Stanley B. Grant
Nick Prillaman Professor, Civil and Environmental Engineering
Director, Occoquan Watershed Monitoring Laboratory
Department of Civil and Environmental Engineering
Virginia Polytechnic Institute and State University
9408 Prince William Street
Manassas, VA 20110, USA

Executive Summary: Academic leader and environmental engineer whose research advances solute transport theory while translating hydrologic insight into actionable solutions for inland and coastal water quality, freshwater salinization, and PFAS contamination in One Water systems. Former Chair of Chemical Engineering and Materials Science and current Director of the Occoquan Watershed Monitoring Laboratory at Virginia Tech, leading interdisciplinary research and stakeholder partnerships. Principal Investigator of an NSF Growing Convergence Research project focused on collaborative solutions to freshwater salinization. Author of more than 100 peer-reviewed publications (including *Science* and *Nature*) and PI of $25M in competitive research funding. Mentor to 17 postdoctoral scholars and 21 PhD students. Former member of EPA's Science Advisory Board; recipient of the NSF CAREER Award, Nick Prillaman Professorship, and 2025 Dean's Award for Excellence in Research.

Professional Preparation

Stanford University, CA	Geology, with distinction	B.S 1985
Caltech, Pasadena, CA	Environmental Engineering Science	M.S. 1989
Caltech, Pasadena, CA	Environ. Eng. Sci. (minor Applied Biology)	Ph.D. 1992

Academic Appointments

- UC Irvine, Dept. Civil & Environmental Engineering (CEE), Assistant Prof., 1991-1997
- UC Irvine, Dept. CEE, Associate Professor, 1997-2001
- UC Irvine, Dept. CEE & Chemical Engineering and Materials Science (ChEMS), Full Professor, 2001-2013
- The University of Melbourne (Australia), Chair Professor of Hydrology and Water Resources (during the UCI academic summers of 2010, 2011, and 2012, and for six months, from February 1 to August 1, in 2013 and 2014).
- UC Irvine, Dept. CEE & ChEMS, Professor Step VI, 2013-2018
- UC Irvine, Dept. CEE (Emeritus) Professor, 2018-present
- Virginia Polytechnic Institute and State University (Virginia Tech), Prof., 2018-2024
- Virginia Tech, Nick Prillaman Professor of Civil and Environ. Engin., 2024-present

Academic Leadership Appointments

- Chair, Dept. of Chemical Engineering and Materials Science, UC Irvine, 2002-2009
- Co-Director, Virginia Tech Occoquan Watershed Monitoring Laboratory, 2018-2022
- Director, Virginia Tech Occoquan Watershed Monitoring Laboratory, 2022-present

Non-academic Experience

- Unocal Corporation, International Oil/Gas Division, LA, Seismic Analyst, 1985-1987.

- Environmental Consulting (Paradigm Environ., Tetra Tech, Calif. State Water Resources Control Board, City of Avalon, Burhenn & Gest LLP, Australian Groundwater Technologies, U.S. EPA, City of Los Angeles).

Research Interests
Environmental solute fate and transport processes, socio-hydrology, human and ecosystem water security, coastal and drinking water quality, convergence research.

Recently Funded Research: Principal Investigator on research projects totaling > $5M/year from various sources, including a highly competitive National Science Foundation Growing Convergence Research Phase II project focused on inland freshwater salinization.

- **$2.5M Annually**, Occoquan Watershed Monitoring Laboratory (ongoing, **Role: PI**)
- **$75K,** National Science Foundation CIVIC Engagement Program (Stage 1), "Building Community Resilience to Drought, Population Growth, and Cascading Water Quality Challenges in a Large One-Water System" (September 2024-August 2025, **Role: PI**)
- **$700K (direct and in-kind),** Water Research Foundation Tailored Collaboration, "A One Water Approach to Managing PFAS Pollution" (March 2025-April 2027, **Role: PI**).
- **$3.6M**, National Science Foundation Growing Convergence Research Program, "Common Pool Resource Theory as a Scalable Framework for Catalyzing Stakeholder-Driven Solutions to the Freshwater Salinization Syndrome" (September 2020 - October 2025, **Role: PI**)
- **$671K** (AUD), Australian Research Council, Discovery Project, "Coastal Permeable Sediments as a Novel Source of Greenhouse Gases" (June 2020-May 2024, **Role: co-PI**)
- **$100K**, National Science Foundation, Engineering Research Center Planning Grant (June 2018-July 2021, **Role: PI**)
- **$1.9M**, UC Office of the President Multi-Campus Research Initiative, "Fighting Drought with Stormwater", January 2017- January 2020 (**Role: PI**, transferred to P. Holden after moving from UCI to VT).
- **$5.1M**, NSF Partnerships for International Research and Education (PIRE) for "Making Water from Wastewater" (September 2012- September 2018, **Role: PI**).
- **$600K**, National Science Foundation Research Experience for Teachers (NSF-RET), July 2016 – July 2019, "Research Opportunities for Community College Teachers, ROCCT" (**Role: PI**, transferred to D. Feldman after moving from UCI to VT).

Awards and Honors
- Most Outstanding Professor, School of Engineering Senior Undergraduates (1993)
- Outstanding Assistant Professor Award, School of Engineering (1994)
- NSF CAREER Award, National Science Foundation (July 1995 - June 2000)
- Distinguished Assistant Professor Award for Teaching, UCI Academic Senate (1998)
- W.M. Keck Fellow Award, Chapman University (2000)
- Honorary Member, Golden Key International Honor Society (2001)
- Member, Science Advisory Board, U.S. E.P.A. (Drinking Water Panel) (2002 - 2009)
- Member, Science Advisory Board, U.S. E.P.A. (Science and Technological Achievement Awards Panel) (2002-2009)
- Conservator of the Year, Bolsa Chica Conservancy (with commendations from City of Huntington Beach, County of Orange, California Legislature, California Senate, and U.S. Congress) (2002)

- Grand Rounds Lecture, UCI Medical School (October 24, 2007)
- Chancellor's International Lecture, University of Melbourne (September, 2009)
- Croucher Lecture, University of Hong Kong (December, 2009; May, 2010)
- Chair Professor of Hydrology and Water Resources, Department of Infrastructure Engineering, University of Melbourne, 2010-2016.
- Harleman Honorary Lecture on Environmental Fluid Mechanics, Penn State (April, 2022)
- Dean's Award for Excellence in Research, VT College of Engineering (May, 2025)
- Nick Prillaman Professor of Civil and Environmental Engineering (July, 2025)

