

INDUSTRIAL ECOLOGY : STRATEGY FOR GREEN GROWTH

University of Ulsan, Korea, June 25-28 2013

Tuesday June 25th, 2013

	Architecture(205)	Architecture(208)	International Hall(101)	International Hall(306)	International Hall(307)
	OPENING CEREMONY + PLENARY (Heasong Hall)				
09:00-10:30	09.00 - 09.30 Welcome and Introductions - Dr. Cheol Lee President, University of Ulsan - Dr. Maeng-Woo Bak Mayor, Ulsan Metropolitan City - Dr. Sang-Jick Yoon Minister of Trade, Industry & Energy		Hung-Suck Park Chair, 7th ISIE Conference		
	09.30 - 10.15 ISIE – A Lifecycle Perspective		Marian Chertow President, ISIE		
	10.15 - 10.30 Announcements and Briefing		Hung-Suck Park Chair, 7th ISIE Conference		
10.30-11.00	BREAK				
11.00-12.30	1.2 Urban Systems - Policy & Governance	5. Life Cycle Sustainability Assessment including Developments in Life Cycle Modelling	6. Industrial Symbiosis and Eco-Industrial Development	8.1 Design for the Environment	3.4 Linking Socio-Economic Metabolism and Climate Change
Chair	Xuemei Bai	Jeroen Guinee	Seong-Woo Jeong	Valerie Thomas	Helga Weisz
11.00	Sybil Derrible Can Jane Jacobs' principles be applied in the developing world for successful and green urban economies?	Mara Hauck How to fill data gaps in life cycle inventories? A case study on CO2 emissions from coal electricity (not intended under 1. but seems fixed on that in online form)	Chang Yu Eco-transformation of industrial parks in China: lessons learned from Tianjin and Dalian	Seong-Rin Lim Life cycle CO2 assessment of an ammonia-based CO2 capture process in an iron and steel plant	Xin Tian Industrial structure change and associated impact on carbon dioxide emissions in China: A regional analysis
11.15	Atsushi Takahashi Estimation of Co-benefit Effects of Regulation of Exhaust Gas for In-use Vehicles in East Asian Countries	Matty Janssen Simulation and LCA of a bioethanol process technology in development	Peter Lowitt Pay it Forward: Using Sustainable Indicators Study to Promote Regenerative Design within Eco Industrial Parks.	Sofia Poulidikou Improving environmental performance of vehicles throughout product development – environmental requirements and the use of DfE tools	Gjalt Huppes Resource constraints for successful climate policy
11.30	Rolf Andre Bohne PARALLEL COMMISSIONING. A NEW WAY OF PLANNING FOR A SUSTAINABLE SETTLEMENT - THE CASE OF BRØSET, TRONDHEIM (NORWAY).	Chen Lin Compilation of the waste input- output table of China: basic data and application	Frank Boons Mapping the Diversity of Industrial Symbiosis: Comparative analysis of European public and private efforts to develop symbiotic networks	Emi Kikuchi-Uehara Framework for chemicals management in small and medium- sized enterprises – practice in metal cleaning processes	Daniel Müller Carbon emissions of built environment stock development
11.45	Anu Ramaswami Understanding Multi-Level Governance for Sustainable Cities using a Social-Ecological- Infrastructural Systems (SEIS) Framework	Lynette Cheah Temporal Emissions Associated with Electricity Generation	Jérémie Joubert Analysing collective action in industrial ecology from a political science point of view : the case of the bioresources-based materials for the building industry in France	Olga Parkes Towards developing a quantitative methodology for the assessment of sustainable urban systems. A case study – the London Queen Elizabeth Olympic Park.	Chihiro Kayo Carbon Balance Assessment of Harvested Wood Products in Japan Taking Account of Inter-Regional Flows

