Stanford

William Mitch

Professor of Civil and Environmental Engineering

Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrator**

  Jack Chiueh - Administrative Associate

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Bio

BIO

Bill Mitch received a B.A. in Anthropology (Archaeology) from Harvard University in 1993. During his studies, he excavated at Mayan sites in Belize and surveyed sites dating from 2,000 B.C. in Louisiana. He switched fields by receiving a M.S. degree in Civil and Environmental Engineering at UC Berkeley. He worked for 3 years in environmental consulting, receiving his P.E. license in Civil Engineering in California. Returning to UC Berkeley in 2000, he received his PhD in Civil and Environmental Engineering in 2003. He moved to Yale as an assistant professor after graduation. His dissertation received the AEESP Outstanding Doctoral Dissertation Award in 2004. At Yale, he serves as the faculty advisor for the Yale Student Chapter of Engineers without Borders. In 2007, he won a NSF CAREER Award. He moved to Stanford University as an associate professor in 2013.

Employing a fundamental understanding of organic chemical reaction pathways, his research explores links between public health, engineering and sustainability. Topics of current interest include:

Public Health and Emerging Carcinogens: Recent changes to the disinfection processes fundamental to drinking and recreational water safety are creating a host of highly toxic byproducts linked to bladder cancer. We seek to understand how these compounds form so we can adjust the disinfection process to prevent their formation.

Global Warming and Oceanography: Oceanic dissolved organic matter is an important global carbon component, and has important impacts on the net flux of CO2 between the ocean and atmosphere. We seek to understand some of the important abiotic chemical reaction pathways responsible for carbon turnover.

Sustainability and Persistent Organic Pollutants (POPs): While PCBs have been banned in the US, we continue to produce a host of structurally similar chemicals. We seem to understand important chemical pathways responsible for POP destruction in the environment, so we can design less persistent and problematic chemicals in the future.

Engineering for Sustainable Wastewater Recycling: The shortage of clean water represents a critical challenge for the next century, and has necessitated the recycling of wastewater. We seek to understand ways of engineer this process in ways to minimize harmful byproduct formation.

Carbon Sequestration: We are evaluating the formation of nitrosamine and nitraminecarcinogens from amine-based carbon capture, as well as techniques to destroy any of these byproducts that form.

ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Member, Bio-X
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)

HONORS AND AWARDS

- Excellence in Review Award, Environmental Science and Technology (2013)
- Elected Vice-Chair of the 4th Disinfection Byproducts Gordon Conference in 2015, Disinfection Byproducts Gordon Conference (2015)
- Invited speaker for the 3rd Disinfection Byproducts Gordon Conference, Mt. Holyoke College, Disinfection Byproducts Gordon Conference (2012)
- Environmental Science and Technology Editors Choice Award Best Paper 3rd runner up, Environmental Science and Technology (2010)
- Top 10 most-accessed articles, 2nd Quarter, Environmental Science and Technology (2010)
- Invited speaker, Environmental Sciences Water Gordon Conference (2010)
- Member, US EPA Scientific Advisory Board Drinking Water Committee (2010)
- Invited speaker, Disinfection Byproducts Gordon Conference, Mt. Holyoke College (2009)
- CAREER Award, NSF (2007)
- Advisor of recipient, ACS Environmental Chemistry Graduate Student Award (2007)
- Invited speaker, Disinfection Byproducts Gordon Conference, Mt. Holyoke College (2006)
- Certificate of Merit, 230th ACS National Meeting (2005)
- Arthur Greer Memorial Prize for teaching and research excellence by a junior faculty member, Yale University (2005)
- Outstanding Doctoral Dissertation Award, Association of Environmental Engineering and Science Professors and Parsons Engineering (2004)
- Graduated Summa Cum Laude and elected into the Phi Beta Kappa Academic Honor Society, Harvard University (1993)

PROFESSIONAL EDUCATION

- B.A., Harvard University (Summa Cum Laude) , Anthropology (Archaeology) (1993)
- M.S., University of California, Berkeley , Civil and Environmental Engineering (1996)
- Ph.D., University of California, Berkeley , Civil and Environmental Engineering (2003)

