

AEESP BIENNIAL CONFERENCE

ADVANCING HEALTHY COMMUNITIES

University of Michigan, Ann Arbor
June 20-22, 2017



Program Layout April 2017

	TUESDAY, June 20	WEDNESDAY, June 21	THURSDAY, June 22	
8:00	PARALLEL WORKSHOPS		Breakfast with Bill: Learn about NSF	
8:30		KEYNOTE 2	PARALLEL PRESENTATION SESSIONS	
9:00				
9:30				
10:00		PARALLEL PRESENTATION SESSIONS		
10:30				
11:00				
11:30				
12:00	LUNCH BREAK		POSTER SESSION II (Lunch served)	
12:30		LUNCH BREAK (committee meetings working lunch option)		
1:00	PARALLEL WORKSHOPS			
1:30			PARALLEL PRESENTATION SESSIONS	
2:00				
2:30		PARALLEL PRESENTATION SESSIONS	BUSINESS MEETING	
3:00				
3:30				
4:00				
4:30				
5:00	WELCOME AND KEYNOTE 1	COMMUTE TO POSTER SESSION I	BUSES TO HENRY FORD MUSEUM	
5:30				
6:00				
6:30		POSTER SESSION I (w/ heavy hors d'oeuvres)	BANQUET, AWARDS, FELLOW INDUCTEES (Henry Ford Museum)	
7:00	WELCOMING RECEPTION			
7:30				
8:00				
8:30				

Parallel 1							
ID	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors		
Biological Processes in Natural Systems							
Slot 1: Wed am 10:00 - 12:30	388	Jeffery	Song	Carnegie Mellon University	Statistical models of environmental DNA sampling for invasive Asian carp monitoring and management	1. Jeffery Song, 1. Elizabeth Casman, 1. Mitchell Small	
	84	Elyse	Stachler	University of Pittsburgh	Development of crAssphage-Based PCR Methods for Source-Tracking of Human Fecal Pollution in Environmental Waters	1. Elyse Stachler; 2. Catherine Kelty; 3. Kyle Bibby; 4. Orin Shanks	
	464	Leah	Hall	Lehigh University	Cryptosporidium spp. Source Tracking in the Schuylkill River Watershed	1 Leah Hall, 1 Kristen Jellison	
	286	Heather	Shiple	University of Texas-San Antonio	DETERMINATION OF N-ACYL HOMEOSERINE-LACTONE IN MICROCYSTIS AERUGINOSA PCC7806	Gisella Lamas-Samanamud, 1, Heather Shipley, 1, Tony Reeves, 2, Kennedy Gauger, 2, Michael Tidwell, 2, Adam Lamb, 2.	
	150	Nicolette	Zhou	University of Washington	Novel bag-mediated filtration system for environmental surveillance of pathogens	1. Nicolette A. Zhou, 1. Christine S. Fagnant, 1. Alexandra L. Kossik, 1. Jill C. Falman, 1. Joanna C. Harrison, 1. Nicola K. Beck, 1. Jeffrey H. Shirai, 1. J. Scott Meschke	
	243	Niveen	Ismail	Smith College	Zooplankton Mediated Removal of Microbial Pollutants in Natural Systems	Niveen Ismail, Brittney Blokker, Mariah Ollive, Sarah Price	
	369	Ellen	Black	University of Iowa	The impact of freshwater mussels on anaerobic ammonia oxidizers and other nitrogen-cycle bacteria in upper Mississippi river sediment	1. Ellen M. Black 2. Michael S. Chiment 1. Craig L. Just	
Themed Session - Assessing Risks from Microbial Agents to Community Health							
Slot 2: Wed pm 2:00-5:00 with break	227	Patrick	McNamara	Marquette University	Antimicrobials and Antibiotic Resistance Genes: Lessons Learned from Triclosan, Triclocarban, and Future Outlooks	1. Patrick McNamara, 1. Daniel Carey, 2. Masanori Fujimoto	
	261	Emily	Garner	Virginia Tech	Impact of water age, water chemistry, and bulk water-biofilm interactions on microbial ecology, antibiotic resistance genes, and opportunistic pathogens in four full scale reclaimed water distribution systems	1. Emily Garner, 2. Jean McLain, 1. Marc Edwards, 1. Amy Pruden	
	571	James	Mihelcic	University of South Florida	The Global Water Pathogens Project: Forming a Global Network of Scientists to Address Sanitation	1. Mihelcic, J.R., 1. Naughton, C.C., 3. Verbyla, M.E., 4. Young, K.R.L., 5. Rose, J.B.	
	154	Conghui	Huang	University of Illinois at Urbana Champaign	Risk assessment of Legionella pneumophila infection by the release from biofilms in premise plumbing	1. Conghui Huang, 2. Yun Shen, 1. Rebecca Lee Smith, 1. Thanh H. Nguyen	
	BREAK						
	Themed Session - Assessing Risks from Microbial Agents to Community Health (continued)						
	527	Heather	Goetsch	University of Michigan	Fate of human BK polyomavirus through urine diverted for fertilizer use	1. Heather Goetsch; 1. Nancy Love; 2. Michael Imperiale; 1. Krista Wigginton	
	569	April	Gu	Northeastern University	Antibiotic-independent Resistance Induction-Role of Environmental Pollutants in Antibiotic Resistance Phenomena	1. D. Li M. 2. He Miao and 3. A. Z. Gu	
	245	Yun	Shen	University of Michigan	Quantification of opportunistic bacterial pathogens in hot water and aerosols formed during showering	1. Yun Shen, 2. Aaron J. Prussin II, 2. Linsey Marr, 1. Lutgarde Raskin	
	600	Dan	Li	Fudan University	Sub-inhibitory Concentrations of Disinfectants Facilitate the Horizontal Transfer of Antibiotic Resistance Genes within and across Genera	1. Ye Zhang, 2. April Z. Gu, 3. Miao He, 1. Dan Li*	

Parallel 1						
ID	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Healthy Communities Across the Globe: Water/sanitation for developing countries (I)						
479	Colleen	Naughton	University of South Florida	An Evaluation of the Use of Composting Latrines in Developing World Communities in Panama: Does Resource Recovery Play a Role in User Perceptions?	1. Colleen C. Naughton, 2. Patricia A. Akers, 1. James R. Mihelcic	
251	Valerie	Bauza	University of Illinois at Urbana-Champaign	Child feces disposal practices as a missing link between sanitation infrastructure and child fecal pathogen exposure in low- and middle-income countries	1. Valerie Bauza, 1. Thanh (Helen) Nguyen, 1. Jeremy Guest	
39	Monroe	Weber-Shirk	Cornell University	Creating the next generation of Flocculation/Floc blanket/Sedimentation/Filtration technologies	Monroe Weber-Shirk	
139	Carol	Lyell	University of Delaware	Improving Confidence in Malawi Potable Water Well Site Selection Using GIS Analysis Despite Sparse and Uncertain Data	1. Carol Lyell 2. Abigail Clarke-Sather	
BREAK						
Disinfectants that Protect the Public Health						
282	Pan	Ji	Virginia Tech	Longitudinal evaluation of the impact of thermal disinfection on the hot water system microbiome	1. Pan Ji, 1. William J. Rhoads, 1. Marc A. Edwards, 1. Amy Pruden	
524	Peter P	Sun	University of Illinois at Urbana - Champaign	Disruption of Simulated Drinking Water Biofilms With A Microplasma Jet Array	1,2. Peter P. Sun, 1,3. Yun Shen, 1. Conghui Huang, 2. Shengyun Zhong, 2. Zikang Tong, 2. J. Gary Eden, 1. Thanh H. Nguyen	
290	Zhong	Qiao	University of Michigan	Reactions in viral RNA during water disinfection treatments	1. Zhong Qiao; 2. Devibaghya Thirunarayanan; 3. Krista R. Wigginton	
551	Nadine	Kotlarz	University of Michigan	Mycobacteria Upregulate Intracellular Parasitism Genes in Response to the Drinking Water Disinfectant Monochloramine	1. Nadine Kotlarz, 2. David Berry, 1. Sarah J. Haig, 3. Chuanwu Xi, 4. John J. LiPuma, 1. Lutgarde Raskin	
493	Bernardo	Vazquez Bravo	University of Illinois at Urbana-Champaign	Assessment of the Disruption on the Adenovirus Replication Cycle after Exposure to UV Irradiation	1,2. Bernardo Vazquez-Bravo. 1,2. Kelley GonÁlves. 1,2. Joanna L. Shisler. 1,2. Benito J. MariÁz. 1,2.	
Carbon Capture or Recover: Applications and Implications						
434	Anne	Menefee	University of Michigan	4D evolution of mineral carbonation reactions in fractured basalts	1. Anne H. Menefee; 2. Daniel E. Giammar; 3. Dustin Crandall; 4. Brian R. Ellis	
453	Samantha	Fuchs	University of Texas at Austin	Geochemical alteration of Mt. Simon sandstone by CO2-saturated brine from carbon sequestration and effects on geomechanical properties	1. Samantha Fuchs, 1. Julien Botto, 1. Michael Aman, 2. Bruce Fouke, 2. Ange-Therese Akono, 1. D. Nicolas Espinoza, and 1. Charles J. Werth	
565	Andres	Clarens	UVa	Targetted permeability control in the subsurface for emerging energy applications	1. Andres Clarens, 1. Tao Zhiyuan, 1. Dan Plattenberger, 2. Florence Ling, 2. Jeffrey Fitts, 2. Catherine Peters	
563	Meagan	Mauter	Carnegie Mellon University	Redesigning the Regulated Power Plant	1. Meagan Mauter, 2. Daniel Gingerich	

