbus, Ohio and Their Correlation with Demographic Characteristics**
» [Mr. Kyuha Lee](#), Mr. Ian Adams, Dr. Nicole Sintov, Dr. Bhavik Bakshi

1:45pm **Measuring Spatial Inequality of Residential Electricity Consumption and Investment in Conservation in U.S. Cities: Implementation in Tallahassee with Utility Data**
» [Dr. Kangkang Tong](#), Prof. Anu Ramaswami, Prof. Richard Feiock, Mr. Kewei Xu

2pm **An Urban Metabolic Examination of Low-Carbon Energy Technologies - A Case Study of Domestic Solar Photovoltaic Electricity in Reading, UK**
» [Dr. Eugene Mohareb](#), Dr. Daniela Perrotti

2:15pm **Circular economy: eight capitals as innovation lenses**
» [Dr. Weslyne Ashton](#), Mr. Andre Nogueira, Dr. Carlos Teixeira

1:30pm **TS-11-Life cycle assessment, design, and management-2**
Room E

1:30pm **Life cycle GHG Emissions of Pharmaceutical Drugs**
» [Dr. Matthew Eckelman](#)

1:45pm **LIFE CYCLE ASSESSMENT OF WOODY BIOMASS ASH VALORISATION IN CONSTRUCTION MATERIALS**
» Mrs. Tamiris da Costa, [Dr. Ana Cláudia Dias](#), Dr. Paula Quinteiro, Prof. Luís Tarelho, Dr. Luís Arroja

2pm **r-LCA - A Framework for integrating impacts from accident-related risks in Life Cycle Assessment**
» [Mr. Alvin Ee](#), Prof. Harn Wei Kua, Dr. Hsien Hui Khoo, Dr. Salim Mohamed Shaik

2:15pm **Life cycle assessment of feedstock alternatives for the production of light olefins**
» [Mr. Florian Keller](#), Mrs. Roh Pin Lee, Prof. Bernd Meyer



Continued from **Tuesday, 9 July**

2:30pm **Predictive Spatial LCA Modeling of the U.S. Corn-Soy Production System with Dynamic Cost-Benefit Analysis**

» [Mrs. Luyi Hunter](#), [Prof. Timothy Smith](#)

2:45pm **Life cycle impact and cost assessment of technological innovations in high-grade concrete recycling**

» [Mr. Chunbo Zhang](#), [Dr. Mingming Hu](#), [Prof. Arnold TUKKER](#)

1:30pm **TS-06-Environmental input-output analysis-3**

Room F

1:30pm **Measuring carbon emission performance of industrial sectors in the Beijing-Tianjin-Hebei region, China: A stochastic frontier approach**

» [Mr. Chao Wang](#), [Dr. Jinyan Zhan](#)

1:45pm **An Estimation of Steel Alloy Elements Focusing on End-of-life Vehicles**

» [Ms. Zhengyang ZHANG](#), [Dr. Kenichi Nakajima](#), [Mr. Kentaro Takeyama](#), [Dr. Hajime Ohno](#), [Prof. Kazuyo Matsubae](#)

2pm **Novel Method for Analyzing and Tracking Supply-Chain Impacts and Application to Global Material Production**

» [Ms. Livia Cabernard](#), [Dr. Stephan Pfister](#), [Prof. Stefanie Hellweg](#)

2:15pm **Benefits and Impacts of the Green New Deal: A comprehensive examinations by applying dynamic Multi Regional Input Output Modeling Scenarios**

» [Thomas Gloria](#)

2:30pm **Embodied energy of copper consumption considering recycling**

» [Ms. Tong Wang](#), [Prof. Edgar Hertwich](#)

1:30pm **TS-11-Circular economy 6**

Room G

1:30pm **Identifying Life Cycle Symbiosis (LCS) Opportunities to Promote End of Life Solar Photovoltaic Recovery**

» [Ms. Nehika Mathur](#), [Dr. John W Sutherland](#), [Dr. Shweta Singh](#)

1:45pm **Circular Industrial Ecosystems for Smartphones: The Case of a Telco Operator**

» [Mr. Ferdinand Revellio](#), [Prof. Erik G. Hansen](#)

2pm **Waste value separation – the path to organic and plastic waste separation and recycling in the periphery of Beijing**

» [Prof. Dr. Susanne Hartard](#)