12.00	Michael Blackhurst Realistic and Robust Climate Action Planning Techniques for U.S. Cities and Counties	Pieter Elshout The impact of crop cultivation on species richness: The influence of crop type, taxonomic group and location.	Andrew Mangan An Overview of the Hebei By-Product Synergy Project	Vered Blass Environmental and Economic Assessment of Remanufacturing Strategies for Product+Service Firms	Stefan Pauliuk The Role of Stock Dynamics in Climate Change Mitigation
12.15	Clinton Andrews Adaptive Responses of Urban Systems to Coastal Flooding	Hou Ping Strategies in Life Cycle Management(LCM) for Green Economy – Development of LCA/LCM Toolbox in China from Scratch	Graham Aid Business Models for Partners in Industrial Symbiosis Networks and Associated Risks	Jun-Ki Choi Photovoltaic recycling planning:Macro and micro perspectives	
12.30-13.30	LUNCH				
13.30-15.00	1.3 Urban Metabolism & Environmental Footprints of Cities	13. Complex Systems and Agent-based Modelling	3.1 Sustainable Resource Management	8.2 Environmental Footprints	2.1 Consumers and Lifestyles
Chair	Anu Ramswami	Gerard Dijkema	Sergio Pacca	Roland Clift	Frank Boons
13.30	Ulrich Kral The copper metabolism of cities: Insights into Vienna and Taipei	Yu Feng Structure of the Global Trade Network	Tao Wang Socio-Economic Metabolism of Transportation: A Case of High-Speed Transport in China	Xin Liu Life cycle environmental performance of coke production with by-product recovery in China	Eiko Kojima Citizens' awareness, attitudes and behaviours toward municipal solid waste management and life stages
13.45	Andre Pina From national to urban metabolisms – Contributions to sustainable policies	J. Kasmire Industrial Invasive Species	Jonathan Krones Comprehensive Waste Accounting for the United States	Joseph S. Colett Impact of Geographic Scope and Allocation Methods on Primary Aluminum Production Carbon Footprints in the United States	James Keirstead Fit for purpose? A comparison of urban resource demand simulation techniques
14.00	Leonardo Rosado UMAn - Opening the black box in urban metabolism: a robust method for urban material flow accounting	Lei Shi Evolution and complexity of industrial ecosystems: the case of Chinese municipal wastewater treatment industry	Seiji Hashimoto National material productivity: Impacts of industrial structure and material use intensities	Huijuan DONG Carbon Footprint Evaluation at Industrial Park Level: A Hybrid Life Cycle Assessment Approach	Angela Druckman The rebound effect: to what extent does it vary with income?
14.15	Helga Weisz Direct and indirect energy requirements of English households and the role of income and urbanization	Jose Alfaro Modeling Distributed Electricity Generation in Least Developed Countries	Taís Pinheiro Towards an environmental monitoring framework for Small Island Touristic Economies: a comparative Material Flow Analysis of Lana'i (USA) and Fernando de Noronha (Brazil), 2011	Nathaniel Springer A typology of indicators for considering land and water use through supply chains	Masahiro Oguchi Function-based material stocks of consumer durables in modern society: Did multifunctional products reduce material use?
14.30	Venkatesh Govindarajan Analysis of stocks and flows in Indian households, associated with water consumption	Vered Blass Product End of Use Management Networks: ABM approach	Stefan Bringezu Approaching a Safe Operating Space for Global Resource Use of Countries	Guan-Lin Lu Application of ISO 14051 Assessment Framework to the Evaluation of Economy-Wide Eco-Efficiency	Angela Druckman Time, gender and carbon: A study of the carbon implications of British adults' use of time