Slot 3: Thur am
(8:30-9:50, 4
talks; 10:20-12,
5 talks)

Slot 4: Thur
pm (2:30 -
4:00 pm)

Paralel 2							
ID	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors		
Fate and Presence of Environmental Contaminants in Communities (I)							
Slot 1: Wed am 10:00 - 12:30	409	Matthew	Chan	Virginia Tech	Visualization, characterization, and analysis of gold nanoparticles fate and transport in aqueous porous media environment with advanced photonics technique	1. Matthew Y. Chan, 1. Weinan Leng, 1. Peter J. Vikesland	
	543	Mokhles	Rahman	Northeastern University	Comparative Life Cycle Assessment of Advanced Wastewater Treatment Processes for Removal of Chemicals of Emerging Concern	1. S.M. Rahman, 1. Matthew Eckelman, 1. Annalisa Onnis-Hayden, 1. April Gu	
	255	Emilie	Lefevre	DUKE UNIVERSITY	Effect of biochar and activated carbon on anaerobic sludge microbial communities degrading tetrabromobisphenol A	Emilie Lefevre, 1. Andrew Matsumoto, 1. Courtney M. Gardner, 1. Gretchen E. Gehrke, 1. Ellen Cooper, 1. Heather M. Stapleton, 1. Heileen Hsu-Kim, 1. Claudia K. Gunsch, 1.	
	253	Alexis	Layman	The Ohio State University	Quantification of the Effect of 17 β -estradiol on Escherichia coli Survival and Persistence in Water	1. Alexis L. Mraz, MS 1. Mark H. Weir, PhD	
	395	Khang	Huynh	Michigan State University	Environmental fate of triclosan and triclocarban in plant-soil systems receiving biosolids and reclaimed wastewater	1. Khang Huynh, 1. Emily Banach, 1. Dawn Reinhold	
	344	Li	Li	Penn State University	Predictive Understanding of Metal Export at the Watershed Scale	1. Li Li.1. Wei Zhi 1. Jason Kaye 2. Ken Williams 2. Carl Steefel	
	268	Yingjie	Zhang	Michigan State University	Bioavailability of Geosorbent-sorbed Tetracycline to an Escherichia coli Bioreporter for Expression of Antibiotic Resistance	1. Yingjie Zhang. 1. Wei Zhang. 2. Dongqiang Zhu. 1. Stephen A. Boyd. 1. James M. Tiedje. 1. Brian J. Teppen. 1. Hui Li	
H2:Fate and Presence of Contaminants in Communities (II): 1,4-Dioxane							
Slot 2: Wed pm 2:00-5:00 with break	185	Mengyan	Li	New Jersey Institute of Technology	A Novel Putative Propane Monooxygenase Initiating Metabolism of 1,4-Dioxane	1. Mengyan Li, 2. Ya He, 1. Daiyong Deng, 2. Pedro Alvarez	
	518	Phillip	Gedalanga	University of California, Los Angeles	Response and Recovery of Microbial Communities Subjected to Oxidative Treatment of Contaminant Mixtures	1. Yu Miao, 1. Nicholas Johnson, 1. Phillip Gedalanga, 2. David Adamson, 2. Charles Newell, 1. Shaily Mahendra	
	153	Yu	Yang	Rice University	Development of molecular probes targeting and discovering new 1,4-dioxane degraders	1 Yu Yang, 2 Mengyan Li, 1 Ya He, 1 Busi Da Silva Marcio, 1 Jacques Mathieu, and 1 Pedro Alvarez	
	533	Amie	McElroy	North Carolina State University	Enrichment cultures from North Carolina surface water can cometabolically degrade 1,4-dioxane to sub-ug/L levels.	1. Amie McElroy; 2. Michael Hyman ; 3. Detlef Knappe	
	BREAK						
	The Food-Energy-Water (FEW) Nexus						
	364	Michelle	Scherer	University of Iowa	A New Framework for Graduate Education: Paths to Sustainable Food-Energy-Water (FEW) Systems in Resource-Limited Communities	1. Michelle Scherer, 1. David Cwiertny, 1. Craig Just, 1. Gabriele Villarini, and 2. Eric Tate	
	573	Nemi	Vora	University of Pittsburgh	Food-Energy-Water Nexus: Quantifying Energy and GHG Emissions of Irrigation Water Embodied in U.S. Domestic Food Transfers	1. Nemi Vora, 2. Apurva Shah, 1. Melissa M. Bilec, and 1. Vikas Khanna	
	220	Deborah	Sills	Bucknell University	Can marine microalgae enhance climate energy and food security?	Deborah Sills (1), LÃ©da Gerber Van Doren (2), Michael Walsh (3), Charles Greene (4)	
TBD			University of Michigan	TOUR OF GG BROWN URINE-DIVERSION AND PROCESSING TO FERTILIZER SYSTEM			

Parallel 2						
ID	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Education and Workforce Development (II)						
106	Monica	Palomo	Cal State Poly Pomona	International Scientific Research Experiences: Developing Global Citizens and Nurturing Engineers and Scientists of the Future	Monica Palomo, 1. Natalie Mladenov, 2. Bettina Casad, 3. Chris Buckley, 4. Bjoern Pietruschka, 5,6.	
249	Ce	Gao	Harvard Medical School	Meritocracy and elitism: the dual-layered structure of academic talent distribution network in environmental engineering and science	1. Ce Gao; 2. Weiqiang Chen; 3. Huanlin Yu; 4. Liying Cai; 5. Yuefeng Xie	
342	ALLAN	FELDMAN	UNIV SO FLORIDA	Educational Programs that Build Students' International Research Competence through Global Partnerships	1. Allan Feldman; 1. Matthew Verbyla; 1. Colleen Naughton; 1. Vanessa Vernaza-Hernandez; 1. Christine Prouty	
381	Michael	Penn	Univ Wisc - Platteville	The Sustainability Triangle and Index: A Simple Tool to Help Students Visualize, Appreciate and Utilize the Triple Bottom Line to Evaluate the Sustainability of Engineering Designs	1. Michael Penn; 1. Kristina Fields	
BREAK						
Education and Workforce Development (III)						
539	Lee	Blaney	UMaryland Balt Co	Demographics of US environmental engineering students and faculty from 2005 to 2015	1. Lee Blaney, 2. Ramanitharan Kandiah, 3. Joel J. Ducoste, 4. Judith A. Perlinger, 5. Shannon L. Bartelt-Hunt	
208	Jeremiah	Johnson	University of Michigan	Case Based Teaching for Interdisciplinary Environmental Sustainability Education	Jeremiah Johnson(1)	
236	Christian	Bako	University of Iowa	Achieving Sustainability through Student-Active Learning	1. Christian M. Bako, 2. Jerald L. Schnoor	
155	Lillian	Jeznach	Roger Williams University	Educational outreach for the new Stochastic Empirical Loading and Dilution Model (SELDM) for highway and urban stormwater analyses	1. Lillian Jeznach 2. Gregory Granato	
228	Susan	Powers	Clarkson University	Motivating students to achieve 20% electricity and hot water savings in campus apartments	1. Amanda K. Sherman, 2. Alan E.S. Schay, 3. Lisa Legault, 4. Stephen D. Bird, 1. Susan E. Powers, 2. Daqing Hou	
Methods to Achieve Sustainable and Just Decisions for Healthy Communities						
75	Mitchell	Small	Carnegie Mellon University	Designing Scientific Studies for Improved Decisions and Conflict Resolution	1. Mitchell J. Small, 2. Siyuan Xian	
451	Jacqueline	MacDonald Gibson	University of North Carolina at Chapel Hill	Racial Disparities in Access to Municipal Water Service: Water Quality, Health Impacts, and Costs	Jacqueline MacDonald Gibson	
171	Ping	Hou	University of Michigan	Similarity-based link prediction for estimating life cycle inventory data	1.Ping Hou,2.Jiarui Cai,3.Ming Xu	

