

2026 Borchardt Conference Poster Program

Tuesday, May 5, 2026

ASSEMBLY HALL

1	Identifying key properties of powdered activated carbon for efficient persulfate activation in advanced oxidation processes - Adedamola Adenekan , Albert Shim, Gabrielle DeMott, Lingyan Song, Micala Mitchek, Joe Wong, Katherine Manz; Univ. of Michigan
2	Native nitrate enhances 222 nm UV advanced oxidation of micropollutants - Emma Payne , Ryan McKeown, Haotian Cai, Xiao Yang, Anthony Straub, Daniel McCurry, Karl Linden; Univ. of Colorado Boulder
3	Evaluation of HTL aqueous byproduct in supercritical water oxidation processing - Zeinab Ismail , Andrew Mansfield, Margaret Wooldridge; Univ. of Michigan
4	Exploring PFAS leaching from spent activated carbon filters using machine learning - Wanyue Hui , Youn Jeong Choi, Linda Lee, Zhi Zhou; Purdue Univ.
5	Modeling biofilm growth rates in reusable water bottles - Gabriela Andrino , Emily Clements, Robert Nerenberg; Univ. of Notre Dame
6	Development of a microfluidic electrochemical oxidation cell for the destruction and analysis of PFAS by ion chromatography - Matthias Burhorst , James R. Siegenthaler, Ibrahim Abusallout; Fraunhofer USA
7	Interpreting viral tailing during UV disinfection and its implications for performance assessment - Hyoju Yang , Laura McLees, Rachel O'Brien, Krista Wigginton; Univ. of Michigan
8	Understanding depopulation impacts on water quality in drinking water distribution systems: Insights from West Virginia - Sienna Bircher , Channelle Ramos, Jessica Grant, Emily Garner; West Virginia Univ.
9	Embedding domain knowledge to language models for water sustainability - Junjie Zhu , Zhiyong Jason Ren; Princeton Univ.
10	Filtration optimization with online particle counters at a full-scale drinking water treatment plant - Alana Boelter , Abigail Atwood, Jeff Keown, Rebecca Lahr; Univ. of Michigan
11	Cooling down: A study on data center water usage - Ashton Vogel ; Michigan State Univ.
12	Development of a novel biofiltration media to remove taste and odor compounds from drinking water - Jessica A. Rehmann , Kaoru Ikuma; Iowa State Univ.
13	Prediction of Camp's G and minor loss coefficient for hydraulic mixing - Andrew P. Pennock, William H. Pennock , John Bridgeman, Monroe Weber-Shirk; New Jersey Institute of Technology
14	Removal of arsenate and ammonia from water by molecularly imprinted polymers - Anja Mueller, Brad Fahlman, Itzel Marquez ; Central Michigan Univ.
15	Drinking water treatment pilot-scale evaluation of single-stage lime softening and oxidation strategies for disinfection by-products and 1,4-dioxane control - Nazmiye Cemre Birben, Yuhao Xian , Gauri Jere , Xiaojun Tang , Brian Yeung, Zhenyu Xia, Rebecca Lahr, Lutgarde Raskin, Aleksandra Szczuka; Univ. of Michigan
16	Antimicrobial resistance gene dynamics during cyanobacterial harmful algal blooms in drinking water sources: A case study in Western Lake Erie - Naomy Avilez-Diaz , Gregory Dick; Univ. of Michigan
17	Coprothogous flies: A novel approach for fecal source tracking in terrestrial environments - Matthew Quansah , Drew Capone, Christine J. Picard; Indiana Univ.
18	Solvent accessibility of oxidizable amino acid residues in viral capsids: A meta-analysis - Chonglin Zhu , Kerry Prinsen, Leah Ward, Yinyin Ye; Univ. at Buffalo
19	Evaluation of biomolecule and viral reactivity with chloramines and bromine - Marta Struve , Zhenyu Xia , Abigail Atwood, Aleksandra Szczuka; Univ. of Michigan

