

Aaron David Dotson

Curriculum Vitae

Education

- Doctor of Philosophy, Civil and Environmental Engineering, Arizona State University, Tempe, AZ, 2008.
- Master of Science in Engineering, Civil and Environmental Engineering, Arizona State University, Tempe, AZ, 2005.
- Bachelor of Science, Civil Engineering, University of Arizona, Tucson, AZ, 2003
- Associate of Science, Science, Pima Community College, Tucson, AZ, 2001.

Academic Administrative Experience

- July 2019 to present, Vice Chancellor for Research, Office of Research, University of Alaska Anchorage. Titled as Associate Vice Chancellor for Research until December 2020. Titled as Vice Provost for Research until August 2020. Interim Vice Provost for Research until June 2020. Report to chancellor and serve as the Chief Research Officer and Authorized Organizational Representative of the university, including its four community campuses. Direct reports eight include the three center directors, four managers of research administration, and one director of compliance. Overall Office of Research annual unrestricted budget of approximately \$8 million and current total restricted awards with a total budget of \$103 million. Financial and research compliance oversight of full externally funded portfolio (including financial aid billing) with a total budget of \$266 million with an annual expenditure of approximately \$85 million. Oversight and compliance including but not limited to human subjects research, animal research, export control, intellectual property protection, and conflict of interest in research.
- February 2019 to June 2020, director, Applied Environmental Research Center, Business Enterprise Institute, University of Alaska Anchorage. Report to the executive director of the Business Enterprise Institute and serve as lead for a research center that primarily pursued funding from the United States Army Corps of Engineers. Coordinate proposals, awarded projects, and project closures. Hire necessary staff and coordinate required participants to complete field studies primarily on military installations across the Pacific.
- September 2018 to June 2019, Interim Associate Dean for Research, College of Engineering, University of Alaska Anchorage. Report to dean of the College of Engineering and serve as the primary point of contact for all research matters in the college. Act as college signature authority for externally funded proposals and awards. Provide necessary training and compliance within the College of Engineering. Represent the College of Engineering's research portfolio to the university and the public.
- June 2014 to December 2015 Graduate Program Coordinator, Applied Environmental Science & Technology, University of Alaska Anchorage. Report to dean of the College of Engineering and coordinate with the chair of civil engineering. Serve as the primary point of contact for all curricular matters, including course scheduling, graduate student enrollment, and program advertising.

Faculty Appointments

- December 2010 to present. Professor (previously assistant and associate professor) Civil Engineering Department, College of Engineering. University of Alaska Anchorage.

- September 2008 to December 2010. Post-doctoral researcher & lecturer, civil, environmental, and architectural engineering, College of Engineering and Applied Science. University of Colorado at Boulder (Boulder, CO).

Selected Governance/Committee Work

- US Arctic Research Commission, Alaska Rural Water & Sanitation Working Group, member 2011-2012 and 2018-present.
- International Symposium on Cold Regions Development (ISCORD), Anchorage, AK 2013.
- ASCE Congress on Technical Advancement (CTA), Duluth, MN 2017.
- Organizer of Water Reuse Track for 2016 and 2017 Alaska Water and Wastewater Management Association Annual Meeting, Anchorage, AK.
- Organizer of volunteer student room monitors for the Alaska Water and Wastewater Management Association Annual Conferences 2011-2017 for distribution of professional development hours and continuing education units.
- Chancellor's Cabinet, December 2020-present.
- Faculty Senate Research and Creative Activity Committee (ex-officio, 2020-present).
- Research and Sponsored Programs Planning Committee (organizer, 2020-present).
- Shared Services Advisory Board (academic year 2021/2022).
- Co-chair of Chancellor's Shared Service Task Force (academic year 2019/2020).
- Co-chair of Chancellor's Research Administration Task Force (academic year 2018/2019).
- Graduate council, member (academic year 2017/2018).
- Research council, member (2012-2016).
- Chemical Safety Committee, member (2012-2018).
- Civil Engineering Department Curriculum Committee, chair (2011), member (2011-2016).
- Civil Engineering Department Graduate Committee, chair (2012-2013), member (2012-2015).
- Civil Engineering Department Scholarship Committee, chair (2011-2012), member (2011-2012).