2:15pm **A network analysis based management method for improving industrial eco-efficiency: a case of Beijing industrial system.**

» [Dr. xiaoqing shi](#), [Ms. Xue Wang](#)

2:30pm **Comparative analysis on urban flood countermeasures Based on life cycle thinking: A comparison between sponge city project and drainpipe replacement project**

» [Mr. XUEZHOU FAN](#), [Prof. Toru Matsumoto](#)

2:45pm **Cutting CO2 emissions from U.S. steel consumption 70% by 2050**

» [Ms. Nicole Ryan](#), [Prof. Shelie Miller](#), [Prof. Steven Skerlos](#), [Dr. Daniel Cooper](#)

1:30pm **Special session-11-Progress on Open Science in Industrial Ecology**

Room H

Chaired by: [Dr. Rupert Myers](#)

1:30pm **Special session-12-Urban Mining for a Circular Economy: Stocks and Flows of Materials in the Urban Environment**

Room I

Chaired by: [Dr. Voet Ester van der](#)

1:30pm **Bottom up MFA for the urban built environment**

» [Prof. Shoshanna Saxe](#), [Mr. Benjamin Makarchuk](#), [Mr. Paul Seufert](#)



Continued from **Tuesday, 9 July**

1:45pm **Weighing the importance of urban material stocks - A bottom-up case-study of Odense, Denmark**

» [Ms. Maud Lanau](#), Dr. Zhi Cao, Ms. Julija Metic, Mr. Luca Pascal Herbert, Mr. Jeppe Rossen Møller, Mr. Sven Kapfer, Prof. Gang Liu

3pm **Poster session-01&Tea and Coffee Break**

Poster venue

4pm **Section meeting**

Room A

Wednesday, 10 July

8am **Registration**

Auditorium

8:30am **Plenary Session-Global supply chains and environmental footprints**

Auditorium

Chaired by: Prof. weiqiang chen

10am **Tea and Coffee Break**

10:30am **WS-01-Circular economy 7**

Room A

10:30am **Life Cycle Strategies for Material Criticality Mitigation: A Case of Neodymium**

» [Dr. PENG WANG](#), Prof. weiqiang chen

10:45am **Introduction to evaluating Industrial Symbiosis Activities from a life cycle perspective - A Life Cycle Sustainability approach**

» [Dr. Karpagam Subramanian](#), Dr. Weslyne Ashton, Dr. Shauhrat Chopra

11am **Circular System Design: A case study on insulation material in Switzerland**

» [Ms. Maja Wiprächtiger](#), Dr. Melanie Haupt, Dr. Niko Heeren, Ms. Eliane Waser, Prof. Stefanie Hellweg

11:15am **Time-series material flow and stock analysis of residential buildings considering historical urbanization process: a case study of Shanghai**

» [Mr. Xiaofeng Gao](#), Dr. Jun Nakatani, Prof. Yuichi Moriguchi

11:30am **Comparative cross-sectoral systems analysis of production, use and recycling of CO2 based products**

» [Mr. Sebastian Turnau](#), Prof. Stefan Bringezu

11:45am **Circular economy for sustainable development: Integrated model based assessment**

» [Mr. Neeraj Hanumante](#), Prof. Yogendra Shastri, Prof. Andrew Hoadley

10:30am **WS-02-Environmental footprint 5**

Room B

10:30am **New insights into global water scarcity footprints by integrating MRIO with detailed trade and water consumption data**

» [Dr. Stephan Pfister](#), Dr. Jan Weinzettel

10:45am **ENVIRONMENTAL ASSESSMENT OF MICROALGAE PRODUCTION AT SEMI-INDUSTRIAL SCALE: EVALUATION OF DIFFERENT PRODUCTION SCENARIOS INCLUDING INDUSTRIAL SYMBIOSIS, IDENTIFICATION OF KEY PARAMETERS AND EFFECT ON DOWNSTREAM PROCESSES**

» [Dr. Camilo Durán](#), Dr. Anne Ventura

11am **Wood Harvest caused by global trade: A multiregional input-output analysis**

» [Dr. Chang Yu](#), Prof. Sai Liang, [Ms. Qian Zhang](#), Dr. Jianchuan Qi

11:15am **Analyzing regional circular economy options, and how to convey this to practitioners**