20	Multi-year study quantifying longitudinal fecal shedding trajectories of respiratory viruses in stool and urine - Abigail Monahan , Elizabeth Salzman, Khalil Chedid, Michelle Ammerman, Emily Martin, Marisa Eisenberg, Krista Wigginton; Univ. of Michigan
21	Electrochemical fingerprinting to evaluate activated carbon performance for tire-derived pollutants - Jiagen Geng , D. Ricardo Martinez-Vargas, Shiqiang (Nick) Zou; Michigan State Univ.
22	Monitoring for widespread plastic additives in coastal urban waters - Lizzie Miller , Rebecca Sutton, Jiehong Guo; Michigan Technological Univ.
23	Understanding variations in emerging, nitrogenous disinfection byproduct precursors in surface water to better inform drinking water disinfection - Tess Teodoro, Lila Roach , Aleksandra Szczuka; Univ. of Michigan
24	An examination of growth supporting substrates for the co-metabolic biodegradation of 1,4-dioxane - Zohre Eshghdoostkhatami , Mohsen Faghihinezhad, Alison M. Cupples; Michigan State Univ.
25	Advancing a SCORE framework to precisely manage aquatic selenate pollution - Ao Xie , Shiqiang Zou; Michigan State Univ.
26	Environmental occurrence of tire-derived microplastics and 6PPD-quinone along road surfaces to receiving waters - Rudoulph Ahorlu , Dongzhao Jin, Zhanping You, Jiehong Guo; Michigan Technological Univ.
27	Propanotrophic enrichment cultures capable of the biodegradation of multiple groundwater contaminants - Mohsen Faghihinezhad , Zohre Eshghdoostkhatami, Alison M. Cupples; Michigan State Univ.
28	Investigating the potential for microbial induced calcite precipitation to improve dune stability - Vera Denison , Yasaman Abdolvand, Mohammadhossein Sadeghiamirshahidi, Michelle Jarvie Eggart, Rodney Chimner, Ishi Keenum; Michigan Technological Univ.
29	Exploring LLMs in water & wastewater treatment literature reviews - Sha Li, Ayush Sadekar, Nathan Self , Yiqi Su, Lars Andersland , Mira Chaplin, Hyoju Yang, James B Henderson, Krista Wigginton, T.M. Murali, Naren Ramakrishnan; Univ. of Michigan
30	The potential of thermomechanical and thermochemical processes to enable household non-sewered sanitation - Zixuan Wang , Jianan Feng, Buai Shi, Johanna Arita Mendoza, Xinyi Zhang, Nina Trousdale, Roland D. Cusick, Shannon Yee, Jeremy S. Guest; Univ. of Illinois
31	Economic and environmental implications of sanitation infrastructure transition in Indian cities - Saumitra Rai , Shashank Palur, Nina Kshetry, Johanna Arita Mendoza, Roland Cusick, Jeremy Guest; Univ. of Illinois
32	The deployment of non-sewered sanitation (NSS) in established cities for more sustainable wastewater management: The case of Paris - Johanna Arita Mendoza , Zixuan Wang, Saumitra Rai, Tanguy Fardet, Nina Trousdale, Jianan Feng, Roland D. Cusick, Fabien Esculier, Jeremy Guest; Univ. of Illinois
33	Process validation for selective K-struvite precipitation from real, source-separated urine - Alicia R. Xie , Joseph E. Lybik, Nancy G. Love; Univ. of Michigan
34	Identifying optimal operating conditions via modeling and experiments to recover nitrogen from urine as solid ammonium bicarbonate - Joseph Lybik , Nancy G. Love; Univ. of Michigan
35	Pelletization of urine-derived struvite for fertilizer applications - Jordan Landis , Nancy Love, Isabella Paparella; Univ. of Michigan
36	Operational intelligence for water-wastewater utilities: Integrating the energy, nutrients, cost, and water-quality for decision-ready operations - David Allen , Rao Chitikela, Monte Merkel; SL-serco

