Monday, 30 June

8am **Registration**
Level 1

9am **9th Symposium on Industrial Ecology for Young Professionals (SIEYP)**
Auditorium 2, LT52 and LT53 (Levels 1 & 2)

9am **18th Industrial Symbiosis Research Symposium (ISRS)**
LT50, Level 1
Chaired by: Mr. Koichi Kanaoka

3:30pm **Registration**
Level 1

4:30pm **Welcome reception**
Education Resource Centre (ERC), Level 1

Tuesday, 1 July

8am **Registration**
Level 1

9am **Opening ceremony -**
Opening ceremony
Auditorium 2, LT52 and LT53 (Levels 1 & 2)

9:30am **Opening keynote -**
Keynote by Xuemei Bai - Translating Planetary and Earth System Boundaries for Cities and Businesses
Auditorium 2, LT52 and LT53 (Levels 1 & 2)
Chaired by: Prof. Lynette Cheah

10:30am **Tea -**
Tea break
Levels 1, 2 & 3

11am **Keynote by Heinz Schandl - Circular Transitions in a Resource-Intensive World: Insights from the Global Resources Outlook for Asia and the Pacific**
Auditorium 2, Level 1 & 2
Chaired by: Prof. Stefanie Hellweg

11am **Keynote by Anu Ramaswami - Transforming Urban Provisioning Systems in India toward Decarbonization, Health, Wellbeing and Inclusion: Empirical Data and Model Insights**
LT52 and LT53, Level 2
Chaired by: Prof. Arnold Tukker

12pm **Lunch -**
Lunch
Levels 1, 2 & 3

1pm **Poster session 1**
Levels 1 & 3

Continued from **Tuesday, 1 July**

Connecting sustainability culture and literacy: A comparative case study
» Ms. Audrey Stanton, Dr. Missy Nergard, Prof. Andrea Hicks

Spatially Explicit Optimization of Straw Utilization Based on Multi-Sectoral Potential Demand
» Mr. Wenrui Shen, Prof. Ling Han, Mr. Fuye Li, Dr. Xin Tong, Prof. Gang Liu, Mr. Songrui Tang, Ms. Xiao Li

Assessing the Carbon Handprint of China's EV Exports: Regional Impacts and Trends
» Mr. Tianxing Shang

Deep Learning-Assisted Satellite Image Analysis and Application Design for Land-Use and Land-Cover Change Monitoring in Mining Activities
» Mr. Satayu Parinayok, Dr. Junbin Xiao, Prof. Matsubae Kazuyo, Prof. Yoko Yamakata

Carbon mitigation effect of wood cascading in Korea: Focus on biogenic carbon accounting
» Ms. Gieun Lee, Prof. Jooyoung Park

Regional Carbon Emission Reduction Responsibility Allocation Based on the Perspective of Industry Chain Synergistic Emission Reduction： a Case Study of Jiangxi Province
» Dr. Yunsheng Xie, Dr. HUIJING DENG

Contributions of Direct Land Use Change and Albedo Change Impacts to the Carbon Footprint of Concentrated Solar Power Facilities in the United States
» Mr. Santiago Cisneros Castillo, Dr. Marie-Odile Fortier

LCARSIN: The UK LCA Regulatory Science and Innovation Network
» Dr. Alex Newman, Prof. Rachael Rothman, Dr. Stuart Walker

An Integrated Assessment of Climate Change and Normative Documents for Healthcare Buildings
» Mrs. Asma Amamou, Prof. Oliver Heidrich, Dr. Stephen Blenkinsop

Shaping Carbon Accounting Practices: The Impact of Educational Background
» Ms. Anastasiya Valakhanovich, Prof. Stéphane = Trébucq, Prof. Guido Sonnemann

ASSESSING THE SUSTAINABILITY AND PROTEIN EFFICIENCY OF PELAGIC RESOURCES TO PRODUCE MARINE INGREDIENTS
» Mr. David Baptista de sousa, Dr. Ian Vazquez-Rowe, Dr. Ramzy Kahhat

From residual biomass to bio-based products and molecules at country scale: where to focus for high impact in a jungle of possibilities.
» Mr. Nicolas Lienart, Dr. Thibaut LECOMPTE, Prof. Lorie Hamelin

Sustainable Water Management from Green Education based on a Coupled Time Series Clustering and Agent-Based Model
» Dr. Yacong HU, Prof. Lyujun Chen, Prof. Jinping Tian

A Framework for Developing Efficient Resource and Environmental Policies Based on Monetary Valuation
» Mr. Shuntian Xu, Prof. Junming Zhu

NdFeB magnet supply for sustainable development requires both natural and technology resources governance
» Ms. Leng Zhihui, Prof. Han Sun, Prof. Jinhua Cheng, Mr. Qiance Liu, Prof. Gang Liu

Green development pathways of China's industrial parks from the synergy of land, energy and environmental factors
» Mr. Hanbo Gao, Ms. Jiayue Zhang, Prof. Jinping Tian, Prof. Lyujun Chen

Continued from **Tuesday, 1 July**

Resource and the environmental burdens of excessive construction in China urban housing sector
» Dr. han tu, Dr. Shoujuan Tang, Dr. Hang Fu, Dr. Liu Guangxin, Dr. Yang Li, Prof. Lei Shi

Mass balanced Nitrogen and Phosphorus environmental extensions for FABIO
» Dr. Nicolas Navarre, Mr. Kevin P. Morgan-Rothschild, Dr. José Mogollón

Role of India's road sector in achieving the net zero goal set by Indian government
» Mr. Praveen Kumar, Dr. Raja Chowdhury, Mr. Sachin Kumar

Optimization of steel scrap recycling considering bins
» Dr. Kentaro Takeyama, Prof. Takeo Hoshino

Environmental Footprint of Cantonese Cuisine: A Life Cycle Assessment of 500 Dishes Using the IDEA Database
» Mr. yifan li, Prof. Yin Long

Examining the evolving mechanisms of intersectoral and interregional transmissions in response to extreme weather events in China
» Mr. 相辉 吝, Dr. Pengpeng Zhang, Ms. 鑫磊 梁, Ms. 丽芳 张

Mapping Global Trade Dynamics of Energy Transition Metals: A Network Analysis of Structural Changes and Trade Dependencies
» Mr. Yashar Perhat, Prof. Shinsuke Murakami

Life Cycle Assessment of Plastics based on Modularization Method
» Dr. Liu Guangxin, Prof. Lei Shi

Toward the Construction of an Energy Poverty Forecasting Framework
» Ms. Takako Mochida, Dr. Andrew Chapman

Assessing GHG emissions and water footprints of projected electricity portfolios in China, Europe, and the US to 2050
» Ms. Yan Du, Prof. Julie Zimmerman

Developing automated methods for life cycle inventory modeling and environmental product declaration (EPD) generation
» Mr. Zirui Tang, Dr. Qingshi Tu

The Hidden Impact: Exploring Uncertainties in Server Hardware Carbon Footprinting
» Ms. Anagha Belavadi Subramanya, Dr. Noman Bashir, Ms. Julia Xia, Dr. Ajay Gupta, Ms. Melissa Zgola, Prof. Gregory Norris, Prof. Elsa Olivetti

Validation of Carbon Footprint Proxy Process-Based Emission Factor Selection Methods
» Mr. Abhinav Taliyan, Dr. Nina Domingo, Dr. Geoffrey Guest, Dr. Bharathan Balaji, Mr. Stephen Yoshida, Dr. Jared Kramer, Dr. Jeremie Hakian

Scope 3 emissions in stainless-steel production: relevance and impact on organization carbon footprint
» Mr. Luca Testini, Mr. Alessandro Misul, Mr. Vincenzo Morreale, Mr. Philippe Brocard, Ms. Livia Persico, Prof. Davide Mombelli, Prof. Giovanni Dotelli

Firm-Level Heterogeneity in CO Emissions in International Aviation: The Case of Japan
» Ms. Sakura Murabe, Ms. Kaoru Tsuda, Prof. Shigemi KAGAWA

Hydro versus Pyro: An environmental analysis of lithium-ion battery recycling processes
» Ms. Shannon Davies, Dr. Mohammad Ali Rajaeifar, Prof. Volker Pickert, Prof. Oliver Heidrich, Dr. Farouk Tedjar

Spatially-refined building stock modeling to evaluate the impact of building system improvements, climate change, and clean electricity on decarbonizing China's residential sector
» Dr. Mengyuan Dang, Prof. Chunli Chu, Prof. Zhi Cao

Continued from **Tuesday, 1 July**

The Living Lab for Sustainable Resilience in Military Settings Through Interconnectivity
» Dr. Myra Giesen, Prof. Oliver Heidrich

Life Cycle Environmental Impact and Disposal Strategy Selection of Wind Turbine Blades Based on Uncertainty Analysis
» Ms. Ziqi Wang, Dr. Huimin Chang, Dr. Changqing Xu, Dr. Ruru Han, Dr. Xiaohui Lu, Mr. Rentao Ouyang, Prof. Nan Li, Prof. Ming Xu

Climate change aggravates the overconsumption of added sugar in the U.S. especially in disadvantaged groups
» Dr. Pan He, Ms. Zhuojing Xu, Dr. Duo Chan, Prof. Pengfei Liu, Dr. Yan Bai

What is the new role of thermal energy storage as a load-following capability in the energy supply and demand structure?
» Dr. Shoma Fujii, Prof. Yasunori Kikuchi

Life cycle assessment of bamboo products for non-renewable substitution: consideration of carbon sequestration, end-of-life treatment and product life time
» Dr. HUIJING DENG, Ms. Shasha Liu, Dr. Yunsheng Xie

A Comparative Life Cycle Assessment of Mechanical Recycling vs. Incineration of Marine Debris and Post-Consumer Waste Plastics: Environmental Impacts and Sustainability Insights
» Ms. Mandy-Tanita Brinkmann, Ms. Cara Megill, Dr. Jennifer M. Lynch

Optimizing China's CCUS Incentives for Effective Integration with Carbon Markets
» Ms. Kang Jianing, Mrs. Zhao Yang, Mr. Zhang Yunlong

Research on typical industry energy consumption and carbon emission based on standards for norm of energy consumption per unit production
» Mr. Zeshi Feng, Prof. Jinping Tian, Prof. Lyujun Chen

Environmental benefits and trade-offs of carbon and nutrient circularity for peri-urban agriculture: The case of pruning residues in the Metropolitan Area of Barcelona
» Mr. Juan David Arosemena, Mr. Guido Evangelista, Ms. Erin Untereiner, Dr. Gaia Stringari, Dr. Susana Toboso-Chavero, Prof. Gara Villalba Mendez

Who is the public and what do they want? A review of public attitudes towards large-scale solar
» Ms. Sika Gadzanku

Assessing the Carbon Reduction Potential of Urban Recyclable Waste under Different Collection Methods: A Case Study in China
» Dr. Xiang Li, Prof. Gang Liu

AI-driven Carbon Footprint Accounting of Domestic Photovoltaic Modules in China
» Mr. Zhengyuan Feng, Dr. Yang Li, Dr. Shoujuan Tang, Dr. Liu Guangxin, Prof. Lei Shi

Optimization of Green Development Pathways for Hydrogen Energy Based on Life Cycle Assessment
» Ms. Simeng Chen, Dr. Huimin Chang, Dr. Xiaohui Lu, Dr. Ruru Han, Dr. Jing Guo, Prof. Ming Xu

CO2 Reduction Potential Through Entity-Based Management Efficiency in Japan's Fisheries
» Mr. Hisashi Ito, Mr. Taiga SHIMOTSUURA, Dr. Tomoaki Nakaishi, Prof. Shigemi KAGAWA

Greenhouse gas footprints of nations significantly reshaped by sink changes
» Dr. Yumeng Li

How does green hydrogen emerge, thrive and dominate in China: industrial drivers and systematic impacts
» Mr. Yusheng Guan, Mr. Kangxin An, Prof. Can Wang

Continued from **Tuesday, 1 July**

Dynamic life cycle assessment of reinforced concrete and engineered timber buildings
» Mr. Alperen Yayla, Mr. Augustin Danneaux, Ms. Estelle Schurer, Mr. Meng Gao, Dr. Çagatay Demirci, Dr. Rupert Myers

Environmental Sustainability Assessment Framework for Circular Economy Systems: Accounting for pathway changes of recyclates across multiple lifecycles
» Mr. Mubin Song, Prof. Jooyoung Park

Data-Driven Strategies for Circular Construction: Predicting Post-Demolition Material Supply and Demand Using AI and Geospatial Analysis
» Ms. Cagla Keles, Mr. Pedram Bazrafshan, Dr. Fernanda Cruz Rios, Dr. Arvin Ebrahimkhanlou

Leveraging Large Language Models to Enhance Life Cycle Assessment
» Dr. Chuke Chen, Mrs. Jiayi Yuan, Prof. Nan Li, Dr. Huimin Chang, Mr. Wenjie Shi, Mr. Yihang Zhou, Prof. Ming Xu, Mrs. Si Zhang, Dr. Jing Guo

Digitalisation and AI-Enhanced Circular Bioeconomy: Bridging Industry, Society, Governance, and Environment for a Sustainable Future
» Dr. Anthony Halog, Ms. Kahei (Chelsey) Kwok, Ms. Charly McIntyre

Dynamic Material Flow Analysis and Life Cycle Assessment of a Commercial Building Stock: Insights into Environmental Impacts and Circular Economy Opportunities
» Ms. Rahaf Hasan, Prof. Melissa Bilec

Integrating Environmental Life Cycle Assessment and Land Use Modelling to Guide Sustainable Agriculture
» Dr. Jessica Bosseaux, Dr. Eugene Mohareb

Associations of socioeconomic status with dietary macronutrient composition and sustainability in Australia: a geometric analysis
» Ms. Yifei Ma, Dr. Navoda Liyana Pathirana, Dr. Amanda Grech, Dr. Mengyu Li, Prof. Manfred Lenzen, Prof. David Raubenheimer

Addressing data availability concerns in Social Life Cycle Assessment through a critical review on the United States manufacturing sector
» Ms. Megan Jermak, Mr. Arjun Ramshankar, Prof. Joe Bozeman III, Ms. Sarah Cribb

The Phase-Out of Fossil Fuel Subsidies and Global Just Transition
» Mr. Donghao Duan

Global Land Carbon Storage Loss driven by Mining Critical Metals for Energy Transition
» Ms. Shiwen Gong, Prof. Yutao Wang, Dr. Bin Chen, Dr. Huajun Yu

Leveraging the stocks of bulk non-metallic building materials in Hong Kong
» Mr. Hongzhou WANG

A Novel Tool for Generating Hybrid LCA Databases
» Mr. Michael Weinold, Prof. Guillaume Majeau-Bettez, Dr. Tapajyoti Ghosh

Green building blocks for climate change mitigation technologies
» Dr. Yang Li, Dr. Frank Neffke

Flows of end-of-life portable lithium-ion batteries and effectiveness of existing battery collection systems
» Dr. Masahiro Oguchi, Dr. Atsushi Terazono, Mr. Kazuo Hasunuma, Mr. Shotaro Nakanishi

The role of cross-laminated timber in reducing GHG emissions across Chinese provinces
» Dr. Lili Tian, Prof. Chunli Chu, Prof. Zhi Cao

Continued from **Tuesday, 1 July**

Using a Machine Learning Framework for Natural Language Processing to Create a High-Resolution Carbon Emission Map for Urban Manufacturing

» Mr. Tianyu Wang, Prof. Fengying Yan, Mr. Jian Ma, Ms. Xiaoping Zhang, Prof. Liang Dong

Pathways for Reducing CO2 Emissions Through Decoupling Processes: A Global Multi-Regional Structural Decomposition Analysis

» Ms. Waka Nishifuji, Prof. Shigemi KAGAWA

The multilayer network revealed systematic risks and propagation pathways of the global cobalt supply chain in the green transition

» Mr. Xin Ouyang, Dr. Litao Liu, Dr. Qiance Liu, Dr. Wu Chen, Prof. Chao Wang, Prof. Canfei He, Prof. Gang Liu

Circular decarbonisation? Material and waste implications of the transition to low-carbon technologies in Switzerland

» Ms. Ankita Singhvi, Mr. Corentin Mottet, Ms. Léa Bitard, Prof. Claudia R. Binder

Life Cycle Environmental Assessment Framework: A Modular Database Framework for Multi-Level Life Cycle Assessment with Integrated LCIA, UPR, and LCI

» Mr. Chia Wei Koo, Mr. Edwin Chen Hwee Chua, Dr. Aloisius Rabata Purnama, Mr. Yong Jie Leow, Mr. Daniel Zi Xiang Lim

CO2 Reduction Potential of Global Supply Chain Networks: An MRIO Approach Incorporating Maritime Network Structures

» Ms. Tomomi SHODA, Dr. Keitaro MAENO, Mr. Taiga SHIMOTSUURA, Prof. Shigemi KAGAWA

Data-driven Residential Community Insight Enables Delicacy Management in Mega Cities

» Ms. Yue Ren, Prof. Xinzhu Zheng

Mitigating Environmental Impacts of Chicken Production – The Role of Co-product Valorisation

» Mr. Yiming Sui, Dr. Eugene Mohareb, Dr. Li Xue, Prof. Gang Liu, Prof. Stefán Smith

Advancing Sustainable Methane Conversion: Evaluating Catalytic Technologies for Hydrogen and Carbon Nanotube Production thorough LCA

» Dr. Eleonora Rossi, Dr. Ilenia Giarnieri, Prof. Luca Ciacci, Prof. Fabrizio Passarini, Dr. Zeynep Unal, Dr. Lisa Canuti, Dr. Lole Jurado, Prof. Miguel Angel Centeno, Prof. Patricia Benito

Greenhouse Gas Emissions from a large UK Military base

» Prof. Oliver Heidrich, Prof. Chris Hicks

Future Prospects of MSW Incineration and Incineration Residue in EU

» Ms. Sowmya Marriyapillai Ravisandiran, Dr. José Mogollón, Dr. Stefano Cucurachi, Dr. Sónia Cunha

Scenario analysis of technology diffusion considering building stock dynamics: A case study of residential water heaters in Japan

» Mr. Wenyan Huang, Dr. Naho Yamashita, Dr. Toru Hayashi, Dr. Jun Nakatani, Prof. Tsuyoshi Fujita

Do Net-Zero plans add up? A framework and model to quantify risks of resource supply shortages in climate mitigation strategies.

