

ISIE 2019 CONFERENCE PROGRAM

Monday, 8th July

Registration

Venue: Auditorium
Event Start: 08:00

Opening Ceremony

Chaired by: Dr. SHI Lei, ISIE 2019 Conference Chair
Venue: Auditorium
09:00 - 09:30

Opening remark by Prof. QIAN Yi
Opening remark by ISIE President Heinz Schandl
Introduction to ISIE2019 by Prof. Tsuyoshi Fujita

Plenary Session- China's Contribution to Eco-Civilisation

Chaired by: Prof. LI Jinhui
Venue: Auditorium
09:30 - 10:30

09:30 - 10:00 Prof. HAO Jiming Air pollution prevention and control: China efforts and experience
10:00 - 10:30 Prof. OUYANG Zhiyun Mainstreaming ecosystem services into governances in China

Tea and Coffee

10:30 - 11:00

| Session Title | MS01- Circular Economy: Recycling / EPR | MS02- Input-Output Analysis: Materials | MS03- Air Pollution | MS04- Building Energy / Modeling | MS05- IE and the Sustainable Development Goals | MS06- Energy Technologies | Special Session 01- Physical Supply-Use and Input-Output Tables: Methods for Generation and Applications | Special session 02- Sustainably Feeding the Growing World Population | Special Session 03- State-of-the-Art and Future Directions in the Study of the Built Environment's Stocks and Flows |
|---------------|---|--|--|---|--|---|---|---|---|
| Chaired by: | Dr. Fanran Meng (Univ Nottingham) | Dr. Chang Yu (Beijing Forestry Univ) | Dr. Jianchuan Qi (Beijing Normal Univ) | Dr. Xining Yang (Leiden Univ) | TBD- Dr. Marian Chertow (Yale Univ) | Dr. Minoru Fujii (NIES Japan) | Drs. Stefano Merciai (LCA 2.0) & Shweta Singh (Purdue Univ) | Drs. Helen A Hamilton & Daniel Mueller (NTNU) | Dr. Alessio Miatto (Yale Univ) |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 |
| 11:00 | E-waste and the socioeconomic implication of backyard recycling in China and Nigeria | Analysing the biophysical basis of iron and steel supply chain networks using a global physical input-output model | Constructing a High Resolution Grid Database for Anthropogenic Atmospheric Mercury Emissions in China | Simulating the heating energy demand of residential building stock: A GIS-based bottom-up model | Industrial Ecology and the Sustainable Development Goals: Helping to Meet the Challenge of Transformational Change | Industrial Smart Energy Sharing for promoting de-carbonized industrial park | Toward detailed physical tables for substance flow analyses | The efficiency and carbon footprint of the German meat supply chain | Presentation/ Discussion |
| | Kaustubh Thapa | Hanspeter Wieland | Jianchuan Qi | Xining Yang | Marian Chertow | Minoru Fujii | José Mogollón | Li Xue | |
| 11:15 | Proposition of Transformation Strategies for Recycling Industries through the Practices of Circular Economy | Novel Method for Analyzing and Tracking Supply-Chain Impacts and Application to Global Material Production | High resolution urban air quality mapping using fleet vehicles as mobile sensors | Impact of non-natural gas heating technologies on urban sustainability, using a quantitative GIS-based model | Directions and Opportunities for Accelerated Achievement of SDG12 in Asia | Evaluation of Variability in Upstream Greenhouse Gas Intensity of Canadian Oil Sands Operations | Input-Output Modeling for Nationwide Material Flow Analysis of Single-use Plastics | Animal welfare – A new extension for EXIOBASE and its application to dietary changes | |
| | Yuwei Lee | Livia Cabernard | Bu Zhao | Teun Verhagen | Masahiko Hirao | Ian Laurenzi | Jun Nakatani | Laura Scherer | |
| 11:30 | Current Carbon Fibre Recycling Technologies from a Life Cycle Sustainability Perspective | Embodied energy of copper consumption considering recycling | Will Air Pollution Affect the Regional Economy— A Case Study from the Spatial Perspective | Investigating patterns of electricity, gas, and water consumption in large-scale buildings using machine learning | The power of Industrial Ecology as a myth-buster: how is information contributing to shaping Cape Town's hydrosocial system in crisis? | Energy use of the blockchain: Moving from wild west to best practice energy analysis approaches | Computational approach to generate physical input output tables (PIOTs). | Internalizing External Costs of Industrial Agricultural Production – A Framework towards the True Pricing of Food | |
| | Fanran Meng | Tong Wang | Shurui Jiang | Ali Movahedi | Paul Currie | Eric Masanet | Venkata Sai Gargeya Vunnava | Amelie Michalke | |
| 11:45 | Economic feasibility of recycling rare earth oxides from end-of-life lighting technologies | Wood Harvest caused by global trade: A multiregional input-output analysis | Trans-provincial health impacts of atmospheric mercury emissions in China | The Potential for Emissions Reductions with Residential Demand Response | The Status and Issues of Pilot projects on Carbon Emissions Trading Scheme in China | Life cycle assessment of the decommissioning nuclear power plants | Discussion | Distinguishing environmental impacts of household food spending patterns among U.S. demographic groups | |
| | Yang Qiu | Chang Yu | Sai Liang | Jeremiah Johnson | Yishu Ling | Shu-Mei Chien | | Joe Bozeman III | |
| 12:00 | Evaluation on Producers' EPR Performance-based on the Self-disclosure Information of Enterprises | | Spatial dependence of air pollution's impact on urban economic development and its agglomeration characteristics | | The challenges of financing energy efficiency in middle income countries | Life cycle greenhouse gas emissions and freshwater consumption associated with Bakken tight oil | | The change of environmental and health impacts during the dietary transition in global developing countries | |
| | Zhaoxuan Luo | | Wei Fang | | Tianchu Lu | Ian Laurenzi | Pan He | | |
| 12:15 | Circular System Design: A case study on insulation material in Switzerland | | Site-specific particulate matter health impacts from global coal power generation | | Using Urban Metabolism to identify drivers of precarity in fuel-poor households. The case of Reading, UK | The optimum period of Power Purchase Agreement in Independent Power Producer : A case study of Taiwan | Possible influence of climate change on grain self-sufficiency at country level considering adaptation measures | | |
| | Maja Wiprächtiger | | Christopher Oberschelp | | Daniela Perrotti | Kungmien Ma | Taoyuan Wei | | |