Non-Academic Awards and Honors
- Chancellor Chamber Music Performance Series, UC Irvine (2013)
- Caltech Centennial Chamber Music Concert Series, Caltech (1990)
- First Place, Annual Music Performance Competition, Stanford University (1983)
- Second Place, Shapiro Piano Performance Competition, Anchorage, Alaska (1980)

Environmental Consulting
- Orange County Infrastructure Report Card, Peer Review (pro bono) (2016)
- Paradigm Environmental, Peer Review of Tecolote Creek FIB TMDL Findings (2015)
- Tetra Tech Consulting, Peer Review of Tecolote Creek FIB TMDL Work Plan (2013)
- California State Water Resources Control Board, Peer Reviewed Draft Amendment to the California Recycled Water Policy entitled, "Monitoring Strategies for CECs in Recycled Water" (2012)
- City of Avalon, Prepared TMDL Compliance Plan for Avalon Bay (2012)
- City of Avalon, Provided Expert Opinion, Avalon Bay Water Quality (2011)
- Burhenn & Gest, Provided Expert Opinion, FIB Pollution in Fresh and Marine Waters (2012)
- Australian Groundwater Technologies, Reviewed Report entitled, "Review of Potential for Domestic Septage Contamination of Groundwater in Darwin Rural Area" (2011)
- ENVISS, Reviewed Report entitled, "Photocatalytic Reactor for Stormwater Treatment (2011)
- U.S. EPA, Reviewed U.S. EPA's Computer Simulation Software, "Virtual Beach" (2010)
- City of Los Angeles, Expert Witness/Litigation (2009)

Hobbies: Piano, Chamber Music, Running, Hiking, Rock Climbing

Member: American Chemical Society, AAAS, American Geophysical Union, Water Environment Federation

Research Journal Articles (Dr. Grant's PhD students or post-docs are underlined)

2026

[114] Krauss, L., Rashid, M.D.R., Noble-Blair, M., Furst, K., Spiesman, A., Kaushal, S., Dadiala, R., Bhide, S.V., Rippy, M.A., Curtis, S., **Grant, S.B.** (202X) "From PFAS source attribution to collaborative management in a One Water system," submitted to *Nature Water* (2/15/26). (**corresponding author**)

Research Journal Articles (cont.)

[113] Shelton, S.S., Kaushal, S., Mayer, P.M., Mon, A., Shatkay, R., Rippy, M.A., **Grant, S.B**., Slaughter, W.M., Dann, A.B., Okeshola, I., Malin, J., Bhide, S.V., Vikesland, P., Newcomer-Johnson, T. (202X) "Dissolved organic matter as a water quality signature: tracking longitudinal trends and transformations along streams and rivers across the U.S." revision submitted to *Biogeochemistry* (3/3/2026).

[112] Kaushal, S.S., Mon, A., **Grant, S.B.**, Mayer, P., Porter, A., Sekellick, A., Chase, J., Bhide, S.V., Jastram, J., Johnson, T.N., Shelton, S, Yaculak, A., Malin, J., Maas, C., Salanitri, N., Siberstein, D., Hohman, S., Dann, A., Slaughter, W., Rippy, M., Monofy, A. Shatkay, R., Reimer, J., Seppi, M., Noel, R., Mussa, J., Kellmayer, B., Sivirichi, G., Grese, M., Boger, W., Chanat, J., Duan, S., Belt, K. (202X) "Watershed continuum monitoring approach: combining multiple water quality patterns along stream and river flowpaths to track sources, pathways, and processing of pollutants" revision submitted to *Ecological Engineering* (2/26/26).

[111] Punjabi, S., Misra, S., **Grant, S.B.**, Rippy, M.A. (202X) "Boundary orchestration and knowledge integration in convergence research," revision submitted to *Environmental Science and Policy* (3/3/2026).

[110] Punjabi, S., Misra, S., Rippy, M.A., **Grant, S.B** (2026) "Collaborative Communities. Brokers and Integrators in a Convergence Research Team: A Social Network Analysis," in press with *Minerva* (2/13/2026).

[109] Bhide, S.V., **Grant, S.B.**, McGuire, K., Prestegaard, K., Kaushal, S.S., Sekellick, A., Rippy, M.A., Schenk, T., Curtis, S., Gomez-Velez, J.D., Hotchkiss, E.R., Vikesland, P.V., Saksena, S. (2026) "Transit time modeling framework for predicting freshwater salinization in urban catchments," *Water Research* 297, 125692 (**corresponding author**)

[108] **Grant, S.B.**, Bhide, S.V., Spiesman, A., Misra, S., Rippy, M.A., Galik, C.S., Birkland, T.A., Schenk, T., Kaushal, S.S., Vikesland, P.V., Knocke, W., Husic, A., Post, H., Coneway, C., Prelewicz, G., Steglitz, B., Laursen, B., Rowles, K., Curtis, S., Studholme "Socio-ecological-technological drivers of freshwater salinization in the Occoquan Reservoir, United States," *Nature Communications Earth and Environment*, 7, 133. (**corresponding author**)

[107] Bhide, S.V., **Grant, S.B.**, Benettin, P., Rippy, M.A., Monofy, A., Furst, K.E., Shelton, S., Kaushal, S.S., Misra, S., Vikesland, P.J., Hotchkiss, E.R., Spiesman, A., Prelewicz, G., Schenk, T., Post, H., Alvi, D., Steglitz, B., Husic, A. (2026) "Transit times link pollution sources to drinking water quality in a "One Water" system," *Water Research*, 288(B), 124652. (**corresponding author**)

2025

[106] Roston, B.H., Rippy, M.A., Misra, S., Grant, S.B., Schenk, T., Birkland, T.A., Kaushal, S.S. (2025) "Decision rules for salt-feedback loops in One Water systems and their implications for collective management," *Global Environmental Change Advances* 5, 100028.

Research Journal Articles (cont.)