» Ms. Jennifer Hawkin, Prof. Julian Allwood

From Station-Level to Exit-Level Resilience Analysis: Guiding Sustainable Engineering of Metro Transportation System Upgrades

» Ms. Feiya CHEN, Prof. Shauhrat S. CHOPRA

A Multi-Sectorial Energy Model to Assess the Cost-Effectiveness of Mitigation Measures and to Evaluate Decarbonization Plans and Future Scenarios

» Ms. Mariana Januário, Prof. Patricia Batista, Prof. Paulo Ferrão, Dr. Ricardo Gomes

Continued from **Tuesday, 1 July**

Policy scenarios in material flow analysis: a methodological review
» Mr. Chi Zhang, Dr. Stijn Van Ewijk, Prof. Julia Stegemann

Understanding the demand for critical materials in different net zero pathways for the UK
» Mr. Sam Stephenson, Mr. Luke Cullen, Dr. Baptiste Andrieu, Prof. Jonathan Cullen, Dr. André Cabrera Serrenho

Evaluation of Residential Inducement Strategies for Flood Risk Mitigation Under Climate Change focusing on CO2 Reduction and Future Land Use
» Ms. Akari Horioka, Prof. Kiyo KURISU, Prof. Kensuke Fukushi

Extending and Quantifying the Shared Socioeconomic Pathways to the Residential Housing Sector
» Mr. Orlando Olaya Bucaro, Mr. Andrea Tamburini

Uncertainty in retrospective and prospective water footprints with AWARE2.0: Influence of input models and climate change
» Mr. Georg Seitfudem, Prof. Markus Berger, Prof. Anne-Marie Boulay

Critical materials challenges for emerging and existing battery technologies
» Ms. Lana Söltzer, Mr. Bernhard Wortmann, Prof. Detlef Stolten, Prof. Heidi Heinrichs

Unraveling the Dynamics of the Global Trade Network of Critical Materials: Insights and Implications
» Dr. Linbin Tang, Prof. Peng Wang, Mr. Zipeng Lin, Prof. Wei-Qiang Chen

Revealing the urban mining potential of the buildings in the 1159 administrative regions of the EU27, 1970-2050
» Ms. Catrin Böcher, Dr. Sónia Cunha, Dr. Tomer Fishman, Prof. Ester van der Voet, Ms. Katharina Kippert, Dr. José Mogollón

Alpha and beta diversity of alien plants along a secondary rainforest elevational gradient in Papua New Guinea
» Mr. Gabriel Petuel

From flows to workflows: A systematic review of spatially explicit urban metabolism studies for urban landscape planning
» Mr. Luciano Brina, Prof. Lynette Cheah

Decoding Mining's SDG Commitment: A Comprehensive Analysis of Sustainability Disclosures and Priorities
» Mr. Chenyang Wang, Dr. Yvette Baninla, Prof. Qian Zhang

Regional Emissions Budgeting Framework: A data-driven framework for informing local emissions reduction strategies
» Dr. Ling Min Tan, Prof. Vania Sena

Quantifying the Life Cycle Environmental Impacts of Video-on-Demand Streaming: The Influence of Consumer Behavior and Producer Choices
» Mr. Alireza Soltani nezhad, Dr. Thomas Hennequin, Dr. Hettie Boonman, Dr. Bernard Van Gastel, Prof. Mark Huijbregts

Life cycle greenhouse gas emissions and mitigation performances of various hydrogen production routes
» Mr. Lyu Zhang, Prof. Magnus Fröhling, Prof. Jingru Liu, Dr. Liu Guangxin, Prof. Lei Shi

Towards complete mass and elemental balance in life cycle assessment databases.
» Mr. Han De Wachter, Prof. Guillaume Majeau-Bettez

Comparative life cycle assessment of green roofs and conventional flat roofs
» Mrs. Débora Pons Fiorentin, Dr. Sandra Rafael, Dr. Paula Quinteiro

From Routine to Risk: Integrating Unintentional Substance Releases into Life Cycle Assessment
» Mr. Yiming Liu, Dr. Hua Cai

Continued from **Tuesday, 1 July**

What is the role of hydrogen in a net-zero plastics industry?
» Ms. Inga-Marie Lahrsen, Dr. Eleonora Bargiacchi, Prof. André Bardow

A Comparison of the GHG Emissions and Costs of Carbon Capture, Utilization and Storage Pathways for Singapore Decarbonization
» Dr. Yinjin Lee, Mr. Eugene Kok, Dr. Yang Zhao, Ms. Cadence Hsien, Dr. Hsien Hui Khoo, Mr. Yong Jie Leow, Dr. Jonathan Zhaozhi Low, Mr. Eugene Hong Zhuang Ho, Mr. Daren Zong Loong Tan, Dr. Yeo Zhiquan, Dr. Experience I Nduagu, Dr. Tony Wu, Dr. Saifudin Abubakar, Dr. Jonathan Sze Choong Low

Trading mining for urban landscapes. A trade-linked flow of Brazilian iron from mining regions into Germany's construction sector.
» Dr. Alejandro De Castro Mazarro

Advancing the Life Cycle Impact Assessment Method for Biodegradable Microplastics
» Dr. Zhengyin Piao, Prof. Yuan Yao

Coupling Life Cycle Assessment and Integrated Assessment Models to Optimize Hydrogen's Decarbonization Potential
» Ms. Youyi Xu, Prof. Yuan Yao

Clarifying the End-of-Life Environmental Impact of Passenger Vehicles Sold in Japan
» Ms. SUYI YANG, Dr. Heng Yi Teah, Prof. Eri Amasawa, Dr. Yuichiro Kanematsu, Prof. Yasunori Kikuchi

Per- and Polyfluoroalkyl Substances (PFAS) in Carpet: Significant Disparity in Potential In-Use and End-of-Life Exposure Risks in the United States
» Dr. Daqian Jiang

Scenario-Based Material Flow Analysis of Antimony in the Energy Transition Context
» Ms. Xu Linting, Prof. Zhang Zhengyang, Prof. Matsubae Kazuyo

Resource-efficiency in Built Environment: A Dynamic Modelling of Interactions between Material Flow and Stock
» Ms. Xiaoyi Liu, Dr. Zhongnan Ye, Prof. Shu-Chien Hsu

2:30pm **A1 - Special session - AI for IE: Emerging Trends, Best Practices, and Applications of Artificial Intelligence for Industrial Ecology**
Auditorium 2, Level 1 & 2
Chaired by: Mr. Keagan Hudson Rankin and Mr. Simon van Lierde and Dr. Jason Hawes

Comparative performance of machine learning methods in estimating carbon footprint results
» Dr. Amir Sharafi, Dr. Marie-Odile Fortier

Evolving Cities: Identifying and Optimizing Urban Housing Development Opportunities
» Mr. Jesse Ward-Bond, Prof. Shoshanna Saxe, Dr. Elias Khalil

Building Open Infrastructure for AI-Driven Industrial Ecology: A Framework for Collaborative Product Data Collection
» Mr. Simon van Lierde, Dr. Franco Donati, Prof. René Kleijn

Addressing systemic equity throughout industrial ecology applications: Leveraging machine learning and the food system
» Prof. Joe Bozeman III, Mrs. Catharina Hollauer, Mr. Arjun Ramshankar, Ms. Shalini Nakkasunchi, Prof. Jenna Jambeck, Prof. Andrea Hicks, Prof. Melissa Bilec, Prof. Darren McCauley, Prof. Oliver Heidrich

Performance Benchmark for the Evaluation of Synthesizing and Generating Energy Data with the Priority of Peak Reconstruction
» Mr. ZeZheng Zhang, Dr. Pengfei Du, Ms. Michelle Thanh Truc Nguyen, Mr. Hans Golong, Dr. Huey Yuen Ng

Continued from **Tuesday, 1 July**

Algorithmic Approaches to Scale Life Cycle Assessments
» Dr. Gargeya Vunnava, Dr. Bharathan Balaji, Mr. Zaid Thanawala, Dr. Nina Domingo, Dr. Koushik Ponnuru, Dr. Jeremie Hakian, Dr. Fahimeh Ebrahimi, Dr. Harsh Gupta, Dr. Jared Kramer, Dr. Petek Gursel, Dr. Mengya Tao, Dr. Ryan Bradley, Dr. Yuwei Qin, Dr. Lin Shi, Dr. Jeongwoo Han, Dr. Ardeshir Raihanian, Ms. Varsha Nagarajan, Mr. Chris Nelson, Mr. Anish Bose, Mr. Anshul Vyakarnam, Mr. Alexander Kelso, Ms. Shikha Gupta, Mr. Ethan Roday, Mr. Kellen Axten, Dr. Kommy Weldemariam

AI for IE - Standardization and Best Practices
» Mr. Keagan Hudson Rankin, Dr. Jason Hawes, Mr. Simon van Lierde, Dr. Franco Donati, Dr. Qingshi Tu

2:30pm

A2 - Special session - Industrial Ecology for Carbon Dioxide Removal Assessment: Best Practices for Evaluating the "Nature" of CDR
LT50, Level 1
Chaired by: Ms. Jennifer Kroeger

Integration of Crop-Based Co-Benefits and BECCS Synergies into Life Cycle Assessment of Enhanced Weathering
» Ms. Jennifer Kroeger, Prof. Yuan Yao, Dr. Bingquan Zhang, Dr. Noah Planavsky

Multi-Scale Life Cycle Assessment of Forest-Based Carbon Dioxide Removal in Mata Atlântica, Brazil
» Dr. Bingquan Zhang, Prof. Kai Lan, Dr. Fan Yang, Prof. Daniel Piotto, Prof. Mark Ashton, Prof. Yuan Yao

Integration of nature-based CDR in techno-economic models to assess decarbonization pathways: Benefits and challenges
» Prof. Annie Levasseur, Dr. Hamed Kouchaki Penchah, Prof. Olivier Bahn, Dr. Lucas Moreau, Prof. Évelyne Thiffault, Dr. Kathleen Vaillancourt

A risk assessment approach for understanding the potential for Carbon Dioxide Removal (CDR)
» Ms. Jennifer Hawkin

A Comparative Assessment of Biomass Utilization Pathways for Carbon Dioxide Removal in Germany
» Ms. Johanna Rütt, Dr. Ali Abdelshafy, Prof. Grit Walther

Machine learning-assisted life cycle assessment for climate-smart biochar systems
» Ms. Hannah Wang, Prof. Yuan Yao

Quantifying the climate impacts of surface albedo changes from nature-based carbon dioxide removal
» Ms. Kathryn Loog, Dr. Anders Bjørn, Dr. Manuele Margni

2:30pm

A3 - Special session - In memory of Bob Ayres- scientific contributions in the intersection of technology, physics, economy, and sustainability
LT51, Level 1
Chaired by: Prof. Gara Villalba Mendez

Exergy Economics: A Decade of Building on the Foundations Set by Bob Ayres
» Prof. Tiago Domingos, Dr. João Santos, Mr. Marco Vittorio Ecclesia, Prof. Tânia Sousa

How to estimate the displacement rate in remanufacturing life cycle assessment
» Dr. Antonio Cavallin Toscani, Prof. Vishal Agrawal, Prof. Atalay Atasu, Prof. Luk N. Van Wassenhove

Institutions design for a low-carbon, low-cost and low-materials electricity system
» Dr. Gjalt Huppes

Institutions guide long-term Technosphere development. How to incorporate in IE?
» Dr. Gjalt Huppes

Continued from **Tuesday, 1 July**

System complexity versus environmental sustainability: Theory and policy
» Prof. Gara Villalba Mendez, Prof. Jeroen van den Bergh, Prof. Bob Ayres

2:30pm **A4 - Special session - Industrial Ecology for Sustainable Healthcare**
LT52, Level 2
Chaired by: Prof. Matthew Eckelman and Prof. Nick Watts

The contribution of hospital surgical services to the NHS carbon footprint in England
» Prof. Chantelle Rizan, Prof. Mahmood Bhutta, Dr. Pinky Kotecha, Dr. Agnes Henson, Mr. Tom Andrew, Prof. Nick Watts

How Methodology Choices Shape Decision Support: Life Cycle Analysis of Single- vs Multi-use Equipment in Surgery
» Mr. Ofir Eriksen, Mr. Rune Winther Fabrin Olsen, Dr. Tiffany Marilou Ramos, Dr. Ciprian Cimpan

Rethinking Paper and Digital Medication Leaflets: A Multi-Scenario, Data-Driven Framework for Sustainable Policy
» Dr. Chenling Fu, Ms. Chao Zhang, Dr. Ruru Han, Dr. Xiaohui Lu, Dr. Ruirui Zhang, Mr. Rentao Ouyang, Prof. Ming Xu

Analyzing the carbon and economic impact of introducing preventive care policies in Japan
» Ms. Narumi Kira, Dr. Yosuke Shigetomi

2:30pm **A5 - Biodiversity loss, LCA methods**
LT53, Level 2
Chaired by: Dr. Shweta Singh

2:30pm **Modeling Stream Network biodiversity loss: Assessing Anthropogenic Impacts on Freshwater Ecosystems**
» Mr. Haripriyan Uthayakumar, Dr. Brandon Peoples, Dr. Shweta Singh

2:45pm **China's biodiversity loss driven by agricultural production and consumption**
» Dr. Zhongxiao Sun, Dr. Laura Scherer, Prof. Qian Zhang

3pm **Integrating Biodiversity and Life Cycle Thinking in Future Hydropower Planning**
» Ms. Sif de Visser, Prof. Francesca Verones, Dr. Martin Dorber

3:15pm **An Effect Factor for Macro- and Microplastic Ingestion in Marine Ecosystems for Use in Life Cycle Assessment**
» Mr. Ahmed Marhoon, Dr. Marthe Alnes Høiberg, Dr. Jan Borgelt, Dr. Erin Murphy, Dr. Martin Dorber, Prof. Francesca Verones

3:30pm **Land use inventories for life cycle assessment of electricity generation**
» Prof. Sarah Jordaan

3:45pm **A Methodology for Enhanced Life Cycle Assessment using Space-Time Energy Vector Flow Networks**
» Dr. Ken Shaun Yap

2:30pm **A6 - Industry**
Dance Atelier 2, Level 3
Chaired by: Prof. Bhavik Bakshi

2:30pm **Circularity Strategies Can Cut EU Steel Emissions by 81% and Achieve 94% Circular Supply by 2050**
» Mrs. Aymara Wagner, Dr. José Mogollón, Dr. Paola Federica Albizzati, Dr. Anna Walker, Prof. Arnold Tukker, Dr. Davide Tonini

2:45pm **Machinery Capital Dynamics in a Circular Economy Framework**
» Dr. Meng Jiang, Prof. Richard Wood, Ms. Yiwen Liu, Dr. Simone Della Bella, Prof. Edgar Hertwich

3pm **Advancing Circular Economy through Green Industrial Total Factor Productivity: Integrating Technological Innovation for Sustainable Industrialization in Asia**
» Ms. Bushra Mushtaq, Dr. Anthony Halog

Continued from **Tuesday, 1 July**

3:15pm **Net-Zero Transitions in Taiwan's Optoelectronic Industry- Waste Input-Output Life Cycle Assessment Model**
» Mr. Chon Ip Long, Dr. Yuh -Ming LEE

3:30pm **Techno-economic analysis (TEA) and life cycle assessment (LCA) of a commercialized 2500 ton/d scale sludge-to-energy utility in a textile industrial park**
» Mr. Kun Yan, Prof. Jinping Tian, Prof. Lyujun Chen

3:45pm **Sustainable Transitions in Polyester Manufacturing: Pathways to Net-Zero Emissions**
» Mr. Aniket Mali, Prof. Bhavik Bakshi

2:30pm **A7 - Water systems I**
Practice Room 1, Level 3
Chaired by: Dr. Vimi Dookhun

2:30pm **A multi-dimensional integrated life cycle assessment framework as design- and decision-making aid for emerging nutrient recovery technologies in wastewater treatment**
» Ms. Lilla Simon, Dr. Benyamin Khoshnevisan, Mr. Panagiotis Papazoglou-Karachontzitis, Prof. Sander Bruun, Prof. Morten Birkved

2:45pm **Analysis and assessment of municipal sludge treatment technologies to promote their advance towards resource and energy recovery**
» Dr. Jiayuan Ji, Mr. Akinori Shimizu, Prof. Tatsuya Okubo, Dr. Yuichiro Kanematsu, Prof. Yasunori Kikuchi

3pm **IMPROVEMENT OF ENVIRONMENTAL ASSESSMENT WITH LIFE CYCLE ANALYSIS OF SEWAGE SLUDGE TREATMENT: A CASE STUDY OF ULAANBAATAR, MONGOLIA**
» Mr. Oyunchimeg Tumurtogtokh, Prof. Toru Matsumoto

3:15pm **Life cycle inventories for wastewater-derived products**
» Dr. Ka Leung Lam

3:30pm **Enhancing resource recovery in Chinese wastewater treatment systems to promote energy self-sufficiency and net negative emissions**
» Prof. WEI YANG, Prof. Junnian Song

2:30pm **A8 - Built environment I**
Dance Studio, Level 1
Chaired by: Dr. Srinivasa Raghavendra Bhuvan Gummidi

2:30pm **Estimating Material Stocks and Services Provision in the Built Environment: Pakistan Case Study**
» Ms. Shiza aslam, Dr. Tomer Fishman, Dr. Peter Berrill

2:45pm **Whole-Life Carbon Assessment of Urban Building Stocks in Singapore**
» Ms. Wanyu Pei, Mr. Pradeep Alva, Prof. Rudi Stouffs

3pm **Modeling the potential of sufficiency policies to reduce embodied emissions of buildings - Sweden as a case study**
» Mr. Qiyu Liu, Dr. Maud Lanau, Dr. Johan Rootzén, Prof. Filip Johnsson

3:15pm **Enhancing Building Stock Assessments in South Korea through Missing Data Imputation**
» Dr. Bumsuk Seo, Mr. Bowen Cai, Ms. Eun-Jin Moon, Mr. Hyoungwook Lim, Prof. Jooyoung Park

3:30pm **Developing a high-resolution model of UK building material stocks**
» Dr. Charles Gillott, Mr. Shreenij Maharajan, Ms. Georgie Saxton, Prof. Danielle Densley Tingley

3:45pm **Distribution of life cycle impacts for housing in Denmark**
» Ms. Marion George, Dr. Olivier Jolliet

2:30pm **A9 - Construction materials**
SR1&2, Level 1
Chaired by: Dr. Mihály Dombi

Continued from **Tuesday, 1 July**

2:30pm **Life Cycle Assessment of Biochar-Concrete for Decarbonization in the Built Environment: A Holistic Evaluation**
» Mr. Alvin Wei liang Ee, Ms. Shee Jia Chew, Dr. Hsien Hui Khoo, Prof. Adam Tsan Sheng Ng, Prof. Harn Wei Kua

2:45pm **Spatial tools to model global timber supply and demand of a bio-based built environment**
» Mr. Adrian Foong, Mr. Tobias Seydewitz, Mr. Stepan Svintsov, Mr. Alexandr Karpov, Dr. Anne Holsten, Dr. Barbara K. Reck

3pm **Environmental and Socioeconomic Impacts of Wooden vs. Concrete Buildings: Comparative Lifecycle Assessment of Two Nearly Identical Buildings in Finland**
» Ms. Anni Vehola, Mr. Taras Protchenko, Dr. Elias Hurmekoski, Dr. Jaakko Jussila, Prof. Ritva Toivonen

3:15pm **Decarbonizing basic material industries in the European Union - The role of a circular economy in building construction**
» Ms. Meta Thurid Lotz, Dr. Andrea Herbst

3:30pm **Decarbonizing the growth of urban stocks through improved selection of construction materials**
» Dr. Ramzy Kahhat, Ms. Claudia Cucchi, Mr. Matías Gutierrez, Ms. Lucia Rucoba, Dr. Ian Vazquez-Rowe

2:30pm **A10 - Agriculture**
SR3&4, Level 1
Chaired by: Dr. Christine Costello

2:30pm **Ecosystem services lost due to international trade**
» Dr. Davina Vačkářová, Ms. Helena Medková, Dr. Petr Krpec, Dr. Jan Weinzettel

2:45pm **Traceable and Scalable Food Balance Sheets from Agricultural Commodity Supply and Utilization Accounts (2010-2022)**
» Dr. Xin Zhao, Dr. Maksym Chepeliev, Dr. Neus Escobar, Mr. Matthew Binsted, Mr. Pralit Patel, Mr. Page Kyle, Mr. Marshall Wise

3pm **Life-cycle assessment of sustainably intensifying soybean production in China**
» Dr. Weier Liu, Dr. Lorie Hamelin

3:15pm **Bridging the data gap in UK agriculture: Predicting farm-level direct emission intensities with minimal data inputs.**
» Ms. Jasmine Wells, Dr. Anna Trendl, Dr. Anne Owen, Prof. John Barrett, Dr. Norbert Jobst, Dr. David Leake

3:30pm **Biofertilisers from biogas plants – a potential for more efficient nutrient recycling and increased resilience of local food production**
» Dr. Madeleine Larsson, Dr. Hans Andersson, Dr. Karin Tonderski

3:45pm **Avocado production in different biomes throughout Peru: do differing cultivation practices translate into differences in environmental impacts?**
» Mr. Alvaro Elorrieta-Mendoza, Dr. Joan Sanchez-Matos, Dr. Ian Vazquez-Rowe, Mr. Jorge Bentin, Dr. Ramzy Kahhat

4pm **Tea break**
Levels 1, 2 & 3

4:30pm **B1 - Applying data science in the built environment**
Auditorium 2, Level 1 & 2
Chaired by: Prof. Patricia Batista