LINKS

- Lab Website: https://mitchlabd9.sites.stanford.edu/

Teaching

COURSES

2025-26

- Providing Safe Water for the Developing and Developed World: CEE 179D, CEE 279D (Win)
- Wastewater Treatment: From Disposal to Resource Recovery: CEE 179E, CEE 279E (Spr)

2024-25

- Aquatic and Organic Chemistry for Environmental Engineering: CEE 170, CEE 270M (Sum)
- Providing Safe Water for the Developing and Developed World: CEE 179D, CEE 279D (Win)
- Wastewater Treatment: From Disposal to Resource Recovery: CEE 179E, CEE 279E (Spr)

2023-24

- Wastewater Treatment: From Disposal to Resource Recovery: CEE 179E, CEE 279E (Win)

2022-23

- Aquatic and Organic Chemistry for Environmental Engineering: CEE 270M (Sum)
- Environmental Organic Reaction Chemistry: CEE 270B (Spr)
- Providing Safe Water for the Developing and Developed World: CEE 179D, CEE 279D (Aut)
- Wastewater Treatment: From Disposal to Resource Recovery: CEE 179E, CEE 279E (Win)

STANFORD ADVISEES

Doctoral Dissertation Advisor (AC)

Marlena Hinkle, Jonas LaPier

Master's Program Advisor

Ethan Behrend, Almanzo Gao, Mingjun Jiang, Queenie Liao, Ivan Yan, Iris Yuen

Doctoral (Program)

Vincent DiPietri, Marlena Hinkle, Jonas LaPier, Benjamin Najm, Cade Napier, Yiyao Wei, Daly Wettermark, Fannie Yiu

Publications

PUBLICATIONS

- **Tap water and bladder cancer in China** *NATURE SUSTAINABILITY*
  Mitch, W. A.
  2022

- **Recovery of Clean Water and Ammonia from Domestic Wastewater: Impacts on Embodied Energy and Greenhouse Gas Emissions.** *Environmental science & technology*
  Shin, C., Szczuka, A., Liu, M. J., Mendoza, L., Jiang, R., Tilmans, S. H., Tarpeh, W. A., Mitch, W. A., Criddle, C. S.
  2022

- **Effects of Intrusion on Disinfection Byproduct Formation in Intermittent Distribution Systems** *ACS ES&T WATER*
  Furst, K. E., Smith, D. W., Bhatta, L. R., Islam, M., Sultana, S., Rahman, M., Davis, J., Mitch, W. A.
  2022; 2 (5): 807-816

- **Conversion of oxybenzone sunscreen to phototoxic glucoside conjugates by sea anemones and corals.** *Science (New York, N.Y.)*
  Vuckovic, D., Tinoco, A. I., Ling, L., Renicke, C., Pringle, J. R., Mitch, W. A.
  2022; 376 (6593): 644-648

- **Disinfection byproducts formed during drinking water treatment reveal an export control point for dissolved organic matter in a subalpine headwater stream.** *Water research X*
  Leonard, L. T., Vanzin, G. F., Garayburu-Caruso, V. A., Lau, S. S., Beutler, C. A., Newman, A. W., Mitch, W. A., Stegen, J. C., Williams, K. H., Sharp, J. O.
  2022; 15: 100144

- **Bridging boundaries: On the contributions of Dr. Michael Plewa to the disinfection byproduct field.** *Journal of environmental sciences (China)*
  Mitch, W. A.
  2022; 117: 3-5

- **Formation of Oleic Acid Chlorohydrins in Vegetables during Postharvest Chlorine Disinfection.** *Environmental science & technology*

Simpson, A. M., Suh, M., Plewa, M. J., Mitch, W. A.
1800

- **Corrigendum to Pilot-scale evaluation of oxidant speciation, 1,4-dioxane degradation and disinfection byproduct formation during UV/ hydrogen peroxide, UV/free chlorine and UV/chloramines advanced oxidation process treatment for potable reuse'[Water Research, Volume 164,1 November 2019, 114939].** *Water research*
  Zhang, Z., Chuang, Y., Szczuka, A., Ishida, K. P., Roback, S., Plumlee, M. H., Mitch, W. A.
  2021; 208: 117868