[105] Marin, D.E., **Grant, S.B.**, Rippy, M.A., Gomez-Velez, J.D., Brent, R.N., Kaushal, S.S., Post, H., Shelton, S., Misra, S., Hotchkiss, E.R., Bhide, S.V., Monofy, A., Alvi, D., Schmitz, B., Curtis, S., Davis, C.C., Vikesland, P.V. (2025) "Ion Fingerprints Reveal the Sources, Impacts, and Drivers of Freshwater Salinization," *Environ. Sci. & Technol.* 59(27), 14053-14062 (**corresponding author**).

[104] Misra, S., Rippy, M.A., **Grant, S.B.**, Galappaththi, E., Lim, T., Birkland, T.A. (2025) "A Conceptual Framework for Knowledge Integration in Cross-disciplinary Collaborations," *Environmental Science and Policy*, 172, 104197.

[103] Kaushal, S.S., Shelton, S.A., Mayer, P.M., Kellmayer, B., Utz, R.M., Reimer, J.E., Baljunas, J., Bhide, S.V., Mon, A., Rodriguez-Cardona, B.M., **Grant, S.B**., Newcomer-Johnson, T.A., Malin, J.T., Shatkay, R.R., Collison, D.C., Papageorgiou, K., Escobar, J., Rippy, M.A., Likens, G.E., Najjar, R.G., Mejia, A.I., Lassiter, A., Li1, M., Chant, R.J. (2025) "Freshwater Faces a Warmer, Saltier, and Alkaline Future: 10 Risks from Climate Change, Saltwater Intrusion, and Chain Reactions," *Biogeochemistry*, 168(2), 31.

[102] Kaushal, S.S., Mayer, P.M., Shatkay, R.R., Maas, C.M., Cañedo-Argüelles, M., Hintz, W.D., Wessel, B.M., Tully, K., Rippy, M.A., **Grant, S.B**. (2025) "Salinization of Inland Freshwaters," *Treatise on Geochemistry* (Third Edition) (published every 10 years), 6, 151-191.

2024

[101] Rippy, M.A., Roston, B., Berglund, E., Aminpour, P., Krauss, L., Bhide, S., Schenk, T., Rowles, K., Misra, S., Birkland, T., Kaushal, S., **Grant, S.B.** (2024) "Characterizing the Social-Ecological System for Inland Freshwater Salinization using Fuzzy Cognitive Maps: Implications for Collective Management" *Ecology and Society*, 29(4).

[100] Monofy, A., **Grant, S.B.**, Boano, F., Rippy, M.A., Gomez-Velez, J.D., Kaushal, S.S., Hotchkiss, E.R., Shelton, S. (2024) "Toward a universal model of hyporheic exchange and pollutant removal in streams" *AGU Advances* 5(6), e2024AV0013733 (**corresponding author**). (highlighted in Eos Magazine, an honor reserved for <2% of all papers published by the American Geophysical Union)

[99] Armstrong, K., Zhong, Y., Bhide, S.V., **Grant, S.B**., Birkland, T., Berglund, E.Z. (2024) "Simulating the emergence of institutions that reverse freshwater salinization: An agent-based modeling approach" *J. Hydrology X*, 25, 100188.

[98] Misra, S., Rippy, M.A., **Grant, S.B.** (2024) "Analyzing Knowledge Integration in Convergence Research" *Environmental Science and Policy*, 162, 103902.

[97] Shelton, S., Kaushal, S.S., Mayer, P.M., Shatkay, R.R., Rippy, M.A., **Grant, S.B.**, Newcomer-Johnson, T.A. (2024) "Salty chemical cocktails as water quality signatures: longitudinal trends and breakpoints along different U.S. streams" *Science of the Total Environment*, 930, 172777.

Research Journal Articles (cont.)

[96] Fowdar, H., **Grant, S.B.**, Wong, W.W., Kessler, A., Cook, P. (2024) "Hydrodynamics control nitrous oxide production from eutrophic coastal permeable sediments" *J. of Geophysical Research—Biogeosciences,* 129(7) e2023JG007715.

[95] Perez, G., Gomez-Velez, J.D., **Grant, S.B.** (2024) "A parsimonious modeling framework for flow in sanitary sewer networks," *Water Research* 249 (120997).

2023

[94] Kaushal, S.S., Likens, G.E., Mayer, P.M., Shatkay, R.R., Shelton, S., **Grant, S.B**., Utz, R., Yaculak, A.M., Maas, C.M., Reimer, J.E., Bhide, S.V., Malin, J., Rippy, M.A. (2023) "The Anthropogenic Salt Cycle," *Nature Reviews Earth and Environment.* doi:10.1038/s43017-023-00485-y. Featured in the *Washington Post* (https://www.washingtonpost.com/climate-environment/2023/10/31/salt-contamination-pollution-water/) and many other news outlets.

[93] Kaushal,S.S., Maas,C.M., Mayer, P.M., Newcomer-Johnson, T.A., **Grant S.B.**, Rippy,M.A., Shatkay, R.R., Leathers, J., Gold, A.J., Smith,C., McMullen, E.C., Gorman,J., Haq, S., Smith, R., Duan, S., Malin, J., Yaculak, A., Reimer, J.E. Newcomb, K.D., Raley, A.S., Collison, D.C., Galella, J.G., Grese, M., Sivirichi, G., Doody, T.R., Vikesland, P., Bhide, S.V., Krauss, L., Daugherty, M., Stavrou, C., Etheredge, M., Ziegler, J., Kirschnick, A., England, W., Belt, K.T. (2023) "Longitudinal stream synoptic monitoring tracks chemicals along watershed continuums: a typology of trends**"** *Frontiers in Environmental Science* 11.

[92] Maas, C.M., Kaushal, S.S., Rippy, M.A., Mayer, P.M., **Grant, S.B.**, Shatkay, R.R., Malin, J.T., Bhide, S.V., Vikesland, P., Krauss, L., Reimer, J.E., Yaculak, A.M. (2023) "Freshwater Salinization Syndrome limits management efforts to improve water quality" *Frontiers in Environmental Science*.

[91] Feraud, M., Ahern, S., Parker, E.A., Avasarala, S., Hemati, A., Li, D., Van De Werfhorst, L.C., Cao, Y., Mehring, A., Liu, H., **Grant, S.B.**, Holden, P.A. (2023) "Ammonium and nitrate fates, and N_2O emissions in a full-scale stormwater biofilter operating under transient flow conditions with varying N loading" *Water Research* 230.