Lunch

Venue: Canteen
12:30 - 14:00

| Session Title | MS07- Circular Economy: Theory | MS08- Input-Output Analysis: Innovations | MS09- Bioeconomy | MS10- Urban Mining | MS11- Integrated Assessment Models | Special Session 04- WWF-Water Stewardship at Multiple Scales (1) | Special Session 05- IE Advances in China (1) | Special Session 06- Policy Instruments in IE Models | Special Session 07 - Scenario Modelling in Industrial Ecology: Best Practices, Coherency, and State-of-the-Art | |
|---------------|---|---|---|---|---|--|---|---|--|--|
| Chaired by: | Dr. Xin Tian (Beijing Normal Univ) | Dr. Guangwu Chen (Beijing Normal Univ) | Dr. Yuh-Ming Lee | Paul Hoekman (ISIE) | Dr. Oliver Heidrich (Newcastle Univ) | Dr. Jinping Tian (Tsinghua Univ) | Dr. Ming Xu (Univ Mich) & Dr. Gang Liu (Univ Southern Demark) | Drs. Gjalt Huppés & René Kleijn (Leiden Univ) | Dr. Tomer Fishman (Interdisciplinary Center Herzliya) | |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 | |
| 14:00 | Critical review of CE evaluation approaches at company level | New insights into global water scarcity footprints by integrating MRIO with detailed trade and water consumption data | Towards a circular bio-economy: Evaluating ideals versus constraints for biogas feedstock availability in the Netherlands | Bottom up MFA for the urban built environment | Cars, EVs and battery recycling forecasts and economic models | Towards developing a water governance model for sustainable water supply in cities | Presentation/ Discussion Organizers: Ming Xu (University of Michigan) Gang Liu (University of Southern Demark) Wei-Qiang Chen (Institute of Urban Environment, Chinese Academy of Sciences) Lei Shi (Tsinghua University) | Introduction to the special session | Adopting econometric and data-driven approaches to material stock & flow scenarios | |
| | Erik Roos Lindgreen | Stephan Pfister | Dieu Linh Hoang | Shoshanna Saxe | Oliver Heidrich | Amanda Gcanga | | Gjalt Huppés | Tomer Fishman | |
| 14:15 | Evaluating Performance of Circular Economy Based on Ecological Network Analysis: a framework and application | Employment Footprints Accounting of Floating Population in Beijing | Climate benefits of increasing plant diversity in switchgrass grown on marginal soils for bioenergy | Weighing the importance of urban material stocks - A bottom-up case-study of Odense, Denmark | Accounting for unemployed capital in inclusive wealth | GHGs emission mitigation and water saving potentials in Chinese industrial parks by facilitating industrial symbiosis among infrastructure | | 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 | Using Scenarios from Integrated Assessment Models in Prospective LCA | |
| | Xin Tian | Rui Wang | Yi Yang | Maud Lanau | Rintaro Yamaguchi | Wanqiu Hu | | Tianchu Lu | Angelica Mendoza Beltran | |
| 14:30 | The Circular Economy in the Context of Regional Development: An Analysis of Literature | A Dynamic Input-Output Model for Evaluating Alternative Scenarios for Achieving Sustainable Development | Environmental Challenges and Opportunities of Lignin | Dynamic material flow and stock analysis of residential buildings integrating rural-urban land transition: A case of Shanghai | Macro-Economic modelling of material flows in the Circular Economy | Water withdrawals and consumption, and its impact on the sustainability of the national economy of the Peru | | Eivind Bjelle | Modelling future environmental impacts by using a demand model that integrates multiregional input-output analysis and agent-based modelling | Translating high-level scenarios and aggregate data to specific cases using super lists and matrix mathematics |
| | Emilia Faria | Stephen Levine | Frida Hermansson | Xiaofeng Gao | Jan Brusselaers | Alexis Dueñas | | | Timothy Baynes | |
| 14:45 | The Transition to a Circular Economy- The effects of Circular Business Models in the Socio-Economic Metabolism | Measuring carbon emission performance of industrial sectors in the Beijing-Tianjin-Hebei region, China: A stochastic frontier approach | Environmental Assessment of Microalgae Production at Semi-Industrial Scale | System dynamics modeling for materials demand and environmental impact of urban residential buildings: A case study of Beijing, China | Circular economy for sustainable development: Integrated model based assessment | Eco-innovation in textile industrial cluster: case study from network perspective | | Gjalt Huppés | Integrating policy instrumentation into Industrial Ecology modelling, or not | Historical Penetration Patterns of Automobile Electronic Control Systems |
| | Carlos Pablo Sigüenza | Chao Wang | Camilo Durán | Shoujuan Tang | Neeraj Hanumante | Wei Cong | | | Eliette Restrepo | |
| 15:00 | How to determine the circularity of real material systems | Influence factor analysis for energy requirements of urban and rural household consumption in China | Conceptualization of an indicator system for assessing the sustainability of the bioeconomy | Urban building material stock transition over time and space | Linking material flows to a national integrated energy model | The Water Footprint Assessment Framework: A spatially explicit water scarcity and water quality footprint of human supply chains | | Sangwon Suh, René Kleijn | Discussion: Ordering options for incorporating policy instruments in modelling | Strategies to reduce greenhouse gas emissions of the English housing stock |
| | Helmut Rechberger | Guangwu Chen | Vincent Egenolf | Jing Guo | Matthew Eckelman | Anna Schomberg | | | André Cabrera Serrenho | |
| 15:15 | Preferential material allocation for a circular economy: the challenges and possibilities of applying the cascading principle | FINEPRINT: a spatially explicit physical trade framework to trace environmental impacts of resource extraction along global supply chains | The Global Long-chain Omega-3 Fatty Acid Balance | MultiplCity: an online stocks and flows data gathering and visualisation platform | Predicting spatially explicit life cycle environmental impacts of crops under future climate scenarios with machine learning approaches | Evaluating the Performance of Four Chinese Industrial Parks against the International Framework for Eco-Industrial Parks (EIPs) | | Shi Han (UNIDO) | Discussion: When to accept inherent limitations in modelling policy instruments | |
| | Kieran Campbell-Johnston | Hanspeter Wieland | Helen A Hamilton | Paul Hoekman | Yulei Pang | | | | | |

Tea and Coffee

15:30 - 16:00

| Session Title | MS12- Circular Economy: Urban / Policy | MS13- Input-Output Analysis: Energy / Emissions | MS14- Complex Theories and Tools for IE | Special session 08- Urban Mining for a Circular Economy: Stocks and Flows of Materials in the Urban Environment | Special Session 9- Product Lifespans and Obsolescence | Special Session 04- WWF-Water Stewardship at Multiple Scales (2) | Special Session 05- IE Advances in China (2) | Special Session 10- Panel Discussion on Teaching Urban Sustainability | Special Session 11- Is Industrial Ecology Gender Transformative | | | | | | | | | | | | | | | | |
|---------------|---|---|---|---|--|--|---|---|---|---|---------------------------------|---------------------------------|---------------------------------|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Chaired by: | Dr. Weslyne Ashton (Illinois Inst Tech) | Dr. Keisuke Nansai (NIES Japan) | Dr. Heming Wang (Northeastern Univ China) | Dr. Ester van der Voet (Leiden Univ) | Dr. Colin Fitzpatrick (Limerick Univ) | Dr. Jinping Tian (Tsinghua Univ) | Dr. Ming Xu (Univ Mich) & Dr. Gang Liu (Univ Southern Demark) | Dr. Sybil Derrible (UI-Chicago) & Natalia Uribe (EUCCO) | Wendy Wuys (Nagoya University) | | | | | | | | | | | | | | | | |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 | | | | | | | | | | | | | | | | |
| 16:00 | Policy Analysis and Assessment of China's "Urban Mining" Model Base Construction Program: Practices and Lessons | City-level multi-regional input-output model for urban planning and policies in China | 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 | Presentation/ Discussion | The environmental impacts of preparation for reuse: The case of WEEE reuse in Germany | WWF Industrial Park Water Stewardship | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | | | | | | | | | | | | | | | | |
| | Jinghan Di | Yafei Wang | Heming Wang | | Sandra Boldoczki | Liu Yifeng (WWF-China) | | | | Panelists: Hua Cai, Purdue University, West Lafayette, IN, USA | | | | | | | | | | | | | | | |
| 16:15 | Urban metabolism and circular economy: a bibliometric analysis and an integrative review of the literature | Managing the Mitigation: Analysis of China's Provincial Carbon Transfer and Effectiveness of Mitigation Policies | A New Metric for City Sustainability Based on Urban Scaling Theory | | Planned Obsolescence in Smartphones; Insights from Benchmark Testing | Discussion | | | | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | | | | | | | | | | | | |
| | Emilia Faria | Yuning Gao | Lorraine Sugar | | Colin Fitzpatrick | | | | | | | | | Organizers: Ming Xu (University of Michigan) Gang Liu (University of Southern Demark) | | | | | | | | | | | |
| 16:30 | Circular economy: eight capitals as innovation lenses | PM2.5-driven economic losses generated by the global trade | Capturing policy-induced rebound: A technology-rich life cycle general equilibrium approach | | Get your Phone out of the Drawer: revealed and stated preferences | Vered Blass | | | | | | | | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | | | | | | | | |
| | Weslyne Ashton | Keisuke Nansai | David Font Vivanco | | Functionality-based Impact Assessment Framework for Information and Communications Technology (ICT) Products | | | | | | | | | | | | | | | | | | | | |
| 16:45 | Reframing Local Material Loops for Circular Economy at Community Level | Global Fossil Fuel Scarcity Driven by International Trade | A network analysis based management method for improving industrial eco-efficiency: a case study of the industrial system in Beijing | | Lin Shi | Lin Shi | | | | | | | | | | | | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | | | | |
| | Chen Liu | Cuiyang Feng | Xiaoqing Shi | | Product life of household appliances using the example of a repair shop over 15 years | | | | | | | | | | | | | | | | | | | | |
| 17:00 | Urban metabolism indicators in the urban design process from the perspectives of stakeholders and urban designers | Benefits and Impacts of the Green New Deal: A comprehensive examinations by applying dynamic Multi Regional Input Output Modeling Scenarios | Will the Transition to "Product as a Service" (PaaS) Increase the Willingness to Publish Corporate Sustainability Reports? | | Janis Winzer | Janis Winzer | | | | | | | | | | | | | | | | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion |
| | Yan Song | Thomas Gloria | Chia-Yu Lin | | Estimating global material trade based on the future global warming scenarios | | | | | | | | | | | | | | | | | | | | |
| 17:15 | | China's historical CO2 emission structure | Estimating global material trade based on the future global warming scenarios | Ryoko Morioka | Ryoko Morioka | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | Presentation/ Discussion | | | | | | | | | | | | | | | | |
| | | Chen Lin | | | | | | | | | | | | | | | | | | | | | | | |