Slot 3:Thur am
(8:30-9:50, 4
talks;10:20-12,
5 talks)

Slot 4: Thur
pm (2:30 -
4:00 pm)

Parallel 3							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Themed Session: Advanced Materials for Detection and Control of Chemical and Biological Contaminants							
Slot 1: Wed am 10:00 - 12:30	65	Jinkai	Xue	Univ Minnesota, Twin Cities	The interactions of bacterial cells with model graphene oxide surfaces: insights from single-cell force spectroscopy	Jinkai Xue, Sara BinAhmed, Adel Soroush, Santiago Romero-Vargas Castrillón	
	487	Anna	Hagstrom	Yale University	Upconversion-enhanced environmental remediation: Improving the light absorption of semiconductor photocatalysts using triplet-triplet annihilation upconversion	1. Anna L. Hagstrom, 1. Hyoung-il Kim, 1. Fan Deng, 1. Jae-Hong Kim	
	64	Xiangchen	Huo	Colorado School of Mines	Supported ruthenium nanoparticles: a lower-cost alternative to palladium catalysts for treatment of nitrate-contaminated water sources	1. Xiangchen Huo; 2. Daniel J. Van Hoomissen; 3. Jinyong Liu; 2. Shubham Vyas; 1. Timothy J. Strathmann	
	361	Timothy	Vadas	University of Connecticut	Comparative chemical oxidations of polyacrylonitrile-based activated carbon nanofiber membranes to limit fiber breakage	1. Yi Han; 1. Ruoshi Li; 1. Christian Brückner; 1. Timothy Vadas;	
	519	Timothy	Dittrich	University of Colorado-Boulder; Los Alamos National Laboratory	Ligand-associated activated carbon system to treat hazardous waste from university research laboratories	1 & 3 Timothy M. Dittrich; 1 & 2 Sanjay K. Mohanty; 1 Ralph J. Bogle	
	124	Qinmin	Zheng	The George Washington Univ	Tailored graphitic carbon nitride: Smart design of visible-light-responsive photocatalyst to achieve sustainable water treatment	1. Qinmin Zheng, 1. Danmeng Shuai	
Brine, Fouling and Scaling Management for Separation Technologies (I)							
Slot 2: Wed pm 2:00-5:00 with break	201	Justin	Hutchison	UIUC	Enabling reuse of ion exchange brines through biocatalytic reduction of regulated anions	1. Justin M. Hutchison 1. Julie. L. Zilles	
	602	Yuqiang	Bi	Arizona State University	Evaluation of Ag-NPs Stability on Reverse Osmosis Membranes Using a Novel Hydraulic Spray System	Yuqiang Bi, Bingru Han, Francois Perreault, Paul Westerhoff	
	77	Timothy	Bartholomew	Carnegie Mellon University	Osmotically Assisted Reverse Osmosis for High Salinity Brine Treatment	1 & 2. Timothy Bartholomew, 1. Laura Mey, 2. Jason Arena, 2. Nicholas Siefert, 1.Meagan Mauter	
	60	Manish	Kumar	Penn State University	Living Biofouling-Resistant Membranes with Probiotic Biofilms	1. 2. Manish Kumar*, 1. Thammajun L. Wood, 1. Rajarshi Guha, 1. Li Tang, 1. Michael Geitner, 1. 3. Thomas K. Wood	
	BREAK						
	Brine, Fouling and Scaling Management for Separation Technologies (II)						
	203	Tiezheng	Tong	Yale University	Understanding the Barrier for High Recovery Desalination: Relating Silica Scaling in Reverse Osmosis to Membrane Surface Properties	1, 2 Tiezheng Tong, 1, 3 Song Zhao, 1 Chanhee Boo, 1 Sara M. Hashmi, 1, 2 Menachem Elimelech	
	69	David	Latulippe	McMaster University	Elucidation of fouling mechanisms of hollow-fiber membranes via a high-throughput screening platform	Amir Kazemi, Luke Boivin, Seung Mi Yoo, Raja Ghosh, David Latulippe	
455	Wen	Ma	Concordia University	Grafting Fouling-Resistant Polymer Brush on Graphene Oxide-Coated Reverse Osmosis Membranes: Defending and Attacking Strategies for Biofouling Control	1. Wen Ma, 2. Santino Nanni, 1. Tiantian Chen, 2. Alberto Tiraferrri, 1. Md. Saifur Rahaman		

Parallel 3							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Addressing Public Health and Environmental Disasters (I)							
Slot 3: Thur am (8:30-9:50, 4 talks; 10:20-12, 5 talks)	129	Andrew	Whelton	Purdue University	Lawyers, A Federal Agency, and Catalyzed Research: The West Virginia Chemical Spill 3 Years Later	Andrew J. Whelton	
	522	Joe	Goodwill	Saint Francis University	Contextualizing Flint Disinfection Byproducts	Joseph E. Goodwill 1; Mark Hagemann 2; Marc Edwards 3; David A. Reckhow 2	
	594	Shawn	McElmurry	Wayne State University	Geochemical changes in drinking water during the initial phases of the emergency response to the Flint Water Crisis	1. Shawn P. McElmurry, 1. Mohammed Dardona, 1. Mariana Runho	
	497	Yun	Shen	University of Michigan	Quantification of opportunistic bacterial pathogens and metal levels before and after lead service line replacement in Flint, Michigan	1.Y. Shen, 1.M. Wax, 2.D. Yeoman, 2.Z. Hayes, 1.J. Yonts, 1.N. Rockey, 1.SJ. Haig, 1.G. Burke, 1.K. Heidecorn, 2. T. Rosencrants, 1.J. Abernethy, 1.E. Schwartz, 1.B. Ellis, 1.K. Wigginton, 2.M. Kaufman, 1.L. Raskin, and 1.T. Olson	
	BREAK						
	Addressing Public Health and Environmental Disasters (II)						
	219	William	Rhoads	Virginia Tech	Distribution System Operational Deficiencies Coincide with Reported Legionellosis Outbreaks in Flint, MI	1. William J. Rhoads. 2. Emily Garner. 3. Pan Ji. 4. Ni Zhu. 5. Jeffery Parks. 6. Otto Schwake. 7. Amy Pruden. 8. Marc A. Edwards	
	503	Dionysios (Dion)	Dionysiou	University of Cincinnati	Light-Induced Advanced Oxidation Processes for the Treatment of Cyanotoxins	1.Xiaodi Duan, 1.Dionysios (Dion) D. Dionysiou	
	506	Emanuele	Sozzi	Gilling School of Global Public Health	Management of Hospital Sewage and Human Fecal Waste Contaminated with Ebola and other Highly Infectious Viruses through Rapid In Situ Physico-Chemical Disinfection	Dr. Emanuele Sozzi, Joseph Strasser, Grace Allen, Inoor Batooli, Juan Carlos Camacho, Sam Fait Elmes, Gregory D. Gadai, Nadia Mishal, Alexis Valenti, Emily Bailey, Dr. Lisa Casanova and Dr. Mark Sobsey	
	TBD				Save for Last Minute "Current Issue" Addition		
TBD				Save for Last Minute "Current Issue" Addition			
E4: Energy and Resource Recovery III							
Slot 4: Thur pm (2:30 - 4:00 pm)	214	Nicole	Ryan	University of Michigan	Life Cycle Environmental Impacts of Using Lithium Ion Batteries for Power System Reserves and Strategies for Mitigation	1. Nicole A. Ryan; 2. Yashen Lin; 1. Noah Mitchell-Ward; 3. Johanna L. Mathieu; 1. Jeremiah X. Johnson	
	322	Heileen	Hsu-Kim	Duke University	Recovery of Rare Earth Elements from Coal Ash	1. Ross K. Taggart, 1. Jacob (Jack) King, 1. Ryan C. Smith, 1. Mark R. Wiesner, 2. James C. Hower, 1. Heileen Hsu-Kim	
	56	Christine	Prouty	University of South Florida	Increasing the Adoption and Sustainability of Wastewater-based Resource Recovery Systems: a System Dynamics Approach for Determining Appropriate Strategies	1. Christine Prouty; 2. Shima Mohebbi; 3. Qiong Zhang	
	102	Ehsan	Vahidi	Purdue University	Development of an open source software tool for life cycle assessment of rare earth elements	1.Ehsan Vahidi. 1.Praneet Arshi 1.Fu Zhao	