- **Chlorine taste can increase simulated exposure to both fecal contamination and disinfection byproducts in water supplies.** *Water research*
  Smith, D. W., Islam, M., Furst, K. E., Mustaree, S., Crider, Y. S., Akter, N., Islam, S. A., Sultana, S., Mahmud, Z. H., Rahman, M., Mitch, W. A., Davis, J.
  2021; 207: 117806

- **Sunlight-Driven Chlorate Formation during Produce Irrigation with Chlorine- or Chloramine-Disinfected Water.** *Environmental science & technology*
  Suh, M., Mitch, W. A.
  2021

- **Disinfection Byproduct Recovery during Extraction and Concentration in Preparation for Chemical Analyses or Toxicity Assays.** *Environmental science & technology*
  Lau, S. S., Forster, A. L., Richardson, S. D., Mitch, W. A.
  2021

- **Use of trihalomethanes as a surrogate for haloacetonitrile exposure introduces misclassification bias.** *Water research X*
  Furst, K. E., Bolorinos, J., Mitch, W. A.
  2021; 11: 100089

- **Control of sulfides and coliphage MS2 using hydrogen peroxide and UV disinfection for non-potable reuse of pilot-scale anaerobic membrane bioreactor effluent.** *Water research X*
  Szczuka, A., Berglund-Brown, J. P., MacDonald, J. A., Mitch, W. A.
  2021; 11: 100097

- **Optimization of reverse osmosis operational conditions to maximize ammonia removal from the effluent of an anaerobic membrane bioreactor** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*
  Shin, C., Szczuka, A., Jiang, R., Mitch, W. A., Criddle, C. S.
  2021; 7 (4): 739–47

- **Production of N-Nitrosodimethylamine Precursors by Biofilters Is Highly Dynamic and Affected by Filter Media Type and Backwashing Conditions** *ACS ENVIRONMENTAL SCIENCE AND TECHNOLOGY WATER*
  Hozalski, R. M., Ma, B., Evans, A. N., Page, S. E., Zhang, Z., Mitch, W. A., Russell, C., Peldszus, S., Van Dyke, M., Huck, P. M.
  2021; 1 (3): 661-671

- **Organic wastewater treatment by a single-atom catalyst and electrolytically produced H2O2.** *Nature sustainability*
  Xu, J., Zheng, X., Feng, Z., Lu, Z., Zhang, Z., Huang, W., Li, Y., Vuckovic, D., Li, Y., Dai, S., Chen, G., Wang, K., Wang, et al
  2021; 4: 233-241

- **Pilot UV-AOP Comparison of UV/Hydrogen Peroxide, UV/Free Chlorine, and UV/Monochloramine for the Removal of N-Nitrosodimethylamine (NDMA) and NDMA Precursors** *ACS ENVIRONMENTAL SCIENCE AND TECHNOLOGY WATER*
  Roback, S. L., Ishida, K. P., Chuang, Y., Zhang, Z., Mitch, W. A., Plumlee, M. H.
  2021; 1 (2): 396-406

- **Evaluation of Histidine Reactivity and Byproduct Formation during Peptide Chlorination.** *Environmental science & technology*
  Choe, J. K., Hua, L., Komaki, Y., Simpson, A. M., McCurry, D. L., Mitch, W. A.
  2021

- **Removal of Pathogens and Chemicals of Emerging Concern by Pilot-Scale FO-RO Hybrid Units Treating RO Concentrate, Graywater, and Sewage for Centralized and Decentralized Potable Reuse** *ACS ENVIRONMENTAL SCIENCE AND TECHNOLOGY WATER*
  Szczuka, A., Chuang, Y., Chen, F. C., Zhang, Z., Desormeaux, E., Flynn, M., Parodi, J., Mitch, W. A.
  2021; 1 (1): 89-100