2026 Borchardt Conference Poster Program Wednesday, May 6, 2026

ASSEMBLY HALL

1	Stable high-rate food waste–sludge co-digestion in a rumen-inspired anaerobic dynamic membrane bioreactor - Renisha Karki , Steven Skerlos, Lutgarde Raskin; Univ. of Michigan
2	Control of redox conditions in wood-based stormwater bioretention cells influences polyphosphate accumulation in woodchip biofilms and enhances co-treatment of nitrogen and phosphorus - Zihao Zhang , Peisheng He, Lily DuPlooy, Youhui Wang, Mathew Baldwin, Michael Vega, April Gu, Matthew C. Reid; Cornell Univ.
3	Novel hydrothermal technology: Doubling biogas output via total solids degradation - Tim Fairley-Wax , Darrin Prescott, Ken Anderson; Aquora Biosystems
4	A physiology-informed modeling framework for advanced wastewater process control to address the limitations of the Monod equation - YoungJun Kim , Zhi (George) Zhou; Purdue Univ.
5	Single-phase electro-fermentation for resource recovery from food crop waste: Converting leafy greens to caproic acid - Jisu Yang , Joshua Jack; Univ. of Michigan
6	University of Michigan's NEWtrient recovery facility - Ian Fiero , Joe Lybik, Mathew Lippincott, Lesli Hoey, Jennifer Blesh, Nancy G. Love; Univ. of Michigan
7	Methane leakage thresholds for net climate benefits of wastewater biogas recovery - Xiatong Li , Jun-Jie Zhu, Yuqing Yan, Trung Le, Zhiyong Jason Ren; Princeton Univ.
8	Optimization of backwashing and recirculation control strategies in an anaerobic dynamic membrane bioreactor - Renata Starostka , Lutgarde Raskin, Steven Skerlos; Univ. of Michigan
9	Assessing the effect of hydrocyclones on wastewater flocs using dynamic imaging - Camilo Parra , Francisca Schiaffino, Robert Nerenberg; Univ. of Notre Dame
10	Evaluating the economic and environmental potential of valorizing wastewater VFAs using redox-electrodialysis - Buai Shi , Zixuan Wang, Jianan Feng, Wangsuk Oh, Xiao Su, Jeremy S. Guest; Univ. of Illinois
11	Decarbonizing biological nitrogen removal: AI-driven identification of generalizable patterns and N2O emission tipping points - Yuqing Yan , Jun-jie Zhu, Lin Du, Xiatong Li, Zhiyong Jason Ren; Princeton Univ.
12	An application of extremophilic algae <i>Galderia sulphuraria</i> for acid mine drainage treatment and concurrent biofuel production - Roshan R. Karki , Tharindu D.B. Nawarathna, Eimtiazi I. Easin, Himali M. K. Delanka-Pedige; Southern Illinois Univ.
13	Evaluating the effects of microplastic characteristics on extremophilic algal growth and potential bioenergy applications - Tharindu D.B. Nawarathna , Roshan R. Karki, Eimtiazi I. Easin, Himali M.K. Delanka-Pedige; Southern Illinois Univ.
14	Peracetic acid: Chemistry, applications, and operational insights - Haley Staveness ; Brainerd Chemical
15	Zeolite modification under trade-offs: Performance enhancement versus environmental and structural cost - Eimtiazi I. Easin , Tharindu D. B. Nawarathna, Roshan R. Karki, Himali M. K. Delanka Pedige; Southern Illinois Univ.
16	Anaerobic release of phosphorus and iron from chemical phosphorus removal sludge increases in-plant recycles and creates recovery options - Wenxing Zuo, Jiawei Liu, Yiming Zhang, Mohammed Dilshaad Uzair, Gustavo Lopez-Amesquita , John W. Norton, Jr., Majid Khan, Brooke Ballard, Glen T. Daigger; Univ. of Michigan
17	Operationalizing data-driven forecasting to reduce energy, cost, and emissions - Jiawei Liu , Glen. T. Daigger; Univ. of Michigan