Parallel 4							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Understanding Antibiotic Resistance in Engineered Water Systems							
Slot 1: Wed am 10:00 - 12:30	172	Alessia	Eramo	Rutgers, The State University of New Jersey	Partitioning of antibiotic resistance genes and bacterial communities in combined sewer overflows: implications for end-of-pipe treatment	1. Alessia Eramo, 1. Hannah Delos Reyes, 1. Nicole Fahrenfeld	
	380	Morgan	Petrovich	Northwestern University	Metagenomic analysis of antibiotic resistance gene composition, mobilization, and co-occurrence with antibiotic production genes in different wastewater treatment systems	1. Morgan Petrovich, 1,2,3. Binh Chu, 2. Dorothy Wright, 4. Jim Griffin, 3. Maryam Elfeki, 2. Rachel Poretsky, 3. Brian T. Murphy, 1. George Wells	
	538	Ali	Zarei Baygi	University of Southern California	Comparative Evaluation of Antibiotic Resistance in Full-scale Activated Sludge Systems and Bench-scale Anaerobic Membrane Bioreactor	1. Ali Zarei Baygi; 2. Lauren B. Stadler; 3. Adam L. Smith	
	327	Kaoru	Ikuma	Iowa State University	Fate and transport of wastewater-derived antibiotic resistance genes	Kaoru Ikuma	
	427	Mian	Wang	Purdue University	Occurrence and distribution of erythromycin resistance methylase (erm) genes in urban surface waters without impact of treated wastewater	1. Xinzhu Yi, 2. Mian Wang, 1. Qing Wei, 2. Zhi Zhou	
	345	Virginia	Riquelme	Virginia Tech	Global survey of antibiotic resistance genes in wastewater treatment plants	1. Maria Virginia Riquelme, 1. Jacob Metch, 1. Emily Garner, 1. Peter Vikesland, 1. Amy Pruden	
	202	Maria	Sevillano	Northeastern University	Incidence of antimicrobial resistance genes in municipal drinking water samples from the United Kingdom	Maria Sevillano, 1. Charles Knapp, 2. Szymon Calus, 3. Zihan Dai, 3. Quyen Melina Bautista, 3. Ameet Pinto, 1.	
Sustaining Communities through Energy Recovery							
Slot 2: Wed pm 2:00-5:00 with break	530	Annick	Anctil	Michigan State University	A socio-technical analysis of energy transition to PV and nuclear: a case study on Michigan	1. Annick Anctil, 1. Jacob Claes, 1. Emily Linden, 1. Jordan Stomps, 1. Thomas Bieler, 1. Sharlissa Moore	
	556	ilke	celik	University of Toledo	The impervious and pervious deployment approach on emerging PVs: A toxicity analysis of soil and fresh water compartments	1. Ilke Celik; 2. Zhaoning Song; 2. Michael J. Heben; 1. Defne Apul	
	317	Zhiyong	Ren	University of Colorado Boulder	Self-sustaining Microbial Photoelectrosynthesis for Hydrogen Generation from Wastewater	1. Lu Lu, 2. Jing Gu, 3. Zhiyong Jason Ren	
	414	Caitlyn	Butler	University of Massachusetts Amherst	Determination of physiological mechanism and morphology integrity of oxygenic photogranules for wastewater treatment	1. Joann M. Rodr�-guez, 1. Megan Hann, 1. Caitlyn Butler	
	BREAK						
	Consequences and Causes of Climate Change						
	595	Saurajyoti	Kar	Drexel University, Philadelphia, PA	A comparative analysis of GHG emissions from conventional and district heating using forest biomass and natural gas fuels for selected north eastern United States counties	1. Saurajyoti Kar, 1. Pieter Billen, 1. Sabrina Spatari	
	491	Cuihong	Song	UNH; Univ of Maine	Understanding the Cradle-to-Grave Greenhouse Gas Emissions of Dams	1. Cuihong Song, 1. Weiwei Mo, 1. Kevin Gardner, 2. Sharon Klein, 1. Simone Pereira Souza	
	516	Samuel	Markolf	Arizona State University	Climate Change and Transportation: Identifying and Reacting to Direct and Indirect Pathways of Disruption	1 Andrew Fraser; 1 Christopher Hoehne; 1 Mikhail Chester	
	96	Hongpu	Ma	Chongqing University, China	New Insights into the Methane Emission Control in Constructed Wetland Using Manganese Ore as Substrate	1 Hongpu Ma, 1 Zhongli Chen, 1 Jun Xiao, 1 Xianbin Liu, 1 Alphonse habineza 1 Jun Zhai*	