» [Dr. Hale Cetinay](#), Dr. Benjamin Sprecher



Continued from **Wednesday, 10 July**

11:30am **Tradeoffs and Opportunities in Future West African Passenger Transport Systems**

» [Mr. T. Reed Miller](#), Prof. Edgar Hertwich

11:45am **whole building life cycle assessment of single family houses in BC with EPD methods: Results interpretation**

» [Mr. haibo feng](#), Prof. kasun hewage, Prof. rehan sadiq

10:30am **WS-03-Nexus of energy, water, food, and waste 4**

Room C

10:30am **Improving urban metabolism: environmental benefits of energy-integrated rooftop greenhouses**

» [Mr. Ioan Muñoz-Liesa](#), Mr. Mohammad Royapoor, Ms. Elisa Lopez Capel, Ms. Eva Cuerva, Ms. Violeta Vargas, Dr. Santiago Gassó, Dr. Alejandro Josa

10:45am **Comparing urban food system characteristics and actions in U.S and Indian cities from a multi-environmental impact perspective: toward a streamlined approach**

» [Dr. Dana Boyer](#), Prof. Anu Ramaswami

11am **Optimization of virtual water through re-wiring domestic food trade: A case study of US rice production**

» Ms. Nemi Vora, Mr. Colin Gillen, Prof. Oleg Prokopyev, [Prof. Vikas Khanna](#)

11:15am **Enhancing Cities' Performance: The Water-Energy-Food Nexus Implementation on Rooftops**

» Ms. Susana Toboso-Chavero, [Ms. Perla Zambrano](#), Dr. Xavier Gabarrell, Dr. Gara Villalba, Dr. Cristina Madrid-Lopez

11:30am **Unveiling the water-energy-capital nexus underpinning China's booming economy**

» [Mr. Quanliang Ye](#), Dr. Ranran Wang

11:45am **Urban organic waste recycling in China: potentials and benefits**

» [Ms. Xinjue Ke](#), Dr. Lishan Xiao, Prof. Yong-guan Zhu, Prof. weiqiang chen

10:30am **WS-04-Complex theories and tools for industrial ecology-2**

Room D

10:30am **Dynamic stock, energy and lifecycle analysis of residential buildings in the US**

» [Mr. Peter Berrill](#), Prof. Edgar Hertwich

10:45am **A Dynamic Input-Output Model for Evaluating Alternative Scenarios for Achieving Sustainable Development**

» [Dr. Stephen levine](#), Prof. Faye Duchin

11am **A New Metric for City Sustainability Based on Urban Scaling Theory**

» [Dr. Lorraine Sugar](#), Prof. Christopher Kennedy

11:15am **Capturing policy-induced rebound: A technology-rich life cycle general equilibrium approach**

» [Dr. David Font Vivanco](#)

11:30am **Rethinking LCA life-stages for transportation infrastructure**

» [Prof. Shoshanna Saxe](#)

11:45am **Integration of experiment, computer simulation and LCA for developing advanced recycling technologies - a case study on Cl recovery from PVC wastes**

» [Mr. Jiaqi Lu](#), Dr. Siqingaowa Borjigin, Dr. Shogo Kumagai, Dr. Yasuhiro Fukushima, Dr. Hajime Ohno, Dr. Tomohito Kameda, Dr. Yuko Saito, Prof. Toshiaki Yoshioka

10:30am **WS-05-Life cycle assessment, design, and management 03**

Room E

10:30am **How can forestry waste materials help BC to meet its greenhouse gas emission target?**