- **Chlorine and ozone disinfection and disinfection byproducts in postharvest food processing facilities: A review** *CRITICAL REVIEWS IN ENVIRONMENTAL SCIENCE AND TECHNOLOGY*
  Simpson, A., Mitch, W. A.
  2020
- **Transformation of Trace Organic Contaminants from Reverse Osmosis Concentrate by Open-Water Unit-Process Wetlands with and without Ozone Pretreatment.** *Environmental science & technology*
  Scholes, R. C., King, J. F., Mitch, W. A., Sedlak, D. L.
  2020
- **Designing a Nanoscale Three-phase Electrochemical Pathway to Promote Pt-catalyzed Formaldehyde Oxidation.** *Nano letters*
  Xu, J., Xiao, X., Zhang, Z., Wu, Y., Boyle, D. T., Lee, H. K., Huang, W., Li, Y., Wang, H., Li, J., Zhu, Y., Chen, B., Mitch, et al
  2020
- **N-Nitrosodimethylamine Formation during UV/Hydrogen Peroxide and UV/Chlorine Advanced Oxidation Process Treatment Following Reverse Osmosis for Potable Reuse.** *Environmental science & technology*
  Szczuka, A., Huang, N., MacDonald, J. A., Nayak, A., Zhang, Z., Mitch, W. A.
  2020
- **Organic wastewater treatment by a single-atom catalyst and electrolytically produced H2O2** *NATURE SUSTAINABILITY*
  Xu, J., Zheng, X., Feng, Z., Lu, Z., Zhang, Z., Huang, W., Li, Y., Vuckovic, D., Li, Y., Dai, S., Chen, G., Wang, K., Wang, et al
  2020
- **Sulfide-induced reduction of nitrobenzene mediated by different size fractions of rice straw-derived black carbon: A key role played by reactive polysulfide species.** *The Science of the total environment*
  Wei, C., Yin, S., Fu, H., Qu, X., Mitch, W. A., Zhu, D.
  2020; 748: 141365
- **Pilot-scale ozone/biological activated carbon treatment of reverse osmosis concentrate: potential for synergism between nitrate and contaminant removal and potable reuse** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*
  Zhang, Z., King, J. F., Szczuka, A., Chuang, Y., Mitch, W. A.
  2020; 6 (5): 1421–31
- **Efficacy of ozone for removal of pesticides, metals and indicator virus from reverse osmosis concentrates generated during potable reuse of municipal wastewaters.** *Water research*
  King, J. F., Szczuka, A., Zhang, Z., Mitch, W. A.
  2020; 176: 115744
- **Novel Chlorination Byproducts of Tryptophan: Initial High-Yield Transformation Products versus Small Molecule Disinfection Byproducts** *ENVIRONMENTAL SCIENCE & TECHNOLOGY LETTERS*
  Hua, L., Kim, E., McCurry, D. L., Huang, C., Mitch, W. A.
  2020; 7 (3): 149–55
- **Assessing Additivity of Cytotoxicity Associated with Disinfection Byproducts in Potable Reuse and Conventional Drinking Waters.** *Environmental science & technology*
  Lau, S. S., Wei, X. n., Bokenkamp, K. n., Wagner, E. D., Plewa, M. J., Mitch, W. A.
  2020
- **Reductive Electrochemical Activation of Hydrogen Peroxide as an Advanced Oxidation Process for Treatment of Reverse Osmosis Permeate during Potable Reuse.** *Environmental science & technology*
  Weng, C. n., Chuang, Y. H., Davey, B. n., Mitch, W. A.
  2020
- **Co-occurrence of geogenic and anthropogenic contaminants in groundwater from Rajasthan, India** *SCIENCE OF THE TOTAL ENVIRONMENT*
  Coyte, R. M., Singh, A., Furst, K. E., Mitch, W. A., Vengosh, A.
  2019; 688: 1216–27
- **Co-occurrence of geogenic and anthropogenic contaminants in groundwater from Rajasthan, India.** *The Science of the total environment*
  Coyte, R. M., Singh, A., Furst, K. E., Mitch, W. A., Vengosh, A.
  2019; 688: 1216-1227