Parallel 4							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
	Themed Session: The microbiome continuum across engineered-human-natural ecosystems (I)						
Slot 3: Thur am (8:30-9:50, 4 talks; 10:20-12, 5 talks)	336	Ameet	Pinto	Northeastern University	A collective analyses of microbial communities in full-scale drinking water distribution systems.	Quyen M. Bautista-de los Santos,1. Joanna L. Schroeder,1. Maria C. Sevilano-Rivera,2. Rungroch Sungthong,1. Umer Z. Ijaz,1. William T. Sloan1. and Ameet J. Pinto2.	
	116	Sarah Jane	Haig	University of Michigan	Searching for a Strain-Level Match: Is Drinking Water a Source of Clinically Relevant Cystic Fibrosis Opportunistic Bacterial Pathogens?	1,2. Sarah Jane Haig, 1. Nadine Kotlarz, 2. Lindsey Caverly, 2. Linda M. Kalikin, 2. John J. LiPuma and 1. Lutgarde Raskin	
	439	Vincent	Denef	University of Michigan	Cyanobacterial harmful algal blooms are a biological disturbance to western Lake Erie bacterial communities	1. Michelle A. Berry, 2. Timothy W. Davis, 1. Rose M. Cory, 1. Melissa B. Duhaime, 1. Thomas H. Johengen, 1. George W. Kling, 1. John A. Marino, 1. Paul A. Den Uyl, 2. Duane Gossiaux, 1. Gregory J. Dick, 1. Vincent J. Denef	
	356	Dominic	Frigon	McGill University	Microbial transfers between sewers and activated sludge: should we revisit process modeling assumptions?	Dominic Frigon and Shameem Jauffur	
	BREAK						
		Themed Session: The microbiome continuum across engineered-human-natural ecosystems (II)					
	45	Tao	Yan	University of Hawaii at Manoa	Use Municipal Wastewater for Real-Time Detection of Infectious Diseases: A Case Study on Salmonella and Salmonellosis	1. Tao Yan, 1. Jessica Shelton1, 1. Eulyñ Pagaling, 2. Pamela Oâ€™Brien, 2. Christian Whelen	
	246	Shannon	Bartelt-Hunt	University of Nebraska-Lincoln	Citizen Science as a Quantitative Tool for Temporal and Spatial Water Quality Assessment	1. Brandon Noble, 2. Jonathan Ali, 3. Krystal Herrmann, 3,4. Alan Kolok, 1. Shannon Bartelt-Hunt	
	194	Stephanie	Velegol	Penn State University	Modeling the removal of pathogens from moringa-coated sand filters	1. Stephanie Butler Velegol, 2. Manish Kumar, 3. Darrell Velegol 4. Boya Xiong, 5. Emma Clement, 6. Bethany Piechowicz	
	576	Valentina	Prigibbe	Stevens Institute of Technology	Modeling and measuring river-groundwater-sewer interaction to identify the causes for Fecal Indicator Bacteria events	1. Firas Saleh, Ting Liu, and Xin Su	
241	Joshua	Hamilton	University of Wisconsin-Madison	Microbial Ecosystems Biology: A Framework for Scaling from Genomes to Ecosystems	1 Joshua J. Hamilton; 2 Sarahi L. Garcia; 1 Brittany S. Brown; 3 Ben O. Oyserman ; 3 Francisco Moya-Flores; 2 Stefan Bertilsson; 4 Rex R. Malmstrom; 1 Katrina T. Forest; 1,3 Katherine D. McMahon		
	Understanding Antibiotic Resistance Mechanisms and Prevalence in Agriculture						
Slot 4: Thur pm (2:30 - 4:00 pm)	225	Xu	Li	University of Nebraska-Lincoln	Effects of Method and Timing of Swine Manure Application on the Transport of Antibiotics and Antibiotic Resistance Genes in Agricultural Runoff	1. Himanshu Khuntia, 1. Renys Barrios, 2. John Gilley, 2. Lisa Durso, 1. Daniel Snow, 1. Amy Schmidt, 1. Shannon Bartelt-Hunt, 1. Xu Li	
	351	Sina	Akram	Michigan State University	Linking antibiotic usage to proliferation of antimicrobial resistance in the environment: A cases study of a MI dairy farm	1. Sina Akram, 1. Jade Mitchell, 2. Xueping Guo, 2. Robert Stedfel, 3. Martina Johnson, 1. Alexandre Chabrelie	
	521	Lang	Zhou	University of Texas at Austin	Development of Antibiotic Resistance in Response to Antibiotic Stress in a Microfluidic Gradient Cell	1. Lang Zhou, 2. Jinzi Deng, 2. Yiran Dong, 1. Reinaldo E. Alcalde, 2. Robert A. Sanford, 2. Bruce W. Fouke, 1. Charles J. Werth	
	301	Eric	Rice	Rice University	In situ detection of conjugative transfer of broad host range plasmids containing antibiotic resistance genes	1. Lauren Stadler 1. Eric Rice 1. Jonathan Silberg 1. Shelly Cheng	

Parallel 5							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Sustaining Communities through Nutrient Cycling and Recovery							
Slot 1: Wed am 10:00 - 12:30	419	Hannah	Ray	Arizona State University	Urea recovery and concentration from source separated urine by membrane processes	1. Hannah Ray; 2. Treavor Boyer; 3. Francois Perreault	
	393	Neha	Jagtap	The University of Florida and Arizona State University	The solution to pollution is not dilution: An integrated system for total nutrient recovery from source separated urine	1. Neha Jagtap. 2. Treavor Boyer	
	570	Andro	Mondala	Western Michigan Univeristy	Phosphorus bio-mining from impounded runoff particulates in repurposed sediment control infrastructures for nutrient and water resources sustainability	1. Andro Mondala, 1. Shaun Shields, 1. Katie Gaviglio, 2. Yuji Arai, 1. Stephen Kaczmarek	
	168	Kaushik	Venkiteshwaran	Marquette university	Phosphorus removal and recovery using immobilized phosphate binding proteins.	1. Kaushik Venkiteshwaran, 2. Nilisha Pokhrel, 2. Edwin Antony and 3. Brooke Mayer	
	271	Jeseth	Delgado Vela	University of Michigan	Managing Healthy Activated Sludge Communities: Understanding the Impact of Sulfide on Nitrogen Removal	1. Jeseth Delgado Vela; 2. Gregory J. Dick; 1. Nancy G. Love	
	482	Andrew	Beck	University of Pittsburgh	Food Security and Resilience Implications of the Global Agricultural-Phosphorus Trade Network	1. Andrew Beck, 1. Carla Ng, 1. Vikas Khanna	
	349	Han	Gao	Northwestern University	Nutrient removal: energy production via microbial N2O generation by denitrifying polyphosphate accumulating organisms	1. Han Gao, 2. Miaomiao Liu, 3. James S. Griffin, 4. Xiaotian Zhao, 5. Longcheng Xu, 6. Da Xiang, 7. Yaniv D Scherson, 8. Wen-Tso Liu, 9. George F. Wells	
Achieving Community Health through Emerging Membrane Technologies (I)							
Slot 2: Wed pm 2:00-5:00 with break	221	Bezawit	Getachew	Yale University	Toward self-healing hydrogel-composite water filtration membranes	1. Bezawit A. Getachew, 1. Sang-Ryoung Kim, 1. Jaehong Kim	
	406	Zhangxin	Wang	Vanderbilt University	Composite Membrane with Underwater-Oleophobic Surface for Anti-oil-fouling Membrane Distillation	1. Zhangxin Wang. 2. Shihong Lin	
	165	Jian	Li	Rice University	Life cycle assessment of solar-driven membrane distillation with nano-enabled photothermal membranes for house-hold drinking water supply	1. Jian Li; 2. Mark Falinski; 3. Julie B Zimmerman; 4. Lauren B Stadler	
	357	Radisav	Vidic	University of Pittsburgh	Direct contact membrane distillation for treatment of produced water from unconventional gas production	Radisav Vidic, Omkar Lokare, Sakineh Tavakoli, Vikas Khanna	
	BREAK						
	Achieving Community Health through Emerging Membrane Technologies (II)						
	363	yuli	yang	Virginia Tech	PH switchable polymers (Polyacrylic acid) as a high performance draw solutes in Forward Osmosis	1,2. Yuli Yang, 3. Mingtao Chen, 1. Xiaoli Yang, 2. Zhen He	
	61	Bopeng	Zhang	Georgia Institute of Technology	Nanocomposite technique in synthesizing ion exchange and ultra-filtration membranes for environmental engineering applications	Bopeng Zhang, Xin Tong, and Yongsheng Chen	
	288	Sarah	Moore	The University of Arizona	Process Modeling and Economic Optimization of a Solar Driven Membrane Distillation System for Desalination	1. Sarah Moore, 1. Sera Mirchandani, 2. Tina Nenoff, 1. Dr. Vasiliki Karanikola, 1. Dr. Robert Arnold, 1. Dr. Eduardo Saez	
454	Shihong	Lin	Vanderbilt	Can Capacitive Deionization Outcompete Reverse Osmosis in Energy Efficiency?	Li Wang and Shihong Lin		