» [Mr. Haoqi Wang](#), Prof. Xiaotao Bi, Prof. Roland Clift



Continued from **Wednesday, 10 July**

- 10:45am **Neural Network Models for Estimating Ecotoxicity of Chemicals**
» [Ms. Ping Hou](#), Prof. Olivier Jolliet, Prof. Ji Zhu, Prof. Ming Xu
- 11am **Comparative Life-Cycle Assessment of Milk and Plant-Based Alternatives**
» [Ms. Courtney Grant](#), Prof. Andrea Hicks
- 11:15am **Estimated release of titanium dioxide from personal care products entering wastewater treatment plants**
» [Dr. Fan Wu](#), Dr. Matt Seib, Prof. Andrea Hicks
- 11:30am **Addressing the environmental impact of green water flows for water scarcity footprint**
» [Dr. Paula Quinteiro](#), Dr. Sandra Rafael, Dr. Pedro Villanueva, Dr. Brad Ridoutt, Dr. Luís Arroja, Dr. Ana Cláudia Dias
- 10:30am **WS-06-Complex theories and tools for industrial ecology-3**
Room F
- 10:30am **City-level multi-regional input-output model for urban planning and policies in China**
» Prof. Yafei Wang, [Prof. Yafei Wang](#)
- 10:45am **Urban metabolism indicators in the urban design process from the perspectives of stakeholders and urban designers**
» [Mr. Yan Song](#), Mr. Alexander Wandl, Prof. Arjan Van Timmeren
- 11am **A rigorous process to improve data quality via the application of a Pedigree Matrix**
» [Dr. Xiaobo CHEN](#), Dr. Jacquetta Lee
- 11:15am **Including Ecosystem Services in LCA - Applications and Implementation**
» [Mr. Shubhankar Upasani](#), Ms. Ruonan Zhao, Ms. Xinyu Liu, [Dr. Bhavik Bakshi](#)

- 11:30am **On the nature of innovations affecting photovoltaic system costs**
» [Dr. Goksin Kavlak](#), Ms. Magdalena Klemun, Dr. Ajinkya Kamat, Dr. Brittany Smith, Prof. Jessika Trancik
- 10:30am **WS-07-Industrial ecology contributing to SDGs 2030-1**
Room G
- 10:30am **Industrial Ecology and the Sustainable Development Goals: Helping to Meet the Challenge of Transformational Change**
» [Prof. Marian Chertow](#)
- 10:45am **The stock-flow-service nexus approach to social metabolism research: Material stocks as drivers of future greenhouse gas emissions**
» [Dr. Helmut Haberl](#), Dr. Dominik Wiedenhofer, Prof. Fridolin Krausmann
- 11am **Development of Missing Data Interpolation and Demand Prediction models for Energy Monitoring Data in Indonesian Industrial Sector**
» [Dr. Seiya Maki](#), Dr. Remi Chandran, Dr. Minoru Fujii, Dr. Tsuyoshi Fujita, Mr. YASUSHI SHIRAIISHI, Dr. Shuichi Ashina, Mr. Kenji Uchida, Mr. Norio Yabe, Dr. Retno Dewi, Dr. Ucok Siagian, Dr. Yi Dou
- 11:15am **Directions and Opportunities for Accelerated Achievement of SDG12 in Asia**
» [Prof. Masahiko Hirao](#), Dr. Tomohiro Tasaki, Dr. Yasuhiko Hotta, Prof. Norichika Kanie
- 11:30am **Rapid flood modelling in urban areas to understand the nexus between climate risk and equity - informing vulnerability and green infrastructure design**
» [Dr. Lin Zeng](#), Prof. Anu Ramaswami
- 11:45am **Mapping the urban material stocks in buildings and transport infrastructure: A case study of Beijing**
» [Mr. Ruichang Mao](#), Mr. Yi Bao, Mr. Yiran Chen, Prof. Zhou Huang, Prof. Gang Liu



Continued from Wednesday, 10 July

- 10:30am **Special session-13-Building a research community for the built environment's material stocks and flows**
Room H
Chaired by: Dr. Alessio Miatto
- 10:30am **Special session-14-Chinese Graduate Student Forum on Resource Sustainability**
Room I
Chaired by: Mr. Yang Guo
- 12pm **Lunch**
Canteen
- 1:30pm **Transfer**
- 2:30pm **Tour Group 1: The Great Wall; Tour Group 2: The Forbidden City**
- 6pm **Transfer**
- 7pm **Banquet**
Banquet venue B
- 9pm **Transfer**

Thursday, 11 July

- 8am **Registraton**
Auditorium
- 8:30am **ThS-01 Environmental footprint + Life cycle assessment, design, and management 1**
Room A