[90] Kaushal, S., Mayer, P.M., Likens, G.E., Reimer, J.E., Maas, C.M., Rippy, M.A., **Grant, S.B**., et al. (2023) "Five state factors control progressive stages of freshwater salinization syndrome" *Limnology and Oceanography Letters* 8,190-211.

2022

[89] **Grant, S.B**., Rippy, M.A., Birkland, T.A, Schenk, T., Rowles, K., Aminpour, P., Kaushal, S., Vikesland, P., Berglund, E., Gomez-Velez, J., Hotchkiss, E.R., Perez, G., Zhang, H., Armstrong, K., Bhide, S.V., Krauss, L., Lopez, K., Maas, C., Mendoza, K., Shipman, C., Zhang, Y., Zhong, Y. (2022) "Can Common Pool Resource Theory Catalyze Stakeholder-Driven Solutions to the Freshwater Salinization Syndrome?" Feature Article in *Environmental Science & Technology* (**corresponding author**).

Research Journal Articles (cont.)

[88] **Grant, S.B**., Harman, C.J. (2022) "Solute Transport through Unsteady Hydrologic Systems Along a Plug Flow-to-Uniform Sampling Continuum" *Water Resources Research* 58, e2022WR032038 (**corresponding author**).

[87] Rugh, M., **Grant, S.B**., Hung, W-C, Parker, E.A., Feraud, M., et al. (2022) "Highly variable removal of pathogens, antibiotic resistance genes, conventional fecal indicators and human-associated fecal source markers in a pilot-scale stormwater biofilter operated under realistic stormflow conditions" *Water Research* 219, 118525.

[86] Parker, E.A., **Grant, S.B.**, Sahin, A., Vrugt, J.A. (2022) "Can smart stormwater systems outsmart the weather? Stormwater capture with real-time control in Southern California." *ACS Environmental Science & Technology—Water* 2(1), 10-21.

[85] Hung, W-C, Rugh, M., Feraud, M., Avasarala, S., Kurylo, J., Gutierrez, M., Jimenez, K., Trong, N., Holden, P.A., **Grant, S.B**., Liu, H. (2022) "The influence of soil characteristics and metal(loid)s on antibiotic resistance genes in green stormwater infrastructure in Southern California" *Journal Hazardous Materials* 424, Part B, 127469.

2021

[84] Brand, M.W., Quesnel, K., Saksa, P., Ulibarri, N., Bomblies, A., Mandle, L., Allaire, M., Wing, O., Tobin-de la Puente, J., Parker, E.A., Nay, J., Sanders, B.F., Rosowky, D., Lee, J. , Johnson, K., Gudino-Elizondo, N., Ajami, N., Wobbrock, N., Adriaens, P., **Grant, S.B.**, et al. (2021) "Environmental Impact Bonds: A common framework and looking ahead", *Environmental Research: Infrastructure and Sustainability*. 1 023001.

[83] Li, D., Van De Werfhorst, L, Rugh, M., Feraud, M., Hung, W.C., Jay, J., Cao, Y., Parker, E.A., **Grant, S.B.**, Holden, P. (2021) "Limited bacterial removal in full scale stormwater biofilters as evidenced by community sequencing analysis," *Environmental Science & Technology* 55 (13), 9199-9208.

[82] Bhide, S., **Grant, S.B**., Parker, E.A., Rippy, M.A., Godrej, A., Kaushal, S., Prelewicz, G., Saji, N., Curtis, S., Vikesland, P., Maile-Moskowitz, A., Edwards, M., Lopez, K., Birkland, T. Schenk, T. (2021) "Addressing the contribution of indirect potable reuse to inland freshwater salinization." *Nature Sustainability* 4(8), 699-707. (**corresponding author**).

[81] Pierce, G., Gmoser-Daskalakis, K., Rippy, M.A., Holden, P.A., **Grant, S.B.**, Feldman, D.L., Ambrose, R.F. (2021) "Environmental attitudes and knowledge: Do they matter for support and investment in local stormwater infrastructure?" *Society and Natural Resources*, 34:7, 885-905.

[80] Pierce, G., Gmoser, Daskalakis, K., Jessup, K., **Grant, S.B.**, Mehring, A., Winfrey, B., Rippy, M.A., Feldman, D., Holden, P. Ambrose, R., Levin, L. (2021) "University Stormwater Management within Urban Environmental Regulatory Regimes: Barriers to Progressivity or Opportunities to Innovate?" *Environmental Management,* 67 (1), 12-25.

Research Journal Articles (cont.)

[79] Parker, E. A., **Grant, S. B**. Cao, Y., Rippy, M. A., McGuire, K. J., Holden, P. A., Feraud, M., Avasarala, S., Liu, H., Hung, W. C., Rugh, M., Jay, J., Peng, J., Shao, S., Li, D. (2021) "Predicting Solute Transport through Green Stormwater Infrastructure with Unsteady Transit Time Distribution Theory." *Water Resources Research*, 57(2), e2020WR028579 (**corresponding author**).

2020

[78] **Grant, S.B**., Monofy, A., Boano, F., Gomez-Velez, J.D., Guymer, I., Harvey, J., Ghisalberti, M. (2020) "Unifying Advective and Diffusive Descriptions of Bedform Pumping in the Benthic Biolayer of Streams." *Water Resources Research*, 56, e2020WR027967. (**corresponding author**).

[77] **Grant, S.B**., Gomez-Velez, J.D., Ghisalberti, M., Guymer, I., Boano, F., Roche, K., Harvey, J. (2020) "A One-Dimensional Model for Turbulent Mixing in the Benthic Biolayer of Stream and Coastal Sediments." *Water Resources Research*, 56, e2019WR026822. (**corresponding author**).

[76] Sanders, B.F., **Grant, S.B.** (2020) "Re-envisioning Storm Water Infrastructure for Ultra Hazardous Flooding." *WIREs Water*, e1414.

[75] **Grant, S.B.**, Duong, K., Pierce, G., Vrugt, J.A., Feldman, D.; Rippy, M.A.; Zanetti, E.; McNulty, A. (2020) "From yards to cities: a simple and generalizable probabilistic approach for upscaling outdoor water conservation behavior." *Environmental Research Letters*, 15(5), 054010. (**corresponding author**).