14.45	Joshua Newell Transdisciplinary Pathways for Urban Metabolism Research	Walter Reinhardt Public perceptions of consumption	Jade-Ashlee Cox Absorbent Hygiene Products: The bottom line for Waste Management	Moana Simas Estimating the demand on nature of the Brazilian economy by means of an Input-Output economic model and Ecological Footprint analyses.	
15.00-15.30	BREAK				
15.30-16.45	1.1 Urban Infrastructure and Low Carbon Development	5. Life Cycle Sustainability Assessment including Developments in Life Cycle Modelling	6. Industrial Symbiosis and Eco-Industrial Development	11. Industrial Ecology in Developing Countries	2.3 Rebound Effects
Chair	Chris Kennedy	Alissa Kendall	Marian Chertow	Somporn Kamolsiripichaiporn	Angela Druckman
15.30	Hiroki Tanikawa Material Stock Analysis of Urban Infrastructures and Buildings	Arne Kätelhön Framework for consequential LCA of new technologies producing homogeneous goods	Carolina Ersson Under what conditions does increased connectedness evolve in the biofuel industry?	Higashi Osamu Development of Mass Rapid Transit Network and its Socio-Environmental Effects in Ho Chi Minh City	Michael Blackhurst The Effect of Technology Choice Correlation for Indirect Rebound in U.S. Households
15.45	Lizhen Huang Dynamic Life Cycle Assessment of Norwegian Road network towards 2050	Sylvia Sleep Linking Reservoir Properties to GHG Emissions in the Oil Sands: Implications for Life Cycle Modeling and Policy	Gijsbert Korevaar Development of an industrial symbiosis toolbox	SERGIO PACCA Assessing job creation potential in developing renewable energy markets: A case study accounting for international trade effects in Brazil	Shigemi Kagawa Better cars or older cars?: assessing CO2 emission reduction potential of passenger vehicle replacement programs
16.00	Sookack Noh Assessment of Leakage Reduction Methods of Reservoir Embankments through estimation of Carbon Dioxide Emissions	Roozbeh Feiz Modeling the environmental and economic viability of vehicle fuel-grade biogas production systems from a life-cycle perspective	Ben Zhu Life cycle costing analysis of Industrial symbiosis in comparable regions	Kyo Suh Formalizing the Sharing Economy in the Developing World	David Font Vivanco Scale-up of micro-level environmental impacts of innovation and analysis of the contribution of technological change: a comprehensive approach combining dynamic IPAT-LCA and decomposition analysis
16.15	Anthony Clark Life Cycle Environmental and Economic Assessment of Municipal Water Storage Options: Infrastructure Refurbishment versus Replacement	Bernhard Steubing Combining LCA, MFA, and optimization to identify the optimal use of wood resources from cradle to grave	Changhao Liu Implementing a collective cleaner production in an industrial ecosystem-What happens?	Vimi Dookhun Industrial Symbiosis and Performance Management : A case study from the sugar industry in Mauritius.	Gjalt Huppes Rebound surveyed, constrained and quantified
16.30	Thomas Gibon Biogenic Greenhouse Gas Emissions from Hydropower: Unresolved problems for LCA	Jun Nakatani Regional and Methodological Comparison of Acidification Impacts among LCIA Methods	Lei Zhao Guide for industrial symbiosis planning in China: theory, framework and cases	Jae Hwan Park New Environment and Social index for Industrial Sustainability in ASEAN countries	Joseph S. Colett Coupled Plug-in Hybrid Electric Vehicle and Lightweight Hood Case Study
16.45-17.00	BREAK				
17.00-18.00	Move to a banquet venue				
18.00-21.00	SPEECH + DINNER (Lotte Hotel, Ulsan)				
	18.00 - 19.00 Mayor Speech "Eco-polis Ulsan: Past, Present, and Future" Dr. Maeng-Woo Bak 19.00 - 21.00 Banquet				

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Wednesday June 26th, 2013

	Architecture(205)	Architecture(208)	International Hall(101)	International Hall(306)	International Hall(307)	International Hall(308)
09:00-10:30	PLENARY (Heasong Hall)					
	09.00-09.01 Introduction 09.01-09.31 Plenary Speech "Industrial Ecology: Strategy for Green Economy" 09.31-09.32 Introduction 09.32-10.02 Plenary Speech "Industrial Ecology in Context: An Interdisciplinary Framework for Studying Sustainable Urban Systems" 10.02-10.22 Q&A 10.22-10.30 Announcements				Prof. Sangwon Suh, University of California, Santa Barbara Mr. Rae Kwon Chung Director, Environment and Development Division, UNESCAP Prof. Christopher Kennedy, University of Toronto Prof. Anu Ramaswami, University of Minnesota Prof. Sangwon Suh, University of California, Santa Barbara Hung-Suck Park Chair, 7th ISIE Conference	
10.30-11.00	BREAK					
11.00-12.30	1.3 Urban Metabolism & Environmental Footprints of Cities	5. Life Cycle Sustainability Assessment including Developments in Life Cycle Modelling	3.1 Sustainable Resource Management	14. Industrial Ecology Education	2.2 Sustainable Supply Chain Management	Unconventional Hydrocarbons and Fracking (tentative)
Chair	Yong Un Ban	Yuh Ming Lee	Shi Lei	Carol Boyle	Vered Blass	Greg Keoleian, Roland Clift
11.00	John Fernandez Derivation of a city typology based on urban resource consumption	Anders Damgaard Modelling uncertainties in a LCA model for waste management systems - EASETECH	Laura Schneider Resource assessment within LCA – Integration of production and consumption patterns for sustainable resource management	Yeo-Chang Youn Environmental Management Education at Seoul National University	Erwin Torres Supply Chain Improvement for Abaca: Development and Simulation of Key Interventions Model (KIM) for the Application of Fiber Grades and Standards at the Upstream End of the Supply Chain in Catanduanes, Bicol Region	
11.15	Miranti Aisyah Household Urban Metabolism in Jakarta	Rickard Arvidsson Is there a "crystal ball"? Assessing environmental life cycle impacts of new nanomaterials	Kenichi Nakajima Global flow of metals and phosphorus: Supply chain analysis for sound resource logistics	Gerard P.J. Dijkema A bibliometric analysis on the evolution of industrial symbiosis	Carlos A. López-Morales Methods, data requirements and conceptual challenges to develop water footprint indicators for corporate supply chains in Mexico	
11.30	Venkatesh Govindarajan Analysing the flows of materials, energy and money associated with water consumption in households in Oslo vis-à-vis the flows in the water treatment/supply and wastewater transport/treatment sub-systems: Case study of year-2009.	Christoph Meinrenken "Fast LCA" To apply life cycle methodologies and supply chain management at scale	Yasushi Kondo Simultaneous Material and Substance Flow Analysis: An Extension of WIO-MFA and Its Application to Effective Recycling of Steel Alloys	Laurent Georgeault Computational system based on GIS and LCA for identification, environmental and cost analysis of synergies: Case of shared additional water tank storages for fire prevention	Mohammad Sadegh Taskhiri Cascade Based Logistic Network for Renewable Resources	