- 8:30am **Water productivity versus water scarcity: unsustainable water use in China's wheat production**
» Dr. Jing Huang, Dr. Brad Ridoutt, Dr. Kelly Thorp, Dr. Xuechun Wang, Mr. Kang Lan, Mr. Jun Liao, Ms. Xu Tao, Dr. Caiyan Wu, Prof. Jianliang Huang, Prof. Fu Chen, Dr. Laura Scherer
- 8:45am **Building material use and associated environmental impacts in China 2000-2015**
» Mrs. beijia huang, Dr. Tomer Fishman, Prof. weiqiang chen, Dr. Niko Heeren, Prof. Edgar Hertwich
- 9am **Abiotic depletion potentials (ADPs) for elements revisited**
» Dr. Jeroen Guinee, Mr. Laurant Van Oers, Dr. Reinout Heijungs
- 9:15am **Food, diet and embodied nitrogen and phosphorus emissions**
» Dr. Azusa Oita, Dr. Elizabeth Webeck, Prof. Kazuyo Matsubae
- 9:30am **A new global framework to assess aquatic biodiversity impacts of non-consumptive water use from reservoirs in Life Cycle Assessment**
» Mr. Martin Dorber, Dr. Francesca Verones
- 8:30am **ThS-02-Environmental footprint 6**
Room B
- 8:30am **Global characterisation factors for land use impacts on species richness considering habitat change, fragmentation, and loss**
» Mr. Koen Kuipers, Prof. Mark Huijbregts, Dr. Aafke Schipper, Dr. Roel May, Prof. Bente Graae, Prof. Francesca Verones
- 8:45am **The Water Footprint Assessment Framework: A spatially explicit water scarcity and water quality footprint of human supply chains**
» Mrs. Anna Schomberg, Prof. Stefan Bringezu
- 9am **Assessing environmental sustainability of Chinese regions based on footprints and planetary boundary**
» Dr. Fanxin Meng, Dr. Gengyuan Liu, Prof. Sai Liang, Dr. Zhifeng Yang



Continued from **Thursday, 11 July**

9:15am **Analysis of potential future application for the European Product Environmental Footprint (PEF)**
 » [Dr. Vanessa Bach](#), Dr. Annekatriin Lehmann, Mr. Nikolay Minkov, Prof. Matthias Finkbeiner

9:30am **Global environmental footprints of wind energy**
 » [Ms. Louise Christine Dammeier](#), Dr. Joyce Bosmans, Prof. Mark Huijbregts

8:30am **ThS-03-Urban sustainability 3**
 Room C

8:30am **The system impact of rider preferences in a shared autonomous vehicle system**
 » [Mr. Mustafa Lokhandwala](#), Dr. Hua Cai

8:45am **Shared Autonomous Vehicle Systems and their Impacts on a City's Sustainability**
 » [Ms. Ruoxi Wen](#), [Dr. Hua Cai](#), Dr. Chen Liang, Dr. Bo Wang, Dr. Yan Fu

9am **Towards developing a water governance model for sustainable water supply in cities**
 » [Ms. Amanda Gcanga](#), Prof. Mark Swilling, Prof. Gideon Wolvaardt

9:15am **Estimating energy use and associated carbon emissions for all cities in a country aligned with its national data: The Implementation of Bottom-up plus Top-down (Bot-Top) Method in the U.S. and China**
 » [Dr. Kangkang Tong](#), Prof. Anu Ramaswami

9:30am **Spatiotemporal Dynamics of Base Metal Stocks in the Jing-Jin-Ji Agglomeration, China**
 » [Mr. Linlin Duan](#), Dr. Lulu Song, Prof. weiqiang chen, Mrs. min hao

9:45am **One-million buildings rainwater harvesting in New York City**
 » Mr. Sjon van Dijk, [Dr. Ranran Wang](#)

8:30am **ThS-04-Life cycle assessment, design, and management-4**
 Room D

8:30am **Swedish Model of Public Transportation System for Cities in Developing Nations: A Case Study Evaluating Social Cost Benefit Analysis of Compressed Biomethane Fueled Transit Buses in Mumbai, India.**
 » [Prof. Venkata Krishna Kumar UPADHYAYULA](#), Mrs. Kavitha Shanmugam, Dr. Anju Baroth, Mr. Sachin Nande, Dr. Dalia Yacout, Prof. Mats Tysklind

8:45am **Are electric scooters polluters?**
 » [Dr. Jeremiah Johnson](#), Mr. Joseph Hollingsworth, Ms. Brenna Copeland

9am **Improving the fate of textile waste**
 » [Dr. Anders Damgaard](#), Mrs. Nynne Nørup, Mr. Kaj Pihl, Prof. Charlotte Scheutz

9:15am **Uncertainty of product system in life-cycle assessment of emerging technologies**
 » Mr. Carlos Felipe Blanco, [Dr. Stefano Cucurachi](#), Dr. Jeroen Guinee, Prof. Willie Peijnenburg, Prof. Martina Vijver, Dr. Reinout Heijungs