4:30pm **Developing Machine Learning Tools for High Resolution Building Stock Modelling**
» Dr. Menglin Dai, Prof. Gang Liu, Prof. Danielle Densley Tingley, Dr. Charles Gillott

4:45pm **Machine Learning-Based Residential Energy Forecasting: A National Study of Small Neighborhoods in England and Wales**
» Ms. Grace Colverd, Prof. Jonathan Cullen, Dr. Ronita Bardhan

Continued from **Tuesday, 1 July**

5pm

Development of a theoretical structure for the methodology of estimating building types based on linguistic information and improvement of the methodology for distribution of demand for recyclable resources based on building names.
» Dr. Seiya Maki, Dr. Satoshi Ohnishi, Dr. Minoru Fujii, Prof. Naohiro Goto

5:15pm

Comprehensive sustainability assessment of vertical infrastructure through digital twin.
» Ms. Federica Geremicca, Prof. Melissa Bilec

5:30pm

Assessing Building Energy Performance and Mobility Impacts: The BE.Neutral Digital Twin Approach
» Dr. Ricardo Gomes, Prof. Patricia Batista, Prof. Paulo Ferrão

4:30pm

B2 - Special session - Navigating the Socio-ecological Tipping Points in Urban Transitions: Resilience and Sustainability Trade-offs in Coupled Urban Infrastructure Transitions
LT50, Level 1
Chaired by: Prof. Shauhrat S. CHOPRA and Dr. Thomas Elliot

4:30pm

B3 - Special session - Strategies for resilient islands – risks, vulnerabilities, and transformative actions
LT51, Level 1
Chaired by: Prof. Simron Singh and Prof. Lynette Cheah

Flows, quantities and management of untapped valuable materials discarded in municipal waste in Reunion Island
» Dr. Mamy Harimisa Radanielina

How vulnerable are Oahu's consumption patterns? Exploring the socio-metabolic patterns and risks of a Hawaiian island: a long-term analysis of the past 25 years
» Ms. Sabrina Linsmaier, Ms. Kahiokala Elkington, Ms. Breea Souza, Dr. Sandra Köhler, Prof. Kamanamaikalani Beamer, Dr. Andrea Thorenz

How much materials do the Maldives need to 'stay afloat'? Insights on material stock and flow dynamics for climate adaptation
» Prof. Simron Singh, Ms. Sabrina Linsmaier, Ms. Charvi Choudhary, Dr. Lars Wietschel, Ms. Aisha Azfa, Dr. Dominik Wiedenhofer, Dr. Shazla Mohamed, Dr. Andrea Thorenz

Waste cooking oil management in the food industry in a small island state from a circular economy perspective.
» Dr. Vimi Dookhun, Ms. Ojasvati Betchoo, Mr. Neeraj Coothoopermal

Indigenous Water Management Systems as Models for Climate-Resilient Island Sustainability
» Prof. Kamanamaikalani Beamer, Ms. Kahiokala Elkington, Ms. Breea Souza

4:30pm

B4 - Special session - Multi-functional urban green space planning
LT52, Level 2
Chaired by: Prof. Arnold Tukker and Dr. Mingming Hu and Dr. Roy Remme

Optimizing Productive Green Roofs for Urban Food Self-Sufficiency and Rainwater Harvesting
» Mr. Pengxuan Xie, Dr. José Mogollón, Prof. Jan Willem Erisman, Dr. Valerio Barbarossa

Assessing the multifunctionality of Urban Green Infrastructure for Biodiversity and Ecosystem Services
» Mr. Joeri Morpurgo, Dr. Roy Remme, Dr. S. Emilia Hannula, Dr. Mingming Hu, Mr. Orestis Strymponis, Prof. Peter van Bodegom

Exploring the Impact of Urban Morphology on Residential Energy Consumption at the neighborhood-level in the Netherlands
» Ms. Han Yu, Dr. Peter Berrill, Dr. Mingming Hu, Prof. Arnold Tukker

Continued from **Tuesday, 1 July**

4:30pm **B5 - Special session - Synergies and trade-offs between environmental risks and resources for sustainable urban transformation**
LT53, Level 2
Chaired by: Dr. Riyan Habeeb and Dr. Georg Schiller

Highlighting a resource paradox on the next-generation energy supply
» Mr. Yuichi Nishiyama, Prof. Shunsuke Kashiwakura, Prof. Shoki Kosai, Prof. Yamasue Eiji

Why Resilience need to be a part of Circularity Discussion - reflections based on circularity und resilience concepts
» Dr. Georg Schiller, Dr. Riyan Habeeb

The urgency to link Climate Risks and Resources for Sustainable Built Environment: A Temporal Perspective
» Dr. Riyan Habeeb, Dr. Georg Schiller

Food–energy–water nexus optimization brings substantial reduction of urban resource consumption and greenhouse gas emissions
» Dr. Pengpeng Zhang, Prof. Lixiao Zhang, Prof. Yan Hao, Prof. Ming Xu, Dr. Mingyue Pang, Dr. Changbo Wang, Prof. Aidong Yang, Prof. Alexey Voinov

Urban climate change adaptation strategies and the resilience of supply chains
» Prof. Oliver Heidrich, Dr. Alissa Kendall

4:30pm **B6 - Human behaviour I**
Dance Atelier 2, Level 3
Chaired by: Prof. Kuishuang Feng

4:30pm **Keeping consumption within planetary boundaries**
» Prof. Peipei Tian, Prof. Honglin Zhong, Prof. Kuishuang Feng, Prof. Laixiang Sun, Prof. Klaus Hubacek, Dr. Dan Li, Prof. Jiashuo Li

4:45pm **Role of Clothing Rental Services on Changing Personal Clothing Consumptions for Sustainability**
» Dr. Eri Amasawa, Dr. Koji Kimita, Dr. Yusuke Kishita

5pm **Crisis-Induced Inequalities: The Impact of COVID-19 Policies on Gendered Home Cooking Burdens Worldwide**
» Dr. Pan He, Mr. Tao Li

5:15pm **Social dynamics of household consumption in ageing societies**
» Dr. Quanliang Ye

5:30pm **Optimal Green Retailing: Insights from a True Cost Campaign in Germany**
» Mr. Christoph Semken, Ms. Amelie Michalke, Mr. Lennart Stein, Mr. Benjamin Oebel, Mr. Freek van Sambeek, Mr. Santiago Varela Seoane, Prof. Tobias Gaugler, Prof. Hunt Allcott

5:45pm **Green market driving of zero-waste retailers: A systems thinking approach**
» Dr. Jonna Baquillas, Dr. Ivan Gue

4:30pm **B7 - Water systems II**
Practice Room 1, Level 3
Chaired by: Prof. Junming Zhu

4:30pm **Structural characteristics of global virtual water network driven by food consumption in the Belt and Road Initiative region**
» Ms. Qiumeng Zhong, Prof. Sai Liang

4:45pm **Environmental Impacts and Benefit Assessment of Regional Multi-Supply Water System**
» Ms. YU-SHAN HONG, Mr. Chao-Hsu Yang, Prof. Pei-Te Chiueh

Continued from **Tuesday, 1 July**

5pm **Country-specific strategies for water saving under carbon neutrality target of the pulp and paper industry**
» Dr. Min Dai, Dr. Mingxing Sun, Dr. Bin Chen, Dr. Qingshi Tu, Prof. Yutao Wang

5:15pm **Relieving trade- and climate-induced water pressure via water recycling and efficiency**
» Ms. Yuan Tong, Prof. Meng Li, Prof. Junming Zhu

4:30pm B8 - Built environment II
Dance Studio, Level 1
Chaired by: Prof. Shoshanna Saxe

4:30pm **Assessing the embodied carbon of residential building stocks using life cycle assessment and material stocks analysis**
» Mr. Adrian Foong, Ms. Eva-Maria Friedel, Ms. Alisa Schneider, Mr. Felix Exton-Smith, Mr. Tobias Seydewitz, Mr. Stepan Svintsov, Dr. Anne Holsten, Dr. Barbara K. Reck

4:45pm **Building-level material stock estimates and outlook for Europe**
» Dr. Peter Berrill, Mr. Jakob Napiontek, Dr. Charles Gillott, Ms. Mira Kopp, Dr. Nikola Milojevic-Dupont, Mr. Florian Nachtigall, Prof. Felix Creutzig

5pm **Spatial Metabolic Dynamics of Urban Regions: A Case Study of Belgium**
» Dr. Pramit Verma, Prof. Daniela Perrotti

5:15pm **Spatiotemporally Explicit Scenarios for a Circular and Green Urban Built Environment: A Case Study of Greater Copenhagen Region, Denmark**
» Dr. Srinivasa Raghavendra Bhuvan Gummidi, Dr. Christian Fertner, Dr. Nicolas Francart, Dr. Kun Sun, Dr. Endrit Hoxha, Prof. Gang Liu

5:30pm **Africa can leverage the urban growth and climate target by building-specific Nature-based Solutions**
» Dr. Jian Sun, Ms. Yilu Gu, Mr. Zezhuang Liu, Prof. Xiaofeng Gao

4:30pm B9 - Construction
SR1&2, Level 1
Chaired by: Dr. Ranran Wang

4:30pm **Circularity of construction materials: quantification of Japan's calcium flows and stocks**
» Dr. Naho Yamashita, Prof. Shinsuke Murakami, Dr. Keiichi Yano, Dr. Yuya Yoda, Mr. Kenji Nabeshima, Prof. Ippei Maruyama

4:45pm **Multi-Level Secondary Resource Hubs for Construction and Demolition Waste**
» Ms. Lena Fuhg, Mr. Sebastian Rauscher, Dr. Justus Steins, Prof. Rebekka Volk, Prof. Frank Schultmann

5pm **Assessing the Circular Economy in Construction and Demolition Materials through Material Flow Analysis: A Pioneering Study in Western Australia.**
» Mrs. Ugyen Lhachey, Dr. Biji Kurup, Prof. Martin Anda

5:15pm **Developing a parametric MFA/LCA model to evaluate environmental benefits of different construction logistics solutions**
» Mr. Luca Giacomo Invidiato, Dr. Viktoria Sundquist, Dr. Maud Lanau

4:30pm B10 - Biomass and bio-based products
SR3&4, Level 1
Chaired by: Prof. Yuan Yao

4:30pm **Global agroforestry-residues-to-bioenergy deployment advances sustainable development yet with regional complexities**
» Prof. Junnian Song, Prof. WEI YANG

4:45pm **Carbon footprint assessment of bio-based products in the context of carbon neutrality**
» Dr. Mingxing Sun, Dr. Xiangbo Xu, Prof. Lei Shi, Dr. Chao Fu

5pm **Inter-sectoral allocation of biomass resources in a carbon-constrained world: insights from life cycle assessment methods**
» Ms. Yinan Feng, Mr. Wubin Yan, Dr. Chuan Zhang

Continued from **Tuesday, 1 July**

5:15pm **Time-Explicit Climate Change Mitigation Potential of Wood-Based Materials Under Future Uncertainty**
» Ms. Amelie Mueller, Dr. Giuseppe Cardellini, Prof. Jeroen Guinée, Dr. Bernhard Steubing

5:30pm **Incorporating soil organic carbon change into the life cycle assessment of biofuel produced from forest residues**
» Prof. Kai Lan, Dr. Bingquan Zhang, Ms. Tessa Lee, Prof. Yuan Yao

6pm **Socio-Economic Metabolism (SEM) Section meeting**
LT50, Level 1
Chaired by: Prof. Zhi Cao and Prof. Christoph Helbig

6pm **Sustainable Urban Systems Section meeting**
Dance Studio, Level 1

6pm **Journal of Industrial Ecology (JIE) Editorial Board meeting**
SR3&4, Level 1

Wednesday, 2 July

8am **Registration**
Level 1

9am **C1 - Electronics and e-waste**
Auditorium 2, Level 1 & 2
Chaired by: Dr. Komal Habib

9am **A survey of consumer behavior regarding product use and disposal in Canada**
» Dr. Komal Habib, Dr. Elham Mohammadi

9:15am **Carbon Footprint Analysis of Waste Printed Circuit Board (WPCB) Processing Facility**
» Ms. Afifah Vanya, Dr. Aulia Qisthi Mairizal

9:30am **Application of Life Cycle Assessment in the WEEE Recycling Sector to a relevant Italian Case Study**
» Dr. Federico Iorio Esposito, Dr. Alessandro Salvi, Prof. Paola Gallo Stampino, Prof. Giovanni Dotelli, Dr. Martina Scoponi, Dr. Laura Borghi

9:45am **Missing Materials: Tracing End-of-Life Losses in E-Waste Over Time**
» Mr. Nils Pauliks, Dr. Tomer Fishman, Dr. Robert Istrate, Dr. Bernhard Steubing, Prof. Arnold Tukker

10am **Improving WEEE Monitoring: Insights from the Netherlands**
» Mr. Pablo Ilgemann, Dr. Tomer Fishman, Mr. Ralph Oudshoorn, Prof. Arnold Tukker

9am **C2 - Special session - What can Industrial Ecology do for Public Policy? The Case of Plastic Waste**
LT50, Level 1
Chaired by: Dr. Stijn Van Ewijk

9am **C3 - Special session - Interconnectivity through Interoperability: using the Urban Metabolism Ontology as a common (data) language for IE research**
LT51, Level 1
Chaired by: Dr. Andrea Bartolini and Prof. Pieter Herthogs

Input presentations by:
» Carlo Schmid, Wanyu Pei, Andrea Bartolini, Pieter Herthogs

9am **C4 - Special session - Navigating Sustainable Futures: Resource Management and Sustainable Solutions for Automotive Batteries**
LT52, Level 2
Chaired by: Dr. Guochang Xu and Prof. Zhi Cao

Continued from **Wednesday, 2 July**

High-resolution characterization of passenger vehicle electrification in China and the EU brings insight into global sustainable electrification
» Prof. Xin Sun

Decarbonizing the Lithium-Ion Battery Supply Chain: Greenhouse Gas Emissions Projections and Mitigation Pathways
» Mr. Haiwei Zhou, Prof. Wen Li, Prof. Prakash Singh, Prof. Peng Wang

Lithium in Latin America: Mapping Flows and Environmental Footprints to 2050
» Ms. Estefania Orquera, Dr. Guochang Xu, Dr. Stephen Northey, Dr. Tim Werner, Prof. Damien Giurco, Dr. Oscar Tiku, Prof. Matsubae Kazuyo

Environmental benefits associated with second-life use of automotive lithium-ion batteries in secondary applications
» Mr. Babatunde Omojola, Prof. Christoph Helbig

Optimizing Li-ion battery recycling with plant-level Material Flow Analysis
» Mr. Loïs Lozach, Dr. Romain Guillaume Billy, Prof. Daniel Müller

9am **C5 - Energy systems I**
LT53, Level 2
Chaired by: Dr. Cristina Madrid Lopez

9am **Criticality of the green transition: Raw materials, technologies, and energy systems**
» Dr. Michaela Schicho

9:15am **WindTrace: exploring environmental trade-offs of wind turbines with a parametric life-cycle inventory model**
» Mr. Miquel Sierra, Dr. Joan Muñoz Liesa, Dr. Laura À. Pérez-Sánchez, Mr. Alexander de Tomás-Pascual, Dr. Cristina Madrid Lopez

9:30am **Ensuring Circularity in Wind – The Development of a Sustainable Supply Chain in the United Kingdom**
» Prof. DAVID BUTLER, Ms. Jessica Boyd, Ms. Alice Shelton, Ms. Leigh Paterson, Mr. Paul Cantwell

9:45am **The hidden large decommissioning costs for offshore wind turbines across China's ocean**
» Ms. Shujun Li, Prof. Peng Wang, Prof. Wei-Qiang Chen

9am **C6 - Food systems I**
Dance Atelier 2, Level 3
Chaired by: Prof. Ani Melkonyan-Gottschalk

9am **Income-based environmental effects of family food consumption and the affordability towards healthy diets**
» Prof. Weijing Ma

9:15am **The Carbon Footprint of Religious Food Consumption**
» Ms. Moyo Yoshida, Ms. Haruka Toda, Ms. Waka Nishifuji, Prof. Shigemi KAGAWA

9:30am **Life-cycle environmental impacts of dish-based dietary choices and educational trials**
» Dr. Yinglei WU, Prof. Kiyo KURISU, Prof. Kensuke Fukushi

9:45am **Cultured meat and why it is not widely available: environmental insights and barriers to adoption**
» Dr. Derrick Risner, Prof. Edward Spang, Prof. Justin Siegel

10am **Environmental impacts of dietary adjustment and changes in nutritional quality in pastoral area of China**
» Prof. Ling-en Wang, Ms. Junshuo Li, Dr. Yunyun Li, Dr. Yu Zhang

10:15am **Combined nutritional and environmental assessment: A case study of alternatives to potato crisps**
» Dr. Jessica Bosseaux, Dr. Eugene Mohareb, Mr. Yiming Sui, Prof. Carol Wagstaff

Continued from **Wednesday, 2 July**

9am **C7 - Plastics I**
Practice Room 1, Level 3
Chaired by: Dr. Simran Talwar

9am **Integrating Planetary Boundaries with Life Cycle Assessment for Sustainable Decision-Making in the Plastic Industry**
» Dr. Elisabeth Van Roijen, Dr. Nivedita Biyani, Dr. Taylor Uekert, Dr. Gregg Beckham

9:15am **A System's Behavior Perspective Scenarios for The Pursuit of NZE in Japan's Plastic Industry**
» Dr. Salman Alfarisi, Dr. Takuma Watari

9:30am **Towards reproducible hybrid IO-MFA modelling: A case of the Canadian plastic metabolism**
» Ms. Franziska Rehle, Dr. Julien Pedneault, Prof. Guillaume Majeau-Bettez

9:45am **Plastic Waste and the Failure of Circular Ambitions**
» Mr. Rasmus Holm, Dr. Ciprian Cimpan

10am **India's national plastics roadmap for a circular economy - Progressing the SDGs through policy, business models and community**
» Dr. Simran Talwar, Dr. Monique Retamal, Dr. Laure-Elise Ruoso

10:15am **Multi-stakeholder perspectives for policy approaches to drive a circular economy for plastics in India**
» Dr. Simran Talwar, Ms. Sherine Thanduparakkal

9am **C8 - Built environment III**
Dance Studio, Level 1
Chaired by: Dr. Maud Lanau

9am **Decarbonisation of the built environment, three IE research lines**
» Dr. Mingming Hu

9:15am **Status and challenges of building carbon-neutral pathways: Comparative analysis in major world economies**
» Prof. Beijia Huang, Ms. Yuqiong Long

9:30am **Understanding the relationships between building and transportation stocks to meet climate change mitigation goals**
» Ms. Jialia Li, Mr. Nils Dittrich, Dr. Mark Simoni, Ms. Jonna Ljunge, Prof. Daniel Müller

9:45am **Dynamic Energy Performance Certificates - Adapting Governance Instruments to the Changing Needs For Smarter Urban Energy Flows**
» Dr. Hossein Shahrokni, Dr. Oleksii Pasichnyi

10am **Leveraging Real Options Analysis for Adaptable Building Designs**
» Ms. Doreen Steven Mlote, Dr. Michel-Alexandre Cardin, Prof. Lynette Cheah, Prof. Frederick Peter Ortner

10:15am **Adaptable vs optimised: Using a novel long-term decision-making method to develop sustainable building designs of the future**
» Mr. Harry Watt, Prof. Buick Davison, Dr. Peter Hodgson, Mr. Chris Kitching, Prof. Danielle Densley Tingley

9am **C9 - Mining**
SR1&2, Level 1
Chaired by: Prof. Matsubae Kazuyo

9am **Advancing open models, datasets and knowledge platforms for scenarios for energy transition mineral supply**
» Dr. Stephen Northey, Ms. Sia Yang, Ms. Julie Kowald, Mr. Michael Diponio, Mr. Bernardo Mendonca Severiano, Ms. Elsa Dominish, Prof. Damien Giurco