2019

[74] Frie, S., Azizian, M., **Grant, S.B.**, Ziotnik, V.,A., Toundykov, D. (2019) "Analytical modeling of hyporheic flow for in-stream bedforms: Perturbation method and implementation." *Environmental Modeling and Software*, 111, 375-385.

2018

[73] **Grant, S.B**., Gomez-Velez, J.D., Ghisalberti, M. (2018) "Modeling the effects of turbulence on hyporheic exchange and local-to-global nutrient processing in streams." *Water Resources Research*, 54(8), 5883-5889. (also appears in AGU's "Commentaries on Hydrology and Earth Surface") (**corresponding author**).

[72] **Grant, S.B**., Azizian, M., Cook, P., Boano, F., Rippy, M.A. (2018) "Factoring Stream Turbulence into Global Assessments of Nitrogen Pollution." *Science* 359, 1266-1269. (**corresponding author**).

Research Journal Articles (cont.)

[71] Huang, X., Rippy, M.A., Mehring, A.S., Winfrey, B.K., Jiang, S.C., **Grant, S.B**. (2018) "Shifts in dissolved organic matter and microbial community composition are associated with enhanced removal of fecal pollutants in urban stormwater wetlands." *Water Research* 137, 310-323.

2017

[70] Parker, E.A., Rippy, M.A., Mehring, A., Winfrey, B., Ambrose, R.F., Levin, L.A., **Grant, S.B**. (2017) "The predictive power of clean bed filtration theory for fecal indicator bacteria removal in stormwater biofilters." *Environmental Science and Technology* 51(10), 5703-5712 (**corresponding author**).

[69] Mehring, A.S., Cook, P.L.M., Evrard, V., **Grant, S.B**., Levin, L.A. (2017) "Pollution-tolerant invertebrates enhance greenhouse gas flux in urban wetlands." *Ecological Applications*, 27(6), 1852-1861.

[68] Azizian, M., Boano, F., Cook, P.L.M., Detwiler, R.L., Rippy, M.A., **Grant, S.B**. (2017) "Ambient groundwater flow diminishes nitrate processing in the hyporheic zone of streams." *Water Resources Research*, **53**, (**corresponding author**) (selected by the editors of *Water Resources Research* for a Research Spotlight in the AGU publication *EOS*.)

[67] Lim, K-H, Shao, S., Peng, J., **Grant, S.B**., Jiang, S.C. (2017) "Evaluation of the dry and wet weather recreational health risks in a semi-enclosed marine embayment in Southern California." *Water Research*, **111**:318-329.

2016

[66] Peng, J., Cao, Y., Rippy M.A., Afrooz, A.R.M., **Grant, S.B.** (2016) "Indicator and pathogen removal by low impact development best management practices." *Water*, **8**(12),600.

[65] Hemati, A., Rippy, M.A., **Grant, S.B**., Davis, K., Feldman, D. (2016) "Deconstructing demand: the anthropogenic and climatic drivers of urban water consumption." *Environmental Science and Technology*, **50**(23):12557-12566.

[64] McCluskey, A.H., **Grant, S.B**., Stewardson, M.J. (2016) "Flipping the thin film model: mass transfer by hyporheic exchange in gaining and losing streams." *Water Resources Research*, **52**:7806-7818 (**corresponding author**).

[63] Mehring, A.S., Hatt, B.E., Kraikittikun, D., Orelo, B.D., Rippy, M.A., **Grant, S.B**., Gonzalez, J.P.; Jiang, S.C.; Ambrose, R.F.; Levin, L.A. (2016) "Soil invertebrates in Australian rain gardens and their potential roles in storage and processing of nitrogen." *Ecological Engineering* **97**:138-143.

Research Journal Articles (cont.)

[62] Stewardson, M.J., Datry, T., Lamouroux, N., Pella, H., Thommeret, N., Valette, L., **Grant, S.B.** (2016) "Variation in reach-scale hydraulic conductivity of streambeds." *Geomorphology* **259**:70-80.

2015

[61] Rippy, M.A., Weiden, L., Cooper, W., Deletic, A., **Grant, S.B.** (2015) "Microlayer enrichment in Natural Treatment Systems (NTS): Linking the surface microlayer to urban water quality." *Wiley Interdisciplinary Reviews: Water* **3**:269-281.

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Research Grants as Principal Investigator (PI) ($25M total)
[1] "Occoquan Watershed Monitoring Program" **($1.8 M per annum**, ongoing), Virginia Department of Environmental Quality, Fairfax Water, Fairfax County, Prince William County, City of Manassas, City of Manassas Park, Loudoun County, Fauquier County (2022-present).

[2] "CIVIC Innovation Challenge: Building Community Resilience to Drought, Population Growth, and Cascading Water Quality Challenges in a Large One-Water System" (**$75K for Stage 1 planning grant**), National Science Foundation (September 2024-August 2025) (with co-PIs Megan Rippy, Todd Schenk, and Shantanu Bhide).

[3] "One PFAS: A One Water Approach for Addressing PFAS Pollution" **($400K cash, $329K in-kind contributions**), Water Research Foundation Tailored Collaboration Program (March 2025-February 2027) (with co-PI Erik Rosenfeldt).

[4] "Common Pool Resource Theory as a Scalable Framework for Catalyzing Stakeholder-Driven Solutions to the Freshwater Salinization Syndrome", **$3,600,000**, National Science Foundation, Growing Convergence Research Program, (September 2020 - October 2026) (with co-PIs Thomas Birkland, Jesus Gomez-Velez, Sujay Kaushal, Megan Rippy, Todd Schenk, Peter Vikesland, Marc Edwards). Press release: https://vtnews.vt.edu/articles/2020/12/fralinlifesci-growing-convergence-research-grant-salt-pollution.html

[5] "Engineering Research Center Planning Grant", National Science Foundation, **$100,000**, (June 2018-July 2020)

[6] "Fighting Drought with Stormwater: From Research to Practice", UC Office of the President, Multi-campus Research Programs and Initiatives, **$1,892,241** (no overhead) (January 1, 2017 – December 31, 2019) (with co-PIs L. Levin, R. Ambrose, P. Holden, S. Walker; transferred PI role to P. Holden after moving from UCI to Virginia Tech).

[7] "PIRE: Low Energy Options for Making Water from Wastewater," NSF - National Science Foundation, **$5,120,796** (October 1, 2012 - September 30, 2017) (with co-PIs D.F. Feldman; J.D. Saphores; S.C. Jiang; B. F. Sanders) (http://water-pire.uci.edu/).