Parallel 5							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Slot 3: Thur am (8:30-9:50, 4 talks; 10:20-12, 5 talks)							
	BREAK						
	Sustaining Communities through Energy Recovery (II)						
	337	Anthony	Straub	Yale University	Energy efficiency and performance limiting effects in thermo-osmotic energy conversion from low-grade heat	1. Anthony Straub, 1. Menachem Elimelech	
	101	Steven	Hand	University of Illinois	Low energy desalination of brackish water using manganese oxide coated pseudo-capacitive electrodes	1. Steven Hand, 1. Roland Cusick	
	198	Ryan	Kingsbury	University of North Carolina at Chapel Hill	Impact of natural organic matter and ionic composition on energy recovery from five real salinity gradients using reverse electrodialysis	1. Ryan S. Kingsbury; 3. Fei Liu; 1. Shan Zhu; 2. Chris Boggs; 1. Mikayla Armstrong; 3. Douglas F. Call; 1. Orlando Coronell	
	258	Fei	Liu	North Carolina State University	Electricity Generation from Salinity Gradients using Continuously Recirculated Flow Electrodes in Reverse Electrodialysis	1. Fei Liu; 2. Orlando Coronell; 1. Douglas F. Call	
182	Bruce	Logan	Penn State	Using concentration flow cells with faradaic reactions for energy production from salinity differences or desalination	1. Bruce E. Logan, 1. Taeyoung Kim, 1. Mohammad Rahimi, and 1. Christopher A. Gorski		
Healthy Communities Across the Globe: Water/sanitation for developing countries (II)							
Slot 4: Thur pm (2:30 - 4:00 pm)	192	Johana	Husserl	Universidad de los Andes	Exposure to Salmonella sp. and H. pylori from lettuce irrigated with contaminated water: this is what happens in the developing world	1. Johana Husserl, 1. Laura X. Henao-Herreño, 1. Alejandra Gonzalez-Guatařita, 1. Juan P. Ramos-Bonilla, 2. Charles N. Haas	
	559	Emily	Kumpel	Univ Mass Amherst	Improving sampling strategies for microbial water quality monitoring in low-resource settings	1. David D.J. Taylor, 2. Rachel Peletz, 3. Ranjiv Khush, 2.4. Emily Kumpel	
	114	Allie	Davis	Univ CO Boulder	Advancing Sustainable Sanitation: Identifying Community Priorities to Develop Appropriate Sanitation and Resource Recovery Systems and Interventions	1. Allie Davis; 1. Amy Javernick-Will; 1. Sherri Cook	
	117	James	Smith	University of Virginia	Silver Nanopatch Formation in Ceramic Porous Media for Household-Level Drinking Water Purification: Results of Laboratory and Field Research	1. James A. Smith, 1. Beeta Ehdai, 1. David Kahler	

Parallel 6							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Achieving Healthy Indoor Environments: Air Quality							
Slot 1: Wed am 10:00 - 12:30	149	Sarah	Kwan	Yale University	Healthier Indoor Microbiomes for Asthmatic Children of the Cherokee Nation - The impact of ventilation & cleaning in homes and schools	Sarah Kwan (1), Richard Shaughnessy (2), Ulla Haverinen-Shaughnessy (2,3) and Jordan Peccia (1)	
	53	Shankar	Chellam	Texas A&M University	Indoor/Outdoor Relationships and Anthropogenic Elemental Signatures in Airborne PM2.5 at a High School: Impacts of Petroleum Refining Emissions on Lanthanoid Enrichment	1. Ayse Bozlaker ; 2. Jordan Peccia; 1, 3. Shankar Chellam	
	141	Chang-Yu	Wu	University of Florida	Collection of Airborne Influenza Virus in a Student Health Care Center through Water-Based Condensation Growth	1. Maohua Pan, 2. Julia Loeb, 2.Tania Bonny,3. Xiao Jiang, 2.John Lednicky, 4.Arantzazu Eiguren-Fernandez, 4.Susanne Hering, 3.Hugh Fan, 1.Chang-Yu Wu	
	613	Andrea	Ferro	Clarkson University	Estimating hourly exposure to residential wood combustion for human health studies	1.Andrea R. Ferro, 1. Nadezda Zikova, 1. Mauro Masiol, 1. Gursumeeran P. Satsangi, 1. Thomas Twomey, 2. David Q. Rich, 2. David Chalupa, 1. Philip K. Hopke	
	354	Marcia	Nishioka	Ohio State University	Carcinogenic aromatic diamines from common urethane polymer consumer products are ubiquitous in the indoor environment	Marcia G. Nishioka, PhD	
	605	Joel	Burken	Missouri University of Science and Technology	Phytoforensic Approaches to Assess Human Exposure Potential via Vapor Intrusion	1 Jordan L. Wilson, 1,2 Matt A. Limmer, 3 V.A. Samaranyake, 4 John G. Schumacher, 1 Joel G. Burken	
	398	Evan	Willett	University of Kentucky	A GIS-Based Approach for Assessing Sewer Gas to Indoor Air Pathways near Hazardous Waste Sites	1. Evan J. Willett; 1. Kelly G. Pennell	
Sustaining Communities by Improving the Air We Breath (I)							
Slot 2: Wed pm 2:00-5:00 with break	237	Morteza	Taiebat	University of Michigan	Environmental Benefits of Robotaxi Fleet	1. Morteza Taiebat 2. Ming Xu	
	244	Mohammadyousef	Roghani	University of Kentucky	Mechanisms of Vapor Transport: Expanding Exposure Risks in Communities	1.Mohammadyousef Roghani; 1.Evan J.Willett; 1.Elham Shirazi; 1.Kelly G.Pennell	
	597	Marina	Vance	University of Colorado Boulder	Quantifying the exposure to aerosol emissions from desktop 3D printers	1. Marina E. Vance, 2 Valerie Pegues, 2 Weinan Leng, 2 Linsey Marr, 2 Schuyler Van Montfrans	
	483	Mohsen	Ghafari	State University of New York (SUNY) at Buffalo	Exploiting Unique Properties of Porous Polymers for Air Pollution Control	1. Mohsen Ghafari, 1. John D. Atkinson	
	BREAK						
	Sustaining Communities by Improving the Air We Breath (II)						
	412	Christina	Reynolds	University of Michigan	A Baseline Cost Estimate for Carbon Dioxide Removal from Passenger Vehicle Exhaust	1. Christina Reynolds, 1. Francisco Sotomayor, 1. Christian Lastoskie	
	305	Andrew	Whelton	Purdue University	Water Pipe Repair Can Cause Toxic Air	Andrew Whelton1,2, Mabi Teimouri1, Kyungyeon Ra2, Emily Conkling2, Brandon Boor1, John Howarter2,3, Chad Jafvert1,2, Jeff Youngblood3, Nadya Zyakayina1,2, Megan Townsend2,	
	264	Haoran	Wei	Virginia Tech	In Situ Detection of pH of Individual Aerosol Droplets by Surface-Enhanced Raman Spectroscopy	1. Haoran Wei, 1. Eric Vejerano, 1. Weinan Leng, 1. Linsey Marr, 1. Peter Vikesland	
	370	Amy	Stuart	University of South Florida	Air quality design for sustainable and healthy urban communities	Amy L. Stuart	