9:15am **Multivariate regression (MVR) mining project cost estimator for future mineral supply scenario modeling**
» Dr. Tim O'Brien, Dr. Elisa Alonso, Dr. Dalton McCaffrey

Continued from **Wednesday, 2 July**

9:30am **Mapping Global Resource-Driven Nature Loss in the Mining Sector**
» Dr. Yu-Tong Cheng, Dr. Nguyen Tien Hoang, Dr. Yushin Shinoda, Dr. Kamrul Islam, Dr. Masaharu Motoshita, Dr. Taku Kadoya, Prof. Keiichiro Kanemoto

9:45am **Environmental and Social Trade-offs of Copper Mining in Central Africa's Copperbelt: Insights from Land Transformation Analysis (1990–2020)**
» Dr. Junbin Xiao, Dr. Tim Werner, Prof. Matsubae Kazuyo

10am **Spatio-temporal analysis of land use intensity from laterite nickel mining activities in Indonesia**
» Ms. Ratu Keni Atika, Prof. Matsubae Kazuyo

10:15am **Development of regulatory framework for by-product utilisation in Western Australia in the light of EU & UK experiences with their Circular Economy Action Plans and Regulations**
» Dr. Biji Kurup, Prof. Martin Anda, Prof. Christopher Oughton, Prof. Evan Jamieson, Prof. Arie Van Riessen

9am **C10 - Social dimensions**
SR3&4, Level 1
Chaired by: Dr. Yosuke Shigetomi

9am **Quantifying a workforce transition through supply chain underlying carbon neutrality in an aging population**
» Dr. Yosuke Shigetomi, Dr. Andrew Chapman

9:15am **Assessing the Employment Impacts of Clean Energy Transition**
» Mr. Xiangjie Chen, Ms. Junyi Liang, Prof. Kuishuang Feng, Prof. Laixiang Sun, Prof. Klaus Hubacek

9:30am **Meet the Germans: Synthesizing 83 Million People's Socio-Economic Data for Industrial Ecology Modeling**
» Mr. Jakob Napiontek, Dr. Peter-Paul Pichler, Prof. Felix Creutzig, Prof. Helga Weisz

9:45am **Solarpunk Stories and Sunny Islands: Exploring IE Principles Through Climate Hope Narratives in Singapore**
» Mx. Reni Chng

10am **A New Systematic Approach to Construct Socio-Economic Accounts**
» Ms. Feifei Wang, Dr. Rutger Hoekstra, Dr. Ranran Wang, Mr. Ralf Schramm

10:15am **Integrating Generative AI into Sustainability Education: The Lorax as a Case Study**
» Prof. Wissam Kontar, Prof. Andrea Hicks

10:30am **Tea break**
Levels 1, 2 & 3

11am **Keynote by Linda Godfrey - The Circular Economy as a Science, Technology and Innovation Priority: The Case of South Africa**
Auditorium 2, Level 1 & 2
Chaired by: Ming Xu

11am **Keynote by Khoo Peng Beng - Humancity: Designing Cities for Human Well-being**
LT52 and LT53, Level 2
Chaired by: Prof. Lynette Cheah

12pm **Lunch**
Levels 1, 2 & 3

1pm **Poster session 2**
Levels 1 & 3

Continued from **Wednesday, 2 July**

Think Globally, Act Locally: Mitigating Zirconium Supply Risks in China
» Dr. Xin Xiong, Prof. Xianlai Zeng

Does Renewable Energy Capacity Shape Where Firms Go? Evidence from China
» Mr. Hongkwan Lee, Mr. Wenrui Shen

Evaluation of Basic Oxygen Furnace (BOF) Steel Slag as a Coarse Aggregate Substitute in Asphalt Concrete - Wearing Course (AC-WC)
» Ms. Arzetti Puspa, Dr. Dana Mutiara, Dr. Aulia Qisthi Mairizal

Digital transformation, incentives, and pro-environmental behaviour: assessing the uptake of sustainability in companies' transition towards circular economy
» Dr. Cristian Tosa, Mr. Chandra Prakash Paneru, Mrs. Ayda Joudavi, Prof. Ari Krisna Mawira Tarigan

A Systems Approach to Onsite Hydrogen Production: Investigating the Cost-Effectiveness and Potential of the Si+ Route
» Dr. Manoj Kumar Nallapaneni, Mr. Albert Lau, Prof. Alicia Kyoungjin An, Prof. Shauhrat S. CHOPRA

Co-production of steel and chemicals to mitigate hard-to-abate carbon emissions
» Dr. Yang Guo

Evaluating the Mitigation Potential of Embodied Carbon Emissions in South Korea's Residential Buildings
» Mr. Hyoungwook Lim, Ms. Eun-Jin Moon, Prof. Jooyoung Park

Quantifying High-Resolution Plastic Flows and Pathways to a Circular Economy in South Korea from 1962 to 2050
» Ms. Jieun Lim, Prof. Jooyoung Park

Bridging epistemology and methodology in SLCA: Developing tools for informed decision-making
» Dr. Jessica Bosseaux, Dr. Eugene Mohareb

Influence of allocation methods on the life cycle assessment of bio-oil and biochar production from a biorefinery in the Mediterranean climate
» Dr. Joan Muñoz Liesa, Dr. Pietro Tonini, Ms. Lucie Davila, Ms. Camila Hope, Ms. Mireia Mora, Dr. Esteve Fabregas, Dr. Neus Puy, Prof. Xavier Gabarrell

From Soil to Systems: Representing Regenerative Practices and Anaerobic Digestion in Material Flow and Life Cycle Analysis
» Dr. Christine Costello, Mr. Lucas de Lima Casseres dos Santos, Mr. DeWaunis Kelly, Dr. Elmin Rahic

LIFE CYCLE ASSESSMENT OF DUCKWEED BASED MANURE TREATMENT SYSTEM AT DAIRY FARM LEVEL
» Ms. Divya Pant

Revealing the impact of the COVID-19 pandemic on the usage of plastic packaging through material flow analysis using input-output tables
» Dr. Jun Nakatani, Ms. Yoko Miura

Unlocking Urban Metabolism Patterns in Historic Wine Towns: A Case Study of Taurasi's Agricultural-Urban Symbiosis
» Dr. Cristina Ciliberto, Prof. Grazia Calabrò, Prof. Giuseppe Caristi, Prof. Giuseppe Ioppolo

Technology-Policy Synergy in the Circularity of Critical Materials in Automotive Lithium-Ion Batteries: Insights from a Combined MFA and LCA Approach
» Dr. Yi Dou, Dr. Aya Heiho, Prof. Chiharu Tokoro, Prof. Yasunori Kikuchi

Analysing the spatial logistics of construction materials for a circular economy
» Dr. Ling Min Tan, Dr. Hadi Arbabi, Prof. Danielle Densley Tingley

Continued from **Wednesday, 2 July**

Density and moisture content impact on the environmental and economic performance of biorefineries
» Dr. Maxim Tschulkow, Prof. Tine Compernolle, Prof. Steven Van Passel

Shaping a Sustainable Plastic Industry: Modeling Market Shifts from PET to Bio-PET, PLA, and rPET
» Mr. SHUBHAM SONKUSARE, Prof. Yogendra Shastri

Built Afterlife: A Web Tool for Exploring the Circularity Potential of Buildings
» Mr. Bibek Gupta, Dr. Goran Sibenik, Prof. Rudi Stouffs, Prof. Pieter Herthogs

Ecological Efficiency Measurement of Global Paper Making Countries Based on Super-SBM-ML Model
» Ms. Shasha Liu, Dr. HUIJING DENG, Dr. Yunsheng Xie

Identifying the Driving Forces of Embodied Emissions from Intermediate Goods Export
» Dr. Fumiya Nagashima, Dr. Shohei Tokito, Dr. Tesshu Hanaka

Analysis of the economic pulling benefit of renewable energy industry based on China's photovoltaic input-output table
» Ms. Yiying Gao, Prof. Xinzhu Zheng

Adaptive Bayesian Modeling of Multimodal Inefficiency: Insights from China's Carbon Emissions Data
» Ms. Ken Yang, Prof. Shinsuke Murakami, Prof. Gento Mogi

Scenario analysis of large-scale incineration heat utilization in industrial facilities ～Effects of waste generation rate, electricity emission factor, and CCUS introduction～
» Mr. Gaku Nakagawa, Dr. Satoshi Ohnishi, Dr. Minoru Fujii, Prof. Seiji Hashimoto

Expanded momentum of national circular economy indicator development in emerging counties, focusing on Latin America and Asia
» Dr. Chika Aoki-Suzuki, Mr. Ran Yagasa

Ecological Network Analysis of Input-Output Models: Partitioning Embodied Raw Material
» Dr. Ivan Gue, Prof. Meng Li

Bill of Materials Prediction of Solid State Drives with Large Language Models
» Mrs. Anran Wang, Mr. Zaid Thanawala, Dr. Bharathan Balaji, Dr. Harsh Gupta

Embodied CO2 Emissions in ASEAN: A Multi-Regional Input-Output Analysis
» Ms. Asuka Matsuyama, Ms. Aoi TSUKIOKA, Prof. Shigemi KAGAWA

Exploring Energy Transition Pathways with Modelling to Generate Alternatives and Life Cycle Assessment
» Mr. Alexander de Tomás-Pascual, Dr. Laura À. Pérez-Sánchez, Dr. Francesco Lombardi, Dr. Stefan Pfenninger-Lee, Mr. Miquel Sierra, Dr. Inês Campos, Dr. Cristina Madrid Lopez

Emission Factor Recommendation in Life Cycle Assessment
» Dr. Nina Domingo, Dr. Bharathan Balaji, Dr. Fahimeh Ebrahimi, Dr. Gargeya Vunnava, Dr. Abu-Zaher Faridee, Mrs. Soma Ramalingam, Ms. Shikha Gupta, Mrs. Anran Wang, Dr. Harsh Gupta, Mr. Domenic Belcastro, Mr. Kellen Axten, Dr. Jared Kramer, Dr. Jeremie Hakian, Dr. Qingshi Tu

Revealing Hidden Health Costs of Diets: An Integrated Framework for Assessing the Economic Burden of Illness and Premature Mortality
» Mr. Benjamin Oebel, Mr. Lennart Stein, Prof. Tobias Gaugler

Strategic Integration of Industry 5.0 Technologies within Industrial Ecology: A Managerial Framework for Enhanced Cooperation and Sustainability
» Dr. Alberto Bongiorno, Prof. Maria Cristina Cinici, Prof. Katarzyna Szopik-Depczyńska, Prof. Giuseppe Ioppolo

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Life cycle material footprints analysis of global geothermal power generation
» Dr. Wufei Zhang, Prof. WEI YANG, Prof. Junnian Song, Dr. Guangrui Liu

Lifecycle Based Material Selection for Automotive Components
» Ms. Arushi Jaswal

Analyzing the impact of immigration-driven demand on food-related environmental impact and social inequality in the U.S.
» Ms. Jiahuan Wang, Dr. Yosuke Shigetomi, Dr. Andrew Chapman

Estimating substitution benefits of wooden building for Korea: application of displacement factor
» Dr. Sae-Min YOON, Dr. MIN-JI KIM

Environmental Impacts of Changes in Vessel Lifespan: The Case of Japanese Maritime Transport
» Mr. Taiga SHIMOTSUURA

A Framework for Evaluating the Metabolic Impact of Urban Districts: Simulating Building Carbon Emissions
» Mr. Ivan Beliaev, Ms. Sanjana Singh Raichur, Ms. Irina Orlenko, Prof. Lynette Cheah, Prof. Thomas Schroepfer

Investigate the potential of low energy and material demand (LEMD) strategy in Japanese residential building sector considering demographic changes
» Mr. Tao Cao, Dr. Alessio Mastrucci, Dr. Masahiro Sugiyama, Dr. Bas van Ruijven, Dr. Maryna Henrysson

Exploring Wood Dynamics in Canada's Construction Sector:
» Mr. Bidhan Bhuson Roy, Dr. Qingshi Tu

Human behavior effect on potential releases and exposures of plastic additives at the end-of-life stage
» Dr. Monica Rodriguez Morris, Dr. Gerardo Ruiz-Mercado

Environmental footprint accounting and simulation for the electronics industry
» Dr. Yudong Guo, Prof. Shaoqing Chen

Advancing Urban Sustainability through Photovoltaic Integrated Green Roof Systems (PVIGR): Insights from a Subtropical Climate Zone
» Mr. Zinan Lin, Dr. Qi Zhou, Dr. Liutao Chen, Dr. Wu Chen, Prof. Zhe Wang

Municipal circular economy indicators: Do they measure the cities' environmental ambitions?
» Prof. Sina Leipold

How Much Support does BIPV Need? A Combined Environmental and Economic Analysis of Building-Integrated Photovoltaics (BIPV) to Test Subsidy Effectiveness
» Mr. Julius Jandl, Mr. Elie Medioni, Dr. Abraham Yezioro, Dr. Daniel E. Orenstein, Prof. Sabrina Spatari

Superstructure as a communication tool in pre-emptive life cycle design engaging society
» Prof. Yasunori Kikuchi, Dr. Ayumi Yamaki, Dr. Aya Heiho, Dr. Shoma Fujii, Dr. Jun Nakatani, Prof. Ichiro Daigo, Prof. Chiharu Tokoro, Prof. Shinsuke Murakami, Prof. Satoshi Ohara

Impact of digitalization on sustainability in dynamic circular e-waste systems: A criteria-based analysis
» Mr. Denis Daus, Prof. Ani Melkonyan-Gottschalk

Planning Support Mechanisms for Technology Installation in Rural Industrial Symbiosis
» Dr. Yuichiro Kanematsu, Prof. Tatsuya Okubo, Prof. Yasunori Kikuchi

Creating a database to support the identification of chemical substances of concern in plastic recycling.
» Dr. Masahiro Oguchi, Mr. Tomoya Inoue, Mr. Yuki Tamagaki, Dr. Yoshitaka Imaizumi, Dr. Yosuke Koyama

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Urban metabolism and emergy of China's cities
» Dr. Miaohan Tang

Birds of a Feather? A Global Review of Chicken Life Cycle Assessments
» Dr. Derrick Risner, Mr. Fangzhou Li, Prof. Justin Siegel, Prof. Edward Spang

Microplastic Emissions from Incineration and Landfill Sites in China
» Dr. Chuan Zhao, Prof. Zhang Zhengyang, Prof. Matsubae Kazuyo

Facilitating Multidimensional Resilience in Industrial Symbiosis: Insights on Preparedness, Absorption, Recovery, and Adaptation from 35 Networks
» Ms. Yufan CHEN, Prof. Shauhrat S. CHOPRA

Material Flow Analysis of Domestic and Imported Wood in Korea: Implications for Resource Use
» Dr. MIN-JI KIM, Dr. Sae-Min Yoon

Investigating the Potential of Decentralized Anaerobic Digesters in a Circular Bioeconomy
» Ms. Carisse Geronimo

Assessing Renewable Electricity Generation Systems using PLCA
» Prof. Oliver Heidrich, Dr. Mohammad Ali Rajaeifar, Dr. Miriam Fsadni

Assessing the environmental impacts of decentralized wastewater management systems through lifecycle harmonisation
» Mr. Emilio Solis, Dr. Nils Thonemann, Dr. Ranran Wang, Prof. Arnold Tukker, Dr. Valerio Barbarossa

Material and Monetary Flow Database of Municipal Waste Management: over 30 years of monitoring in Japan and development of waste management toward a circular economy
» Dr. Tomohiro Tasaki, Dr. Kosuke Kawai, Dr. Haruhisa Yamamoto, Prof. Hiroya Tanaka

Decarbonizing industrial process heat: Accelerating near term progress
» Dr. Antoine Merlo, Mr. Aidan ONeil, Dr. Jason Ye, Dr. Eric Masanet

Comparative Life Cycle and Circular Economy Assessment of Upcycled, Recycled, and Virgin NMC Cathode Production
» Ms. Armita Mohammadi, Ms. Krystal Morrow-Davis, Prof. George Demopoulos, Prof. Sarah Jordaan

From Waste to Value: Yield and Environmental Benefits of Pruning Waste Incorporation in Peri-Urban Agriculture
» Mr. Guido Evangelista, Mr. Juan David Arosemena, Dr. Gaia Stringari, Ms. Erin Untereiner, Prof. Francesco Orsini, Prof. Xavier Gabarrell, Prof. Gara Villalba Mendez

An LCA-based decision-making tool to evaluate R-strategies for power electronics
» Mr. Josh Manley, Prof. Volker Pickert, Prof. Oliver Heidrich

Comparative High-Resolution Life Cycle Carbon Footprint Analysis for Footwear Underpinned by Diverse Data Sources
» Ms. Binggian Zhang, Prof. Jinping Tian, Prof. Lyujun Chen

Critical minerals: Critical to whom?
» Dr. Mehrnoosh Heydari, Prof. Jonathan Cullen, Mr. Hossein Zarei

The biotechnological production of HMFO (5-hydroxymethylfurfural oxidase) enzyme paves the way for a sustainable bioplastics industry
» Dr. Ana Arias Calvo, Mrs. Aroa Carballido, Mr. Juan Carro, Mr. Ángel T. Martínez, Mr. Francisco J. Ruiz Dueñas, Ms. Gloria Caminal, Prof. Gloria González, Prof. Marina Guillen, Prof. Oscar Romero, Dr. Kirian Bonet, Mrs. Garazi Ortiz De Orruño, Mrs. Darly Concha, Prof. Gumersindo Feijoo Costa, Prof. Maria Teresa Moreira Vilar

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Integration of HT-ATES in District Heating Networks: Workflow for Dynamic Life Cycle Assessment and Scenario Cost-Benefit Analysis
» Mr. Niklas Scholliers, Mr. Max Ohagen, Mr. Lukas Seib, Prof. Liselotte Schebek, Prof. Ingo Sass

Harmonising Green Hydrogen Transitions: Socio-Economic and Environmental Interconnectivity for a Sustainable Future
» Dr. Anthony Halog, Ms. Yunbo Yang, Mr. Anugrah Erick Eryantono

Life cycle assessment of California dairy biomethane: addressing multi-functionality through allocation
» Ms. Elizabeth Castner, Prof. Edward Spang

Identifying hotspot counties for carbon capture and storage development in China's cement sector
» Dr. Tongyuan Wu

Industrial Ecology of Bioproducts: Environmental Impact Assessment and Techno-Economic Analysis of Chemical Production from Cyanobacteria
» Ms. Roja K, Prof. Yogendra Shastri

Mineral-Energy-Climate co-benefits of rare earth circularity in global fleet electrification
» Mr. Wei Chen, Prof. Peng Wang, Prof. Wei-Qiang Chen

Understanding Consumer Preferences for Circular Economy Automobiles: Toward Sustainability
» Ms. Yi Gao, Prof. Shinsuke Murakami, Dr. Ryu Koide

Carbon footprint of battery-grade lithium chemicals in China
» Ms. Min Liu, Prof. Shaojun Zhang, Prof. Ye Wu

A Generative-AI Sustainability Platform Augmented by Sustainability Knowledge Graphs
» Dr. Yang Zhao, Mr. Chuan Fu Tan, Dr. Yeo Zhiquan, Dr. Jonathan Zhaozhi Low

Presenting the Yale Industrial Symbiosis Dataset and Assessment Tool
» Mr. Koichi Kanaoka

From single-use to sustainable: A life cycle assessment case study on disposable water bottles
» Ms. Audrey Stanton, Prof. Andrea Hicks

Analysing the environmental impact of technological transitioning in air conditioners in the case of Southeast Asia
» Mr. Akma Hakeem Azlan Kameel, Prof. Shoki Kosai, Prof. Shunsuke Kashiwakura, Prof. Yamasue Eiji

Unpacking By-Product Variability: Dynamic Waste Streams in Eco-Industrial Clusters
» Mr. Enar Leferink

Shaping Cities, Shaping Materials: the impact of Urban Morphology patterns on Material Stocks and Flows.
» Mr. Xin Bian, Prof. Meta Berghauser Pont, Dr. Maud Lanau