- **Is it time to move beyond the trihalomethane paradigm in developing countries? Lessons learned from wastewater-impacted drinking waters in South Asia**
  Furst, K., Coyte, R., Smith, D., Davis, J., Vengosh, A., Mitch, W.
  AMER CHEMICAL SOC.2019
- **Energy efficient potable reuse: Lowering organic RO membrane fouling and DBP formation when treating anaerobic secondary effluent**
  Szczuka, A., Mitch, W.
  AMER CHEMICAL SOC.2019
- **Evaluation of contaminant of emerging concern removal in wastewater by a hybrid forward osmosis-reverse osmosis system**
  Szczuka, A., Mitch, W.
  AMER CHEMICAL SOC.2019
- **Pilot-scale evaluation of oxidant speciation, 1,4-dioxane degradation and disinfection byproduct formation during UV/hydrogen peroxide, UV/free chlorine and UV/chloramines advanced oxidation process treatment for potable reuse.** *Water research*
  Zhang, Z., Chuang, Y., Szczuka, A., Ishida, K. P., Roback, S., Plumlee, M. H., Mitch, W. A.
  2019; 164: 114939
- **Predicting the Contribution of Chloramines to Contaminant Decay during Ultraviolet/Hydrogen Peroxide Advanced Oxidation Process Treatment for Potable Reuse** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Zhang, Z., Chuang, Y., Huang, N., Mitch, W. A.
  2019; 53 (8): 4416–25
- **Comparison of Toxicity-Weighted Disinfection Byproduct Concentrations in Potable Reuse Waters and Conventional Drinking Waters as a New Approach to Assessing the Quality of Advanced Treatment Train Waters** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Chuang, Y., Szczuka, A., Mitch, W. A.
  2019; 53 (7): 3729–38
- **Comparing industrial and domestic discharges as sources of N-nitrosamines and their chloramine or ozone-reactive precursors** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*
  Chuang, Y., Shabani, F., Munoz, J., Aflaki, R., Hammond, S. D., Mitch, W. A.
  2019; 5 (4): 726–36
- **Pilot-scale comparison of microfiltration/reverse osmosis and ozone/biological activated carbon with UV/hydrogen peroxide or UV/free chlorine AOP treatment for controlling disinfection byproducts during wastewater reuse** *WATER RESEARCH*
  Chuang, Y., Szczuka, A., Shabani, F., Munoz, J., Aflaki, R., Hammond, S. D., Mitch, W. A.
  2019; 152: 215–25
- **Formation of N-nitrosamines during the analysis of municipal secondary biological nutrient removal process effluents by US EPA method 521** *CHEMOSPHERE*
  Chuang, Y., Shabani, F., Munoz, J., Aflaki, R., Hammond, S. D., Mitch, W. A.
  2019; 221: 597–605
- **Comparing the quality of water produced by O3/BAC vs. MF/RO for potable reuse of municipal wastewater**
  Mitch, W., Chuang, Y.
  AMER CHEMICAL SOC.2019
- **Evaluation of a Pilot Anaerobic Secondary Effluent for Potable Reuse: Impact of Different Disinfection Schemes on Organic Fouling of RO Membranes and DBP Formation** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Szczuka, A., Berglund-Brown, J. P., Chen, H. K., Quay, A. N., Mitch, W. A.
  2019; 53 (6): 3166–76
- **Comparison of Toxicity-Weighted Disinfection Byproduct Concentrations in Potable Reuse Waters and Conventional Drinking Waters as a New Approach to Assessing the Quality of Advanced Treatment Train Waters.** *Environmental science & technology*
  Chuang, Y., Szczuka, A., Mitch, W. A.
  2019
- **A Tale of Two Treatments: The Multiple Barrier Approach to Removing Chemical Contaminants During Potable Water Reuse** *ACCOUNTS OF CHEMICAL RESEARCH*
  Marron, E. L., Mitch, W. A., von Gunten, U., Sedlak, D. L.
  2019; 52 (3): 615–22