11.45	Hong Liu Analysis of the distribution characteristics of ecological elements facing the urban metabolic process	Jeroen Guinée Back-casting LCA and methodological issues involved	Keisuke Nansai International shared responsibility for enhancing global material efficiency of rare metals	J. Kasmire The Evolution of Transition Management and Sustainability Science: A Literature review	Chia-ho Lee Hazardous Substance Generated and Treatment in Electrical and Electronic Industries	
12.00	Yuliya Kalmykova Rio +20: trends in urban metabolism of Swedish cities	Linda Ager Wick Ellingsen Life Cycle Assessment of Electric Vehicles - Recent insights and developments	Kazuyo Matsubae Substance flow analysis on Zinc in Asian Countries focusing on the recovery and recycling of steelmaking dust	Heechang Lee Optimal operation factors and economic evaluation of a closed-loop stripper/scrubber system for ammonia recovery	Stefania Pizzirani Life cycle sustainability assessment to analyse alternative forestry value chains with Māori land owners	
12.15	Dong Liang How industrial symbiosis contributes to low-carbon strategy from the perspective of Scope 2 and 3? A case study in China using carbon flow analysis	Michael Martin Who gets the benefits? An approach for assessing the environmental performance of industrial symbiosis	Annika Weiser Towards a sustainable use of indium – Relating technology options and governance interventions for dealing with indium criticality	Georgios Chalkias Towards a Formalization of Industrial Ecology's World-view	Anu Ramaswami Water Footprints of Urban Energy Systems - Managing Supply Chain Risk to Cities at the Water-Energy-Climate Nexus	
12.30-13.30	LUNCH					
13.30-14.30	POSTER PRESENTATION					
14.30-15.00	BREAK & TOUR PREP.					
15.00-19.00	Sustainable Urban Systems Tour	Petrochemical Industry & Sustainable Urban Systems Symbiosis Tour	Bioenergy Industrial Symbiosis Tour	Paper Mill Industrial Symbiosis Tour	Automobile & Ship Building Industrial Symbiosis Tour	
19.00-	DISCOVER ULSAN: DINNER ON-YOUR-OWN					