Scalability of Hemp Insulation in the US – A Monte Carlo-based Techno-economic Approach
» Mr. Arjun Ramshankar, Ms. Kelly Farmer, Prof. Joe Bozeman III

Leveraging digital product passports for automated environmental impact assessment using an information system
» Mr. Berend Mintjes, Dr. Sónia Cunha, Dr. Roland Hischier, Dr. Evert Bouman, Dr. Chen Li, Dr. Gaylord Kabongo Botoo, Dr. Daniel Dean Moran, Dr. Stéphanie Muller, Dr. José Mogollón

Reducing resource use of key services: circular strategies in the stock-flow-service nexus.
» Mr. Martijn van Engelenburg, Dr. Sebastiaan Deetman, Dr. Tomer Fishman, Dr. Paul Behrens, Dr. Peter Berrill, Prof. Ester van der Voet

Continued from **Wednesday, 2 July**

Understanding the mechanisms to stimulate green growth of the UK's fine chemicals industry through integrating sectoral productivity and industrial ecology
» Dr. Stephen Doliente, Prof. Nilay Shah, Prof. Jason Hallett, Prof. James Barlow

The impacts of elder care: A study on continence care in Danish nursing homes
» Ms. Ruby Bubinek, Dr. Ciprian Cimpan, Ms. Victoria Ankerstjerne

Leveraging building permit data for large-scale embodied carbon and circularity assessment of residential building construction
» Dr. Santiago Zuluaga Mayorga, Prof. Shoshanna Saxe

Estimating the effect of recovering fertility rate against a rapid aging population on household carbon footprint in South Korea
» Mr. Seiyo Iwamoto, Dr. Yosuke Shigetomi, Prof. Sunhee Suk

Comparative LCA of insect farming in North American cold climate for fishmeal alternatives
» Ms. Marissa Breitenstein, Prof. Andrea Hicks

A system approach for designing EV battery repurposing business models
» Ms. Inês Alves, Dr. Luís Oliveira, Mr. Emanuel J. Lourenço, Ms. Sara M. Pinto

From the household up: Insights into rates and patterns of renovation in the residential building stock from survey data
» Ms. Ankita Singhvi, Dr. Mikhail Sirenko, Dr. Aristide Athanassiadis, Prof. Claudia R. Binder

How Clear is the Consequential Methodology? A Test Case and Conceptual Solutions
» Ms. Daria Blizniukova, Prof. Matthias Finkbeiner

The impact of policy levers on critical material supply for the energy transition - A UK case study
» Mr. Luke Cullen, Mr. Sam Stephenson, Dr. Baptiste Andrieu, Prof. Jonathan Cullen, Dr. André Cabrera Serrenho

Waste-derived biochar decarbonizes cementitious materials in urbanizing societies
» Dr. Ning Zhang, Prof. Huabo Duan

The circularity of textile waste: a systematic literature review on environmental methods
» Ms. Gemma Morell-Delgado, Dr. Laura Talens Peiró, Dr. Susana Toboso-Chavero

Value chain collaboration for sustainable business model innovation
» Ms. Cadence Hsien, Prof. Steve Evans

Understanding consumer decision-making on bioplastics in Japan: influence of information provision on psychological factors
» Ms. Yunmeng Cao, Dr. Ayami Otsuka, Prof. Yasunori Kikuchi

Harnessing Generative AI and Knowledge Graphs to Identify Intercompany Resource Synergies for Industrial Symbiosis
» Dr. Chuan Fu Tan, Dr. Yang Zhao, Dr. Yajuan Sun, Dr. Jonathan Zhaozhi Low, Dr. Yeo Zhiquan

Life Cycle Greenhouse Gas Emissions from Biosolids Processing systems: Insights from Harmonisation
» Mr. Jingwen Luo, Dr. Ruth Fisher, Prof. Thomas Wiedmann, Dr. Shamim Aryampa

The impacts of metal extraction and imports on socioeconomic metabolism for Europe's energy transition
» Dr. Sónia Cunha

Circular Life Cycle Blueprint: A Design Framework for Sustainable Product Development
» Mr. Rafael Selhorst, Ms. Shaleen Shahrin, Prof. Arlindo Silva

Continued from **Wednesday, 2 July**

Can sharing car trips deliver meaningful emissions savings? The case of Great Britain
» Mr. Hugh Thomas, Dr. André Cabrera Serrenho

Data from Debris: Validating a Building Material Stock Model with Demolition Data
» Mr. Carlo Schmid, Dr. Kamila Krych, Prof. Stefanie Hellweg

Quantify the variability in carbon footprint of petrochemicals along oil-to-chemical chain
» Ms. Yiling Xiong, Prof. Shaojun Zhang

Optimising biochar integration in the Swiss concrete metabolism for compensating greenhouse gas emissions
» Dr. Daniel Grossegger, Dr. Mateusz Wyrzykowski, Prof. Pietro Lura

A Mass Balance-Based Approach for Adjusting Recycling and Recycled Content Targets for Increased Reuse : A Case Study On Regional Circular Industrial Plastic Packaging Systems
» Mx. Sofie Ferauge, Dr. Sarah Schmidt, Dr. Luc Alaerts, Prof. David Laner, Prof. Karel Van Acker

Navigating Sustainability: Insights from Applying the Green Compass™ Tool in Singapore
» Dr. Jonathan Zhaozhi Low, Dr. Ginny Yin Jin Lee, Mr. Liat Boon Lek, Ms. Cadence Hsien

Environmental impact of machinery and equipment: a comparison between ecoinvent, national IO accounts and EXIOBASE
» Ms. Yiwen Liu, Dr. Meng Jiang, Prof. Edgar Hertwich

Life cycle impact assessment of optimal hydrogen production processes in Vietnam
» Ms. Trang Nguyen, Prof. Zhang Zhengyang, Dr. Oscar Tiku, Prof. Matsubae Kazuyo

Spatial Differentiation of Driving Factors and Spillover Effects of Urban Industrial Ecological Agglomeration: Evidence from the Upper Reaches of the Yangtze River in China
» Mr. Yi Li

Enhancing Circularity: Durability and Service Life of Stored Materials for Reuse in the Norwegian Public Sector
» Ms. Thea Mork Kummen, Dr. Freja Nygaard Rasmussen, Dr. Rolf André Bohne

Mitigating Carbon Accounting Inconsistencies in the English and Welsh Water Sector
» Ms. Anna Christy, Dr. Anthony Browne, Prof. Marwa Elnahass, Prof. Jaime Amezaga, Prof. Oliver Heidrich

Developing actor-level targets for a sustainable steel system
» Ms. Roberta Barr, Dr. Andrea Paulillo, Dr. Stijn Van Ewijk

The Environmental Impacts of Lab-Based Blue Foods
» Ms. Shira Shabtai, Mrs. Tamar Meshulam, Mrs. Tamar Makov

An Integrated Analytical Platform for Pioneering Sustainable Bioeconomy Solutions: Leveraging Life Cycle Assessment, Techno-Economic Analysis, and Multi-Objective Optimization
» Dr. Shiva Zargar, Dr. Qingshi Tu

An agent-based model of supply chain dynamics for critical energy transition minerals
» Mr. Şanser Güz, Prof. Shinsuke Murakami

A decision-making framework for plastics end-of-use treatment options and their sequestration potential
» Ms. Jennifer Hawkin, Prof. Tony Ryan, Prof. Rachael Rothman, Dr. Stuart Walker, Prof. Jonathan Cullen, Dr. Fanran Meng

2:30pm **D1 - Applying data science in waste management**
Auditorium 2, Level 1 & 2
Chaired by: Dr. Vimi Dookhun

Continued from **Wednesday, 2 July**

2:30pm **Data-driven Environmental Violation Detection New Mode: Data Mining of 686 Municipal Solid Waste Incineration Factories' CEMS**
» Dr. Fan Fei, Prof. Zongguo Wen

2:45pm **Leveraging AI for Material Identification in Unauthorized Dumps for Circular Economy Applications**
» Mr. Adi Mager, Prof. Vered Blass, Dr. Moni Shahar, Mr. Yoni Tsur, Mr. Arik Gorun

3pm **Leveraging Machine Learning and Industrial Waste Data to Provide Recommendations for Secondary Material Adoption**
» Mr. YITING KUO, Prof. Pi-Cheng Chen

3:15pm **Global health, ecosystem and resource co-benefits of tailored municipal solid waste management reinforcement**
» Dr. Qilin Cao, Prof. Junnian Song, Prof. WEI YANG

3:30pm **Smart Urban Metabolism in the Stockholm Royal Seaport: Data-Driven Behaviors in the Carbon Sink City**
» Dr. Hossein Shahrokni, Dr. Jiechen Wu

2:30pm **D2 - Special session - Spatially explicit material stocks and flows, towards integrated modelling approaches, Part One**
LT50, Level 1
Chaired by: Prof. Danielle Densley Tingley and Prof. Jonathan Cullen and Dr. André Cabrera Serrenho and Dr. Rick Lupton and Dr. Alessio Miatto and Dr. Schandl, Heinz and Dr. Tomer Fishman

2:30pm **D3 - Special session - Circular economy and multi-factors nexus**
LT51, Level 1
Chaired by: Prof. Huijuan Dong and Dr. Jinhua Li

Green recycling assessment on typical spent lithium-ion batteries (LIBs): A multi-objective assessment
» Ms. Wenfang Gao

Study on the regional industrial structure optimisation based on water-energy-carbon-economy multi-objectives: a case study of Inner Mongolia Autonomous Region
» Dr. Jinhua Li, Mr. Yalun Li, Dr. Chonglei Li

Life cycle assessment of graphite recycling from LIBs and its applications
» Dr. Guangling Zhao, Dr. Wafaa Al-Shatty, Prof. Davide Deganello, Prof. Jenny Baker

Balancing Cost, Carbon, and Material Circularity: A Trade-off Analysis for Scaling Up Flexible Plastic Packaging Recycling in the United States
» Ms. Oksana Makarova, Dr. Basuhi Ravi, Ms. Jacqueline Baidoo, Prof. Davide Masato, Prof. Margaret Sobkowicz, Prof. Elsa Olivetti

Water-Energy-Pollutants Nexus identification and application – Taking petroleum refining enterprise as an example
» Ms. Qiufeng Gao, Mr. Delin Sun, Dr. Shuai Shao, Prof. Yun Zhang

Reflections on the Future Development of Wastewater Treatment Plants from the Perspective of the Water-Energy-Land Nexus
» Ms. Junran Liu, Mr. Runyao Huang, Ms. Dzedzemo-on Patience, Ms. Sitian Jin, Ms. Yating Sun, Prof. Hongtao Wang, Prof. Li Xie, Prof. Jacek Makinia

2:30pm **D4 - Special session - Empowering Life Cycle Sustainability Assessment with Digital Technologies for Sustainable Industrial Transition**
LT52, Level 2
Chaired by: Prof. Alessandro Manzardo and Dr. Junzhang Wu

Plant-Level CO2 Emissions and Carbon-Neutrality Pathways in China's Copper Industry
» Mr. Peng Wang, Dr. Qiaochu Wang, Prof. Wei-Qiang Chen

Continued from **Wednesday, 2 July**

Matrix-Based Modeling for GHG Emission Forecasting and Corporate Decarbonization Strategy Evaluation
» Dr. Alessandro Marson, Prof. Alessandro Manzardo

Do IoT Sensor-Driven Dynamic Shelf Life Systems Effectively Reduce Food Waste? A Life Cycle Perspective
» Dr. Junzhang Wu, Prof. Yifeng Zou, Prof. Alessandro Manzardo

Integrating BIM and LCA for sustainable high-Speed rail infrastructure: A framework for early design stage environmental assessment
» Ms. Asmaa Benzidane

2:30pm **D5 - Energy systems II**
LT53, Level 2
Chaired by: Dr. Jessica Bosseaux

2:30pm **Analysis of Certification Schemes for Technical Pathways of Carbon-Based Energy Carriers**
» Dr. Jens Hunhevicz, Dr. Florian Kiefer, Mr. Matthias Sulzer

2:45pm **On the distribution of energy: a comparative study of the energy forms and their distributive powers and efficiencies**
» Ms. Ella Jennings, Prof. Jonathan Cullen

3pm **A Comprehensive Framework for Assessing the Environmental Footprint of Electricity in China at Provincial Level: Methodology and Data Harmonization**
» Ms. Ruoxi Xiong, Ms. Ziqi Wang, Ms. Simeng Chen, Dr. Huimin Chang, Dr. Ruru Han, Dr. Xiaohui Lu, Mr. Rentao Ouyang, Dr. Jianchuan Qi, Prof. Ming Xu

3:15pm **Evaluation of Policies to Support Robust Planning of Electricity Systems Exposed to High Uncertainty**
» Mr. Chris Fitzgibbon, Prof. Heather L. MacLean, Prof. I. Daniel Posen

3:30pm **Metamodel-Driven Integration of Life Cycle Assessment and Agent-Based Modeling**
» Ms. Agnese Fuortes, Dr. Carlos Felipe Blanco Rocha, Dr. Joris Quik, Ms. Lynn de Jager, Prof. Willie Peijnenburg

3:45pm **Cracking Appalachia: A Political-Industrial Ecology Perspective**
» Dr. Jennifer Baka

2:30pm **D6 - Food systems II**
Dance Atelier 2, Level 3
Chaired by: Prof. Weslynne Ashton

2:30pm **Dutch and EU consumption-based assessments of nitrogen losses throughout the global food system**
» Dr. José Mogollón, Dr. Nicolas Navarre, Mr. Kevin P. Morgan-Rothschild

2:45pm **Values-based institutional food procurement: accounting for the true costs of food using life cycle assessment**
» Prof. Weslynne Ashton, Mr. Kobby Antwi, Mr. Ishan Parekh

3pm **Socio-technical transformation towards resilient and circular food systems: A decision support framework for food security dynamics**
» Prof. Ani Melkonyan-Gottschalk, Prof. Tim Gruchmann, Prof. Vasanth Kamath

3:15pm **Measuring India's Food Loss and Waste footprint in a Circular Economy Framework using a Farm to Fork approach**
» Prof. Kakali Mukhopadhyay, Dr. Vishnu Prabhu

3:30pm **Strengthened water-energy-food interlinks for co-benefits in China's food processing sector**
» Dr. Tian fu Yao, Prof. Junnian Song, Prof. WEI YANG

3:45pm **Life cycle inventories and environmental footprints of major food systems in Peru**
» Dr. Diana Ita-Nagy, Dr. Joan Sanchez-Matos, Mr. Alvaro Elorrieta-Mendoza, Dr. Ian Vazquez-Rowe, Dr. Ramzy Kahhat

Continued from **Wednesday, 2 July**

2:30pm **D7 - Plastics II**
Practice Room 1, Level 3
Chaired by: Dr. Callie Babbit

2:30pm **Perceptions and strategies for effective information provision regarding biomass-attributed plastics**
» Prof. Seiji Hashimoto, Mr. Hirosato Fukuda, Mr. Daisuke Tanaka, Prof. Sebastien M.R. Dente

2:45pm **Plastic Waste in Building Construction: A Comparative Study of Residential and Office Buildings in Sweden**
» Ms. Shuang Wang, Dr. Leonardo Rosado, Dr. Maud Lanau, Dr. Magnus Österbring, Prof. Holger Wallbaum

3pm **The plastic footprint of the U.S. agricultural system**
» Ms. Katie Malarkey, Dr. Callie Babbit

3:15pm **The Growing Challenge of Microplastic Emissions from Synthetic Textiles: An Australian Case**
» Mr. Mithun Kumar Biswas, Mr. Haiwei Zhou, Prof. Wen Li, Dr. Liuhua Peng

3:30pm **Prospective Life Cycle Assessment of fermentative Glutaric Acid production from recycled carbon source: linking environmental and economic insights.**
» Ms. Maria Ciotti, Mr. Jorge Benavides-Hernández, Dr. Michael Kohlstedt, Dr. Christoph Wittmann, Dr. Maurizio Bettiga, Dr. Mathias Janssen

3:45pm **Shift to intra-EU-OECD trade enhanced environmental benefits after Basel Convention Plastic Waste Amendments**
» Mr. Kai Li, Dr. Hauke Ward, Prof. Hai Xiang Lin, Prof. Arnold Tukker

2:30pm **D8 - Ecological economics, EEIO**
Dance Studio, Level 1
Chaired by: Prof. Chris Kennedy

2:30pm **Energy and The Holy Grail of Macroeconomics**
» Prof. Chris Kennedy

2:45pm **From Exogenous Demands to Endogenous Productive Inputs, Fixed Capital Shows Potentials to Be a Powerful Lever for Carbon Mitigation**
» Dr. Dongxiao Xu, Prof. yan zhang

3pm **Development of a Japan nested-MRIO: Unveiling the transformative drivers of regional economic supply chains for a decarbonized and dematerialized society**
» Dr. Sho Hata, Dr. Jacob Fry, Dr. Kenichi Nakajima, Dr. Keisuke Nansai

3:15pm **Analyzing Resource Productivity Dynamics by Clustering European Economies.**
» Mr. Nuno Carvalhinho, Prof. Paulo Ferrão, Prof. Patricia Batista

3:30pm **Does economic rent-seeking perform as the ultimate driver of the material stock accumulation?**
» Dr. Mihály Dombi

3:45pm **The Path of Green Transformation - The Impact of Fossil Fuel Sur-Charge and ETS in Japan Based on CGE Analysis**
» Mrs. Yayue Xiao, Prof. Shiro Takeda, Prof. Toshihide Arimura, Dr. Naoki Toda

2:30pm **D9 - Metals I**
SR1&2, Level 1
Chaired by: Prof. Andrea Hicks

2:30pm **Global cycle of base metals and a non-metal mineral and the value of physical capital stocks over the century**
» Prof. Koji Tokimatsu

Continued from **Wednesday, 2 July**

2:45pm **An in-depth analysis of global environmental impacts of supply chains associated with 54 metal and mineral elements**
» Mr. Frederic Lai, Dr. Stéphanie Muller, Mrs. Audrey Philippe, Dr. Robert Istrate, Dr. Brenda Miranda Xicotencatl, Mrs. Afsoon Mansouri Aski, Dr. Aina Mas Fons, Dr. Juliana Segura-Salazar, Dr. Jair Santillán Saldivar, Dr. Alexander Cimprich, Dr. Stephen Northey, Dr. Ligia da Silva Lima, Dr. Lieselot Boone, Dr. Ryosuke Yokoi, Dr. Kamrul Islam, Mrs. Ioanna Paschalidou, Dr. Felipe Cerdas, Mr. Victor Balboa-Espinoza, Dr. Anish Koyamparambath, Mrs. Diae Hennioui, Mrs. Victoire Collignon, Dr. Aurélien Reys, Mr. Gyslain Ngadi Sakatadi, Prof. Jo Dewulf, Dr. Bernhard Steubing, Prof. Christoph Helbig, Mr. Gaetan Lefebvre, Dr. Gian Andrea Blengini, Dr. Valeria Superti, Dr. Masaharu Motoshita, Prof. Guido Sonnemann, Dr. Kwame Awuah-Offei, Prof. Steven Young, Prof. Shinsuke Murakami, Dr. Antoine Beylot

3pm **Clean energy transition hinders decarbonization of copper industry chain? Tracing GHG emissions and driver decomposition**
» Dr. Shuangmei Li

3:15pm **Using historical U.S. copper data to consider future copper recovery from post-consumer electronic waste**
» Prof. Andrea Hicks, Ms. Michelle Wagner, Prof. Colin Fitzpatrick

3:30pm **Contemporary and future secondary copper resources in Southeast Asian countries**
» Dr. Thi Van LE, Prof. Sebastien M.R. Dente, Prof. Seiji Hashimoto