Research Grants as Principal Investigator (PI) (cont.)

[8] "RET Site: UC Irvine Research Opportunities for Community College Teachers (ROCCT) in Fighting Drought with Innovation" NSF - National Science Foundation, **$600,000** (September 1, 2015 – August 31, 2018) (with co-PI S. Artis, transferred PI status to D. Feldman after moving from UCI to Virginia Tech).

[9] "Avalon Bay Water Quality Improvement Study," California State Water Quality Control Board, Clean Beaches Initiative, **$506,994.00** (October 26, 2006 - July 1, 2010)

[10] "Fecal Indicator Bacteria Source Tracking in the Middle Santa Ana River," National Water Research Institute, **$150,000.00** (April 1, 2007 - September 30, 2008) (with co-PIs P. Holden and D. Sedlak)

[11] "Dynamics of Source and Non-point Source Pollution from an Urban Watershed in Southern California," EPA Region IX, Environmental Clean-Up Funds, **$26,574.00** (August 1, 2005 - July 31, 2008)

[12] "Dynamics of Point and Non-point Source Fecal Pollution from an Urban Watershed in Southern California," EPA Region IX Environmental Clean-Up Funds, **$99,861.00** (August 2005 - July 2007).

[13] "Dynamics of Point and Non-point Source Fecal Pollution from an Urban Watershed in Southern California," National Water Research Institute (NWRI), **$375,000.00** (September 1, 2003 - April 9, 2007). (with co-PIs B. Sanders, P. Holden)

[14] "Dynamics of point and non-point source fecal pollution from an urban watershed in Southern California," US Geological Survey National Institutes for Water Resources (NIWR) and the National Water Research Institute (NWRI), **$534,045.00** (September 1, 2003 - February 28, 2007) (with co-PIs B. Sanders, P. Holden)

[15] "Newport Bay Fecal Coliform Source Identification and Management Plan," State of California Water Quality Control Board, **$745,000.00** (February 15, 2005 - February 28, 2007) (with co-PIs B. Sanders, S. Jiang)

[16] "Bacterial Sources Study in Western Region of Newport Bay," State of California, Water Resources Control Board, **$52,000.00** (June 2004 - March 2006)

[17] "Forecasting Coastal Water Quality with Real-Time Sensor Webs," California Regional Water Quality Control Board, **$39,000.00** (January 2005 - December 2005)

[18] "California Sustainable Watershed/Wetland Information Manager (CalSWIM)," County of Orange, **$40,000.00** (October 2004 - October 2005)

[19] "Coastal water quality: The Role of Wetlands in Mitigating the Effects of Urban and Rural Runoff," UC Marine Council Multi-Campus Competition, **$663,960.00** (July 1, 2002 - June 30, 2005). (with co-PIs L. Levin, C. Winant, R. Ambrose, B. Sanders)

Research Grants as Principal Investigator (PI) (cont.)

[20] "Contribution of Marinas to Fecal Indicator Bacteria Impairment in Newport Bay, California," Santa Ana Regional Water Quality Control Board, **$126,096.00** (July 1, 2002 - September 1, 2003)

[21] "Source Identification of Fecal Indicator Pollution in Avalon Bay, California," LA Regional Water Quality Control Board, **$45,620.00** (September 1, 2001 - September 1, 2003)

[22] "Coastal Runoff Impact Study (UCI-CRIS), Phase III: Loading of Fecal Pollution from an Urban Watershed in Southern California," National Water Research Institute (NWRI), **$50,000.00** (January 1, 2003 - December 30, 2003) (with co-PI B. Sanders)

[23] "Water Quality Impact of a Lagoon Breach," Southern California Edison, **$75,000.00** (October 1, 2002 - December 30, 2003)

[24] "Huntington Beach Water Quality Investigation-Phase III," Orange County Sanitation District, **$100,000.00** (September 1, 2001 - August 31, 2002) (with co-PI B. Sanders)

[25] "Coastal Runoff Impact Study (UCI-CRIS), Phase II: Sources and Dynamics of Pollutants in the Lower Santa Ana River Watershed," National Water Research Institute (NWRI), **$447,811.00** (August 1, 2000 - May 1, 2002). (with co-PIs B. Sanders, S. Jiang)

[26] "Pollutants Associated with Stormwater Runoff Particle Size Distributions, Phase I," Caltrans, **$145,037.00** (February 1, 2001 - June 30, 2001). (with co-PIs S. Bay, A. Wistrom, M. Matsumoto).

[27] "Microscale Mechanisms involved in Virus Filtration," sub-contract from Arizona State University, **$50,000.00** (1999 - 2000).

[28] "Coastal Runoff Impact Study (UCI-CRIS), Phase I: Causes of Surf Zone Pollution in Huntington Beach, California," National Water Research Institute (NWRI), **$147,488.00** (November 11, 1999 - October 30, 2000) (with co-PI B. Sanders)

[29] "NSF CAREER Award: Coagulation and settling of particles in aquatic environments," National Science Foundation, **$350,000.00** (July 1995 - June 2000)

[30] "Norwalk Virus-Like Particles (VLPs) for Studying Natural Groundwater Disinfection," EPA/NSF - National Science Foundation Science to Achieve Results (STAR), **$493,654.00** (November 1995 - October 1998) (with co-PIs O. Ogunseitan, and M. Estes)

[31] "Investigations of Polymer Conformation and Colloid Stability using DNA as a Model Polyelectrolyte," National Science Foundation, **$161,421.00** (September 1992 - September 1994)

[32] "DNA-tagged Latex Particles as Tracers for Environmental Contaminants," UC Faculty Research Grant, **$4,980.00** (July 1992 - June 1993)

Research Grants as co-Principal Investigator (co-PI) ($1.54AUD + $2.3M USD total)

[1] “Discovery Project: Coastal Permeable Sediments as a Novel Source of Greenhouse Gases,” Australian Research Council, **$671K** (AUD) (June 2020-May 2024, with P. Cook as PI, and C. Greening and W. Wen-Wong as co-PIs).