9:30am **Integrated assessment of food safety, environmental impacts and economic costs of antimicrobial systems in U.S. beef processing industry**
 » [Mr. Shaobin Li](#), Prof. Bruce Dvorak, Prof. Jeyam Subbiah

9:45am **Life Cycle Benefits of Lightweighting Autonomous Vehicles (AVs) Estimated from a Physics-based Model**
 » [Dr. Hyung Chul Kim](#), Dr. Tim Wallington

8:30am **ThS-05-Social-economic metabolism 1**
 Room E

8:30am **Can Recovery of Common Metals be Promoted by the Same Factor?**
 » [Prof. Ichiro Daigo](#), Mr. Masato Nakada, Prof. Masaaki Fuse, Dr. Takeo Hoshino, Prof. Manabu Enoki



Continued from **Thursday, 11 July**

- 8:45am **Understanding and managing residential buildings in Japan's transition toward a stock type society**
» [Ms. Wendy Wuyts](#), Dr. Alessio Miatto, Prof. Hiroki Tanikawa
- 9am **Constructing a High Resolution Grid Database for Anthropogenic Atmospheric Mercury Emissions in China**
» [Dr. Jianchuan Qi](#), Prof. Sai Liang
- 9:15am **A material flow analysis of lithium in the US and the world: 1990-2015**
» [Dr. Alessio Miatto](#), Prof. Thomas Graedel, Dr. Barbara Reck
- 9:30am **Strategies to reduce greenhouse gas emissions of the English housing stock**
» [Dr. André Cabrera Serrenho](#), Mr. Michal Drewniok, Dr. Cyrille Dunant, Prof. Julian Allwood
- 8:30am **ThS-06-Social-economic metabolism-2**
Room F
- 8:30am **Assessing urban water performance and management options using a metabolic framework**
» Dr. Seongpil Jeong, [Prof. Jooyoung Park](#)
- 8:45am **The power of Industrial Ecology as a myth-buster: how is information contributing to shaping Cape Town's hydrosocial system in crisis?**
» [Mr. Paul Currie](#), Prof. Josephine Musango
- 9am **Clustering the metabolism of nations: An assessment of material productivity and economic development of 60 nations**
» [Ms. Sónia Cunha](#), Prof. Carlos Silva, Prof. Paulo Ferrão
- 9:15am **Measurement of material use time as an indicator of efficient utilization of material stock**
» [Dr. Masahiro Oguchi](#), Prof. Seiji Hashimoto, Mr. Mitsunori Hirai, Prof. Ichiro Daigo

- 9:30am **Using Urban Metabolism to identify drivers of precarity and mitigation strategies in deprived households. The case of Reading, UK.**
» [Dr. Daniela Perrotti](#), Dr. Eugene Mohareb
- 8:30am **Special session-15-Managing national and global supply chain towards environmental sustainability**
Room G
Chaired by: Prof. Kuishuang Feng
- 8:30am **Changes in global trade patterns may contradict global mitigation efforts**
» [Dr. Kuishuang Feng](#), Mr. Weiming Chen, Prof. Laixiang Sun, Prof. Klaus Hubacek, Prof. Yalin Lei, Dr. Sanmang Wu, Prof. Yu Liu
- 8:45am **Environmental Implications of Trade Restrictions**
» [Dr. Mingxi Du](#), Dr. Lulu Chen, Prof. Jintai Lin, Prof. Kuishuang Feng, Prof. Yu Liu, Prof. Yu Zhao
- 8:30am **Special session-16-Conference travel by the ISIE community how to reduce emissions**
Room H
Chaired by: Dr. Stijn van Ewijk
- 8:30am **Special session-17-Is Industrial Ecology gender transformative**
Room I
Chaired by: Ms. Wendy Wuyts
- 10am **Tea and Coffe Break**
- 10:30am **Poster Sessions**
Poster venue
- 12:30pm **Lunch**
Canteen



Continued from **Thursday, 11 July**

1:30pm **ThS-07-Eco-civilization**
Room A

1:30pm **The coal and steel nexus in China's evolving infrastructure sectors**
» [Dr. Qian Zhang](#), Prof. Christopher Kennedy, Dr. Tao Wang, Dr. Wendong Wei, Dr. Jiashuo Li, Dr. Lei Shi