2:30pm **D10 - Public policy**
SR3&4, Level 1
Chaired by: Prof. Clinton Andrews

2:30pm **From Circular Economy Policy Intent to Action: insights from regional policy development in Southeast Asia**
» Dr. Zinaida Fadeeva, Dr. Rene Van Berkel, Mr. Sanjay Kumar, Dr. Thomas Lindhqvist, Mr. Thomas Thomas, Dr. Lunchakorn Prathumratana, Ms. Loraine Gatlaybayan, Ms. Elodie Maria-Sube, Mr. Sachin Joshi

2:45pm **Understanding the limitations of targets for recycling and recycled content rates for circular plastics management: a general economic equilibrium model including material flow analysis**
» Ms. Stefani Rivic, Dr. Michael Freiberger, Prof. Helmut Rechberger

3pm **Beyond Efficiency: Evaluating Policy Strategies to Counteract Rebound Effects**
» Dr. Edgar Towa, Prof. Wouter Achten, Dr. Jaume Freire-González

3:15pm **Interoperable Energy-Emissions Modelling for Net Zero Policy Planning in Singapore**
» Ms. Cheuk Wah Wong

3:30pm **Recommendations for improving sustainable practices in Dutch governmental laboratories**
» Dr. Justin Lian, Mr. Thomas Arblaster, Ms. Kristie Tjokro, Mr. Quan van der Knokke, Dr. Stefano Cucurachi

4pm **Tea break**
Levels 1, 2 & 3

4:30pm **E1 - Sustainable design**
Auditorium 2, Level 1 & 2
Chaired by: Prof. Jeroen Guinée

4:30pm **The roles of IE-methods for Safe and Sustainable by Design (SSbD)**
» Prof. Jeroen Guinée, Mr. Thomas Arblaster, Ms. Nina van Dulmen

4:45pm **Towards Robust Decision-Making in Safe and Sustainable by Design (SSbD): Current State and Recommendations for MCDA Integration**
» Ms. Nina van Dulmen, Dr. Marco Cinelli, Dr. Carlos Felipe Blanco Rocha, Prof. Charles Corbett, Prof. Jeroen Guinée

Continued from **Wednesday, 2 July**

5pm

Operationalizing the SSbD Framework: A Novel Composite Indicator for Integrated Safety, Sustainability, and Circularity Assessment

» Dr. Ana Arias Calvo, Dr. Marco Cinelli, Prof. Maria Teresa Moreira Vilar, Dr. Stefano Cucurachi

5:15pm

Application of the SSbD framework in the development of new electrical energy storage devices

» Dr. Ciprian Cimpan, Dr. Suiting Ding

5:30pm

A methodological approach for ecodesign implementation in product development: an energy storage system case study

» Ms. Carolina C. Fraga, Ms. Inês Alves, Mr. Emanuel J. Lourenço

4:30pm

E2 - Special session - Spatially explicit material stocks and flows, towards integrated modelling approaches, Part Two

LT50, Level 1

Chaired by: Dr. Alessio Miatto and Dr. Schandl, Heinz and Dr. Tomer Fishman and Prof. Danielle Densley Tingley and Prof. Jonathan Cullen and Dr. André Cabrera Serrenho and Dr. Rick Lupton

4:30pm

E3 - Special session - Decent Living Standards: resource needs in an unequal world

LT51, Level 1

Chaired by: Dr. Johan Andrés Vélez-Henao and Ms. Kaveri Ashok

Global resource use and emissions required to provide decent living standards and eradicate poverty

» Dr. Johan Andrés Vélez-Henao, Dr. Jan Streeck, Mr. Jarmo Kikstra, Prof. Stefan Pauliuk

The Weight of Inequality: Material Disparities in Lima's Built Environment

» Ms. Alessia Linares-Capurro, Dr. Tomer Fishman, Dr. Janneke van Oorschot, Dr. Ramzy Kahhat, Dr. John L. Heintz

Selfish Sufficiency

» Prof. Clinton Andrews

Emissions required to close the decent living gaps in Chinese city clusters

» Prof. Mo Li, Mr. Yuezhang Hong

4:30pm

E4 - Special session - Quo Vadis NBS? State of the art, research outlook, and policy relevance of Nature-Based Solutions in the Urban Metabolism

LT52, Level 2

Chaired by: Prof. Daniela Perrotti and Prof. Zhi Cao and Dr. Kangkang Tong

Opportunities and Challenges of Nature-Based Solutions as a new frontier in Urban Metabolism research. Evidence from a fast-growing literature base

» Prof. Daniela Perrotti

Nature-Based Solutions for Urban Carbon Neutrality in Developing Countries: Observations and Reflections

» Dr. Kangkang Tong

Urban green spaces in combating urban heat islands: A review of data acquisition, data fusion, and modeling approaches

» Ms. Zijin Guo, Prof. Chunli Chu, Prof. Zhi Cao

Green space for sustainable and livable cities in Ghana: Maintenance culture, theory of planned behaviour, and place-keeping

» Mr. Michael Adutwum Osei, Ms. Sandra Ama Yalley, Prof. Ari Krisna Mawira Tarigan

Continued from **Wednesday, 2 July**

Evaluating Nature-Based Solutions through Political-Industrial Ecology: Lessons from Energy and Agriculture
» Dr. Jennifer Baka, Dr. Christine Costello

4:30pm **E5 - Energy systems III**
LT53, Level 2
Chaired by: Prof. Sarah Jordaan

4:30pm **Comparative environmental life cycle assessment of conventional hydrogen energy with different fuel options in Taiwan**
» Dr. Yi-Shin Wang, Prof. Nae-Wen Kuo

4:45pm **Democratizing life cycle assessment: a streamlined model of greenhouse gas emissions from U.S. natural gas supply chains**
» Mr. Adithya Srikanth, Mr. Sai Ramesh, Dr. Garvin Heath, Prof. Sarah Jordaan

5pm **Environmental footprints of global geothermal power generation**
» Dr. Guangrui Liu, Prof. Junnian Song, Prof. WEI YANG, Dr. Wufei Zhang

5:15pm **Assessing Methane Emissions from Shale Gas Production in China**
» Dr. Meiyu Guo

5:30pm **Synergies between climate change adaptation and mitigation: Removal of riverbank vegetation as a flood protection measure and its use for biomass power generation**
» Ms. Chihiro Yamamoto, Prof. Kiyo KURISU, Mr. Yoshinori Hawai, Mr. Takaya Kaneko, Dr. Takahiko Date, Prof. So Kazama, Prof. Kensuke Fukushi

5:45pm **An offshore windfarm population model: how deployment rates, asset lifespans and national capacity limit renewable capacity.**
» Dr. Andrew Garrick

4:30pm **E6 - Food systems III**
Dance Atelier 2, Level 3
Chaired by: Dr. Jason Hawes

4:30pm **Understanding sustainability, resilience, and justice synergies and tradeoffs across urban metabolism futures: The case of urban agriculture**
» Dr. Jason Hawes, Dr. Joshua Newell, Dr. Sara Meerow

4:45pm **Life Cycle Assessment of Plant-based Protein Isolates for Alternative Protein Development Platform**
» Ms. SING YING CHOY, Mr. Jun Wong Tan, Mr. Yintai Ao, Mr. Clement, Beng Kwee Tan, Dr. Jordy, Kim Ung Ling, Mr. Eugene Hong Zhuang Ho, Dr. Jonathan Sze Choong Low, Dr. Siew Bee Ng, Dr. Melanie Weingarten

5pm **Competitiveness analysis to develop a marginal mix for consequential LCA: A Seaweed Case Study**
» Mr. Ravalnath Shikhare, Prof. Massimo Pizzol

5:15pm **Greening Indonesia's Seafood Supply Chain Through Circular Economy and Digital Transformation: A Case Study from the UNIDO Global Quality and Standards Programme**
» Ms. Ita Sualia, Dr. Eko Ruddy Cahyadi, Dr. Anthony Halog

5:30pm **Stimulated Functional Specialization in Pig Farming Improves Supply Chain Efficiency and Reduces Environmental Impact**
» Dr. Zhuang Qian, Dr. Wu Chen, Dr. Li Xue, Prof. Gang Liu

4:30pm **E7 - Plastics III**
Practice Room 1, Level 3
Chaired by: Prof. Shauhrat S. CHOPRA

4:30pm **Technological and Socio-institutional Strategies Towards a Zero-waste and Net-zero Carbon Plastic Packaging Economy**
» Mr. Farshid Nazemi, Dr. Fabio Sporchia, Dr. Kevin Dooley, Prof. Bhavik Bakshi

Continued from **Wednesday, 2 July**

4:45pm **The carbon mitigation of circular economy consumption patterns by consumers for food and beverage containers (FaBCs) packaging by life cycle assessment**
» Dr. Peixiu CHEN

5pm **Biogenic carbon accounting in life cycle assessment of single-use plastics alternatives**
» Dr. Fanran Meng, Prof. Jon McKechnie, Dr. Stuart Walker, Prof. Rachael Rothman, Dr. Experience I Nduagu, Dr. Kirti Richa, Dr. Luis A Sotomayor, Dr. Timothee W Roux

5:15pm **Reusable versus disposables in air catering service from a life cycle perspective**
» Mr. Dongzhe LIU, Ms. Feiya CHEN, Prof. Shauhrat S. CHOPRA

5:30pm **Scaling Reuse – LCA and TEA of Low-Tech vs. Technology-Driven Rental Cup Reuse Systems in East Asian Megacities**
» Dr. Meike Sauerwein, Prof. Shauhrat S. CHOPRA, Mr. Dongzhe LIU, Dr. Manoj Kumar Nallapaneni, Mr. Choi Chi Lau, Ms. Amrita Saraswati Sutedja, Ms. Wei Lin Whitney Yu, Dr. Shimul Roy

5:45pm **Understanding the environmental footprint of vegetable oil production: a view on packaging impacts**
» Dr. Diana Ita-Nagy, Dr. Ian Vazquez-Rowe, Dr. Ramzy Kahhat, Ms. Alejandra Rizo Patrón

4:30pm E8 - EEIO case studies and methods

Dance Studio, Level 1
Chaired by: Prof. Richard Wood

4:30pm **Sustainability Pathways - Updating EXIOBASE for tracking progress against Planetary Boundaries.**
» Prof. Richard Wood

4:45pm **Tracing Global Consumption Pressures on Planetary Boundary Transgressions: A Multi-Regional Input-Output Analysis**
» Mr. Qiang Yang, Dr. Andrea Paulillo

5pm **Proposal for methods to analyze the multifaceted socio-economic effects of implementation of new technologies using input-output analysis: : A case of plant resource utilization technology**
» Dr. Yuko Oshita, Dr. Shunichi Hienuki, Dr. Daisuke Nishijima, Dr. Yuichiro Kanematsu, Prof. Yasunori Kikuchi

5:15pm **Exploring the balance between positive and negative effects of global supply chains on freshwater consumption: A global and regional scale perspective**
» Dr. Keitaro MAENO, Dr. Masaharu Motoshita, Dr. Kamrul Islam

5:30pm **Development and Application of an Extended Input-Output Analysis Model for Emerging Technologies: A Case Study on Cellulose Nanofibers**
» Dr. Shunichi Hienuki, Dr. Yuko Oshita, Dr. Daisuke Nishijima, Dr. Yuichiro Kanematsu, Prof. Yasunori Kikuchi

5:45pm **Environmental and global supply-chain impacts of the 2021 Los Angeles-Long Beach port congestion**
» Mr. Yunlei She, Dr. Shen Qu, Dr. Qi Zhou

4:30pm E9 - Metals II

SR1&2, Level 1
Chaired by: Prof. Koji Tokimatsu

4:30pm **Scope 3 emissions in stainless-steel production: relevance and impact on CFP**
» Mr. Luca Testini, Mr. Alessandro Misul, Mr. Vincenzo Morreale, Mr. Philippe Brocard, Ms. Livia Persico, Prof. Davide Mombelli, Prof. Giovanni Dotelli

4:45pm **Improving the resource efficiency of high-quality steel under advanced remanufacturing technologies**
» Dr. Suiting Ding, Dr. Ciprian Cimpan

5pm **Combining MFA models for steel and zinc: The case of galvanized steel scrap in Europe**
» Dr. Leon Rostek, Dr. Antonia Loibl

Continued from **Wednesday, 2 July**

5:15pm **Cross life cycle opportunities for increasing the post-consumer recycled content of aluminum automotive body sheet**
» Ms. Alissa Tsai, Dr. Yongxian Zhu, Dr. Mohammadreza Heidari, Dr. Daniel Cooper

5:30pm **Analysing the potential of secondary aluminium in achieving decarbonisation of the global aluminium industry**
» Ms. ZIJIE MA, Prof. Alvaro Calzadilla Rivera, Dr. Matthew Winning

4:30pm **E10 - Urban planning**
SR3&4, Level 1
Chaired by: Prof. Joe Bozeman III

4:30pm **Indicators for assessing long-term, participatory transitions of built environment in neighbourhood**
» Ms. Meera Mahadevan, Dr. Corentin Fivet, Dr. Didier Vuarnoz, Dr. Didier Beloin-Saint-Pierre

4:45pm **Scaling Nature-Based Solutions for Urban Carbon Sequestration in a High-Density City**
» Ms. Yuanxin CHEN, Dr. Kangkang Tong

5pm **Cross-city plant-level symbiosis in urban agglomeration unlocks substantial decarbonization, health and economic benefits**
» Ms. Xin Cao, Ms. Mingxuan Wu

5:15pm **AI-Driven Approaches for Circular Resource Management in Urban Systems**
» Ms. Deepika Raghu, Prof. Catherine De Wolf

6pm **Public Policy Section meeting**
Dance Studio, Level 1

6pm **ISIE Board meeting**
SR1&2, Level 1

6pm **Journal of Industrial Ecology (JIE) Associate Editors meeting**
SR3&4, Level 1

Thursday, 3 July

8am **Registration**
Level 1

9am **F1 - Material Flow Analysis (MFA) case studies**
Auditorium 2, Level 1 & 2
Chaired by: Dr. Antonia Loibl

9am **A Transdisciplinary Approach to Material Flow Modelling: From Knowledge Exchange to iInterconnected Work between Science and Industry**
» Dr. Antonia Loibl, Dr. Luis Tercero Espinoza, Dr. Michaela Schicho

9:15am **Subnational Economy-Wide Material Flow Accounting: The Australian States and Territories**
» Dr. Adam Kelly, Dr. Alessio Miatto, Dr. Schandl, Heinz

9:30am **Decoupling Trends and Circular Economy: Insights from the Material Flow Accounts of Singapore and Brunei Darussalam**
» Prof. Marianne Faith Martinico-Perez, Prof. Anthony SF Chiu, Dr. Masatoshi Hasegawa, Prof. Hiroki TANIKAWA

9:45am **Material flow analysis of food contact packaging: exploring the impacts of recycled content mandates on consumer chemical exposure risks**
» Dr. Ben Madden, Dr. Melita Jazbec

10am **Material Flow Analysis of synthesis diamond in China from 1999 to 2022**
» Dr. Wanjun Wang

Continued from **Thursday, 3 July**

10:15am **Urban Phosphorus Cycling in Shanghai: Evolution and Driving Mechanisms Over One Century**
» Dr. Li Xiao

9am **F2 - Special session - Industrial Ecology and Commercial Decision Making: Strategy and Practice**
LT50, Level 1
Chaired by: Tim Baynes

Interconnectivity: The Key for a Dynamic Framework for Decarbonisation in the Water Sector
» Ms. Anna Christy, Prof. Marwa Elnahass, Dr. Anthony Browne, Prof. Jaime Amezaga, Prof. Oliver Heidrich

From Lab to Market: Applying Environmental Due Diligence for Impact Investing
» Dr. Hatzav Yoffe, Dr. Rajhans Negi, Prof. Vered Blass

Critical Analysis of Chain of Custody Systems and Mass Balance Displays for Sustainability Certifications
» Prof. Sebastien M.R. Dente, Prof. Seiji Hashimoto

9am **F3 - Special session - Lightning talks on teaching industrial ecology**
LT51, Level 1
Chaired by: Dr. Stijn Van Ewijk and Prof. Lynette Cheah

MilkCo.: Gamifying Life Cycle Thinking for the Next Generation of Industrial Ecologists
» Dr. Meike Sauerwein, Mrs. Evelyn Pang, Prof. Jason Lam, Mr. Cyril, Yik Ching Lee

Exploring Environmental Ethics in Agroecology and Industrial Ecology Education and Research
» Dr. Christine Costello

Industrial Ecology Open Online Course
» Dr. Johan Andrés Vélez-Henao, Prof. Stefan Pauliuk

Using Constructivist Pedagogy to Foster Deeper Learning in Industrial Ecology Students
» Dr. Maud Lanau

Fostering Inclusive and Experiential Learning in Industrial Ecology: Leveraging Technology, Interactive Tools, and Open Resources
» Dr. Qingshi Tu

9am **F4 - Critical raw materials**
LT52, Level 2
Chaired by: Prof. Christoph Helbig

9am **Bridging Criticality and Resilience: Integrated Conceptual Framework for Resilience and Criticality Assessments for Raw Material Supply Chains**
» Dr. Lars Wietschel, Prof. Christoph Helbig, Mr. Martin Hillenbrand, Dr. Andrea Thorenz

9:15am **The increasing vulnerabilities of global critical mineral supply chains to climate risks**
» Dr. Bin Chen, Ms. Zhixiu Han, Dr. Huajun Yu, Ms. Lin Sun, Ms. Shiwen Gong, Prof. Yutao Wang

9:30am **An integrated approach for advancing critical raw materials assessment in the renewable energy transition: insights from Switzerland and Italy**
» Dr. Francisco Xavier Félix Martín del Campo, Ms. Matilde Spinello, Dr. Silvia Fiore, Prof. Claudia R. Binder

9:45am **Ignoring hidden requirements for NdFeB magnets threatens achievement of EU CRMA targets**
» Dr. Yanan Liang, Prof. René Kleijn

Continued from **Thursday, 3 July**

10am **Study on global manganese flow network pattern from the perspective of international trade**
» Dr. Xiaoqing Hao

9am **F5 - Circular economy methods**
LT53, Level 2
Chaired by: Prof. Jonathan Cullen

9am **Pursuing decarbonisation and circularity**
» Prof. Jonathan Cullen

9:15am **The Circular Industrial Transformation System (CITS) model - Assessing the life cycle impacts of climate and circularity strategies**
» Dr. Paul Stegmann, Dr. Anna Schwarz, Mx. Sietske Lensen, Mr. Sjoerd Herlaar, Mr. Toon van Harmelen

9:30am **REMIND Materials: IAM-MFA Coupling for a Comprehensive Assessment of Climate Mitigation Options for Basic Materials**
» Mr. Bennet Weiss, Dr. Jakob Dürrwächter, Mr. Qianzhi Zhang, Mrs. Leonie Schweiger, Mr. Merlin Hosak, Mr. Michaja Pehl, Dr. Falko Ueckerdt

9:45am **Closing the circular gap: the need for embedding symbiotic relationship concept in planning and development**
» Prof. Wahidul Biswas

10am **Designing Circular Metabolisms: Generative Tensions in Circular Value Networks**
» Ms. Charis Luedtke, Prof. Fenna Blomsma

10:15am **Quantifying Value Retention: Addressing Quality in Circular Economy Indicators**
» Mr. Kobe Vulsteke, Dr. Sophie Huysveld, Dr. Gwenny Thomassen, Prof. Jo Dewulf

9am **F6 - Chemicals and sustainability**
Dance Atelier 2, Level 3
Chaired by: Mrs. Bertha Maya Sopha

9am **Designing Sustainable Pathways: Industrial Symbiosis in Net-Zero Emission Strategies for Chemicals and Materials Industry**
» Mr. Aniket Mali, Dr. Nandita Saraf, Dr. Amrita Sen, Prof. Bhavik Bakshi

9:15am **Informing Sustainable Consumption and Production through the Holistic Sustainability Assessment of Chemical Value Chains**
» Dr. Alex Newman, Prof. Rachael Rothman, Dr. Stuart Walker