Parallel 6							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Slot 3: Thur am (8:30-9:50, 4 talks; 10:20-12, 5 talks)	Advancing Technologies to Benefit Communities: Case Studies (I)						
	441	Christopher	Olivares	Clemson University	Compositional changes of dissolved organic matter following prescribed fire on forested watersheds and their effect on drinking water supply	1 Christopher I. Olivares; 1 Habibullah Uzun; 1 Cagri Utku Erdem; 2 Wenbo Zheng; 3 Carl Trettin; 4 Yina Liu; 4 Errol Robinson; 1,2 Alex Chow; 1 Tanju Karanfil1	
	442	Leila	Mosleh	University of Maryland-College Park	Optimizing Biofiltration Process in Drinking Water Treatment to Achieve Better Biostability in Distribution System	1. Leila Mosleh 1.Masoud Negahban-Azar	
	382	Michelle	Fedun	Lehigh University	Revitalization of Abandoned Biosand Filters	1 Michelle Fedun, 1 Cathy Fletcher, 1 Leigh Heinbokel, 1 Kristen Mejia, 1 Kristen Jellison	
	233	Haizhou	Liu	UC - Riverside	Control of Redox-driven in situ Release of Accumulated Inorganic Contaminants from Water Distribution Infrastructure	1. Haizhou Liu; 2. Michelle Chebeir; 3. Gongde Chen	
	BREAK						
	Advancing Technologies to Benefit Communities: Case Studies (II)						
	97	Jeanne	VanBriesen	Carnegie Mellon University	Source Water Bromide Concentration Changes and Altered Risk in Finished Drinking Water in Pennsylvania, PA	1. Jeanne M. VanBriesen; 2. Adam Cadwallader; 3. Kelly D. Good; 4. Chelsea Kolb; 5. Yuxin Wang; 6. Jessica M. Wilson	
	207	Kerry	Howe	University of New Mexico	Predicting Removal of Trace Organics by Reverse Osmosis for Potable Reuse Applications	Kerry J. Howe (1); Daisuke Minakata (2); Lauren N. Breitner (1); Muxue Zhang (2)	
	319	Arup	SenGupta	Lehigh University	Nitrate Removal from Contaminated Groundwater Using Carbon Dioxide (CO2) as the Sole Regenerant	Arup K. SenGupta, Hang Dong	
	459	Xiaofan	Xu	University of South Florida	Comparison of Anaerobic and Aerobic Membrane Bioreactors for Different End Uses through Life Cycle Assessment	1. Xiaofan Xu. 1. Hang Dao. 1. Qiong Zhang	
424	Shamia	Hoque	University of South Carolina	Determining Siloxane Dissociation Paths in a Non-Thermal Plasma System: Enhancing Land Fill Gas Applications through Purification and Enrichment	1 Dahae Seong; 1 Joseph Flora; 2 Tanvir Farouq; 1 Nicole Berge; 1 Shamia Hoque		
Advancing Technologies to Benefit Communities: Case Studies (III)							
Slot 4: Thur pm (2:30 - 4:00 pm)	49	Richard	Belzer	Independent Consultant	The Benefits, Costs, and Environmental Justice Impacts of a Drinking Water Standard for Hexavalent Chromium	Richard B. Belzer, Ph.D.	
	536	David	Ladner	Clemson University	Correlating Drinking Water Quality with Kidney Stone Incidence in South Carolina	1. David A. Ladner, 2. Lihai Song, 2. Heather M. Griffis, 3. Edward R. Landa, 2. Gregory E. Tasion	
	283	Vasiliki	Karanikola	UNIVERSITY OF ARIZONA	Solar Nanofiltration for Off-the-grid Groundwater treatment in The Navajo Nation	1.Vasiliki Karanikola, 2.Ilse Rojas, 1.Robert Seaman, 2.Peter Zhou, 2.Jing Luo, 1. Robert Arnold, 1. Rodolfo Peon, 3. Mark Sorensen	
	499	Prathap	Parameswaran	Kansas State University	Characterization of startup phase operation of a pilot scale Anaerobic Membrane Bioreactor treating municipal wastewater under ambient conditions	Kahao Lim(1), Tyler Penfield (1), Barrett Schmidt (1), Patrick J Evans (2), Prathap Parameswaran (1)	

Parallel 7						
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors
	Advancing Community Health through Technology Innovation: Physical/Chemical					
Slot 1: Wed am 10:00 - 12:30	115	Lathika	Varanasi	Michigan Technological University	Transformation of Dissolved Organic Matter in Engineered Ultraviolet (UV) Photolysis and UV-based Advanced Oxidation Processes	1. Lathika Varanasi, 1. Erica Coscarelli, 2. Maryam Khaksari, 2. Lynn Mazzoleni and 1. Daisuke Minakata1
	340	Ezra	Cates	Clemson University	BiPO4 Microparticles as an Alternative to TiO2 for Water Treatment: Easy Catalyst Particle Recovery and PFAS Degradation Ability	1. Sushant P. Sahu; 1. Kyle C. Pohle; 1. Ezra L. Cates
	330	Tyler	Radniecki	Oregon State University	Titanium dioxide nanoparticle-enhanced solar disinfection of bacteria, viruses and Cryptosporidium	1. Tyler S. Radniecki, 1. Robert White
	130	Stephanie	Loeb	Yale University	Design and Characterization of Photothermal Nanomaterials for Sustainable Solar Water Treatment	Stephanie Loeb, Chuanhao Li, Jae-Hong Kim
	112	Hongchen	Shen	The George Washington University	Visible-Light-Responsive Photocatalytic Graphitic Carbon Nitride for Antimicrobial Applications	1. Hongchen Shen 1.Danmeng Shuai
	599	Mei	Sun	University of North Carolina at Charlotte	Legacy and emerging perfluoroalkyl substances: occurrence, analysis and removal	1. Mei Sun; 2. Elisa Arevalo; 3. Mark Strynar; 3. Andrew Lindstrom; 2. Detlef R.U. Knappe
	Advancing Community Health through Technology Innovation: Biological (I)					
Slot 2: Wed pm 2:00-5:00 with break	604	Zerihun	Bekele	University of Michigan	Using sensor-mediated control and modeling to develop an aerobic granular sludge technology for low energy N removal	1. Zerihun A. Bekele, 1. Jeseth Delgado Vela, 1. Nancy G. Love, 2. Charles B. Bott, 3. Kelly J. Martin
	331	Zheng	Ge	University of Colorado Boulder	Integrated carbon, nutrients, and salt removal using capacitive deionization powered by microbial fuel cells	1. Zheng Ge. 1. Zhiyong Jason Ren
	314	Wenye Camilla	Kuo-Dahab	University of Massachusetts	Characterization and elucidation of oxygenic granule formation in a static environment	1. Wenye Camilla Kuo-Dahab, 1. Kristie Stauch-White, 1. Caitlyn Butler, 2. Blanca Carbajal-Gonzalez, 1. Ana Ivanova, 1. Chul Park
	304	Marta	Hatzell	Georgia Institute of Technology	Capacitive heat engines for brackish water deionization	1.Jiankai Zhang, 1.Mohammadreza Nazemi,1. Marta C. Hatzell
	BREAK					
	Advancing Community Health through Technology Innovation: Biological (II)					
	572	Anwar	Sadmani	University of Central Florida	The Application and Prospect of Nanofiltration (NF) and NF Based Processes for Removing Emerging Contaminants of Concern from Surface Waters	Anwar Sadmani
	163	Raul	Tenorio	University of Illinois at Urbana-Champaign	Photochemical destruction of per- and polyfluoroalkyl substances (PFASs) in groundwater impacted by aqueous film-forming foam (AFFF)	1. Raul Tenorio, 2. & 3. Jinyong Liu, 2. Xin Xiao, 2. Anastasia Maydanov, 4. Charles Schaefer, 2. Christopher Higgins, 2. Timothy Strathmann
564	Javad	Roostaei	Wayne State University	Comparing the Removal Efficiency of 4-Nonylphenol by UV, Chlorination and Algae Cultivation	Javad Roostaei, Yongli Zhang, David Pitts, Shawn McElmurry	
326	Zhongzhe	Liu	Marquette University	Biochar from Wastewater Biosolids:Solids Management to Advance Sustainable Communities	1.Zhongzhe Liu, 2.Simcha Singer, 1.Daniel Zitomer, 1.Patrick McNamara	