18	Bacterial encapsulation of wastewater bacteria within PEGDMA hydrogels - Logan Didier , Kaoru Ikuma; Iowa State Univ.
19	Modeling electric field-driven struvite precipitation for sustainable resource recovery . - Kehinde Ojasanya , Appala Raju Badireddy, George Pinder; Univ. of Vermont
20	Spatiotemporal quantification and prediction of nitrous oxide flux heterogeneity in an engineered microbiome BNR system - Gnanaraj Augustine , Kartik Chandran; Columbia Univ.
21	Interpretable machine learning for nitrogen removal, energy recovery, and biosensing in advanced wastewater treatment - Soyoung Park , Zhen He; Washington Univ. in St. Louis
22	A bioelectrochemical approach for metal removal from acid mine drainage - Priyasha Fernando , Dr. John Regan, Dr. Meng Wang; Penn State Univ.
23	Competition and predation shape <i>Ca. Accumulibacter</i> diversity in EBPR communities - Justus Smith , Patricia Tran, Francisco Moya Flores, Jason Flowers, Trina McMahon; Univ. of Wisconsin-Madison
24	Achieving nitrification in MABRs by supplying ammonia through the lumen: A modeling study - Diana Mora , Patricia Perez, Zebo Long, Robert Nerenberg; Univ. of Notre Dame
25	Fungi dominate MABR biofilms when acetate concentrations are high - Alejandro Martín-Linares , Robert Nerenberg; Univ. of Notre Dame
26	Characteristics of detached MABR biofilm under nitrifying conditions - Yan Lu , Robert Nerenberg; Univ. of Notre Dame
27	Building end-to-end automated data processing infrastructure for wastewater monitoring in Michigan - Jeremy Kuo, Julie (Jules) Gilbert , Lillian Jensen, Marisa Eisenberg; Univ. of Michigan
28	Emerging PFAS treatment train for removal and destruction of landfill leachate using foam fractionation and electrooxidation - Gary Hunter , Lee Kimbell, Christian Kassir, Lucas Botero, Fabrizio Sabba; Black & Veatch
29	Enteric pathogens and antimicrobial resistance genes across wastewater treatment and receiving waters in a high-income setting - Nuzrath Hussain , Drew Capone; Indiana Univ.
30	Evaluation of genetic markers to understand environmental contribution and influenza lineage dynamics in wastewater solids - Ruchi Korde , Krista R. Wigginton, Marisa C. Eisenberg, Adam S. Lauring; Univ. of Michigan
31	Evaluating the impacts of rural onsite wastewater treatment systems on fecal markers and antimicrobial resistance in recreational surface waters - Alexandra Eiford , Aleksandra Sklioutovskaya-Lopez, Emily Garner; West Virginia Univ.
32	Investigating antibiotic resistant gene carriage in rural wastewater populations - Elmore Zach , Keenum Ishi; Michigan Technological Univ.
33	Antibiotic-resistant bacteria dynamics in sewer system - Israel Adeoye , Ishi Keenum; Michigan Technological Univ.
34	Wastewater surveillance reveals circulation patterns of human respiratory adenovirus strains - Hannah Chadwick, Alida Norton , Michelle Ammerman, Ke Zhang, Jules Gilbert, Marisa Eisenberg, Krista Wigginton; Univ. of Michigan
35	Isolation and characterization of bacterial extracellular vesicles in wastewater - Wenjing Yang , Daniel Galdamez, Chonglin Zhu, John C. Hu, Yun Shen, Yinyin Ye; Univ. at Buffalo
36	Engineering a renewable nuclease biocatalyst to degrade antibiotic resistance genes in wastewater - Quanhui Ye , Katherine Haejin Park, James Kim, Yuqing Mao, Thanh Huong Nguyen, Na Wei, Yong-Su Jin; Univ. of Illinois
37	Persistence of antimicrobial resistance and human fecal biomarkers in decentralized wastewater effluent: Implications for environmental monitoring and microbial source tracking - Christopher Anderson, Kenneth Arrick, Jonathan Daggett, Ryan Lazlo, Donavon Tomm , Logan Decker, Emily Garner; West Virginia Univ.

38	Delineating the role of decentralized sanitation for wastewater-based surveillance of antimicrobial resistance and viral pathogens - Christopher Anderson , Kenneth Arrick, Jonathan Daggett, Ryan Lazlo, Donavon Tomm, Logan Decker, Emily Garner; West Virginia Univ.
39	Utilizing wastewater-based surveillance to monitor <i>Borrelia</i> sp. for the detection of Lyme disease in a nonendemic region of the United States - Jacob Schmidt , Aimee Marceau, Raul Gonzalez, Ishi Keenum; Michigan Technological Univ.
40	Systematic assessment of antibiotic resistance genes in anaerobic digestion through meta-analysis - Yasna Mortezaei , Maggie R. Williams, Goksel N. Demirer; Central Michigan Univ.