9:30am **Advancing Material Sustainability in Electrochemical CO2 Conversion Catalysts**
» Mr. Chenyang Wang, Mr. Hung Lai, Mr. Hugh Warkentin, Prof. Cao-Thang Dinh, Prof. Qian Zhang

9:45am **Development of a Strategic Planning model for India's Petrochemical Industry**
» Ms. Bhawna Chauhan, Dr. Asad Sahir

10am **Analysing the sustainability of circular economy in the chemical industry – The case of waste-based olefin production**
» Dr. Witold-Roger Poganietz, Dr. Maryegli Fuss

10:15am **Circular Economy in the chemical industry – Analysing the material flow impacts of innovative olefin technologies**
» Dr. Witold-Roger Poganietz, Dr. Maryegli Fuss

9am **F7 - Risk and resilience**
Practice Room 1, Level 3
Chaired by: Dr. Xin Tong

9am **Enhancing Urban Resilience through Regional Circular Economy**
» Dr. Xin Tong

Continued from **Thursday, 3 July**

9:15am **Dynamic risk analysis for urban food-energy-water system using an integrated modeling approach of system dynamics and copula function**
» Dr. Xinqing Li, Prof. Lixiao Zhang, Prof. Yan Hao, Prof. Xingwang Liu, Dr. Pengpeng Zhang, Dr. Xin Xiong

9:30am **Regional environmental risk caused by natural disasters from the perspective of big data**
» Dr. Qi Zhou, Ms. Liyuan Lei, Dr. Shen Qu

9:45am **Visualizing the Regional Risk in Raw Material Supply through Event Analysis**
» Dr. Hiroki Hatayama, Prof. Shinsuke Murakami, Ms. Yurie Anzai

10am **Integrating Socio-Demographic Factors for Equitable Resilience to Foster Social Sustainability in Networked Urban Infrastructure Systems**
» Ms. Feiya CHEN, Prof. Shauhrat S. CHOPRA

10:15am **Assessing drought-induced generation mix change and additional CO2 emissions in China's power sector: an empirical study on the 2022 severe drought event**
» Prof. Chao Zhang, Dr. Yujie Dong, Dr. Yinshuang Xia

9am **F8 - Infrastructure**
Dance Studio, Level 1
Chaired by: Dr. André Cabrera Serrenho

9am **Build and Balance: Embodied Transboundary Emissions and Mitigation Opportunities of 660 Belt and Road Initiative Projects**
» Ms. Lingli Hou, Dr. Tomer Fishman, Dr. Stefano Merciai, Dr. Takuma Watari, Dr. Yanan Liang, Prof. Ester van der Voet, Dr. Asaf Tzachor, Prof. Heming Wang, Prof. Peng Wang, Prof. Wei-Qiang Chen, Prof. Jun Bi, Dr. Ranran Wang

9:15am **How Much Infrastructure Should the World Build? A Systematic Review of Infrastructure Demand Modelling Across Disciplines**
» Mr. Timothy Na, Dr. Arjan de Koning, Prof. Jeroen Guinée, Dr. Ranran Wang

9:30am **Estimation of the Material Stocks of National Roads in the Philippines**
» Mr. Kenneth Jae Elevado, Prof. Marianne Faith Martinico-Perez, Prof. Anthony SF Chiu, Prof. Hiroki Tanikawa

9:45am **Scenario-Based Dynamic Material Flow Analysis of Dutch Macro Infrastructures: Assessing Future Material Demand and Carbon Emission**
» Mr. Md Faysal Tareq, Dr. Peter Berrill, Dr. Sebastiaan Deetman, Prof. Arnold Tukker

10am **Developing alternative ways of filling data gaps: An analysis of building material stocks in Tanzania**
» Dr. Ursula Cardenas, Dr. Tomer Fishman

9am **F9 - Life cycle assessment (LCA) case studies**
SR1&2, Level 1
Chaired by: Prof. Huijuan Dong

9am **Life cycle environmental impact assessment of titanium dioxide production in China**
» Prof. Huijuan Dong, Ms. Yue Dai

9:15am **Life Cycle Assessment of Black Soldier Fly Larvae (BSFL) production through solid-state fermentation: a case study in Singapore**
» Mr. Yintai Ao, Ms. SING YING CHOY, Dr. Christian Hermansen, Mr. Eugene Hong Zhuang Ho

9:30am **Uncertainties in the Life Cycle Assessment of substances with preservatives.**
» Mrs. Elisa Arteaga Prieto, Prof. Karel Van Acker

Continued from **Thursday, 3 July**

9:45am **Closing the loop of membranes by recycling end-of-life membranes: Comparative life cycle assessment and economic analysis**
» Ms. Jiansuxuan Chen, Prof. Ruobin Dai, Prof. Zhiwei Wang

10am **Techno-economic potential of a high TRL Fischer Tropsch industry to replace crude oil**
» Mr. Hidde Kolmeijer, Dr. Juan Diego Medrano, Prof. Gonzalo Guillén-Gosálbez

9am **F10 - Special session - Circular Economy in the Global South: Learning from Existing Research, and Co-creating a Comprehensive Research Agenda**
SR3&4, Level 1
Chaired by: Dr. Glenn Aguilar-Hernandez and Bart van Hoof and Dr. Ramzy Kahhat and Simran Talwar

10:30am **Tea break**
Levels 1, 2 & 3

11am **Poster session 3**
Levels 1 & 3

Unlocking the Potential of Second-Life Batteries for Industrial Energy Transition
» Dr. Zih-Ee Lin, Dr. Heng Yi Teah, Prof. Masahiko Hirao, Prof. Suguru Noda

Climate Benefit of Timber Building compared to Reinforced Concrete Alternative: Impact of Biogenic Carbon Modeling Methods
» Mr. Hyoungwook Lim, Mr. Jaehyun Soh, Ms. Minjeong Kim, Ms. Gieun Lee, Mr. Samyoung Choi, Prof. Jooyoung Park, Prof. Jungkwon Oh

the comparative LCA of food waste recycling between community based model and industry based model
» Prof. Ling Han, Mr. Jun Dong, Prof. Xin Tong

Estimating Urban Building Stock at City Scale Using Multi-Source Remote Sensing and Data Fusion Techniques
» Dr. Kun SUN, Dr. Srinivasa Raghavendra Bhuvan Gummidi, Prof. Gang Liu

Towards an Adaptive Circular Economy Taxonomy for the Global South
» Dr. Rene Van Berkel, Dr. Sara Gabai, Dr. Zinaida Fadeeva

Life Cycle Assessment of a novel technology based on combined gasification and combustion of low value biomass for industrial applications: Preliminary assessment.
» Mr. Khaled Osman

Optimizing cropping pattern to achieve water sustainability and food self-sufficiency
» Mr. Anupam Satyakam, Prof. Yogendra Shastri, Ms. Rashi Dhanraj

Regional Strategies for Carbon Mitigation in Construction: A Life Cycle Perspective on Nature-Based Building Design
» Ms. Alisa Schneider, Ms. Eva-Maria Friedel, Mr. Felix Exton-Smith, Mr. Adrian Foong, Dr. Anne Holsten, Dr. Barbara K. Reck

Hybrid-electric airplanes for green aviation? Insights from prospective life cycle assessment
» Dr. Shan Zhang, Prof. Rickard Arvidsson, Prof. Anders Nordelöf

Environmental Consequences of Population Concentration in Tokyo
» Mr. KAIRI INOUE, Mr. Sho UEHARA, Prof. Shigemi KAGAWA, Ms. Mami Matsuse

Nitrogen and phosphorus non-point source pollution in the Dongjiang River Headwater Region, South China: Critical source areas identification and influencing factors
» Dr. yanyan fan

Continued from **Thursday, 3 July**

Are Batteries Integrated with Renewable Energy Systems Environmentally Sustainable? A Comparative Study Across Countries

» Dr. Minhee Son, Mr. Alvin Wei liang Ee, Ms. Kendra Ho, Mr. Faadhil Liyaff

Enhancing Climate Resilience and Sustainability through Optimizing Crop Planting Scales

» Dr. Rui Wang, Mr. Xiangyuan Ma, Mr. Yi Ju, Dr. Huizhu Wang, Prof. Beibei Liu

A Framework for Evaluating the Metabolic Impact of Urban Districts: Mapping Transport Carbon Emissions

» Ms. Irina Orlenko, Ms. Sanjana Singh Raichur, Mr. Ivan Beliaev, Prof. Lynette Cheah, Prof. Thomas Schroepfer

Analysis of Factors for Building Demolition Using 4D-GIS in Kitakyushu City

» Prof. Masatoshi Hasegawa, Prof. Hiroaki SHIRAKAWA, Prof. Marianne Faith Martinico-Perez, Dr. Osamu HIGASHI, Prof. Hiroki TANIKAWA

How much does my city weigh? The building material stocks of 1.8 million human settlements

» Dr. Tomer Fishman, Dr. Janneke van Oorschot, Dr. Peter Berrill, Dr. Nicolas Navarre, Dr. Alessio Mastrucci, Dr. Bas van Ruijven, Dr. Naho Yamashita, Prof. Hiroki Tanikawa, Dr. Yoav Peled, Dr. Ursula Cardenas

Outsourced emissions control matters for decarbonizing China's urban wastewater sector at all life cycle stages

» Dr. Linmei Zhang

Assessment methods for carbon emission performance in China's industrial parks and low-carbon projects: a comprehensive framework and empirical insights

» Mr. Kun Yan, Prof. Jinping Tian, Prof. Lyujun Chen

Environmental Impact Analysis of Food Loss and Waste Generation and Treatment

» Ms. Li Xue

Progress and Prospects of High-Resolution Building Stock Research: Frameworks, Applications, and Significance

» Ms. xinyi jiang

Comparing the influence of LCA guidelines on the environmental performance of EVs: Between TranSensus LCA, Catena X, and other guidelines

» Mr. Hazem Eltohamy, Dr. Robert Istrate, Dr. Bernhard Steubing, Prof. Jeroen Guinée

Comprehensive Effect Evaluation and Development Path Planning of Regional Reclaimed Water Based on Life Cycle Thinking

» Ms. Zimeng Cai, Dr. Changqing Xu, Dr. Huimin Chang, Prof. Ming Xu

Illuminating Seasonal Electricity Access in Small Island Developing States: A Nighttime Light Remote Sensing Approach

» Ms. Luling Liu, Prof. Hiroki TANIKAWA, Prof. Hiroaki SHIRAKAWA, Prof. Masatoshi Hasegawa

The impact of phosphorus releases in Peruvian hyper-arid coast: Downscaling the fate factors for freshwater eutrophication

» Dr. Joan Sanchez-Matos, Dr. Ian Vazquez-Rowe, Dr. Ramzy Kahhat

Lifetime function and half-life of residential buildings in Japan

» Ms. Kotoko Sanjo, Prof. Chihiro Kayo, Dr. Mario Tonosaki

Estimating the Potential Cost Reduction of Wastewater Treatment: Application to Japanese Municipalities

» Dr. Hirotaka Takayabu, Dr. Minami Kito, Dr. Shin Miyahara

BrightCSV: A python library to harmonize and streamline life-cycle assessments of food databases using Brightway2

» Dr. Joan Muñoz Liesa, Mr. Cédric Furrer, Dr. Jens Lansche, Dr. Michael Martin, Dr. Thomas Nemecek, Dr. Mélanie Douziech

Continued from **Thursday, 3 July**

Assessing the environmental performance of a bicycle chain
» Mrs. Débora Pons Fiorentin, Mr. Paulino Duarte, Ms. Alexandra Fortunato, Dr. Paula Quinteiro

Regional variability in greenhouse gas emissions reduction: Evaluating the climate mitigation timelines of EVs and HFCVs in China
» Ms. Fangjie Liu, Dr. Muhammad Shafique, Prof. Xiaowei Luo

Life cycle assessment of critical materials: a case study of gallium production at industrial-scale
» Dr. Hao Luo, Dr. Tai-yuan Huang, Mr. Xiaohan Wu, Prof. Fu Zhao

Forecasting nutrient flows throughout resource circulation scenarios implementing anaerobic digestion as a keystone: a case study in Japan
» Mr. Wanseop Jung, Prof. Junya Yano, Prof. Yasuhiro Hirai, Prof. Misuzu Asari

A satellite-driven model for monitoring urban material metabolism and embodied carbon
» Dr. yu nie, Dr. ting Mao, Dr. yupeng Liu, Dr. yinhuan Chen, Ms. yingziwei Liu, Prof. Wei-Qiang Chen

City-level CO2 emission inventories in China: combining statistical data and machine learning techniques
» Ms. Jinghang Xu, Ms. Sijia Cai, Dr. Yuli Shan, Ms. Yuru Guan

Optimizing Photovoltaic Integration in Wastewater Treatment for Enhanced Economic and Environmental Performance
» Mr. Yi Ju, Prof. Beibei Liu

Opportunities and challenges in recycling and reusing wind turbine blades for urban city applications
» Prof. Ari Krisna Mawira Tarigan, Ms. Karina Haaland Pedersen

Complex Dynamics and Intuitive Effects: A Causal Machine Learning Analysis of China's Natural Forest Protection Program on Soil Erosion
» Ms. Zoe Liu, Dr. Shen Qu, Dr. Qi Zhou

A Bottom-Up Approach Integrating Computer Vision with Material Flow Analysis to Estimate the Recycling Potential of Distributed Solar Panels
» Ms. Peijin Jiang, Mr. Hanwen Xu, Dr. Qingshi Tu

Total Material Requirement in China's Mobility Transition and Global Mining Development
» Ms. Binze Wang, Dr. Qiance Liu, Mr. Xin Ouyang, Dr. Wu Chen, Prof. Zhang Zhengyang, Prof. Gang Liu, Prof. Matsubae Kazuyo

How much time can biochar buy for the transition to net zero?
» Dr. Daniel Grossegger

Labor mobility mitigates occupational heat stress and multipled supply chain risks
» Ms. Qianzi Wang, Dr. Shen Qu, Prof. Qi qzhou@bit.edu.cn

Advancing Global Water Stress Monitoring: A Satellite-Driven, Crop-Specific Approach (1995–2023)
» Ms. Yanfei Shan

The Material Flow Analysis of Automotive Plastics in Japan
» Dr. Yuna Seo

Dynamic simulation of energy storage systems with wind energy for life cycle assessment
» Dr. Ayumi Yamaki, Dr. Shoma Fujii, Dr. Yuichiro Kanematsu, Prof. Yasunori Kikuchi

Strategies for Achieving Carbon Neutrality in Aviation Through Early Action
» Dr. Minami Kito

Continued from **Thursday, 3 July**

Life Cycle Assessment of UK Household Leftovers: Implications for Storage and Disposal Choices
» Mr. Yiming Sui, Dr. Eugene Mohareb, Prof. Stefán Smith

The potential role of hydrogen in decarbonisation: exploring global supply chain impacts and prioritising hydrogen use in the United Kingdom
» Ms. Alice Bennett, Dr. André Cabrera Serrenho

Environmental Impact Assessment of Japanese Aquaculture: A Case Study of Malabar Grouper Production Using LCA
» Dr. Tetsuya Ishida, Dr. Shingo Udagawa, Ms. Yuki Sato, Prof. Akimichi Shimabukuro, Prof. Satoshi Ohara, Prof. Akihiro Takemura, Prof. Yasunori Kikuchi

Life cycle assessment of battery minerals to 2040: contribution of voluntary sustainability initiatives
» Mr. Bernardo Mendonca Severiano, Dr. Stephen Northey, Prof. Damien Giurco, Ms. Carina Harpprecht

Quantifying Potential Effects of China's Gallium and Germanium Export Restrictions on the U.S. Economy
» Dr. Nedal Nassar, Dr. Ensieh Shojaeddini, Dr. Elisa Alonso, Mr. Brian Jaskula, Ms. Amy Tolcin

Using agent-based modeling to explore aquaponics
» Ms. Marissa Breitenstein, Prof. Andrea Hicks

Life Cycle Assessment of a Closed-Loop Recycling Scenario for Lithium-Ion Batteries in Quebec using the EverBatt model
» Ms. Anna Donova, Prof. Sarah Jordaan

Impacts of Interprovincial Trade on Nitrous Oxide Emissions in China under the Metacoupling Framework
» Dr. JUNYI LIANG, Prof. Shaojian Wang, Prof. Chuanglin Fang, Prof. Kuishuang Feng, Prof. Chaopeng Hong, Prof. Xiaoping Liu, Dr. Jiabei Zhou, Prof. Wenping Yuan, Prof. Zhenci Xu, Prof. Zhifu Mi

Computational optimization for sustainable pavement management at the network level
» Dr. Zhaoxing Wang, Prof. Matthew Eckelman, Prof. Zhi Cao, Prof. David Hernando

Prospective Life Cycle Assessment of Biohydrogen Production from Food Waste
» Ms. Amma Asantewaa Agyei Boakye, Prof. Yuan Yao

What's behind the façade? Mapping building materials using artificial intelligence and architectural history
» Mr. Carlo Schmid, Dr. Fabian Kastner, Dr. Dachuan Zhang, Prof. Silke Langenberg, Prof. Stefanie Hellweg

Toward transparent inventory data for cement substitutes
» Ms. Pippa Edwards, Dr. Wilson Ricardo Leal da Silva, Dr. Paul Fennell, Dr. Rupert Myers

Meeting U.S. light-duty vehicle fleet climate targets under critical battery material supply constraints
» Ms. Dijuan Liang, Ms. Nadine Alzaghrini, Dr. Amir F.N. Abdul-Manan, Prof. I. Daniel Posen, Prof. Heather L. MacLean

Differences in how we build: Material use and intensity in small multi-units' Buildings in Brazil, Canada, Greece, Nigeria and Switzerland
» Ms. Christiana Vann, Dr. Santiago Zuluaga Mayorga, Mrs. Letzai Ruiz Valero, Dr. Tomer Fishman, Prof. Shoshanna Saxe

Decarbonising the UK Industrial Sector: Balancing Electrification and Hydrogen Integration
» Dr. Natanael Favero Bolson, Prof. Jonathan Cullen

Boosting sustainable greenhouse vegetable production at large scales via integrated nitrogen and irrigation management
» Ms. weili li, Dr. Minghao Zhuang, Ms. Lei Feng, Ms. Wei Wei, Prof. Longlong Xia, Prof. Yi Yang

Continued from **Thursday, 3 July**

Beyond material intensity: examining structural component parameters for potential reuse in the construction sector
» Dr. Aldrick Arceo, Dr. Maléna Bastien-Masse, Ms. Barbara Lambec, Dr. Corentin Fivet

Effects of Demand and Recycling on Future Lithium Extraction
» Mr. Pablo Busch, Dr. Alissa Kendall, Ms. Yunzhu Chen, Mr. Prosper Ogbonna

Identifying the TSS and turbidity source of the lakeside river
» Dr. Renhua Yan, Dr. Jing Yao, Dr. Feng Tian, Dr. Junfeng Gao

Environmental impacts of metalic catalysts: integrating chemistry and scale-up
» Dr. Daqian Jiang

Environmental Impacts of Chile's Copper Mining Amid the Clean Energy Transition
» Mrs. Javiera Cepeda Kato, Prof. Zhang Zhengyang, Prof. Matsubae Kazuyo

A Hybrid Life Cycle Assessment Of The Biomass Based Bio-Coal And Green Hydrogen Integration In Steel Manufacturing
» Ms. Nethmi Kankanamge Dona, Dr. Jasmin Cooper, Dr. Franco Donati, Dr. Stefano Cucurachi, Prof. Nilay Shah, Prof. René Kleijn

Intrinsically Interpretable Deep Learning for Quantile Forecasting of Algal Dynamics and Driving Mechanism Identification
» Ms. Ke Yu, Dr. Shen Qu

A detailed assessment of mining land transformation factors in Australia
» Mr. Ahmad Emamian, Dr. Tim Werner, Prof. David Phillips

12pm **Lunch**
Levels 1, 2 & 3

1pm **Tours**

6pm **Conference dinner**
Flower Dome, Gardens by the Bay

Friday, 4 July

9am **G2 - Special session - Decarbonization of the built environment**
LT50, Level 1
Chaired by: Mr. Alvin Wei liang Ee