1:45pm **Climate benefits of increasing plant diversity in switchgrass grown on marginal soils for bioenergy**
» [Dr. Yi Yang](#), Prof. David Tilman, Prof. Timothy Smith

2pm **Hijacking Sustainable Consumption?**
» [Prof. Ralf Barkemeyer](#), [Dr. Phani Kumar Chintakayala](#), [Prof. William Young](#), Dr. Anne Owen

2:15pm **Exploring the Gamification of Climate Action**
» Prof. Lucienne Blessing, [Prof. Lynette Cheah](#), Prof. Dorien Herremans, Mr. Yuxuan (Derrick) Huang, Ms. Arpitha Nagaraja

2:30pm **Evaluation and prospect of the ecological civilization construction practice in China**
» [Dr. Xiaoyan Meng](#)

2:45pm **Spatial Demand Modeling: Calculating the Carbon Footprint of 13,000 Cities in the BYMARKA Project**
» [Dr. Daniel D Moran](#), Dr. Keiichiro Kanemoto, Prof. Thomas Wiedmann, Dr. Peter-paul Pichler, Dr. Johannes Tobben

1:30pm **ThS-08-Industrial ecology contributing to SDGs 2030-2**
Room B

1:30pm **The Global Long-chain Omega-3 Fatty Acid Balance**
» [Dr. Helen A Hamilton](#), Prof. Daniel Mueller

1:45pm **Mapping Steel stocks in Rapidly Urbanized China: 1978-2030**
» [Dr. Lulu Song](#), Prof. weiqiang chen

2pm **The Status and Issues of Pilot projects on Carbon Emissions Trading Scheme in China**
» [Ms. Yishu LING](#), Prof. Weisheng Zhou, Dr. Xuepeng Qian, Prof. Kenichi Nakagami

2:15pm **The challenges of financing energy efficiency in middle income countries**
» [Dr. Weslynnne Ashton](#), [Dr. Suzana Russell](#)

2:30pm **Does incentives to managers reduce greenhouse gas emissions of an organization? an empirical analysis**
» Ms. Valeria Naciti, [Prof. Sangwon Suh](#)

1:30pm **ThS-09-Social-economic metabolism-3**
Room C

1:30pm **System dynamics modeling for materials demand and environmental impact of urban residential buildings: A case study of Beijing, China**
» [Dr. Shoujuan Tang](#), Prof. Lixiao Zhang, Prof. Yuan Chang, Dr. Yan Hao, Prof. weiqiang chen, Prof. Ji Han

1:45pm **Tracking the fate of europium in mainland China from 1990 to 2015**
» [Dr. Qiaochu Wang](#), Prof. weiqiang chen, Dr. Luca Ciacci

2pm **The Industrial Ecology of Victorian Britain**
» [Prof. Christopher Kennedy](#)

2:15pm **Urban building material stock transition over time and space**
» [Ms. Jing Guo](#), Mr. Yao Wang, Dr. Heming Wang, Prof. Hiroki Tanikawa

2:30pm **The night light uncovers city's weight—A case study on estimating construction materials in Fuzhou, China**
» [Ms. Jiajia Li](#), Dr. Yupeng Liu, Mr. Shaoqing Dai, Ms. Keying Xiang, Dr. Huixian Jiang, Prof. weiqiang chen



Continued from **Thursday, 11 July**

2:45pm **Material stocks of developing nation, Lao PDR**
 » [Mr. Xaysackda Vilaysouk](#), Dr. Alessio Miatto, Prof. Heinz Schandl, Dr. Shinsuke Murakami

1:30pm **ThS-10-Industrial Ecology Management and Policy 2**
Room D

1:30pm **Eco-innovation in textile industrial cluster: case study from network perspective**
 » [Ms. Wei Cong](#), Dr. Xiao Li, Dr. Lei Shi

1:45pm **Sectoral energy-carbon nexus and policy alternatives for low-carbon cities**
 » [Prof. Dewei Yang](#)

2pm **Life Cycle Assessment of an Aquaponic Food Production System, Identification and Minimization of Environmental Hotspots**
 » [Mr. Ramin Ghamkhar](#), Dr. Chris Hartleb, Dr. Fan Wu, Prof. Andrea Hicks

1:30pm **ThS-11-Environmental footprint + Life cycle assessment, design, and management 2**
Room E