Tuesday, 9th July

Registration

Venue: Auditorium
Event Start: 08:00

Plenary Session- Circular Metabolism and Climate

Chaired by: Prof. Tsuyoshi Fujita (National Institute of Environmental Studies)

Venue: Auditorium

08:30 - 10:00

Presenters and panelists:

Prof. Xuemei Bai (Australian National University, Australia)

Dr. Vered Blass (Tel Aviv University),

Prof. Arnold Tukker (Leiden University and TNO, Netherlands)

Tea and Coffee Break

10:00 - 10:30

| Session Title | TS01- Circular Economy: Waste | TS02- LCA Food | TS03- NEWFW: Energy-Water Nexus | TS04- Industrial Environmental Management and Policy | TS05- Metals Modeling | TS06- Sharing / Autonomous Vehicles | Special Session 12- Ex ante LCA of Emerging Technologies | Special Session 13- Evidence-based Decision Making for Industrial Ecology (1) | Special Session-14- Resource efficiency and Climate Change |
|---------------|---|---|---|--|--|--|--|---|--|
| Chaired by: | Maryegli Fuss (Karlsruhe Inst Tech) | Dr. Jingci Xie (Shandong Univ) | Dr. Chao Zhang (Tongji Univ) | Dr. Giuseppe Ioppolo (Univ Messina) | Dr. Ichiro Daigo (Univ Tokyo) | Dr. Hua Cai (Purdue Univ) | Dr. Stefano Cucurachi (Leiden Univ) | Dr. Xiao Li (Yale Univ) & Dr. Junming Zhu (Tsinghua Univ) | Dr. Tomer Fishman (Interdisciplinary Center Herzliya) |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 |
| 10:30 | Circular Economy: Evaluating Waste Scenarios of Consumer Products | Research on carbon footprint assessment system of food logistics | Scaling of Urban Energy and Water Flows and Typology of Chinese Cities | Analyzing regional circular economy options, and how to convey this to practitioners | Can Recovery of Common Metals be Promoted by the Same Factor? | Life Cycle Benefits of Lightweighting Autonomous Vehicles (AVs) Estimated from a Physics-based Model | Development and Interpretation of Future Scenarios in Life Cycle Assessment | Policy learning toward policy change in China: the case of circular economy policies | Development pathways of building stocks |
| | Madeline Somers | Jingci Xie | Shen Qu | Hale Cetinay | Ichiro Daigo | Hyung Chul Kim | Valentina Bisinella | Chengming Fan | Niko Heeren |
| 10:45 | Socio-integrated municipal solid waste management in an era towards circular economy and sustainable development measures: the case of Belo Horizonte | Predictive Spatial LCA Modeling of the U.S. Corn-Soy Production System with Dynamic Cost-Benefit Analysis | Quantifying the diversity of the water-energy-emission nexus | Determinants of Eco-Innovation: Environment Performance Outcome in Chinese Firms | A least-cost 2050 recycling technology roadmap to increase global end-of-life aluminum recycling rates | Environmental assessment of introducing car sharing in Mumbai Metropolitan Region transport network | Up-scaling techniques used in prospective life cycle assessment of chemical technologies – a review | Beyond efficiency: rebound effect and spillover effect of household climate actions | Closed-loop recycling of scrap alloys in passenger vehicles: Towards a consistent evaluation of its climate mitigation potential |
| | Maryegli Fuss | Luyi Hunter | Chunyan Wang | Sumit Roy | Yongxian Zhu | Deepjyoti Das | Natalya Tsoy | Yiming Liu | Qingshi Tu |
| 11:00 | Sludge footprint: perspective from production, consumption and recycling | Comparative Life-Cycle Assessment of Milk and Plant-Based Alternatives | Changing trends and driving forces of virtual water transfers in China's electricity transmission network | Do Corporate Governance Practices Affect Firms' Greenhouse Gas Emissions? | Opportunities for a transformed steel industry: a transparent and detailed analysis of UK steel flows | The system impact of rider preferences in a shared autonomous vehicle system | Environmental and economic assessment of a biorefinery concept for production of bulk and fine chemicals | Towards Policy Design for Sustainable Consumption and Production: From environmental policy to socio-economic technology policy | Dynamic stock, energy and lifecycle analysis of residential buildings in the US |
| | Lishan Xiao | Andrea Hicks | Chao Zhang | Sangwon Suh | Rick Lupton | Hua Cai | Matty Janssen | Yasuhiko Hotta | Peter Berrill |

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|-------|---|---|--|--|---|--|--|---|---|
| 11:15 | Tracking e-waste flows in China: a road map | Assessment of food safety, environmental impacts and economic costs of antimicrobial systems in U.S. beef processing industry | Unveiling the water-energy-capital nexus underpinning China's booming economy | Circular Industrial Ecosystems for Smartphones: The Case of a Telco Operator | Life Cycle Strategies for Material Criticality Mitigation: A Case of Neodymium | 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 | Discussion | Industrial symbiosis potential and urban infrastructure capacity in Mysuru, India | Material efficiency and its contribution to climate change mitigation in Germany – A scenario analysis until 2050 |
| | Xin Tong | Shaobin Li | Quanliang Ye | Ferdinand Revellio | Peng Wang | Akinari Son | | Stefano Cucurachi (CML Leiden University) | Matthew Gordon |
| 11:30 | Waste value separation – the path to organic and plastic waste separation and recycling in the periphery of Beijing | Life Cycle Assessment of an Aquaponic Food Production System, Identification and Minimization of Environmental Hotspots | The Role of Phosphorus in Chinese Resilient Water-Energy-Food Security Nexus: from Biofuel Perspective | Evaluating industrial sustainability: a cross-country comparison | Environmental impacts of the life cycle of gold extraction in the Peruvian Amazon | Shared Autonomous Vehicle Systems and their Impacts on a City's Sustainability | Jeroen Guinee (CML Leiden University) Joule Bergerson (University of Calgary) | | More for less: Deeper and more affordable decarbonization of the US light-duty vehicle sector is possible |
| | Susanne Hartard | Ramin Ghamkhar | Xiuheng Wang | Giuseppe Ioppolo | Ramzy Kahhat | Hua Cai | | | Paul Wolfram |
| 11:45 | | | | Approaching Natural Carbon Sequestration in Campus Sustainability | Resilience in the supply chains of Cobalt | Are electric scooters polluters? | | | |
| | | | | Michael Charles | Benjamin Sprecher | Jeremiah Johnson | | | |