9am **G3 - Human behaviour II**
LT51, Level 1
Chaired by: Prof. Roland Geyer

9am **How to make the Chinese residents do food waste sorting? A systematic research from 2012 to 2024**
» Dr. Changjun Li, Prof. Marie Harder

9:15am **Circular economy rebound: New empirical evidence at the household level**
» Prof. Roland Geyer, Dr. Jason Maier, Dr. Joe Palazzo, Prof. Doug Steigerwald

9:30am **Individual and Household Behavior on Climate Change Mitigation: A Systematic Literature Review**
» Mrs. Maria Krisnawati, Mrs. Yun Prihantina Mulyani, Mrs. Bertha Maya Sopha

9:45am **Emotional Variance of Residents in Clean Heating Transition: Insights from Social Media Big Data**
» Ms. Ling Zhang, Dr. Liying Zhang, Prof. Xinzhu Zheng

Continued from **Friday, 4 July**

10am **Investigating consumers and their behavior toward sustainability: A machine learning driven approach**
» Dr. Andrew Chapman, Ms. Takako Mochida, Dr. Yosuke Shigetomi

9am **G4 - Mobility and transport I**
LT52, Level 2
Chaired by: Dr. Alissa Kendall

9am **Uncertain cross-sector climate actions could undermine air pollution reduction co-benefits in China's power and passenger car sectors**
» Mr. Hongyi Xie, Dr. Bin Chen, Ms. Yiru Song, Prof. Yutao Wang

9:15am **Advanced Biofuels for Norway: Opportunities and Trade-offs in Scaling Sustainable Transport Solutions**
» Mr. Vedant Ballal, Mr. Marcos Djun Barbosa Watanabe, Mr. Matteo Gilardi, Mr. Eirik Ogner Jåstad, Mr. Per Kristian Rørstad, Mr. Bo Huang, Mr. Marvin Werra, Mr. Filippo Bisotti, Mr. Bernd Wittgens, Mr. Francesco Cherubini

9:30am **Transition Pathways from Fossil-Based Kerosene to Sustainable Aviation Fuel Production Network in the European Aviation Sector**
» Dr. Alexander Barke

9:45am **A Life Cycle and Techno-Economic Analysis of Carbon Fiber-Reinforced Polymers (CFRP) in Automobiles: Pathways to Net-Zero Emissions**
» Dr. Reena Sharma, Prof. Bhavik Bakshi

10am **Modeling the Dynamics of the Tire Industry Toward a Circular Economy**
» Mr. Shashank Shukla, Prof. Yogendra Shastri, Prof. Andrew Hoadley

10:15am **Towards a Sustainable Aircraft Decommissioning Industry**
» Prof. DAVID BUTLER, Ms. Leigh Paterson, Ms. Alice Shelton, Mr. Paul Cantwell

9am **G5 - Pharmaceutical, Healthcare**
LT53, Level 2
Chaired by: Prof. Matthew Eckelman

9am **Bridging gaps in pharmaceutical GHG emissions: A hybrid life cycle assessment approach**
» Ms. Rosalie Hagenaars, Dr. Reinout Heijungs, Dr. Arjan de Koning, Prof. Arnold Tukker, Dr. Ranran Wang

9:15am **Chemistry Driven Design of Industrial Symbiosis for Implementing Circular Economy in Emerging Pharmaceutical Industries**
» Mr. Haripriyan Uthayakumar, Dr. Shweta Singh

9:30am **Material Flow Analysis and Circularization of Waste in the Acetaminophen Production Network**
» Mr. Abhimanyu Raj Shekhar, Mr. Haripriyan Uthayakumar, Dr. Shweta Singh

9:45am **Life Cycle Assessment of Diagnostic and Research Use Only Product for Carbon Calculator Development: A Case Study in Singapore**
» Ms. Jemaine Fong, Ms. Zhaomin Wang, Ms. Yee Shee Tan, Mr. Timothy Kwang, Mr. Xiaoyu Yang

10am **Diagnosing sustainability: A bottom-up organizational life cycle assessment of a maximum-care university hospital in Germany**
» Dr. Lukas Messmann, Mr. Johannes Zobel, Mr. Felix Assies, Dr. Sandra Köhler, Dr. Alexander Cimprich, Prof. Steven Young, Dr. Renate Linné, Dr. Andrea Thorenz, Prof. Axel Tuma

10:15am **Informed Interconnection: An Integrated Approach for Healthcare Buildings to Tackle the Causes and Consequences of Climate Change**
» Mrs. Asma Amamou, Prof. Oliver Heidrich, Dr. Stephen Blenkinsop, Dr. Clare Winter

9am **G6 - Batteries**
Dance Atelier 2, Level 3
Chaired by: Dr. Guochang Xu

Continued from **Friday, 4 July**

9am **Dynamic Resource Consumption and GHG Emissions Assessment of Circular Battery Production in Japan**
» Ms. Ziyan He, Dr. Kenichi Nakajima, Dr. Minoru Fujii, Dr. Guochang Xu

9:15am **Low-carbon Transformation of China's Lithium-ion Battery Sector: Understanding Carbon Implications of Lithium Supply Chain**
» Ms. Haoning Liu, Dr. Teresa Domenech

9:30am **Battery Waste Generation in Jakarta, Indonesia, and Its Economic Value**
» Ms. Anggi Nabila, Ms. Khairunnisa Salsabil Khalishah, Ms. Tiara Maharani, Dr. Aulia Qisthi Mairizal

9:45am **How Can Precise Separation Technology Reshape the Recycling System for Spent Automotive Batteries in China? A Spatial Design Based on Life Cycle Optimization**
» Mr. Nie Shuai, Dr. Yi Dou, Prof. Cai Guotian, Prof. Yasunori Kikuchi

10am **Engineering the Circular Economy and Sustainability of Battery Recycling through Experimentation and Systemic Evaluation**
» Ms. Gulsah Tas, Mr. Jere Vanska, Dr. Natalia Araya Gomez, Mr. Jere Partinen, Dr. Anna Klemettinen, Prof. Mari Lundstrom, Prof. Rodrigo Serna

9am G7 - Carbon accounting and management

Practice Room 1, Level 3

9am **The climate limits of construction – consumption emissions and budgets for over 1000 cities.**
» Mr. Keagan Hudson Rankin, Prof. Chris Bachmann, Dr. André Cabrera Serrenho, Prof. I. Daniel Posen, Prof. Shoshanna Saxe

9:15am **From ambition to action: advancing GHG accounting for effective climate neutrality action in EU cities**
» Dr. Joana Bastos

9:30am **The Polarizing Trend of Regional CO2 Emissions in China and Its Implications**
» Dr. Kehan He, Prof. Zhifu Mi

9:45am **Greenhouse gas emission inventories of California cities and counties**
» Dr. Kaihui Song, Dr. Christopher Jones, Prof. Daniel Kammen

10am **Using life cycle assessment to redesign California's decarbonization plan**
» Dr. Amir Sharafi, Dr. Marie-Odile Fortier, Ms. Alyssa Pfadt-Trilling, Dr. Samuel Markolf

10:15am **Exploring Shanghai's net-zero energy transition pathways in industrial, commercial, and residential sectors**
» Ms. Yifan Wang, Ms. Yuqi He, Ms. Yuanxin CHEN, Dr. Kangkang Tong

9am G8 - Industrial symbiosis I

Dance Studio, Level 1
Chaired by: Prof. Jooyoung Park

9am **How can Industrial Symbiosis contribute to the Wine Sector? A Systematic Literature Review.**
» Mr. Óscar Páramo-Telle

9:15am **Exploring industrial symbiosis potentials: case studies from two South Asian industrial clusters**
» Mr. Md Ashraf

9:30am **Industrial Symbiosis Practices for Port Construction in Bantaeng Indonesia and Kwinana Australia**
» Dr. yureana wijayanti, Prof. Martin Anda, Dr. Biji Kurup, Prof. Christopher Oughton

9:45am **Proposing a sustainable business model for an industrial symbiosis in Morocco using life cycle analysis**
» Ms. Yasmine Rhaouti, Dr. Yassine TAHA, Dr. Mostafa Benzaazoua

Continued from **Friday, 4 July**

9am **G9 - Life cycle assessment (LCA) methods I**
SR1&2, Level 1
Chaired by: Dr. Rick Lupton

9am **Unlocking regionalization in ecoinvent: harnessing trade data for accurate life cycle assessments**
» Dr. Maxime Agez, Prof. Guillaume Majeau-Bettez

9:15am **Advancing Life Cycle Assessment (LCA) Data Interoperability through a Unified Foundational Framework**
» Dr. Jianchuan Qi, Dr. Huimin Chang, Dr. Xiaohui Lu, Dr. Ruru Han, Mr. Rentao Ouyang, Prof. Nan Li, Prof. Ming Xu

9:30am **Scaling Up and Democratizing LCA: The Specific SEmiautomated Lifecycle Footprinting (SSELF) Framework**
» Ms. Marit Salome Rognan, Dr. Manuele Margni, Prof. Guillaume Majeau-Bettez

9:45am **Unveiling the Black Box of Carbon Footprint with Generative AI Agents**
» Dr. Jinliang Xie, Mr. Yuzhen Feng, Mrs. Si Zhang, Dr. Yunduo Lu, Ms. Simeng Chen, Ms. Ziqi Wang, Dr. Chuke Chen, Dr. Hang Yang, Dr. Changqing Xu, Dr. Jing Guo, Dr. Xiaohui Lu, Dr. Jianchuan Qi, Prof. Nan Li, Prof. Ming Xu

10am **AI-powered LCA: Methods for streamlining inventory modelling and applications on the battery sector.**
» Dr. Spyridon Gkousis, Dr. Vasileia Vasilaki, Prof. Evina Katsou

10:15am **Flow programming: creating non-linear process models for MFA and LCA systems as code**
» Dr. Rick Lupton

10:30am **Tea break**
Levels 1, 2 & 3

11am **H2 - Special session - Panel of Journal Editors**
LT50, Level 1
Chaired by: Tim Baynes

11am **H3 - Business practices**
LT51, Level 1
Chaired by: Dr. Rene Van Berkel

11am **Construction of An Enterprise-Level Global Supply Chain Database and its Application to Scope 3 Emissions**
» Prof. Keiichiro Kanemoto, Dr. Yuya Katafuchi, Dr. Xinmeng Li, Dr. Daniel Moran, Dr. Taiki Yamada, Dr. Hidemichi Fujii

11:15am **A Scalable Approach to Scope 3 Emission Identification for SMEs**
» Mr. Alec Phillpotts, Dr. Anne Owen, Dr. Jonathan Norman, Dr. Anna Trendl, Prof. John Gathergood, Dr. Norbert Jobst, Dr. David Leake

11:30am **An exploratory analysis of business initiatives for the circular economy in Southeast Asia**
» Dr. Rene Van Berkel

11:45am **Product stewardship benefits and effectiveness - evidence from Australia**
» Dr. Simran Talwar

12pm **Climate benefits of local garment repair in e-retail**
» Dr. John Laurence Esguerra

11am **H4 - Mobility and transport II**
LT52, Level 2
Chaired by: Dr. Hua Cai

11am **Exploring resource-efficient urban mobility for sustainable low emission solutions: A case study of Ile-de-France, France**
» Dr. Nguyen Thi Cuc, Prof. Junbeum Kim

Continued from **Friday, 4 July**

11:15am **A more digestible CO2 calculator: swapping cheeseburgers for carbon**
» Prof. Wissam Kontar, Dr. Erin Bulson, Prof. Andrea Hicks, Prof. Soyoung (Sue) Ahn

11:30am **Projections of penetration and electricity demand of electric freight vehicles in Japan: A dynamic material flow analysis approach**
» Mr. Ohki Katsushima, Dr. Jun Nakatani, Dr. Toru Hayashi, Dr. Naho Yamashita, Prof. Tsuyoshi Fujita

11:45am **Cost, human health and critical material trade-offs in climate-feasible pathways for U.S. heavy-duty trucks**
» Mr. Lih Wei Yeow, Dr. Jean Schmitt, Prof. Heather L. MacLean, Prof. I. Daniel Posen

12pm **How to plan shared mobility for urban sustainability?**
» Dr. Hao Luo, Dr. Hua Cai

12:15pm **Autonomous Vehicle Ride-sharing: The Hidden and Nonlinear Tradeoffs in Search of Cleaner Mobility**
» Prof. Wissam Kontar, Prof. Andrea Hicks, Prof. Soyoung (Sue) Ahn

11am **H5 - Circular economy case studies**
LT53, Level 2
Chaired by: Prof. Ester van der Voet

11am **Exploring the future: stretching the boundaries of industrial ecology**
» Prof. Ester van der Voet, Dr. Janneke van Oorschot, Dr. Sebastiaan Deetman

11:15am **Deconstructing Value in Circular Economy Interventions: The case of reusing solar panels in the Dutch built environment**
» Mr. Droovi de Zilva, Dr. Mingming Hu, Dr. Tomer Fishman, Prof. Arnold Tukker

11:30am **Financing Gaps in Korea's Circular Economy: Taxonomy-based Analysis of Budget Allocation and Carbon Mitigation**
» Dr. Yiseul Hong, Prof. Jooyoung Park

11:45am **Are we addressing the key questions to support a Circularity transition in Latin America and the Caribbean?**
» Dr. Glenn Aguilar-Hernandez

11am **H6 - Electric vehicles and batteries**
Dance Atelier 2, Level 3
Chaired by: Dr. Johan Andrés Vélez-Henao

11am **Electric vehicle trade liberalization promotes global carbon mitigation and welfare growth**
» Ms. Lanxin Zhang, Prof. Zongguo Wen

11:15am **China's ambitious recycling industrial standard enhances the resupply potential of urban mines for electric vehicles**
» Dr. Guochang Xu, Dr. Kenichi Nakajima

11:30am **Trade, Extended Use, and End of Life in the Global South: A Regionally Expanded Electric Vehicle Life Cycle Assessment**
» Mr. Francisco Pares Olguin, Dr. Alissa Kendall, Mr. Galym Iskakov

11:45am **Critical minerals for electromobility in Canada: a dynamic material flow analysis study**
» Dr. Komal Habib, Ms. Marianna Ottoni, Prof. Christoph Helbig

12pm **Digital product passports for the ethical and sustainable European energy transition**
» Dr. Sónia Cunha, Mrs. Susan van den Brink, Prof. René Kleijn

11am **H7 - Carbon management**
Practice Room 1, Level 3
Chaired by: Prof. Beijia Huang

Continued from **Friday, 4 July**

11am **Multisectoral tools for environmental targets of sustainable economic change**
» Dr. Eduardo Moreno-Reyes, Prof. Stefano Deriu, Prof. Marcello Signorelli, Prof. Claudio Socci, Prof. Rosita Pretaroli, Dr. Ludovica Almonti

11:15am **Dependence of Carbon Intensities on Input Coefficients in the Uncertainty Analysis of Carbon Footprints**
» Mr. Jian Jin, Prof. Yasushi Kondo

11:30am **Negative emissions pose trade-offs among human health, planetary boundaries and mineral resources**
» Dr. Selene cobos@unican.es, Prof. Gonzalo Guillén-Gosálbez

11:45am **Exploring the economic scalability of European CCUS clusters**
» Dr. Peipei Chen, Prof. David Reiner

12pm **Overcoming the trade-off between economic growth and CO2 emissions. Tools and policies with a dynamic CGE model based on E-SAM**
» Prof. Claudio Socci, Prof. Stefano Deriu, Prof. Francesca Severini, Prof. Rosita Pretaroli, Dr. Silvia D'Andrea, Dr. Giancarlo Infantino, Dr. Ludovica Almonti

12:15pm **Geospatial Simulation for Wide-Area Waste Transportation to Drive LCCN Implementation**
» Dr. Makiko Doi, Dr. Minoru Fujii, Dr. Seiya Maki, Dr. Satoshi Ohnishi

11am H8 - Industrial symbiosis II

Dance Studio, Level 1
Chaired by: Mr. Koichi Kanaoka

11am **Development of Industrial Symbiosis Knowledge Base by using Retrieval Augmented Generation**
» Dr. Yajuan Sun, Ms. Lan Zhao, Mr. Chuan Fu Tan, Mr. Philipp Grimmel, Dr. Jonathan Zhaozhi Low, Dr. Yeo Zhiquan, Mr. Jan Felix Niemeyer, Prof. Gaoxi Xiao

11:15am **Can inventories increase the resilience of an industrial symbiosis network? An agent-based model**
» Ms. Melissa Mollica, Prof. Luca Fraccascia

11:30am **Optimizing Industrial Symbiosis Networks: A Linear Programming Model and Digital Tool for Cost Reduction**
» Dr. Biji Kurup, Ms. Valentina Ventura, Prof. Marco Bortolini

11:45am **Industrial Symbiosis: Which subsidy can truly work?**
» Ms. Melissa Mollica, Prof. Alberto Nastasi, Prof. Luca Fraccascia

12pm **Impact Assessment of Industrial Symbiosis Recommendations in Urban Areas**
» Mr. Philipp Grimmel, Ms. Katja Knecht, Dr. Jonathan Zhaozhi Low, Dr. Mark Mennenga, Mr. Olaf Mumm, Mr. Jan Felix Niemeyer, Dr. Yajuan Sun, Mr. Chuan Fu Tan, Mr. Ryan Zeringue, Dr. Yeo Zhiquan, Prof. Vanessa Miriam Carlow, Prof. Christoph Herrmann

11am H9 - Life cycle assessment (LCA) methods II

SR1&2, Level 1
Chaired by: Prof. Guillaume Majeau-Bettez

11am **MaRCOT: Capturing the consequences of the substitution between products with different compositions in LCA**
» Prof. Guillaume Majeau-Bettez

11:15am **Midpoint characterization model for water consumption impacts on aquatic ecosystem: RESCUE model**
» Dr. Masaharu Motoshita, Dr. Kamrul Islam, Prof. Markus Berger, Prof. Anne-Marie Boulay, Dr. Stephan Pfister, Mr. Georg Seitfudem, Prof. Francesca Verones, Prof. Matthias Finkbeiner

11:30am **Science-Based Absolute Environmental Sustainability Assessment for Chemical Products Considering Climate and Social Justice**
» Ms. Xinyu Zhen, Dr. Ying Xue, Prof. Bhavik Bakshi

Continued from **Friday, 4 July**

11:45am **Optimizing Transition Pathways using Time-Explicit Life Cycle Assessment**
» Mr. Timo Diepers, Mr. Jan Leopold Tautorus, Mr. Jan Marcus Hartmann, Mr. Benedikt Nilges, Prof. Niklas von der Assen

12pm **Enhancing Environmental Decision-Making: Developing Weighting Factors for African Life Cycle Assessments**
» Mr. Mohammed Engha Isah, Prof. Zhang Zhengyang, Prof. Matsubae Kazuyo

11am **H10 - Special session - From urban mining to urban harvesting. Harnessing digital tools for valued, plannable, and trusted resources for circular future cities?**
SR3&4, Level 1
Chaired by: Prof. Stefanie Hellweg and Prof. Pieter Herthogs

Input presentations by:
» Anu Ramaswami, Goran Sibenik, Deepika Raghu, Wanyu Pei, Carlo Schmid, Pieter Herthogs

12:30pm **Lunch**
Levels 1, 2 & 3

1:30pm **Keynote by Marian Chertow - Celebrating 25 Years of Industrial Symbiosis at Yale**
Auditorium 2, Level 1 & 2
Chaired by: Prof. Harn Wei Kua

Celebrating 25 Years of Industrial Symbiosis at Yale
» Prof. Marian Chertow, Mr. Koichi Kanaoka

1:30pm **Keynote by Chris Kennedy - Reinterpreting Economic History Through Social Metabolism**
LT52 and LT53, Level 2
Chaired by: Prof. Gang Liu

2:30pm **Closing session**
Auditorium 2, LT52 and LT53 (Levels 1 & 2)