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Thursday June 27th, 2013

	Architecture(205)	Architecture(208)	International Hall(101)	International Hall(306)	International Hall(307)	International Hall(308)
PLENARY (Heasong Hall)						
09:00-10:30	09:00-09:01 Introduction 09:01-09:31 Plenary Speech "Industrial Ecology for Achieving Resource Productivity in Developing and Emerging Economies" 09:31-09:32 Introduction 09:32-10:02 Plenary Speech "Brown to Green: An Introduction to the Strategies, Tools and Techniques of Post-Industrial Land Regeneration" 10:02-10:22 Q&A 10.22-10.30 Announcement			Prof. Roland Clift, University of Surrey Dr. Rene van Berkel Chief, Cleaner and Sustainable Production Unit, UNIDO Prof. Xuemei Bai, Australian National University Prof. Niall G. Kirkwood, Graduate School of Design, Harvard University Roland Clift & Prof. Xuemei Bai Hung-Suck Park Chair, 7th ISIE Conference		
10.30-11.00	BREAK					
11.00-12.30	1.1 Urban Infrastructure and Low Carbon Development	6. Industrial Symbiosis and Eco-Industrial Development	12. Policy Intervention and Planning	9.2 Business Models for Decoupling	4.1 Method and Database Development in EEIO	
Chair	Hiroki Tanikawa	Peter Lowitt	Janet Salem	Jacquetta (Jaqi) Lee	Sangwon Suh	
11.00	Nathaniel Tindall Cost-Benefit Analysis of the Lifecycle of Highways and Public Transit	Christopher Kennedy Greening of Gross Fixed Capital Formation	Miguel Angel Fernández Medina Assessing sustainability of small and medium enterprises: strategies and policies from international cases	J. Kasmire The evolution of combined heat and power in the Dutch greenhouse horticulture	Yuko Oshita Identifying the Environmentally Important Clusters: Application to GHG emission in United States	
11.15	Carol Boyle Urban metabolism of Auckland	Tsuyoshi Fujita Quantitative Evaluation of Symbiotic Energy Network Effect in Eco-industrial Development –Case Study of Energy Symbiosis Simulation in Kawasaki Eco Town, Japan	Kazuyo Matsubae Resource logistics analysis on phosphorus and its implication on resource governance	Nancy Bocken The use of business model archetypes to stimulate corporate innovation towards sustainability	Arnold Tukker Compiling and Refining Environmental and Economic Accounts (CREEA) – towards a detailed, global Mutli-regional Environmentally Extended Economic, Physical and Energy SUT/IOT	
11.30	Tim Baynes Urban metabolism effects of climate change adaptation and mitigation in residential development and consumption scenarios.	Han Shi Potential and Barriers for Eco-industrial Parks to Serve as Pioneers of Sustainable Low-carbon Urbanization in China	Gjalt Huppes Options for resources policy: review and preliminary evaluation	Christof Knoeri Infrastructure as though the end-user matters; from utility products to infrastructure services	Patrick Breun An input-output model to simultaneously evaluate indirect effects on economic developments and carbon flows in resource intensive industries	
11.45	Rolf André Bohne The Sustainable City: a new framework of cross-scale assessing	Wouter Spekkink Actor heterogeneity in the development of (agro-)industrial symbiosis	Yu-Tsang Lu The Implications and Challenges of GHGs Mitigation Policy Management under the New Climate Regime	Paulo Ferrao Eco-efficient strategies for WEEE Treatment and Recovery: a full scale case study	Anke Schaffartzik The Raw Material Equivalents (RME) of Trade: Towards Methodological Harmonization	