Lunch

Venue: Canteen

12:00 - 13:30

| Session Title | TS07- Environmental Footprint: Consumption | TS08- LCA and Circular Economy | TS09- NEWFW: Energy-Water-Food Nexus | TS10- Management and Policy: Public | TS11- MFA Innovations | TS12- Transportation | Special Session 15- EID 2.0? Pathway to Smart Eco-Industrial Development: Theories, Practices and Lessons on Smart Industrial Parks and Cities | Special Session 13- Evidence-based Decision Making for Industrial Ecology (2) | Special Session 16- Managing National and Global Supply Chain towards Environmental Sustainability |
|---------------|---|---|---|--|--|---|--|--|--|
| Chaired by: | Dr. Lin Zeng (Univ of Minnesota) | Jiaqi Lu (Tohoku Univ) | Rachel Greer | Dr. William Young (Univ of Leeds) | Dr. Alessio Miatto (Yale Univ) | T. Reed Miller (Yale Univ) | Dr. Arnold Tukker (Leiden Univ) | Dr. Xiao Li (Yale Univ) & Dr. Junming Zhu (Tsinghua Univ) | Dr. Kuishuang Feng (Univ of Maryland) |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 |
| 13:30 | What is the consumption-based land use footprint of urban and rural residents in USA? | Life Cycle Assessment of Woody Biomass Ash Valorisation in Construction Materials | Integrated Optimization Analysis of Urban Food-Energy-Water Nexus Based on Systematic Mathematical Modeling Approach: A Case Study of Beijing | Evaluation and prospect of the ecological civilization construction practice in China | Dissipation of metals: An interdisciplinary approach to a comprehensive phenomenological study | Rethinking LCA life-stages for transportation infrastructure | Presentation/ Discussion | Behavioral public policy for sustainable consumption: social comparison for residential water conservation | Changes in global trade patterns may contradict global mitigation efforts |
| | Lin Zeng | Ana Cláudia Dias | Pengpeng Zhang | Xiaoyan Meng | Thomas Kippes | Shoshanna Saxe | | Zhen Du | Kuishuang Feng |
| 13:45 | Assessing low-carbon lifestyles of consumer segments: An integrated analysis of consumer expenditure survey and time-use survey microdata | Eco-efficiency assessment of technological innovations in high-grade concrete recycling | Food-Energy-Water-CO2 Nexus of Technological and Agro-Ecological Alternatives for Sustainable Watershed Management | Analysis of potential future application for the European Product Environmental Footprint (PEF) | Measurement of material use time as an indicator of efficient utilization of material stock | Health and Climate Benefits of EV Deployment in the Greater Toronto and Hamilton Area | Opening by Prof. Arnold Tukker (Leiden University) SIPs introduction by Prof. Hong Ren (Chongqing University) | Will China peak its energy-related carbon emissions by 2030? Evidence from 30 Chinese provinces | Environmental Implications of Trade Restrictions |
| | Ryu Koide | Chunbo Zhang | Kyuha Lee | Vanessa Bach | Masahiro Oguchi | Yijun Gai | | Yiqi Tang, Kai Fang, Bofeng Cai, Libin Cao | Mingxi Du |
| 14:00 | What is my share? Assessing the environmental impacts of secondary consumption | How can forestry waste materials help BC to meet its greenhouse gas emission target? | A Study of Differential Household Food-Energy-Water-Waste Nexus Metabolisms: Reflections on Bottom-Up Resource Accounting. | Evaluation of Influential Factors and Possible Interventions towards Prevention of Waste Disposal in Open Spaces in Phnom Penh, Cambodia | Industrial reactive nitrogen flow analysis focusing on Japanese economy | Examining real-world variation of heavy freight vehicle emissions using GPS and driver activity survey data | SIPs achievement: Smart Eco-industrial development – theories, practices and lessons by Prof. Lei Shi (Tsinghua University) | Campaign-style governance in Environmental Protection Policy: An Empirical Study on China's Central Environmental Inspection | Driving forces of changes in CO2 emissions of China |
| | Vered Blass | Haoqi Wang | Paul Currie | Pagnarith Srun | Kiwamu Katagiri | Lih Wei Yeow | | Xufeng Zhu, Yue Wang | Chen Pan |

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|-------|--|---|--|------------------------------------|--|---|---------------------|--|---|--|
| 14:15 | Linkages between national culture and metal footprint | Improving the fate of textile waste | Drivers and barriers for institutionalizing emergent cross-sectoral symbioses at the food-energy-water nexus | Hijacking Sustainable Consumption? | A material flow analysis of lithium in the US and the world: 1990-2015 | Impact of Capital on the American Carbon, Energy, and Material Footprint | Tsinghua University | How Do Incremental Policies Contribute to a Sustainable Energy Transition? | Urban carbon flows across China driven by four megacities | |
| | Xinzhu Zheng | Anders Damgaard | Rachel Greer | William Young | Alessio Miatto | T. Reed Miller | | Clinton J. Andrews | Shaoping Chen | |
| 14:30 | Connecting Research and Practice of Sustainable Conference Events: Case Study at the University of Illinois at Chicago | Integration of experiment, computer simulation and LCA for developing advanced recycling technologies – a case study on CI recovery from PVC wastes | Enhancing Cities' Performance: The Water-Energy-Food Nexus Implementation on Rooftops | | Re-examination on Estimation Methods for WEEE Generation in China | 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 | | Discussion | | |
| | Junjun Zheng | Jiaqi Lu | Perla Zambrano | | Huiting Huang | Venkata Krishna Kumar Upadhyayula | | | | |
| 14:45 | | Literature review towards a life cycle-based multi-criteria decision analysis of CO2-utilization technologies | Food-Energy-Water Footprints of Household Consumption in Columbus, Ohio and Their Correlation with Demographic Characteristics | | Spatial and Temporal Patterns of Wind Power In-Use Stocks in China | | | | | |
| | | Junling Meng | Kyuha Lee | | Juhua Yang | | | | | |

Poster Session I (Student Judging) & Tea and Coffee Break

Venue: Poster venue
15:00 - 16:30

Section Meetings

Event Start: 16:30

| | | | | | | | | | |
|---------|--|-------------------------------|---|---------------------------|---------------------------|--|--------------------------------------|--|--|
| Section | | Students/ Young Professionals | Industrial Symbiosis & Eco-Industrial Development | Sustainable Urban Systems | Socio-Economic Metabolism | Environmentally-Extended Input-Output Analysis | Life Cycle Sustainability Assessment | | |
| Venue | | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | | |

ISIE Annual General Meeting

Chaired by: Heinz Schandl, ISIE President
Venue: 5102
Event Start: 19:00

Wednesday, 10th July

Registration

Venue: Auditorium
Event Start: 08:00

Plenary Session-Global Supply Chains and Environmental Footprints

Chaired by: Prof. Matthew Eckelman (Northeastern University)
Venue: Auditorium
08:30 - 10:00

Presenters and panelists:

Prof. Richard Wood (Norwegian University of Science and Technology, Norway)
Prof. Manfred Lenzen (University of Sydney, Australia)
Prof. Dabo Guan (University of East Anglia, UK)
Prof. Kazuyo Matsubai (Tohoku University, Japan)