- **Evaluation of a Pilot Anaerobic Secondary Effluent for Potable Reuse: Impact of Different Disinfection Schemes on Organic Fouling of RO Membranes and DBP Formation.** *Environmental science & technology*
  Szczuka, A., Berglund-Brown, J. P., Chen, H. K., Quay, A. N., Mitch, W. A.
  2019
- **Evaluation of Enhanced Ozone-Biologically Active Filtration Treatment for the Removal of 1,4-Dioxane and Disinfection Byproduct Precursors from Wastewater Effluent.** *Environmental science & technology*
  Vatankhah, H., Szczuka, A., Mitch, W. A., Almaraz, N., Brannum, J., Bellona, C.
  2019
- **Enhanced Phototransformation of Tetracycline at Smectite Clay Surfaces under Simulated Sunlight via a Lewis-Base Catalyzed Alkalization Mechanism** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Xu, L., Li, H., Mitch, W. A., Tao, S., Zhu, D.
  2019; 53 (2): 710–18
- **Pilot-scale comparison of microfiltration/reverse osmosis and ozone/biological activated carbon with UV/hydrogen peroxide or UV/free chlorine AOP treatment for controlling disinfection byproducts during wastewater reuse.** *Water research*
  Chuang, Y., Szczuka, A., Shabani, F., Munoz, J., Aflaki, R., Hammond, S. D., Mitch, W. A.
  2019; 152: 215–25
- **Exposure to disinfection by-products in swimming pools and biomarkers of genotoxicity and respiratory damage - The PISCINA2 Study.** *Environment international*
  Font-Ribera, L. n., Marco, E. n., Grimalt, J. O., Pastor, S. n., Marcos, R. n., Abramsson-Zetterberg, L. n., Pedersen, M. n., Grummt, T. n., Junek, R. n., Barreiro, E. n., Heederik, D. n., Spithoven, J. n., Critelli, et al
  2019; 131: 104988
- **Disinfection Byproducts in Rajasthan, India: Are Trihalomethanes a Sufficient Indicator of Disinfection Byproduct Exposure in Low-Income Countries?** *Environmental science & technology*
  Furst, K. E., Coyte, R. M., Wood, M. n., Vengosh, A. n., Mitch, W. A.
  2019
- **Bench-scale column evaluation of factors associated with changes in N-nitrosodimethylamine (NDMA) precursor concentrations during drinking water biofiltration.** *Water research*
  Zhang, Z. n., Ma, B. n., Hozalski, R. M., Russell, C. G., Evans, A. N., Led, K. O., Van Dyke, M. n., Peldszus, S. n., Huck, P. M., Szczuka, A. n., Mitch, W. A.
  2019; 167: 115103
- **Serum electrolytes can promote hydroxyl radical-initiated biomolecular damage from inflammation.** *Free radical biology & medicine*
  Komaki, Y. n., Simpson, A. M., Choe, J. K., Pinney, M. M., Herschlag, D. n., Chuang, Y. H., Mitch, W. A.
  2019; 141: 475–82
- **Exposure to disinfection by-products in swimming pools and biomarkers of genotoxicity and respiratory damage - The PISCINA2 Study.** *Environment international*
  Font-Ribera, L. n., Marco, E. n., Grimalt, J. O., Pastor, S. n., Marcos, R. n., Abramsson-Zetterberg, L. n., Pedersen, M. n., Grummt, T. n., Junek, R. n., Barreiro, E. n., Heederik, D. n., Spithoven, J. n., Critelli, et al
  2019; 131: 104988
- **Behavior of NDMA precursors at 21 full-scale water treatment facilities** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*
  Krasner, S. W., Westerhoff, P., Mitch, W. A., Hanigan, D., McCurry, D. L., von Gunten, U.
  2018; 4 (12): 1966–78
- **Impact of Combined Chlorination and Chloramination Conditions on N-Nitrosodimethylamine Formation** *JOURNAL AMERICAN WATER WORKS ASSOCIATION*
  Krasner, S. W., Lee, C., Mitch, W. A., von Gunten, U.
  2018; 110 (12): 11–24
- **Chlorotyrosines versus Volatile Byproducts from Chlorine Disinfection during Washing of Spinach and Lettuce** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Komaki, Y., Simpson, A., Choe, J., Plewa, M. J., Mitch, W. A.
  2018; 52 (16): 9361–69

- **N-nitrosamine, halogenated disinfection byproduct, and byproduct precursor control in UV/free chlorine and UV/H2O2 treatment trains: A parallel comparison in a pilot plant**
  Chuang, Y., Szczuka, A., Mitch, W.
  AMER CHEMICAL SOC.2018

- **Sunlight-mediated inactivation of health-relevant microorganisms in water: a review of mechanisms and modeling approaches** *ENVIRONMENTAL SCIENCE-PROCESSES & IMPACTS*
  Nelson, K. L., Boehm, A. B., Davies-Colley, R. J., Dodd, M. C., Kohn, T., Linden, K. G., Liu, Y., Maraccini, P. A., McNeill, K., Mitch, W. A., Nguyen, T. H., Parker, K. M., Rodriguez, et al
  2018; 20 (8): 1089–1122