12.00	Roope Husgafvel Social sustainability performance indicators – experiences from process industry	Susanne Hartard Local Heat Nets – A great chance of Decentral Eco - Industrial Development in Germany	Wenting Jiao Policy Translation Process of Industrial Symbiosis: case study of the Province of South Holland, the Netherlands	Vered Blass Innovative Business models for Servicizing: a Typology	Arne Geschke Compiling and using input-output frameworks through collaborative virtual laboratories	
12.15	E-doo Kim Development of business model for regional energy networks between industrial complexes and urban communities in Ulsan Metropolitan city, South Korea.	Guillaume Massard International survey on eco-innovation parks: Learnings from experiences on the spatial dimension of eco-innovation				
12.30-13.30	LUNCH					
13.30-15.00	3.3 Critical Materials, Waste and Recycling	5. Life Cycle Sustainability Assessment including Developments in Life Cycle Modelling	3.2 Modelling of Stock and Flow Relationships	10. Agri-Food-Bioenergy Systems	4.2 Carbon and Other Footprints of Consumption	Understanding Social Systems in Industrial Ecology: Literature Review and Discussion Organized by the Subject Section on "Organizing Sustainable Consumption and Production"
Chair	Seiji Hashimoto	Michael Blackhurst	Barbara Reck	Mats Eklund	Shenghui Cui	Frank Boons
13.30	António Lorena Forecasting municipal solid waste production and benchmarking infrastructure provision	Charles Corbett Using LCA in Operations and Supply Chain Management Research: Carbon Footprint as a Vehicle for Advancing Interdisciplinary Research and Practice	Laura Burger Chakraborty A mercury material flow analysis for India and evaluation of emission control measures	Nikolinka Schakhramanyan Achieving sustainable phosphorus use due to biogas production from animal manure in US agriculture	Koji Takase An analysis of sustainable consumption in terms of CO2 and water	
13.45	Benjamin Sprecher Neodymium magnets: a comparison of the environmental impact of virgin production vs recycling	Guillaume Majeau-Bettez Unified Theory of Allocation and Constructs in Life-Cycle Assessment and Input-Output Analysis	Jonathan Busch Using stocks and flows modelling for infrastructure transitions	Érica Castanheira Greenhouse gas intensity of palm oil from Colombia: implications of land use change and nitrogen fertilization	Keiichiro Kanemoto International trade undermines national emission reduction targets	
14.00	Weiqliang Chen Vulnerability and Resilience of Metals Supply Chain Network for Infrastructure	Jeongwoo Han Life Cycle Analysis of Fuel Production from Fast Pyrolysis of Biomass	Tomohiro Tasaki Stock Accounting for Consumer Durables based on Operating Time and Satisfaction and Effects of Longer Use	Susanne Vedel Jørgensen Biogenic CO2 emissions, changes in surface albedo, and biodiversity impacts from establishment of miscanthus plantation	Lin Zeng Revisiting underlying drivers of China's energy intensity fluctuation during 1997-2007: A structural decomposition analysis	
14.15	Xiaoyue Du Criticality of the rare metals: A multi-scale study	Yuan Chang The shale-to-well energy and environmental impacts of shale gas production in China	Andreas Moeller Steady-State Material Flow Analysis	Emma Keller Quantifying and managing GHG emissions in global agri-food supply chains: A case study on cocoa farming in Ghana.	Arnold Tukker The Price Corrected Domestic Technology Assumption – a method to assess pollution embodied in trade using primary official statistics only With a case on CO2 emissions embodied in imports to Europe	

14.30	David Dawson Assessing the material vulnerability of low-carbon infrastructure transitions	Jessika Trancik Emissions metrics for evaluating alternative transportation fuels against changing environmental constraints	Mauricio Cote Dynamic modeling of carbon stocks with a case study of the German pulp and paper industry	Elias Marvinney Life cycle assessment of long-lived perennial cropping systems: biomass-based energy production and orchard GHG footprints in California.	Sangwon Suh Environmental impact of trade: a critical appraisal	
14.45	EVA SEVIGNÉ Material and Environmental metabolism of paper and board recycling in Spain with international markets : Credits of CO2	Seung-Jin Lee Exploring Best Practices for the Integration of Ecological Footprint with Life Cycle Assessment	Per Frändegård Landfill mining - Economic potential and critical factors			
15.00-15.30	BREAK					
15.30-16.45	1.3 Urban Metabolism & Environmental Footprints of Cities	13. Complex Systems and Agent-based Modelling	3.1 Sustainable Resource Management	8.3 Managing End-of-Life Products	7. Social Sciences in LCA	
Chair	Tim Baynes	Kyo Suh	Yuichi Moriguchi	Seong-Rin Lim	Josh Newell	
15.30	Hung-Suck Park Industrial Symbiosis Contributing to Low-Carbon Zone: A Case from the Bangladesh Export Processing Zone	Igor Nikolic Servicing Systems for Absolute Decoupling: ABM approach	Heming Wang A new analytical framework for measuring the progress of decoupling in developed and developing countries	Xin Tong The Hybrid Reverse Logistic System for WEEE in Urban China	Brieland Jones Social Life Cycle Analysis of Charcoal Production in Liberia, West Africa	
15.45	Abel Chavez Comparing Different Greenhouse Gas Emission Footprint Methods and Metrics to Represent the Energy and Environmental Performance of Cities	Yosef Manik An Agent Based Model of Land Use Change driven by Palm Oil Biodiesel	James West Contrasting socio-metabolic transitions for two world regions, as reflected in material flows and resource productivity.	Roland Clift Applying the principles of industrial ecology in the development of a new consumer product system: self-chilling beverages	Pin-Chih Wang Application of Social Life Cycle Assessment to Strategic Environment Assessment – An Assessment Framework for Regional Planning in Taiwan	
16.00	Hongmei Zheng Network Symbiosis Analysis for 10 Eco-industrial Parks in China and Other Countries	Najet BICHAOUI Agent-based Model for the development of a Regional Industrial Symbiosis	Shinsuke Murakami Material Flows at Mine site throughout its life and intertemporal allocation of their responsibility	Paulo Ferrao A techno-economic model of the WEEE Processing Infrastructure, calibrated in full scale industrial sites.	Hanna Nilsson Knowledge and capability in companies to address sustainability of product chains - a literature study	
16.15	Satoshi Ohniahhi Emergy analysis in an eco-industrial area: The case of Kawasaki Eco Town, Japan	Haijia Shi The quantitative identification method for characteristic multi-symbiotic-pattern in typical industrial symbiosis systems and its implication	Ichiro Daigo Time-Series Analysis on End-of-Life Recycling Rate of Common Metals in Japan	Dongyan TAO Optimizing the WEEE recycling network: A case study in Beijing	Sheetal Gavankar Characterization of uncertainties in the life cycle assessments of emerging technologies: Review and implications for public's risk perception.	
16.30		Yang Li Complex Structures of Industrial Ecosystem based on a Virtual Case	Kai Zhuang Multiscale modeling for sustainable production of chemicals	Martin Streicher-Porte High voltage pulse power fragmentation of valuable material composites		
16.45-17.00	BREAK					
17.00-19.00	POSTER PRESENTATION					