[2] “Discovery Project: Role of Turbulence in Transporting Waterborne Material Within Streambed Sediments and Across the Sediment-Water Interface”, Australian Research Council, **$430K (AUD)** (July 1, 2013 – June 30, 2016) (with M. Stewardson as PI)

[3] "Linkage Project (with Melbourne Water): Sources, Sinks, and Processes of Feacal Contamination in Urban Estuaries: A Case Study of the Lower Yarra River Estuary”, Australian Research Council, **$441K (AUD)** (July 1, 2012 – June 30, 2015) (with D. McCarthy as PI, A. Deletic as co-PI)

[4] "SDCI Data New: Collaborative Research: Trust Management for Open Collaborative Information Repositories—The CalSWIM Cyberinfrastructure," NSF - National Science Foundation, **$1,103,590** (September 1, 2007 - August 31, 2010) (with PI C. Lopes and co-PIs M. Goodrich)

[5] "Identification and control of non-point sources of microbial pollution," U.S. EPA-ORD-NCERQA STAR Competition, **$895,234.00** (August 2000 - January 2005) (with B. Sanders as PI, and co-PIs M. Sobsey, A. Horne, R. Keller)

[6] "An integrated course series in environmental chemistry and microbiology," NSF - National Science Foundation, **$30,711.00** (September 1994 - August 1996) (with T. Olson as PI)

[7] "Deposition mechanisms influencing virus transport in porous media," National Water Research Institute, **$137,000.00**. (January 1993 - December 1994). (with T. Olson as PI and co-PI C. Chrysikopoulos)

[8] "Investigations of the effects of polyelectrolyte coatings on colloid transport in porous media," DOE - Dept of Energy, **$105,358.00** (August 1992 - July 1993) (with T. Olson as PI

Oral Presentations

2026

Grant, S.B., “One PFAS Update: SIU Diversion Experiment,” presentation before the Fairfax Water Board (March 5, 2026) (invited presentation), Fairfax County, Virginia.

Grant, S.B. & Curtis, S. “Addressing Salt and PFAS Pollution in the Occoquan Reservoir and its Tributaries” (February 11, 2026) (invited presentation), Fairfax County Environmental Quality Advisory Council, Fairfax County, Virginia.

Oral Presentations (cont.)

Rippy, M.A. and Grant, S.B. "Winter Salt Week 2026: Freshwater Salinization Causes, Consequences, and Trends" (invited community presentation) hosted by SI Salt Wise (viewed >1K times, https://www.youtube.com/watch?v=ouxPU1YkF2Q).

2025

Grant, S.B. "Salt sources and mitigation actions in the Occoquan Reservoir" (October 9, 2025) (invited presentation), NSF Workshop on "Effects of Saltwater Intrusion and Freshwater Salinization," The Academy of Natural Sciences, Drexel University.

Grant, S.B. "Transit times link pollution sources to drinking water quality in a 'One Water' system" (October 10, 2025) (invited presentation), NSF Workshop on "Effects of Saltwater Intrusion and Freshwater Salinization," The Academy of Natural Sciences, Drexel University.

Grant, S.B. "Ion Clusters Reveal the Sources, Impacts and Drivers of Freshwater Salinization" (April 2, 2025) (invited presentation), presentation to the Virginia Department of Environmental Quality (virtual presentation).

Grant, S.B. "Freshwater salinization is a Social-Ecological-Technological Systems (SETS) Challenge to Drinking Water Security" (November 13, 2025) (invited presentation), presentation to the Department of Civil Engineering and Infrastructure Engineering, George Mason University.

Grant, S.B. "Overview of the Occoquan Reservoir and Tributary Watersheds" (February 20, 2025), (invited community presentation), Westminster at Lake Ridge.

Grant, S.B. "Occoquan One-Water System and Reservoir Modeling Updates" (November 18, 2025) (invited presentation) Occoquan Modeling Sub-Committee, Northern Virginia Regional Commission, Fairfax County, Virginia.

2024

Grant, S.B., "Water Quality in the Occoquan Reservoir," presentation before the Prince William County Board of Supervisors (December 12, 2024) (invited presentation), Prince William County, Virginia.

Grant, S.B., "Catalyzing bottom-up solutions to the salinization of critical water supplies: a case study of sodium in the Occoquan Reservoir (December 11, 2024), American Geophysical Union Fall Meeting, Washington D.C. (invited presentation).

Grant, S.B. "Can Smart Stormwater Systems Outsmart the Weather? Stormwater Capture with Real-Time Control in Southern California" (December 10, 2024), A Community for Ecosystem Services (ACES), Austin, Texas (invited presentation).

Oral Presentations (cont.)

Grant, S.B. "PFAS Workgroup—A potential monitoring program for the Occoquan 'One Water' System," (August 15, 2024) Virtual presentation to the Occoquan Watershed PFAS Workgroup (invited presentation).

Grant, S.B., "Update on the transit time model of the Occoquan Reservoir," (November 20, 2024), Virtual presentation to the Occoquan Model Technical Advisory Committee (TAC) (invited presentation).

Grant, S.B., "Collaborative Solutions to Inland Freshwater Salinization," Atlantic Coastal Resilience Workshop, Johns Hopkins University Applied Physics Laboratory (May 30, 2024) (invited presentation).

Grant, S.B. "Catalyzing Collaborative Solutions to Inland Freshwater Salinization," a virtual presentation to the Metropolitan Washington Council of Governments Water Resources Technical Committee (MWCOG WRTC) (May 29, 2024) (invited presentation).

Grant, S.B., "Don't be salty! Best practices to keep waterways fresh—lessons from the Occoquan Reservoir," a virtual presentation to the 2024 EPA Mid-Atlantic Workshop (May 3, 2024) (invited presentation).

Grant, S.B., "Why so salty? Freshwater salinization trends and regional impacts," Virtual presentation to the Prince William Conservation Alliance (March 5, 2024) (invited presentation).

2023

Grant, S.B., "Reversing Inland Freshwater Salinization," Virginia Tech Water Research Colloquium, Blacksburg (November 9, 2023) (invited keynote presentation).

Grant, S.B., "Transit times link sodium sources to drinking water quality in a One Water system," Department of Geology, University of Maryland (College Park) (September 15, 2023) (invited presentation).

Grant, S.B., "Transit times link sodium sources to drinking water quality in a One Water system," CEE Department, Virginia Tech, September 29, 2023 (invited presentation).