Parallel 7							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
	Fate and Presence of Environmental Contaminants in Communities (III)						
Slot 3: Thur am (8:30-9:50, 4 talks; 10:20-12, 5 talks)	285	Hien	Dang	Michigan State	Deposition of viruses onto household paints and polyelectrolyte-coated surfaces	Hien T. T. Dang, Volodymyr V. Tarabara	
	603	LucÃ-a	RodrÃ-guez-Freire	The University of New Mexico	Working with Native American communities to study the fate and transport of metals from abandoned mines	1. LucÃ-a RodrÃ-guez-Freire. 1. Cherie DeVore. 2. Johanna Blake. 1. Sumant Avasarala. 1. Abdul-Mehdi Ali. 3. Carlyle Ducheneaux. 1. Joseph Hoover. 1. Johnnye Lewis. 1. Melissa Gonzales. 1. JosÃ© M. Cerrato	
	79	Kimberly	Parker	ETH Zurich	Environmental fate of double-stranded RNA (dsRNA) biopesticides from RNA interference (RNAi)-based crop protection	1. Kimberly M. Parker, 1. Michael Sander	
	430	Zhi	Zhou	Purdue University	Electrochemical treatment to remove chemical contaminants in landfill leachate	1. Ran Chen, 1. Mian Wang, 1. Zhe Sun, 1. Sol Park, 1. Zhi Zhou	
	BREAK						
		Fate and Presence of Environmental Contaminants in Communities (IV)					
	176	Nicole	Mohapp	University of Minnesota	Implications of Perfluoroalkyl Substances on Microbial Function	Nicole Mohapp, Carlise Sorenson, Dr. Matt Simcik, Dr, Paige Novak	
	377	Karen	Dannemiller	Ohio State University	Phthalate Degradation in Floor Dust due to Abiotic and Biotic Processes	1,2. Karen C. Dannemiller, 3. Bridget Hegarty, 4. Charles J. Weschler, 3. and Jordan Peccia	
	86	Trevor	Needham	University of Maryland Baltimore County	Historical trends of polychlorinated biphenyls in Chesapeake Bay fish and the influence of ongoing sources.	1. Trevor Needham, 2. Upal Ghosh	
	293	Matthew	Reid	Cornell University	Arsenic Methylation under Differing Biogeochemical Regimes	1. Matthew Reid, 2. Leia Falquet, 3. Julien Maillard, 4. Rizlan Bernier-Latmani	
TBD	Sam	Ying	UC-Riverside	Oxidation of Arsenic (III) By Iron Oxide Coated Birnessite	Samantha C. Ying, Rebecca Mock, Amy Salvador, Mariejo Plaganas		
	Fate and Presence of Environmental Contaminants in Communities (V)						
Slot 4: Thur pm (2:30 - 4:00 pm)	323	Michael	German	Lehigh University	Unmet Challenges in Mitigating the Global Arsenic and Fluoride Crisis	1. Mike German, 1. Jinze Li, 2. Prasun Chatterjee, 3. Todd Watkins, 1. Arup K. SenGupta	
	76	Anisha	Nijhawan	University of Oklahoma	Macroporous hydroxyapatite ceramic beads for fluoride removal	1. Anisha Nijhawan. 2. Elizabeth Butler. 3. David Sabatini.	
	294	Daniel	Mosiman	UIUC	A Materials Science Approach to Fluoride Removal by Hydroxyapatite: Findings and Insights	1. & 2. Daniel Mosiman 1. & 2. Benito Marinas	
	384	Matt	Limmer	University of Delaware	Decreasing Arsenic uptake by rice through Silicon additions	1. Matt Limmer; 1. Angelia Seyffert	

Parallel 8							
	id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Education and Workforce Development (I)							
Slot 1: Wed am 10:00 - 12:30	151	Sarah	Kwan	Yale University	Creating Gender Neutral Learning Environments for Engineering Undergraduates	Sarah Kwan (1) and Jordan Peccia (1)	
	48	Andrea	Hicks	Univ Wisc - Madison	Community Based Learning in Teaching Sustainability Engineering	1. Andrea Hicks	
	445	Daniel	Oerther	Missouri S&T	Do Environmental Engineers Use Tools or Solve Problems? Using Insurance to Promote Fisheries Conservation	1. Daniel Oerther	
	318	Danny	Reible	Texas Tech University	Developing Reflective Engineers with Artful Methods (DREAM)	Danny Reible, Ryan Campbell, Jeong-Hee Kim, Roman Taraban, Chongzheng Na, Jill Hoffman	
	68	Randi	Brazeau	Metro State Univ Denver	Teaching Water Management and Ethics using an International, Cross-Institutional Student Centered Research Approach	1. Randi Brazeau; 2. Sara Beavis	
	488	Angela	Bielefeldt	UC Boulder	Sustainability Knowledge and Attitudes Revealed Through Concept Maps	Angela R. Bielefeldt	
	460	Alison	Wood	Olin College of Engr	Framework for Teaching a Complex Systems Approach to Environmental Engineering and Science	1 Alison Wood, 1 Scott Hersey	
Using Models to Advance Environmental and Public Health in Communities							
Slot 2: Wed pm 2:00-5:00 with break	213	Mustafa	Lokhandwala	Purdue University	Taxi Sharing: An Agent Based Modelling Analysis for New York City	1.Mustafa Lokhandwala 1.2.Dr. Hua Cai	
	582	Robert	Phillips	Northeastern University	Whole Building Life Cycle Sustainability Assessment	1. Robert Phillips, 1. Luke Troup, 1. David Fannon, 1. Matthew Eckelman	
	212	Fan	Tong	Carnegie Mellon University	Life Cycle Air Pollution Damages of Petroleum and Natural Gas Pathways for Powering Light-Duty Vehicles and Heavy-Duty Vehicles	1 Fan Tong, 1 Paulina Jaramillo, 1 Ines Azevedo	
	89	John	Trimmer	University of Illinois at Urbana-Champaign	Amplifying Progress toward Multiple Development Goals through Resource Recovery from Sanitation	1. John T. Trimmer, 1. Roland D. Cusick, 1. Jeremy S. Guest	
	BREAK						
	Assessing Healthy Communities through a Risk Framework						
	596	Jade	Mitchell	Michigan Sate University, Dept. of Biosystems and	New Approaches for Evaluating Risks Associated with Unavoidable Contaminants	1. Daniel Vallero; 2. Jade Mitchell; 2. Ilce Medina Meza; 1. Peter Egeghy; ;	
	263	Elham	Shirazi	University of Kentucky	Linking CFD Models and a Multizone (IAQ) Model to Improve Vapor Intrusion Exposure Risk Predictions	1. Elham Shirazi. 1.Kelly G. Pennell	
	387	Jacqueline	MacDonald Gibson	University of North Carolina at Chapel Hill	A novel dynamic microsimulation model to explore competing transportation health risks	1. Theodore Mansfield; 2. Jacqueline MacDonald Gibson	
	262	Peter	Adriaens	University of Michigan	Business Water Risk: Ripple Effects from Watersheds to the Capital Markets	1. Peter Adriaens, 2. Dan Li	

Parallel 8						
id	Presenter First Name	Presenter Last Name	Presenter Institution	Presentation Title	Authors	
Themed Session: Sensors and Big Data in Managing the Urban Water Cycle (I)						
TBD				TOUR of WATER.ORG lab of Kerkez (takes 2 session slots)		
TBD				TOUR of WATER.ORG lab of Kerkez (takes 2 session slots)		
486	Brandon	Wong	University of Michigan	A modeling framework for the real-time control of distributed stormwater assets	1.Brandon Wong, 1. Abhiram Mullapudi, 1. Branko Kerkez	
456	Jon	Hathaway	University of Tennessee	Advancing the Science of Urban Watershed Management through High-Resolution Geospatial Data	1. Jon M. Hathaway, 1. Thomas H. Epps	
BREAK						
Themed Session: Sensors and Big Data in Managing the Urban Water Cycle (II)						
392	Bernard	Bahaya	University of Toledo	Estimating the Benefits of Active Control of Green Stormwater Infrastructure	1. Bernard Bahaya, 2. Jacqueline Fortin, 2. Abhiram Mullapudi, 2. Branko Kerkez, 1. Cyndee Gruden	
390	Sara	Troutman	University of Michigan	Controlling a Sewer Network as an Extension of the Wastewater Treatment Plant	1. Sara Troutman, 1. Branko Kerkez, 1. Nancy Love	
500	Na	Wei	University of Notre Dame	Smart Water Sensing for Sustainable and Connected Communities Using Citizen Science - A Case of Nitrate Contamination Detection	Na Wei 1, Dong Wang 2, Yingying Chen 1, Rachael Sutton 1, Daniel Zhang 2, Steven Mike 2	
465	Dominic	Boccelli	University of Cincinnati	A Framework for Real-Time Distribution System Network Modeling	1. Masud Rana; 1. Paulo Oliveira; 1. Dominic L. Boccelli, PhD	
586	Ursula	Lauper	State University of New York, Albany	Assessing the health risks of combined sewer overflow mitigation efforts through combining quantitative microbial risk and life cycle assessment approaches	Ursula Lauper, Xiaobo Xue	

Slot 3:Thur am
(8:30-9:50, 4
talks;10:20-12,
5 talks)