Selected Professional Service/Employment

- Solid Waste Services, Municipality of Anchorage 2016 to 2022. Served as chair, vice-chair, or commissioner of Solid Waste and Recycling Advisory Commission.
- Anchorage Water and Wastewater Utility, Municipality of Anchorage 2013 to 2022. Served as chair or board member, board of directors.
- Cold Regions Engineering Division, Environmental and Public Health Chair 2011 to 2024. Served as chair and member of the ASCE National Divisional Committee.
- Organic Contaminant Research Committee 2010 to 2015. Served as chair, vice-chair, and member of AWWA National Divisional Committee.
- Malcolm Pirnie Incorporated, 1998 to 2006. Served as engineer or technician, Planning and Process Group, Tucson & Phoenix, AZ.

Selected Research

- **Dotson, A.D.**, Westerhoff, P., Ghosh, Amlan. *DBP Reactivity of Organic Matter Fractions Collected During Extreme Weather Events*. June 2014 in ACS Book entitled Advances in the Physicochemical Characterization of Organic Matter. Edited by Rosario-Ortiz, F.
- Song, G., Mesfiou, R., **Dotson, A.**, Westerhoff, P., Hatcher, P. "Sulfur Containing Molecules Observed in Hydrophobic and Amphiphilic Fractions of Dissolved Organic Matter by Fourier

Transform Ion Cyclotron Resonance Mass Spectrometry” in Functions of Natural Organic Matter in Changing Environment. Jointly published by Springer and Zhejiang University Press. 2013.

Selected Journal Articles

- Alvey, J., Dev, S., Quiñones, O., Dickenson, E., Aggarwal, S., **Dotson, A.**, Photocatalytic Membrane Reactor Utilizing Immobile Photocatalytic Active Layer on Membranes for the Removal of Micropollutants. *Environmental Science and Technology – Water*. 2023. 3 (4), 1050-1059.
- Lucas, C., Johnson, B., Hodges-Snyder, E., Aggarwal, S., **Dotson, A.**, A Tale of Two Communities: Adopting and Paying for an In-Home Non-Potable Water Reuse System in Rural Alaska. 2021. *Environmental Science and Technology – Water*.
- Huntington, H.P., Schmidt, P.A., Loring, P.A., Whitney, E. Aggarwal, S., Byrd, A.G., Dev, S., **Dotson, A.D.**, Huang, D., Johnson, B., Karenzi, J., Penn, H.J.F., Salmon, A., Sambor, D.J., Schnabel, W.E., Wies, R.W., Wilber, M., Applying the food-energy-water nexus concept at the local scale. 2021. *Nature Sustainability*.
- Eichelberger, L., Dev, S, Howe, T., Barnes, D., Bortz., E., Briggs, B., Cochran, P., **Dotson, A.**, Drown, D., Hahn, M., Mattos, K., Aggarwal, S., Implications of Inadequate Water and Sanitation Infrastructure for Community Spread of COVID-19 in Remote Alaskan Communities. 2021. *Science of The Total Environment* 776.
- Song, G., Mesfioui, R., **Dotson, A.**, Hatcher, P., Westerhoff, P., 2018. Molecular characterization and comparison of hydrophobic and amphiphilic fractions of DOM by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. *Journal of Soils and Sediments*. 18(4) 1-14.
- Driskill, A., Alvey, J., **Dotson, A.**, Tomco, P., Monitoring polycyclic aromatic hydrocarbon (PAH) attenuation in Arctic waters using fluorescence spectroscopy, *Cold Regions Science & Technology*. 145. pp 76-85 (2018).
- Hickel, K., **Dotson, A.**, Thomas, T., Heavener, M., Hebert, J., and Warren, J. The search for an alternative to piped water and sewer systems in the Alaskan Arctic. *Environmental Science and Pollution Research*. pp 1-8 (2017, *in press*).
- Alvey, J., Hagedorn, B., **Dotson, A.D.** Benzotriazole enrichment in snowmelt discharge emanating from engineered snow storage facilities. *Water Environment Research*. 88(6), 510-520 (2016) [Journal Cover].
- Korak, J.A., **Dotson, A.D.**, Summers, R.S., Rosario-Ortiz, F.L., Critical Analysis of Commonly Used Fluorescence Metrics to Characterize Dissolved Organic Matter. *Water Research*. 49, 1-12 (2014)
- Keen, O.S., Thurman, E.M., Ferrer, I., **Dotson, A.D.** and Linden, K.G. Mechanism of dimer formation during UV photolysis of diclofenac. *Chemosphere* 93, 1948-1956 (2013).
- **Dotson, A.**, Westerhoff, P., Character and Treatment of Organic Colloids in Impacted Drinking Water Sources. *Journal of Environmental Engineering*, 138(4), 383-401 (2012).
- **Dotson, A.**, Rodriguez, C. **, & Linden, K., UV Disinfection Implementation Status in US Drinking Water Plants. *Journal of American Water Works Association*. 104(5) (2012).
- Shah, A.D., **Dotson, A.D.**, Linden, K.G., and Mitch, W.A., *Impact of UV Disinfection Combined with Chlorination/Chloramination on the Formation of Halonitromethanes and Haloacetonitriles in Drinking Water*, *Environmental Science & Technology*, 45:8:3657-3664 (2011).