INDUSTRIAL ECOLOGY : STRATEGY FOR GREEN GROWTH

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Friday June 28th, 2013

	Architecture(205)	Architecture(208)	International Hall(101)	International Hall(306)	International Hall(307)
09.00-10.30	1.1 Urban Infrastructure and Low Carbon Development	3.1 Sustainable Resource Management	12. Policy Intervention and Planning	9.1 Decoupling Economic Growth and Impacts	8.1 Design for the Environment
Chair	James Kierstead	Stefan Bringezu	Clint Andrews	Anthony Chiu	Ming Xu
9.00	Sophie Lufkin Symbiotic Districts: Innovative design strategies for local energy production and resource self-reliance at neighborhood scale	Samuel Niza Uncovering resource management opportunities towards urban self-sufficiency	Chris Davis Open Data on Electric Power Generation	Majja Mattinen Small economy in global context - Green growth challenges and opportunities in Finland	Hyung-Chul Kim Life Cycle Energy and Greenhouse Gas Emissions Benefits of Lightweighting in Automobiles: Harmonization of Published Results
9.15	Ine Steenmans Integrated urban infrastructure systems: practice, failure and complexity	Joakim Kroo Technospheric mining: On the quantities and dynamics of urban infrastructure mines	Julie Gobert The influence of policy intervention in biorefinery systems planning	André Cabrera Serrenho Natural resource accounting: final exergy to useful work analysis in Portugal from 1856 to 2009	Mohd Zafar Industrial symbiosis potential of biodiesel byproduct for an integrated biorefinery system
9.30	Arka Pandit A Decision Support Tool for Low-Water Low-Carbon Urban Infrastructure Development	Chika Aoki-Suzuki Developing Material Flow Indicators in Emerging Countries: Drivers and Facilitating Factors	Hua Cai Understanding Market Acceptance of Electric Vehicles Based on Individual Travel Patterns	Heinz Schandl The Material Footprint of Nations. A New Measure for Decoupling Analysis	Anne VENTURA Action-oriented Life Cycle Assessment: example on hemp-based construction materials
9.45	Patricia Pontau Assessing Land Use Impact by Clean Vehicle Systems	Marian Chertow Historical Material Flows in Hawaii over 200 Years A Theory of Material Succession	Nathan MacPherson Employing Regional Variation Accounting Methodology for Plug-in Electric Vehicles in Light-duty Vehicle Greenhouse Gas Standards	Ester van der Voet Measuring eco-innovation: macro-level impacts of micro-level improvements	Aleksandar Lozanovski Guidance handbook for performing environmental assessment of hydrogen production
10.00	Sofiia Miliutenko Life cycle energy and climate change considerations in the early stages of road infrastructure planning processes	Gang Liu Mapping the global journey of anthropogenic aluminum: a trade-linked multilevel material flow analysis	Nancy Bocken Understanding environmental performance variation between factories, which make the same products under similar circumstances	Arnold Tukker Towards a Circular Economy – an analysis for the Netherlands	Samir Doshi Transforming extractive economies to resilient communities
10.15	Farideddin Peiravian Fractal Analysis of Complex Urban Systems		Xuepeng Qian Study on Sino-Japanese Cooperation for Eco-Industrial Development		Anne Marie Lewis The impact of vehicle electrification and lightweight materials to reduce life cycle energy and greenhouse gas emissions
10.30-11.00	BREAK				

