



International Society
for Industrial Ecology

13TH CONFERENCE OF THE
SOCIO-ECONOMIC METABOLISM SECTION
OF THE INTERNATIONAL SOCIETY FOR
INDUSTRIAL ECOLOGY (ISIE) IN BERLIN
FROM 13TH TO 15TH MAY 2019

Program

Sunday, May 12

14:00: Arrival

19:00: Optional Meet-up in the Lobby

Harnack Haus
Innestraße 16-20
14195 Berlin



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POTSDAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH



International Society
for Industrial Ecology

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ISIE SEM Program 2019
Monday 13

	Hahn-Hörsaal	Lynen-Zimmer	Köhler-Zimmer
08:00	Registration	Registration	Registration
09:00	Opening Welcome		
09:45	Roland Scholz: Digitalization and Sustainability	Sustainability	
10:30	Coffee Break	Coffee Break	Coffee Break
11:00	<i>Advances in socio-economic metabolism I</i>	<i>Circular economy I</i>	<i>Modeling and scenarios of socio-economic metabolism</i>
11:00	Stephanie Garcidueñas Nieto: Financial development in Mexico and Brazil as extractive economies, a network analysis of input output tables	Rebecca Bliklen: Benefits of manual dismantling of WEEE	Helen Ann Hamilton: The Global Long Chain Omega-3 Balance
11:20	Vivien Fisch-Romito: Embodied CO2 emissions for universal access to basic infrastructures	Tamar Makov: Who wants my half eaten sandwich?- Food waste in the sharing economy	Lynnette Widder: Cows, Orchards, Sugarcane and Buses: Circularity and Complexity in a Rural Mexican Case Study
11:40	Ilona M. Otto: Socio-metabolic class theory	Liwah Wong: Machine learning for understanding the research landscape of circular economy	Nikolas Kuschnig: Assessing the impacts of resource extraction on deforestation in the southern Amazon: A spatial econometric approach
12:00	Kai Whiting: Accounting for global resource consumption: An exergy analysis approach	Yasushi Kondo: Identifying barriers to a circular economy by a dynamic waste input-output analysis: Can Cr and Ni from end-of-life products be effectively recycled?	Rhythima Shinde: How socioeconomic conditions of households affect consumption induced by savings in housing expenses and associated impacts?
12:30	Lunch	Lunch	Lunch
14:00	<i>Advances in socio-economic metabolism II</i>	<i>Circular economy II</i>	<i>Resource efficiency and climate change</i>
14:00	Barbara Redlingshöfer: Quantifying food flows within cities	Gabriel Carmona Aparicio: Two stock indicators to support the circular economy	Eiji Yamasue: Resource Paradox Problem visualized by considering Mining Activities
14:20	Marta Roca-Puigros: Experiencing the transition towards a low-carbon regime through a MFA-based simulation game	Harald Desing: A Circular Economy within the planetary boundaries	Sabrina Spatari: Prospective life cycle assessment methods for early stage technology
14:40	Maren Lundhaug: How much do we know about material cycles? An application of the MinFuture framework	Sebastian Turnau: Comparative cross-sectoral systems analysis of production, use and recycling of CO2 based products	Barbara Plank: Resource efficiency contributions to decarbonisation: Analyzing the link between material use and CO2 emissions for Austria
15:00	Gang Liu: High resolution modelling of built environment stocks for urban sustainability	Jens Peters: Recycling of batteries – environmental benefits and limits under a global circular economy perspective	Nina Eisenmenger: Evaluating Austrian Resource Use in Relation to Global Planetary Boundaries
15:30	Coffee Break	Coffee Break	Coffee Break
16:00	<i>Linking socio-economic metabolism with climate change</i>	<i>Circular economy III</i>	<i>Material Supply Chains I (trade)</i>
16:00	Shelly Bogra: Direct carbon-emissions intensity of India's consumption: A rural-urban distributional profile	Anastasia Papangelou: A multi-resource assessment of circular solutions for the food system in Brussels Capital Region	Stefan Giljum: FINEPRINT: a spatially explicit physical trade framework to trace environmental impacts of resource extraction along global supply chains
16:20	Fridolin Krausmann: Material stocks as drivers of global greenhouse gas emissions: Results from a scenario analysis for 2050	Dominik Wiedenhofer: Towards a systems monitoring of the circular economy: nesting organizations and actors into a multi-level socio-metabolic framework	Azusa Oita: Food, diet and embodied nitrogen and phosphorus emissions
16:40	Cecilia Matasci: The environmental impact of Swiss consumption – Linking socio-economic metabolism with climate change and total environmental impacts	Anna Petit-Boix: Prioritizing circular economy strategies towards urban sustainability	Aoi Oashi: Water use behind the copper extraction in the national economy
17:00	Abel Chemura: Modelling changes in cocoa and coffee commodity miles and transportation infrastructure coverage under climate change in producer countries		Daniel Itzamna Avila Ortega: Telecoupled-related environmental impacts on forest ecosystems services by avocado production.
17:30	SEM Section Business Meeting		