Tea and Coffee Break

10:00 - 10:30

| Session Title | WS01- Environmental Footprint: Ecological | WS02- LCA Industry | WS03- NEWFW: Agriculture System / Food Waste | WS04- MFA Metals | WS05- National Metabolism | WS06- Forecasting | WS07- Industrial Symbiosis and Eco-Industrial Development | Special Session 17- Industrial Ecology for Sustainable Plastics | Special Session 18- Towards the next generation of EEIOA: Spatially-explicit Integration of LCA, MFA, and IOA |
|---------------|---|--|---|--|---|---|--|--|--|
| Chaired by: | Dr. Richard Wood (NTNU) | Dr. Matt Eckelman (Northeastern Univ) | Dr. Ning Ai (UI-Chicago) | Dr. Peng Wang (CAS) | Dr. David Font Vivanco | Dr. Oliver Heidrich (Newcastle Univ) | TBD | Dr. Sangwon Suh (UC Santa Barbara) | Prof. Arnold Tukker (Leiden Univ) |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 |
| 10:30 | Develop a Coherent Accounting Method of Aquatic Ecosystem Services Valuation based on Emergy: A case of China | Evaluating the Global Environmental Impacts of Different Silver Nanoparticle Synthesis Methods Using Life Cycle Assessment | Urban typologies and building use for non-profit and commercial urban rooftop agriculture in cities: a Mediterranean case study | Scenarios for future copper demand and supply in China | The role of services and capital in footprint modelling | The future of energy conversion efficiency | Identifying Life Cycle Symbiosis (LCS) Opportunities to Promote End of Life Solar Photovoltaic Recovery | The Plastics Footprint of Humanity | Presentation/ Discussion Participants: Arnold Tukker (Leiden University-CML) José Mogollon (Leiden University-CML) |
| | Qing Yang | Sila Temizel Sekeryan | Perla Zambrano | Di Dong | David Font Vivanco | Leonardo Paoli | Nehika Mathur | Ranran Wang | |
| 10:45 | Tracking national progress relative to planetary boundaries | Renewable Carbon Feedstock for Polymers: Environmental Benefits from the Synergistic Use of Biomass and CO2 | Increasing resource circularity by integrating urban agriculture and decentralized organic waste management | Mapping Steel stocks in Rapidly Urbanized China: 1978-2030 | Material stocks of developing nation, Lao PDR | The limited impact electro mobility will have on reaching climate change mitigation targets | Greenhouse Gas Mitigation and Environmental Co-benefits in Chinese Industrial Parks by Decarbonizing Energy Infrastructure | Flows and stocks of disposable plastic carrier bags in the Netherlands | Presentation/ Discussion Participants: Arnold Tukker (Leiden University-CML) José Mogollon (Leiden University-CML) |
| | Richard Wood | Marvin Bachmann | Till Weidner | Lulu Song | Xaysackda Vilaysouk | Oliver Heidrich | Yang Guo | Zhijie Li | |
| 11:00 | Provincial human appropriation of net primary production aboveground in China | Life Cycle Assessment of Industrial Scale Production of Spirulina Tablets in China | Food Waste Management: A Comparative Study of China and the U.S. | An Estimation of Steel Alloy Elements Focusing on End-of-life Vehicles | Brakes on the circular economy: global lessons from examining U.S. material flows | The coal and steel nexus in China's evolving infrastructure sectors | Integration of biorefineries for waste valorization in Ulsan Eco-Industrial Park, Korea | Environmental implications of China's ban on post-consumer plastics import | Presentation/ Discussion Participants: Arnold Tukker (Leiden University-CML) José Mogollon (Leiden University-CML) |
| | Xueqi Wang | Wenguang Zhou | Ning Ai | Zhengyang Zhang | Daniel Cooper | Qian Zhang | Izhar Hussain Shah | Yanan Ren | |

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|-------|--|---|--|---|--|--|---|-------------------|--|
| 11:15 | Global characterisation factors for land use impacts on species richness considering habitat change, fragmentation, and loss Koen Kuipers | Life Cycle Assessment of Rare Earth Oxides Production in China: A Comprehensive Analysis Yu Liu | Addressing the environmental impact of green water flows for water scarcity footprint Paula Quinteiro | A dynamic Waste-Input-Output MFA of the circularity of steel with focus on Cr and Ni Shinichiro Nakamura | Clustering the metabolism of nations: An assessment of material productivity and economic development of 60 nations Sónia Cunha | Future material demand and recycling potential of global electric vehicle batteries Chengjian Xu | Developments in Industrial Symbiosis Scholarship, 1992-2017: Bibliometric analysis using library databases and Google Scholar Koichi Kanaoka | Discussion | Stefan Pauliuk (Freiburg University) Hanspeter Wieland (Vienna University of Economics and Business) Janet Salem (UNEP ROAP) |
| | Assessing environmental sustainability of Chinese regions based on footprints and planetary boundary Fanxin Meng | Life cycle GHG Emissions of Pharmaceutical Drugs Matthew Eckelman | Development of an Urban FEW nexus online analyzer to support urban circular economy strategy planning Jingyan Xue | Spatiotemporal Dynamics of Base Metal Stocks in the Jing-Jin-Ji Agglomeration, China Linlin Duan | Waste Input-Output Analysis of Prefectures in Japan to Promote Sound Material Cycles by Using Data in Official Reports Collected for Waste Management Yasushi Kondo | Eco-industrial development in Ethiopia: the case of Hawassa Industrial Park Doryn Negesa | | | |
| 11:45 | Including Ecosystem Services in LCA - Applications and Implementation Shubhankar Upasani | Life cycle assessment of feedstock alternatives for the production of light olefins Florian Keller | Improving urban metabolism: environmental benefits of energy-integrated rooftop greenhouses Joan Muñoz-Liesa | Tracking the fate of europium in mainland China from 1990 to 2015 Qiaochu Wang | The stock-flow-service nexus approach to social metabolism research: Material stocks as drivers of future greenhouse gas emissions Helmut Haberl | Towards a methodological framework for developing estimates of non-hazardous industrial waste generation at a high spatial resolution in the U.S. Xiao Li | | | |