- **Distributed Chlorine Injection To Minimize NDMA Formation during Chloramination of Wastewater** *ENVIRONMENTAL SCIENCE & TECHNOLOGY LETTERS*
  Furst, K. E., Pecson, B. M., Webber, B. D., Mitch, W. A.
  2018; 5 (7): 462–66

- **Tradeoffs between pathogen inactivation and disinfection byproduct formation during sequential chlorine and chloramine disinfection for wastewater reuse.** *Water research*
  Furst, K. E., Pecson, B. M., Webber, B. D., Mitch, W. A.
  2018; 143: 579–88

- **Chlorotyrosines versus volatile byproducts from disinfection during washing of lettuce and spinach**
  Mitch, W., Komaki, Y., Simpson, A.
  AMER CHEMICAL SOC.2018

- **When ROS are not ROS: The effect of salts on the degradation of protein**
  Mitch, W., Komaki, Y., Choe, J.
  AMER CHEMICAL SOC.2018

- **Halogen radicals promote the photodegradation of microcystins in estuarine systems**
  Mitch, W., Parker, K., Ghadouani, A., Reichwaldt, E.
  AMER CHEMICAL SOC.2018

- **Drinking Water Disinfection Byproducts (DBPs) and Human Health Effects: Multidisciplinary Challenges and Opportunities** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Li, X., Mitch, W. A.
  2018; 52 (4): 1681–89

- **Capture and Reductive Transformation of Halogenated Pesticides by an Activated Carbon-Based Electrolysis System for Treatment of Runoff** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Li, Y., Mitch, W. A.
  2018; 52 (3): 1435–43

- **Comparing the UV/Monochloramine and UV/Free Chlorine Advanced Oxidation Processes (AOPs) to the UV/Hydrogen Peroxide AOP Under Scenarios Relevant to Potable Reuse** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Chuang, Y., Chen, S., Chinn, C. J., Mitch, W. A.
  2017; 51 (23): 13859–68

- **Comparing the UV/Monochloramine and UV/Free Chlorine Advanced Oxidation Processes (AOPs) to the UV/Hydrogen Peroxide AOP Under Scenarios Relevant to Potable Reuse.** *Environmental science & technology*
  Chuang, Y. H., Chen, S., Chinn, C. J., Mitch, W. A.
  2017; 51 (23): 13859-13868

- **New Takes on Emerging Contaminants: Preface** *JOURNAL OF ENVIRONMENTAL SCIENCES*
  Mitch, W. A.
  2017; 62: 1–2

- **Nitrosamines and Nitramines in Amine-Based Carbon Dioxide Capture Systems: Fundamentals, Engineering Implications, and Knowledge Gaps** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Yu, K., Mitch, W. A., Dai, N.
  2017; 51 (20): 11522–36

- **Regulated and unregulated halogenated disinfection byproduct formation from chlorination of saline groundwater** *WATER RESEARCH*
  Szczuka, A., Parker, K. M., Harvey, C., Hayes, E., Vengosh, A., Mitch, W. A.
  2017; 122: 633–44
- **Environmental and Human Impacts of Unconventional Energy Development.** *Environmental science & technology*
  Vengosh, A., Mitch, W. A., McKenzie, L. M.
  2017; 51 (18): 10271-10273
- **Activity and Reactivity of Pyrogenic Carbonaceous Matter toward Organic Compounds.** *Environmental science & technology*
  Pignatello, J. J., Mitch, W. A., Xu, W.
  2017; 51 (16): 8893-8908
- **Reverse Osmosis Shifts Chloramine Speciation Causing Re-Formation of NDMA during Potable Reuse of Wastewater** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  McCurry, D. L., Ishida, K. P., Oelker, G. L., Mitch, W. A.
  2017; 51 (15): 8589–96
- **Effect of Ozonation and Biological Activated Carbon Treatment of Wastewater Effluents on Formation of N-nitrosamines and Halogenated Disinfection Byproducts.** *Environmental science & technology*
  Chuang, Y., Mitch, W. A.
  2017; 51 (4): 2329-2338
- **Relative Importance of Different Water Categories as Sources of N-Nitrosamine Precursors** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
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