1:30pm **Evaluation of Variability in Upstream Greenhouse Gas Intensity of Canadian Oil Sands Operations**
 » [Dr. Ian Laurenzi](#), Ms. Andrea Orellana, Dr. Sylvia Sleep, Prof. Joule Bergerson, Prof. Heather Maclean

1:45pm **Sludge footprint: perspective from production, consumption and recycling**
 » [Dr. Lishan Xiao](#), Prof. Shinichiro Nakamura

2pm **Conceptualization of an indicator system for assessing the sustainability of the bioeconomy**
 » [Mr. Vincent Egenolf](#), Prof. Stefan Bringezu

2:15pm **Environmental Challenges and Opportunities of Lignin**
 » [Ms. Frida Hermansson](#), Dr. Matty Janssen, Prof. Magdalena Svanström

1:30pm **ThS-12-Open science for sustainability**
Room F

1:30pm **Implementation of the Stocks and Flows Database (STAFDB) in an open source online platform, MultipliCity**
 » [Dr. Rupert Myers](#), [Mr. Paul Hoekman](#)

1:45pm **Life cycle assessment of the decommissioning nuclear power plants**
 » [Ms. Shu-Mei Chien](#), [Prof. Yuh-Ming LEE](#)

2pm **The community-driven material intensity platform for IE open science**
 » [Dr. Niko Heeren](#), Dr. Tomer Fishman, Dr. Stefan Pauliuk

2:15pm **MultipliCity: an online stocks and flows data gathering and visualisation platform**
 » [Mr. Paul Hoekman](#), Dr. Aristide Athanassiadis

2:30pm **Urban Climate Change Strategies- Standalone or mainstream strategy- which one is better?**
 » [Dr. Oliver Heidrich](#), Dr. Diana Reckien, Dr. Monica Salvia

2:45pm **Transdisciplinary teaching- How can we educate scientists of the future?**
 » [Dr. Oliver Heidrich](#), Prof. Hayley J. Fowler, Prof. Ulrich Salzmann

1:30pm **Special session-18-How can industrial ecology contribute to eco-civilisation in cities of the Global South?**
Room G
 Chaired by: Mr. Paul Currie



Continued from **Thursday, 11 July**

- 1:30pm **Special session-19-Panel Discussion on Teaching Urban Sustainability**
Room H
Chaired by: Mrs. Tamar Makov
- 1:30pm **Special session-20-Industrial Ecology for Sustainable Plastics**
Room I
Chaired by: Prof. Sangwon Suh
- 1:30pm **The Plastics Footprint of Humanity**
» [Dr. Ranran Wang](#), Dr. Zhijie Li, Dr. Stefano Cucurachi, Dr. Stefano Merciai
- 1:45pm **Flows and stocks of disposable plastic carrier bags in the Netherlands**
» [Dr. Zhijie Li](#), Dr. Stefano Cucurachi, Dr. Ranran Wang, Dr. Stefano Merciai
- 2pm **Environmental implications of China's ban on post-consumer plastics import**
» [Ms. Yanan Ren](#), Dr. Lei Shi, Prof. Sangwon Suh
- 3pm **Closing Ceremony**
Auditorium

Tour

Group1 The Great Wall

Having a wonderful Great Wall tour is a must for one's China trip. The Great Wall was continuously built from the 3rd century BC to the 17th century AD on the northern border of the country as the great military defence project of successive Chinese Empires, with a total length of more than 20,000 kilometers.



Group2 The Forbidden City

The Forbidden City, located at the centre of Beijing, was the imperial palace of China for five centuries, until the early 20th century. It today houses the Palace Museum, one of China's largest national museums, with an extensive collection based on the former imperial collection.



Banquet

Yanqi Lake

The iconic Yanqi Lake complex, which was constructed for the 2014 Asia–Pacific Economic Co-operation (APEC) Summit, is situated close to the Mutianyu Great Wall in north-eastern Beijing – regarded as one of the municipality’s most environmentally friendly areas.



In the middle of the sprawling Yanqi Island stands the Beijing Yanqi Lake International Conference Centre (left), incorporating architectural influences from China’s Han and Tang Dynasties. The conference facility’s design takes influence from Beijing’s Ditan Temple and the Imperial Palace. Its blue roof, which resembles the wings of a swan, symbolises China’s exchanges with the international community.