Lunch

Venue: Canteen
12:00 - 1:30

Transfer to Tours

13:30

Tour Group 1: The Great Wall; Tour Group 2: The Forbidden City

Tour Start: 14:30

Transfer to Banquet / Transfer from Tours

18:00

Banquet

Venue: Banquet venue B
19:00 - 21:00

Transfer from Banquet to Conference Venue

21:00

Thursday, 11th July

Registraton

Venue: Auditorium
Event Start: 08:00

| Session Title | ThS01- Environmental Footprint: Water | ThS02- LCA / LCSA Methods (1) | ThS03- Urban Carbon | ThS04- Open Science / Communication | ThS05- Sustainable Production | ThS06- Building Metabolism | Special Session 19- Chinese Graduate Student Forum on Resource Sustainability | Special Session 20- How can IE Contribute to Eco-Civilisation in Cities of the Global South? | Special session 21- Developments in Hybrid Life Cycle Assessment |
|---------------|---|---|---|--|---|--|---|--|---|
| Chaired by: | TBD | Dr. Bernhard Steubing (Leiden Univ) | Dr. Lu Sun (NIES Japan) | Dr. Rupert Myers (Univ Edinburgh) | Dr. Shaurat Chopra (City Univ HK) | Dr. Lizhen Huang (NTNU) | Yang Guo (Tsinghua Univ) | Paul Currie (ICLEI Africa) & Christina Culwick (Gauteng City) | Dr. Thomas Wiedmann (UNSW Sydney) |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 |
| 08:30 | Trends and patterns in the contributions to water use from different anthropogenic drivers | Neural Network Models for Estimating Ecotoxicity of Chemicals | What determines cities' adaptation actions: evidence from 221 cities globally | Exploring the Gamification of Climate Action | Cutting CO2 emissions from U.S. steel consumption 70% by 2050 | Understanding and managing residential buildings in Japan's transition toward a stock type society | Presentation/ Discussion | Presentation/ Discussion | Hybrid LCA routines in an input-output virtual laboratory applied to precinct carbon footprint assessment |
| | Ranran Wang | Ping Hou | Beibei Liu | Lynette Cheah | Nicole Ryan | Wendy Wuylts | | | Thomas Wiedmann |
| 08:45 | Scarcity-Weighted Water Footprint and Virtual Water Trade in the Belt and Road Region: an Environmental Input-Output Analysis | A new global framework to assess aquatic biodiversity impacts of non-consumptive water use from reservoirs in Life Cycle Assessment | CO2 emission characteristics and spatial distribution in mega cities- comparative study in China, Japan and South Korea | The community-driven material intensity platform for IE open science | Introduction to evaluating Industrial Symbiosis Activities from a life cycle perspective - A Life Cycle Sustainability approach | Creating land by materials? An important feature of China's urbanization | | | The streamlined hybridization of Life Cycle Assessment and Environmentally Extended Input-Output databases, application to Ecoinvent and Exiobase |
| | Qingyan Liu | Martin Dorber | Lu Sun | Niko Heeren | Shauhrat S. Chopra | Jiajia Li | | | Maxime Agez |
| 09:00 | Virtual scarce water trade and saving within China | Comparing ecoinvent and Exiobase with a special focus on impact assessment results | Urban Climate Change Strategies- Standalone or mainstream strategy- which one is better? | Implementation of the Stocks and Flows Database (STAFDB) in an open source online platform, MultipliCity | Development of Missing Data Interpolation and Demand Prediction models for Energy Monitoring Data in Indonesian Industrial Sector | Mapping the urban material stocks in buildings and transport infrastructure: A case study of Beijing | | | LiSET: a method for the lifecycle screening of emerging technologies |
| | Xu Zhao | Bernhard Steubing | Oliver Heidrich | Rupert Myers | Seiya Maki | Ruichang Mao | | | Christine Roxanne Hung |
| 09:15 | Optimisation based analysis of water-footprint of the Indian diet | Abiotic depletion potentials (ADPs) for elements revisited | Spatial Demand Modeling: Calculating the Carbon Footprint of 13,000 Cities in the BYMARKA Project | | The Market Response to the Central Environmental Re-inspection: Impacts on Heavy Pollution Industry | Building material use and associated environmental impacts in China 2000-2015 | | | Discussion |
| | Pranjal Jhaveri | Jeroen Guinee | Daniel D Moran | | Di Chen | Beijia Huang | | | |
| 09:30 | Water productivity versus water scarcity: unsustainable water use in China's wheat production | Depletion and criticality as parts of comprehensive assessment of natural mineral resources? | | | Exergy efficiency of production processes by industries as an indicator in sustainability assessment | Urbanization Induced Consumption of Building Materials | | | |
| | Jing Huang | Hampus André | | | Junxi Liu | Georg Schiller | | | |
| 09:45 | | Quantifying Social Sustainability in Supply Chain Optimization | | | Benefits of plant-level Substance Flow Analysis – Application to carbon reporting in an Al smelter | | | | |
| | | Lukas Messmann | | | Romain Billy | | | | |

Poster Session II & Tea and Coffee Break

Venue: Poster venue
10:00 - 12:00

Lunch

Venue: Canteen

12:00 - 13:30

| Session Title | ThS07- Environmental Footprint: Food | ThS08- LCA / LCSA Methods (2) | ThS09- Urban Water | ThS10- Renewable Energy Transition | ThS11-Technological Innovation | ThS12- IE Education / Design | Special Session 22- Conference Travel by the ISIE Community: How to Reduce Emissions | Special Session 23- Progress on Open Science in Industrial Ecology | |
|---------------|---|---|--|--|---|---|--|--|------|
| Chaired by: | Dr. Mihály Dombi (Univ Debrecen) | Hanjiro Ambrose (UC Davis) | Ranran Wang (Univ Twente) | Goksin Kavlak (MIT) | Dr. Liang Dong (City Univ HK) | Dr. Matan Mayer (IE University) | Dr. Stijn van Ewijk (Univ Coll London) & Paul Hoekman (ISIE) | Dr. Rupert J Myers (Univ of Edinburgh) | |
| Venue: | 5101 | 5102 | 5103 | 5104 | 5105 | 5201 | 5202 | 5204 | 5205 |
| 13:30 | Locating the mitigation potential of environmental impacts within the urban food supply chain | Multi-Actor Life Cycle Sustainability Prioritization under Hybrid Information: A Methodological Framework | Rapid flood modelling in urban areas to understand the nexus between climate risk and equity – informing vulnerability and green infrastructure design | Parametric LCA of CCHP system integrated with solar energy and energy storage | Comparative cross-sectoral systems analysis of production, use and recycling of CO2 based products | The effects of BIM input data quality on LCA results | Presentation/ Discussion | Presentation/ Discussion | |
| | Yuanchao Hu | Jingzheng Ren | Lin Zeng | Junchen Yan | Sebastian Turnau | Matan Mayer | | | |
| 13:45 | Diets, inequalities, food flows, food miles and environmental sustainability of urban food systems: Analysis of nine Indian cities | Methods to Decompose Uncertainties in Life Cycle Assessment | Comparative analysis on urban flood countermeasures based on life cycle thinking: A comparison between sponge city and drainpipe replacement projects | Global environmental footprints of wind energy | Potentials and limits of Carbon Capture and Usage to close the carbon cycle in the German chemical and polymer sector | Product lifecycle management as an enabler of circular product design | | | |
| | Dana Boyer | Yuwei Qin | Xuezhou Fan | Louise Christine Dammeier | Simon Kaiser | Anna Diaz Tena | | | |
| 14:00 | Trends and international trade's impact on food nitrogen and phosphorus footprints | r-LCA – A Framework for integrating impacts from accident-related risks in Life Cycle Assessment | Resilience from combining centralized and decentralized infrastructure | On the nature of innovations affecting photovoltaic system costs | Environmental Impacts of Phosphorus Recovery in Wastewater Treatment | Transdisciplinary teaching- How can we educate scientists of the future? | | | |
| | Azusa Oita | Alvin Ee | Valerie Thomas | Goksin Kavlak | Andrea Hicks | Oliver Heidrich | | | |
| 14:15 | Spatio-temporal variability of urban Horeca food consumption and its environmental effects in China | Uncertainty of product system in life-cycle assessment of emerging technologies | One-million buildings rainwater harvesting in New York City | Considering critical materials in a strategic planning for the German Energy Transition – discussing the relevance and supporting measures | Co-benefits and trade-offs: Impacts on sectorial eco-efficiency from eco-industrial development (EID) | Sustainable Thinking: A Systematic Approach to Practicable Industrial Ecology | | | |
| | Yunyun Li | Stefano Cucurachi | Sjon van Dijk | Maryegli Fuss | Liang Dong | Levon Kusseyan | | | |
| 14:30 | Food consumption and natural resources: analysis of material flows and stocks, GHG emissions and land use of the food supply chain in Hungary | A Novel Method of Propagating and Analyzing Uncertainty in Life Cycle Assessment | Assessing urban water performance and management options using a metabolic framework | Geothermal power in China: Development and performance evaluation | Estimated release of titanium dioxide from personal care products entering wastewater treatment plants | Integrating Building Information Modelling (BIM) in Life Cycle Assessment for Early Stages of Design | | | |
| | Mihály Dombi | Hanjiro Ambrose | Seongpil Jeong | Mingyue Pang | Fan Wu | Amanda Ng Qi Boon | | | |
| 14:45 | Comparing urban food system characteristics and actions in U.S and Indian cities from a multi-environmental impact perspective: toward a streamlined approach | A rigorous process to improve data quality via the application of a Pedigree Matrix | | | | Whole building life cycle assessment of single family houses in BC with EPD methods: Results interpretation | | | |
| | Dana Boyer | Xiaobo Chen | | | | Haibo Feng | | | |