Selected Funded Research

- Department of Homeland Security Center of Excellence, ADAC-ARCTIC, UAA proposal organizer and supervisor, \$46M, 2024 – 2034.
- Alaska Water Sewer Challenge. ADEC and USEPA, PI – Dotson, >\$2M to date – multiple projects, 2014 - Current
- Inclusive Excellence 3 - Pre-Proposal, Howard Hughes Medical Institute, PI or Senior Staff – Dotson, >\$1M – Current
- Coupling infrastructure improvements to food-energy-water system dynamics in small cold region communities: MicroFEWs, Subaward Dotson, 2017-2022, \$2.4M
- National Center for Innovative Drinking Water Systems, DeRiSK. 2014, Co-PI – Dotson \$4.2M.
- Fate of lead, copper, and zinc through the future Girdwood WWTF and Girdwood Distribution System. Anchorage Water and Wastewater Utility. PI – Dotson. Multiple Projects 2011 - 2023. >\$200k.

Public Research Reports

- Linden, K. and **Dotson, A.** *UV-Based Advanced Oxidation Treatment of Pre- and Post-GAC Contacted Water*. Water Research Foundation Report, July 2012.
- Linden, K., **Dotson, A.**, Weinberg, H., Lyon, B., Mitch, W., and Shah, A. *Impact of UV Location and Sequence on Byproduct Formation*. Water Research Foundation Report, June 2012.
- Mitch, W., Krasner, S., Westerhoff, P., and **Dotson, A.** *Occurrence and Formation of Nitrogenous Disinfection By-Products*. Water Research Foundation Report, 2009.
- Ela, P., Saez, A.E., Kommineni, S., and **Dotson, A.** *Innovative Technologies for Arsenic Residuals Stabilization*. AwwaRF Report, 2006.

Teaching - Graduate

- University of Alaska Anchorage: Chemical & Physical Water & Wastewater Treatment Processes CE A445/645; Advanced Unit Processes CE A447/647; Aquatic Process Chemistry AEST A601; Arctic Utilities CE A684; Special Topics: Small Water Systems CE A690.

Teaching - Undergraduate

- University of Colorado: Freshmen Engineering Projects GEEN 1400-200; Introduction to Environmental Engineering CVEN 3414.
- University of Alaska Anchorage: Fluid Mechanics and Fluid Mechanics Laboratory ES A341 and ES A341; Fundamentals of Environmental Engineering and Applied Environmental Science CE A341; Environmental Systems Design CE A442; Project Planning (Co-taught) CE A437; Design of Civil Engineering Systems (Co-taught) CE A438.