



ICOSSE '17

6th International Congress on Sustainability Science & Engineering

October 2-4, 2017

Gran Via Convention Centre, Barcelona, Spain

Technical Program

Monday, October 02, 2017			
9:00 AM	- 11:00 AM	ICOSSE '17 Registration	Room D7
11:00 AM	- 11:30 AM	ICOSSE Opening Ceremony	Room D7
11:30 AM	- 1:00 PM	Session 1: The transition to sustainable living 1	Room D7
Session Chairs: Kim Ogden, University of Arizona and Rakesh Agrawal, Purdue University			
	Yinlun Huang	Manufacturing Sustainability: Multiscale Systems Science and Applied Studies	65086
	Jim Petrie	Delivering Resource Projects Sustainably in Emerging Economies: The success story of an innovative business intervention model	37301
	Israel Herrera	Sustainability of solar PV systems for electricity generation	51046
	Maria Soledad Diaz	Towards sustainable operations in chemical plants	64891
	Walter Loo	Total Water Sustainability Management for China & World	80001
1:00 PM	- 2:30 PM	Lunch	
2:30 PM	- 3:30 PM	No ICOSSE activity scheduled - ESCAPE Plenary Lecture	
3:30 PM	- 4:00 PM	Coffee Break - Posters	
4:00 PM	- 5:30 PM	Session 2: The transition to sustainable living 2	Room D7
Session Chairs: Jim Petrie, University of Sydney and Sophie Duquesne, University de Lille			
	Jarka Glassey	Sustainability education approaches for life-long learning – Are we there yet?	100046
	Adisa Azapagic	A new decision-support framework for integrating circular economy principles into business practice	72621
	Jeffrey Seay	Professional Development and Lifelong Learning for Sustainability	39641
	Colin Axon	Transitioning to sustainability: energy security and risk	72301
	Aidong Yang	Integrated design and analysis of local food-energy-water systems	73461
Tuesday, October 03, 2017			
8:00 AM	- 8:30 AM	ICOSSE '17 Registration	Room C6
8:30 AM	- 10:00 AM	Session 3: Sustainable technologies 1	Room C6
Session Chairs: I.S. Jawahir, University of Kentucky and Stefaan Simons, Brunel University London			
	Kristina Zakuciova	Life Cycle Assessment of high-temperature carbonate loop for CO2 capture in the Czech Republic	67431
	Stavros Papadokonstantakis	Handling multi-scale/multi-partner information for biorefinery modelling, integration and sustainability assessment	79311
	Kwabena Darkwah	Multi-objective optimization of fermentation and in situ gas stripping processes based on time-dependent fermentation models	63566
	Sage Hiibel	Algae as an Animal Feed Supplement: Nutrient Recovery and Water Reuse	88881
	Indranil Chowdhury	Sustainable Material Applications and Reuse in Treatment (SMART) of Water and Environment	99821
	Jae W Lee	PEI-aided dispersion of Ni nanoparticles in mesoporous silica for dry reforming of methane	27146
10:00 AM	- 11:00 AM	No ICOSSE activity scheduled - WCCE10 Plenary Lecture	
11:00 AM	- 11:30 AM	Coffee Break - Posters	
11:30 AM	- 1:00 PM	Session 4: Sustainable technologies 2	Room C6

Session Chairs: Javier Dufour, University Rey Juan Carlos and Richard Darton, University of Oxford			
	Stefaan Simons	Implementing the Paris Agreement: key challenges and opportunities for chemical engineering	24526
	Yogendra Shastri	Economic and environmental assessment of bagasse utilization for ethanol production in India	51251
	Masaaki Hosomi	A high pressure jet device as a novel technology for reduction of excess activated sludge: Performance, mechanism and cost estimation	51101
	Marta Herrero	Towards a more sustainable management of desalination brines	88561
	Valentina Russo	Energy and water mitigation strategies in the South African commercial meat sector	50221
1:00 PM - 2:30 PM	Lunch		
2:30 PM - 3:30 PM	ICOSSE Plenary Lecture - Renate Christ		Room C6
	Climate Change Science, the Paris Agreement and the Sustainable Development Goals		
3:30 PM - 4:00 PM	Coffee Break - Posters		
4:00 PM - 5:30 PM	Rapid Fire/Lightning Round Session		Room C6
5:30 PM - 7:00 PM	Poster Session		
Wednesday, October 04, 2017			
8:00 AM - 8:30 AM	ICOSSE '17 Registration		
8:30 AM - 10:00 AM	Session 5: Bringing sustainability to the mainstream 1		Room D6
	Session Chairs: Fazleena Badurdeen, University of Kentucky and Zdravko Kravanja, University of Maribor		
	Harro von Blottnitz	Demand trumps policy: bioenergy project experience in South Africa	48911
	Lidija Čuček	Sustainability Measurements applied for Optimization and Synthesis of Different Systems	93311
	Bryony DuPont	Exploring the Relationship between Product Environmental Sustainability and Consumer Use	96741
	Andrew Hoadley	Sustainability assessment using a complex adaptive systems approach	52471
	Selene Cobo	From linear to circular integrated waste management systems: a framework	25511
10:00 AM - 11:00 AM	No ICOSSE activity scheduled - WCCE Plenary Lecture		
11:00 AM - 11:30 AM	Coffee Break - Posters		
11:30 AM - 1:00 PM	Session 6: Bringing sustainability to the mainstream 2		Room D6
	Session Chairs: Bryony DuPont, Oregon State University and Yinlun Huang, Wayne State University		
	Fazleena Badurdeen	Multi-lifecycle Product Design Optimization Considering Reuse, Remanufacturing and Recycling	91476
	Sophie Duquesne	Life Cycle Assessment of Dairy Derivatives – Towards an eco-design of the pasteurization process	65756
	Marta Bubicz	Sustainability Function Deployment: Using QFD to create socioeconomic value	53361
	Abhijeet Parvatker	Methodologies for Life Cycle Inventory Generation for Active Pharmaceutical Ingredients (APIs)	80506
	Manuel Alvarez-Guerra	Electrochemical Reduction Of CO2 To Formate: A New Zerogap Electrochemical Reactor Approach	41026
1:00 PM - 2:30 PM	Lunch		
2:30 PM - 3:30 PM	ICOSSE Plenary Lecture - Jacqueline Cramer		Room D6
	Circular Cities - The Case of the Amsterdam Metropolitan Area		
3:30 PM - 4:00 PM	Coffee Break - Posters		
4:00 PM - 5:30 PM	Session 7: Bringing sustainability to the mainstream 3		Room D6
	Session Chairs: Adisa Azapagic, University of Manchester and Lidija Cucek, University of Maribor		
	Yvonne Lewis	Insights from modeling to support policy development and decision making in South Africa	67941
	Chandni Joshi	Data Analysis of Global Waste Plastic Generation and Management	27016
	Richard C. Darton	Assessing the sustainability of community-based water purification technologies: a case study in West Bengal	62316
	Andreia Santos	Characterization and Analysis of the Sustainability in the Forest Supply Chain	70071
	Alessandro Tugnoli	Accounting for the indirect environmental burdens in waste to energy flue gas cleaning	90436
5:30 PM - 5:45 PM	Awards and Closing Remarks		Room D6