Closing Ceremony

Chaired by: Dr. Lei Shi, ISIE 2019 Conference Chair

Venue: Auditorium

Event Start: 15:00

Student Posters

| ID | Title | Name |
|----|---|-------------------------------|
| 1 | Chinese Graduate Student Forum on Resource Sustainability | Yang Guo |
| 2 | Automated Content Analysis of Life Cycle Assessment Research from 2001 to 2018 | Xuda Lin |
| 3 | A systematic method for ex-ante assessment of critical factors for the economic and environmental performance of emerging concepts | John Laurence Esguerra |
| 4 | Strategies to Reduce the Global Carbon Footprint of Plastics | Jiajia Zheng |
| 5 | Origins and dynamics of industrial symbiosis networks in India | Simran Talwar |
| 6 | A critical appraisal of eco-industrial initiatives within a pharmaceutical manufacturing region: the case of Jawaharlal Nehru Pharma City in southern India | Simran Talwar |
| 7 | Integrating remote sensing and life cycle assessment to quantify the environmental impacts of mining: The case of Lao PDR | Kamrul Islam |
| 8 | How circular can plastic flows be? – A project on developing plastic recycling scenarios for Switzerland while minimizing both environmental impacts and health risks | Maja Wiprächtiger |
| 9 | Sustainable Development Goals in Smart City Initiatives in China's Greater Bay Area | Mushan Jin |
| 10 | Blockchain Technology for Tracing Circularity of Material Flows | Nallapaneni Manoj Kumar |
| 11 | The universal scaling law of national development | Chenyang Shuai |
| 12 | The Evolution of Global Polyethylene Waste Trade: Decades of Balance Tipped by New Challenges | Wen Xu |
| 13 | Life cycle GHG emissions of Battery electric vehicles in China | Xin Sun |
| 14 | An Ecological Thermodynamic approach to Urban Metabolism - A Case Study of Singapore | Ling Min Tan |
| 15 | Exploring global waste paper trade patterns based on complex network | Zijie Ma |
| 16 | Mapping e-waste generation potential in China's 288 cities: 1990-2050 | Wanjun wang |
| 17 | The stationarity and long-term persistence of urban products: de-trended fluctuation analysis | Chuke Chen |
| 18 | Aluminium Losses and Reduction Potential Analysis in China: 1990-2018 | Hao-Jie Lu |
| 19 | Life Cycle Greenhouse Gas Emissions of Current and Future Light Duty Electric Vehicles | Hanjiro Ambrose |

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| 20 | Revisiting China's tungsten domination with dynamic material cycle analysis | Linbin Tang |
| 21 | Organizational arrangements, Industrial Ecology and Circular Economy: an integrative literature review and research agenda | Emilia Faria |
| 22 | Global Drivers of Chinese Waste Plastics Import | QIAO HUANG |
| 23 | Electric vehicles and a circular economy: the case of cobalt in lithium-ion batteries in the EU | Joris Baars |
| 24 | Urban dietary changes and linked carbon emission: A case study of Beijing | Xin Xiong |
| 25 | A Review of Stocks and Flows Information Systems | Zoe Petard |
| 26 | Closing the loop on plastics: insights into the recycled plastic flows in the EU | Wan-Ting Hsu |
| 27 | Developing a classification tool for biomass feedstocks used in the production of biofuels | Jin Wook Ro |
| 28 | Recycling strategies for China's solar photovoltaic industry in Yangtze River Delta | Haofan Yu |
| 29 | A decision-tool for managing the end-of-life of commercial lighting | Lixi Liu |
| 30 | The indirect carbon emissions of Beijing's migrant population | Lixiao Xu |
| 31 | Evaluation of environmental impact of car sharing considering distributions of possible influential variables | Katsuya Tsuji |
| 32 | Spatial Estimation of Potential Wood Resources in Japan's Man-made Forests | Naho Yamashita |
| 33 | Estimating Direct Energy Rebound Effect in German Manufacturing Sectors in Translog Cost Function Approach – Does Sectoral Aggregation Matter? | Gilang Hardadi |
| 34 | Analysis of citizens' perceptions of risk of nuclear power plants | Minhee Son |
| 35 | Combining Computable General Equilibrium Model and Life Cycle Assessment for Carbon Footprint Projections in Japan | Yuki Ichisugi |
| 36 | The Impact of Construction Bubble and Bust on Employment: A Dynamic Material Flow Analysis Approach | Qiance Liu |
| 37 | Case Study of Benefit Assessments of Promoting Corporate Sustainability and Circular Economy | Yuh-Ming Lee |
| 38 | Material consumption trends in South Korea, China and USA: A temporal study from 1978-2017 | Da-Ye Lee |
| 39 | Environmental Benefits of Environmental Trade with Better choices | Chanwoo Kim |
| 40 | Indonesian ex-mined land reclamation: behind the fact of their performance | Imam Eko Setiawan |
| 41 | Analysing resource efficiency enhancement: A study on South Korea, China and United States | Yujin Park |
| 42 | Categorization of products and their lifespan: from consumer's perspectives | Haruhisa Yamamoto |

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| 43 | Country-specific climate footprints of electricity mixes and battery electric vehicles in Europe | Christine Roxanne Hung |
| 44 | Material flow trends with economic growth in Vietnam relative to China and South Korea | Ta Thi Huong |
| 45 | A Survey of Societal Friendliness for the Elderly - A Case Study of Penghu County, Taiwan | Yu-Tzu Chang |
| 46 | Life cycle environmental impact considerations in the design of soybean oil-based paint monomers | Zoriana Demchuk |
| 47 | Carbon Emissions Assessment Based on College Students' Mobile Phone Usage Habits —Taking Peking University as an example | Anying Zhang |
| 48 | The contribution of the circular economy to the Brazilian textile sector | Emilia Faria |
| 49 | Linking sustainable development goals to metal demand and supply - A case study on energy use and environmental impacts of the global copper cycle | Stefanie Klose |
| 50 | Urban Metabolism of the four main Danish cities | Maud Lanau |
| 51 | The missing link to company reporting of circular economy performance: An overview of current reporting trends | Katelin Opferkuch |
| 52 | Depletion and criticality as parts of comprehensive assessment of natural mineral resources? | Hampus André |
| 53 | Quantifying the U.S. Households' Environmental Footprints | Li Song |
| 54 | The Input-output Analysis of Plastic Flow | Yutong Jin |
| 55 | Environmental impact and productivity analysis for improved capacitance deionization (CDI) schemes | Huan-Yu Shiu |
| 56 | Adopting economic statistical areas as spatial scales in urban metabolism analysis | Hsueh-Hsun Li |
| 57 | Application of GIS (Geo-information System) in Circular Economy | Ziyue Chen |
| 58 | Understanding the sharing limit in dynamic ride sharing | Mustafa Lokhandwal a |
| 59 | A multi-objective optimization method to realize sustainable upgrade of wastewater infrastructure | Chen Li |
| 60 | Emissions-based Integration of Input-Output Life Cycle Assessment with the National Energy Modeling System (NEMS) | Kaixin Huang |
| 61 | All cars run on renewables: Comparing material degradation and renewal in vehicle fuel life cycles | Joe Bozeman |
| 62 | A system dynamics modelling approach for managing municipal solid waste: The case of Shanghai, China | Shijiang Xiao |
| 63 | Environmental benefits of alternative distribution system for agricultural products based on regional traffic network | Solhee Kim, Yooan Kim |
| 64 | Life cycle assessment of recycled plastics from waste household appliance dismantling industry | Hui Hua |