11.00-12.30	3.3 Critical Materials, Waste and Recycling	5. Life Cycle Sustainability Assessment including Developments in Life Cycle Modelling	3.2 Modelling of Stock and Flow Relationships	15. Practical Case Studies and Best Practice	
Chair	Weiqliang Chen	Anne Ventura	Daniel Mueller	Paulo Ferrao	
11.00	Niclas Svensson Metal resources in Swedish ash deposits- priority settings for future resource extractions	edi iswanto wiloso Development of an LCA framework for the feedstocks of second generation bioenergy	Hanwei Liang Application of Multisensor Remotely Sensed Imageries and 3D GIS Data for Modeling Building Stock : Case study of Nagoya	Samuel Short British Sugar: Case Study of Single-Firm Industrial Symbiosis	
11.15	Peter-Paul Pichler Structure and Evolution of Global Commodity Trade Networks	Ottar Michelsen Biodiversity loss in LCA assessed with global scaled data, exemplified with comparison of kiwifruit production	Tomer Fishman Exploring the Interactions of Material Stocks and Society: A System Dynamics Approach	Christin Liptow Gasification of wood as an alternative process route to produce base chemicals - what are potential environmental hotspots	
11.30	Yuichi Moriguchi Application of material flow and stock analysis approach to disaster waste management	Francesco Cherubini Emission metrics based on temperature and explicit time profiles as alternatives to GWP in LCA	Cherry Myo Lwin Evaluation of Material Stocks for Infrastructure in Japan: Moving towards a Sustainable Stock-type Society	Biji Kurup Capturing implications of Industrial Symbiosis by Six Capitals Method	
11.45	Alissa Kendall Dynamic LCA for Modeling Critical Materials and Recycling	Joseph Bergesen A Comparative Life-Cycle Assessment of Photovoltaic Module Production in China and the United States	Barbara Reck Scenario analysis for nickel demand using historical end use information	Nicolas Mat Dynamics of industrial ecology in port areas: new challenges and real opportunities in Europe and in Asia	
12.00	Madeleine Yates The wasted energy in waste batteries: An assessment of the useful life in batteries sent for recycling	Jon McKechnie Implications of emissions timing on the cost-effectiveness of greenhouse gas mitigation strategies	Sungsoo Koh Mathematical implication of including constraints in flow matrix network model	Schaffartzik Anke (Bio)Fueling the Future: Ukraine's Great Potential?	
12.15		Jeroen Guinée Life cycle inventory of Asian Aquaculture Feeds - including estimates for dispersion	Eric Masanet Supply Chains as Energy and Materials Efficiency Resources	Shishir Kumar Behera Cleaner production measures in an Indian sugar mill	
12.30-13.30	LUNCH				
13.30-15.00	PLENARY (Heasong Hall)				
	15.30-16.00 Closing Remarks 16.00-16.40 Awards and Announcement	Hung-Suck Park Chair, 7th ISIE Conference			

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Wednesday June 26th, 2013 (Poster)

Code	Name	Paper Title
ISIE2013-026	Yosef Manik	Toward Life Cycle Sustainability Assessment of Palm Oil Biodiesel: An Integrative Methodological Framework
ISIE2013-049	Junbeum Kim	Precious and Critical Resource Consumption and Land Use: Focused on Photovoltaic (PV) System in South Korea
ISIE2013-056	Jan Kovanda	Material flow analysis on the sectoral level and potentials of its use for sustainable resource management
ISIE2013-064	GAO Xiaolong	The study on byproducts recycling in eco-industrial parks
ISIE2013-075	Aleksandar Lozanovski	Life cycle assessment approach on rare earth
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