ISIE SEM Program 2019 Tuesday 14			
	Hahn-Hörsaal	Lynen-Zimmer	Köhler-Zimmer
08:00	Registration	Registration	Registration
09:00	Liselotte Schebeck: How to bridge the gap between comprehensive assessment and stakeholder's perspective?		
09:45	Jan Minx: A Data Science Revolution for Global Environmental Assessments		
10:30	Coffee Break	Coffee Break	Coffee Break
11:00	Urban metabolism & low carbon urban development	Special Focus Session I	Material Supply Chains II (footprints)
11:00	Ola Stedje Hanserud: The urban food-water-energy fabric georeferenced. Exploring the potential and effects of local nutrient recycling based on the case of Oslo	Stefan Pauliuk: A General Data Model for Socioeconomic Metabolism and its Implementation in an Industrial Ecology Data Commons Prototype	Ronny Meglin: Environmental and economic assessment of building materials on regional scale: A comparative case study of the life cycle of concrete building materials in two regions in Switzerland.
11:20	Felix Creutzig: Upscaling urban data science for global climate solutions	Eliette Restrepo: Historical penetration patterns of automobile electronic control systems	Kiwamu Katagiri: Input-output Material Flow Analysis of reactive nitrogen use in industry – In the case of Japan
11:40	Carine Lausset: Combination of Dynamic MFA and LCA to assess Zero Emission Neighbourhoods	Romain Billy: In-use stocks feedbacks on new technology penetration in the aluminium industry	Antoine Boubault: Developing low-carbon electricity generation material footprint pathways
12:00	Lisa Kaufmann: Understanding the biomass metabolism of cities: The case of Vienna	Tomer Fishman: Development of Robust High-speed Algorithms and Processes for Dynamic MFA	Ingram Jaccard: International Comparison of Health Care Carbon Footprints
12:30	Lunch	Lunch	Lunch
14:00	Material flow analysis and stocks and flows dynamic I	Special Focus Session II	Material Supply Chains III (footprints)
14:00	Jean-Baptiste Bahers: Insularity, informality and vulnerability: The MFA of the island of Anjouan (Comoros)	Nikola Milojevic-Dupont: Estimating latent energy demand of buildings globally consistent	Meihui Jiang: The influence spreading of embodied carbon emissions on global production chains
14:20	Jonathan Norman: The implications of a 1.5°C target for passenger car fleets. A dynamic stock and flow analysis.	Arthur Jakobs: Hybridising Multi-Regional Input-Output and Life Cycle Assessment models using the Maximum Entropy principle	Yannick Oswald: Equal we stand, unequal we fall - How Inequality Shapes Household Energy Footprints
14:40	Mihály Dombi: Rising suspicion of the service-stock trap: Analysis of the material requirement and the GHG emissions of service sector in Hungary	Camille Belmin: A socio-metabolic approach to the demographic transition : Evidences from 45 developing countries	Thuc Han Tran: Indirect land take of settlement structure: Ecological footprint, carbon footprint and material flow analysis of building materials
15:00	Christoph Helbig: Quantitative Assessment of Dissipative Losses for 18 Metals	Finn Müller-Hansen: Computational social science methods for understanding societal metabolism	
15:30	Poster Session	Poster Session	Poster Session
	<p>Gilang Hardadi: Income-Specific Environmental Footprints of German Household Consumption</p> <p>Husam Sameer: Urban Mining as a concept for Circular Economy in the Building Sector</p> <p>Nanami Nakagawa: Effect of electricity mix transition resource intensity in terms of mining activities</p> <p>Ukyo Takata: Evaluation of Resource Intensity of Lithium-ion Battery for Vehicle in terms of Total Material Requirement</p> <p>Pei-Chiun Li: Evaluating the carbon emission and environmental impacts of water-energy nexus with a life-cycle thinking approach</p> <p>Hanna Helander: Circular economy strategies and trade-offs for environmental sustainability: the case of yoghurt packaging</p> <p>Magdalena Klotz: Closing the plastic loop – where do recycled plastics go?</p> <p>Mihály Dombi: Food consumption and natural resources</p> <p>Joris Baars: Integrated Assessment Models, Industrial Ecology and the Energy-Material Nexus of Electric Vehicle Batteries</p> <p>Alexandra Mario Pena: A literature review of life cycle costing applied to the urban agriculture</p> <p>Angela Pedrosa Tonon: LED lighting source as an alternative to improve production and sustainability in greenhouses crop</p> <p>Daniel Itzamna Avila Ortega: Mexico's Circularity Gap Report</p> <p>Kai Whiting: What can Material Services offer to the "Safe and Just Space" framework?</p> <p>Gabriel Carmona Aparicio: A Stock-Flow-Service Sankey Diagram for resource accounting</p> <p>Lisa Harseim: Feeding the Urban Metabolism within Planetary Boundaries</p>		
17:30	ISIE student's meeting		
18:30	Reception in the Lobby followed by Conference Dinner (19:00)		