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| 65 | Accurate Measurement Method of Water Pollution Load in Small Watershed of Urbanization Area | Yujie Zhuang |
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General Posters

| ID | Title | Name |
|-----|--|------------------------|
| 82 | Characterizing the potential environmental benefits of nAg enabled consumer products | Andrea Hicks |
| 83 | Teaching Sustainability Through Community Based Learning | Andrea Hicks |
| 85 | Life cycle impact of titanium dioxide nanoparticle synthesis through physical, chemical, and biological routes | Fan Wu |
| 86 | Challenges in Quantifying Environmental Impacts of Waste-Based Biofuels in EU and US Biofuel Policies | Fanran Meng |
| 87 | Wind Turbine Blade End-of-life Environmental Impact | Fanran Meng |
| 88 | Measuring the Sustainability of Circular Economy | Maja Wiprächtiger |
| 89 | Emissions and reduction potentials for the ISIE international conferences | Paul Hoekman |
| 90 | ESSENZ 2.0 – a method to assess abiotic resource use in the context of sustainable development | Vanessa Bach |
| 91 | Non-fossil fuel development and its future impact on carbon emissions in China | Rong Yuan |
| 92 | The Environmental Impacts of Converting Municipal Solid Waste into Butanol and Ethanol | Fanran Meng |
| 93 | Emissions and cost savings of adopting flexible nested blanking for flat steel in the automotive industry | André Cabrera Serrenho |
| 94 | Metal and mineral resources in LCIA – The SUPRIM project | Jeroen Guinee |
| 95 | Consumption-based target setting | Mo Li |
| 96 | Material resource efficiency, circular economy and raw material supply in Europe | Theo Geerken |
| 97 | Comparative Environmental Payback and Life Cycle Impact of Novel Carbon Dioxide Capture Technologies | Fan Wu |
| 98 | Cafe Waste and Upcycling to reconnect people, materials and places | Oliver Heidrich |
| 99 | Growing importance of national responsibility in domestic plastic treatment after China's import ban | Tong Xu |
| 100 | Recommendation of daily pro-environmental behaviors through brief questions with attractive interface | Kiyo KURISU |
| 101 | Assessing the effect of uncertainties associated with input streams on | Nwike Iloeje |

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| | recycling as a circular economy intervention | |
| 102 | Measuring the sustainability impact of circular economy practices: a systematic literature review from an industrial ecology perspective | Anna M. Walker |
| 103 | Interactive Visualization and Industrial Ecology: Applications, Challenges, and Opportunities | David Font Vivanco |
| 104 | Faraday Challenge ReLiB Project - 2nd Life Lithium-ion Batteries Life Cycle Assessment | Ruisheng Li |
| 105 | Life cycle assessment of recycled plastics from end-of-life electronic products | Xiaomei Jian |
| 106 | The material dependence of urbanization in China | Yupeng Liu |
| 107 | Analysis on waste generation of plastic intravenous bags: A case study of Beijing | Keying Xiang |
| 108 | The effect of provincial industrial transfer on China CO2 emission reduction | Lu Lin |
| 109 | Evaluation of circular economy strategies through multilevel Statistical Entropy Analysis | Alexej Parchomenko |
| 110 | Organizational Life Cycle Assessment (O-LCA) and Organizational Environmental Footprint (OEF): a comparative literature review. | Michele Del Grosso |
| 111 | Life cycle assessment of the second use of lithium-ion batteries from hybrid and electric vehicles | Matty Janssen |
| 112 | Environmental modeling of concrete waste management combining local MFA, LCA and economic models | Anne Ventura |
| 113 | Effects of Land Use Change on Firm-Specific Supply Chain Greenhouse Gas Emissions across Meat & Biofuel Industries | Rylie Pelton |
| 115 | Inspecting material flows and productivity through the lens of economic complexity | Yang Li |
| 117 | Consumer lifestyles and climate change: Assessing the mitigation potentials of lifestyle changes for the Paris Agreement targets | Ryu Koide |
| 118 | Collaborative Evaluation and Obstacle Factors Diagnosis of Industrial Ecosystem — An Empirical Analysis Based on 14 Cities in Liaoning Province | Chengpeng Lu |
| 119 | Growth and Change in National Biodiversity Footprints, 1993-2015 | Daniel D Moran |
| 120 | Round wood carbon stock flow footprint based on the multi- regional input-output analysis | Chang Yu |
| 121 | A System Analysis Approach of Climate Change Responses for Energy Infrastructure | Yu-Tsang LU |
| 122 | Life cycle greenhouse gas emissions from biomass crop production at farm scale | Paul Adler |
| 123 | Driving forces of N input into urban food systems—comparing a food-source with a food-sink city | WEI HUANG |
| 124 | Measuring the value created through the life-cycle of wood resource: The Japanese case | Sebastien Dente |

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| 125 | Driving forces of food system nitrogen flows in different Chinese cities, 1990 to 2015 | Bing Gao |
| 126 | Mapping the flow of steel in the United States | Daniel Cooper |
| 127 | Global plastic waste flow changes and the responses in South Korea | Munsol Ju |
| 128 | Uncovering the opportunities and challenges of waste heat exchange in mega-cities: A simulation in Tokyo Metropolitan Area | Yi Dou |
| 129 | The Impact of household heterogeneity on the urban metabolism—from the MSW perspective | Ling Han |
| 130 | Material flow and stock analysis toward an evaluation of recovery potential of copper in Japan | Ryosuke Yokoi |
| 131 | Resource efficiency assessment of coupled Infrastructures - Results from a Delphi-survey in Germany | Georg Schiller |
| 132 | A fast, flexible and updateable method for mapping data reconciled resource flows | Yongxian Zhu |
| 133 | Construction minerals demand and supply in Hanoi Region | Georg Schiller |
| 134 | Comparing dock-based, dockless, and hybrid bike share systems regarding bike supply: a case study of Chicago | Zhaoyu Kou |
| 135 | An evaluation system for green and low carbon technology in China | Ru Guo |
| 136 | How can the “Follow the Things” method serve the social dimension of Industrial Ecology? - the case of tortillas in Mexico | Wendy Wuyts |
| 137 | Eco-efficient sewage sludge fuel production by utilization of renewable heat source with environmental infrastructure - A case study in Kitakyushu | Noboru Yoshida |
| 138 | Mapping water footprint of China: Exploring its distribution, sources and driving factors | Yiling Xiong |
| 139 | Designing the Best Network for LCA: Life Cycle Modeling based on Parametric Uncertainty and Network Complexity | Bhavik Bakshi |
| 140 | Dynamic Life Cycle Assessment and Resource Modelling of Lithium for Batteries | Hanjiro Ambrose |
| 141 | A novel framework for industrial ecology to support sustainable healthcare | Jair Santillan |
| 142 | Maker City Venlo – engaging society with the Circular Econom | Tanya Tsui |
| 143 | Exploring urban metabolism typologies: the case study of the Metropolitan City of Milan, Italy | Gabriela Fernandez |
| 144 | SDGs VRPlay for KIDS: Children education on metabolism solutions using virtual reality | Gabriela Fernandez |
| 145 | Modelling impacts of marine plastic litter on marine biodiversity: A life cycle impact assessment effect factor approach | John Woods |
| 146 | Siting charging stations for a growing electric vehicle fleet | Mustafa Lokhandwala |

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| 147 | The Environmental Impact of Electricity Generation: Agent-Based Modeling of Residential Solar Adoption | Andrea L. Hicks |
| 148 | Life cycle assessment of power batteries used in electric bicycles in China | Wenqiu Liu |
| 149 | The need for a more sustainable campus in its Strategic Framework 2018-2024 | Layla van Ellen |
| 150 | Life cycle greenhouse gas emissions of U.S. LNG used for international power generation | Ian Laurenzi |
| 151 | Urban Organic Waste Recycling in China: Potentials and Benefits | Xinjue Ke |
| 152 | Sectoral energy-carbon nexus and policy alternatives for low carbon cities | Dewei Yang |
| 153 | A comparative environmental life cycle assessment of electricity generation systems: Steam reforming-based hydrogen vs. natural gas | Daye Lee |