ISIE SEM Program 2019
Wednesday 15

	Hahn-Hörsaal	Lynen-Zimmer	Köhler-Zimmer
08:00	Registration	Registration	Registration
09:00	Katy Roelich: Decision making under uncertainty in socio-economic metabolism		
09:45	Sangwon Suh: Climate change implications of plastics and petrochemicals: two global assessments		
10:30	Coffee Break	Coffee Break	Coffee Break
11:00	<i>Material flow analysis and stocks and flows dynamic II</i>		
11:00	Alon Shepon: Material flow analysis of nutrients as a tool to assess food-related resource usage, dietary shifts and food security in the US	Alexandra Mario Pena: LCC method for economic assessment of urban food production. Application in tomato production of an integrated rooftop greenhouse in Barcelona	
11:20	Sebastian Luckeneder: A fine-scale assessment of the geographies of global mining	Daniela Perrotti: Combining Socio-Economic Metabolism indicators with biophysical data: an integrated framework for supporting comparative Urban Metabolism studies across geographies	
11:40	Zhi Cao: Resourcing the fairytale country with wind energy: a dynamic material flow analysis	Franz Mauelshagen: The Great Metabolic Anomaly of the Anthropocene	
12:00	Jan Streeck: Socio-metabolic analysis of economy-wide material flows, stock accumulation and service provision in the UK	Anke Schaffartzik: International metabolic inequalities mediated by the distribution of stocks	
12:30	Lunch	Lunch	Lunch
14:00	<i>Material flow analysis and stocks and flows dynamic III</i>		
14:00	Rio Aryapratama: Estimating in-use wood-based materials carbon stocks in Indonesia: towards a contribution to the national climate mitigation effort	Philip Nuss: Socio-Economic Metabolism and Planetary Boundaries in Support of German Resource Policy	
14:20	Stefanie Klose: Quantitative analysis of the effect of policy strategies for resource efficiency on the copper life cycle	William Lamb: Political economic constraints to climate policy: literature, a framework and stylized facts	
14:40	Dmitry Zhilyaev: Taking stock of ICT products in Danish households: quantities, lifetimes and behavioural drivers	Stephan Lutter: SCP-HAT – developing an online tool to support national policy frameworks for a sustainable use of resources	
15:00		Susana Toboso Chavero: Improving the Socio-economic Metabolism in Neighbourhoods: Climate Change Action Plans	
15:30	Coffee Break	Coffee Break	Coffee Break
16:00	Closing Remarks		