Grant, S.B., "Update on the Occoquan Watershed Monitoring Laboratory," presentation to the Fairfax Water Board (February 2, 2023) (invited presentation).

Grant, S.B., "Protecting the Occoquan Reservoir," presentation to Congresswoman Wexton and her staff, Virginia Tech's Occoquan Watershed Monitoring Laboratory, Manassas (May 30, 2023).

Grant, S.B., "A Potential Partnership between the OWML and Bechtel Corporation," presentation to staff from Bechtel, Virginia Tech's Occoquan Watershed Monitoring Laboratory, Manassas (September 7, 2023).

Oral Presentations (cont.)

Grant, S.B., "Leveraging Elinor Ostrom's Social Ecological Systems (SES) Framework to Catalyze Collaborative Solutions to Inland Freshwater," presentation to Public Policy Process class (PA 763), NC State University (November 6, 2023).

Grant, S.B., "Sodium sources in Fairfax County drinking water and sewage collection systems," presentation to the Fairfax County Environmental Quality Advisory Committee (EQAC), City of Fairfax (October 3, 2023).

Grant, S.B., "Highly Variable Removal of Microbial Targets in a Pilot-Scale Bioinfiltration System," presentation to the California Stormwater Quality Association (CASQA) Best Management Practice (BMP) Effectiveness Subcommittee (May 23, 2023).

2022

Grant, S.B., "Can Common Pool Resource Theory Catalyze Solutions to the Freshwater Salinization Syndrome?" Department Seminar, Civil and Environmental Engineering Department, Tufts University, Boston, MA (April, 2022) (invited presentation).

Grant, S.B., "Harleman Lecture: Reversing the Freshwater Salinization Syndrome: A Call to Action for the Water Resources Research Community" Penn State University (April, 2022). (invited presentation)

Grant, S.B. "Reversing the Freshwater Salinization Syndrome: A Call to Action for the Water Resources Research Community" Department Seminar, Civil and Environmental Engineering, University of Utah, Salt Lake City, Utah (May, 2022). (invited presentation)

Grant, S.B., "Growing convergence around inland freshwater salinization: from fuzzy cognitive maps to transit time models of urban water systems" Seminar for the Center for Urban Environmental Research and Education, University of Maryland, Baltimore County (March 2022). (invited presentation)

2021

Grant, S.B., "Addressing the Contribution of Indirect Potable Reuse to the Freshwater Salinization Syndrome," Seminar for the Department of Biology, Virginia Tech (April 2021). (invited presentation)

2020

Grant, S.B., "Overview of the Occoquan Watershed Monitoring Laboratory's NSF Project on Reversing Freshwater Salinization," Metropolitan Washington Council of Governments (MWCOG), Washington D.C. (September 2020). (invited presentation)

Oral Presentations (cont.)

Grant, S.B., "Engineering Research Center Bid for Reversing Freshwater Salinization (ReFRESH)," Environmental Water Resources (EWR) Seminar Series, Department of Civil and Environmental Engineering, Virginia Tech (September 2020). (invited presentation)

2019

Grant, S.B., "Update on the Occoquan Watershed Monitoring Laboratory Salinization Studies," Occoquan Watershed Monitoring Subcommittee, Manassas, VA (December 2019).

Grant, S.B., "Turbulent mixing in the benthic biolayer of streams," American Geophysical Union (AGU) Fall Meeting, San Francisco, CA (December 2019).

Grant, S.B., "Fighting Drought with Stormwater," CASQA Annual Meeting, Monterey, CA (October 2019). (invited presentation)

Grant, S.B., "Fighting Drought with Stormwater," American Chemical Society (ACS) Annual Meeting, San Diego CA (August 2019). (invited presentation)

2018

Grant, S.B., "Modeling Turbulent Mixing Across the Sediment-Water Interface of Streams," American Geophysical Union (AGU) Fall Meeting, San Francisco, CA (December 2018). (invited presentation)

Grant, S.B., "Factoring Physics into Local and Global Assessments of Nitrogen Pollution," American Chemical Society National Meeting, New Orleans, LA (March 2018). (invited presentation)

Grant, S.B., "Fighting Drought with Stormwater," Google, Irvine (June 2018) (invited presentation).

2017

Grant, S.B., "Overview of stormwater neutrality and the current science" (featured speaker) San Diego Coastkeeper Workshop on "Reaching for Resilience: Imagining Regional Stormwater Neutrality," San Diego, CA (December 2017). (invited presentation)

Grant, S.B., "Factoring Physics into Local and Global Assessments of Nitrogen Pollution," EAWAG (Swiss Federal Institute of Aquatic Science and Technology), Zurich, Switzerland (October 2017). (invited presentation)

Grant, S.B., "Sustainable Watershed Management—Lessons from Southern California and Australia," Department of Civil and Environmental Engineering, Virginia Tech, Blacksburg, Virginia (October 2017). (invited presentation)

Oral Presentations (cont.)

Grant, S.B., "It's Great to be T-shaped: Linking Environmental Engineering to Human and Ecosystem Health," Department of Civil and Environmental Engineering, Worcester Polytechnic Institute (August 2017). (invited presentation)

Grant, S.B., "Stream Hydrodynamics and Human and Ecosystem Health" Department of Environmental Health and Engineering, Johns Hopkins University (July 2017). (invited presentation)

Grant, S.B., "Extremes are Extremely Interesting: Use of Extreme Value Distributions for Water Management" ASCE Environmental Water Resources Institute (EWRI) (August 2017). (invited presentation)

Grant, S.B., "Ambient groundwater flow diminishes nitrate processing in the hyporheic zone of streams," American Water Resources Association (AWRA) Specialty Conference on Connecting the Dots: The Emerging Science of Aquatic System Connectivity, Snowbird, Utah (May 2017). (invited presentation)

2016

Grant, S.B., "Low Impact Development, Urban Streams, and Related UCI Research," TAU-UCI Workshop: Water Management Challenges in Arid and Semi-Arid Regions, Tel Aviv University, Israel (September 2016). (invited presentation)

Grant, S.B., "It's Great to be T-Shaped: Environmental Engineering and Water Sustainability" McGill University, Montreal, Canada (September 2016). (invited presentation)

Grant S.B., "From Rain Tanks to Catchments: Use of Low Impact Development to Address Hydrologic Symptoms of the Urban Stream Syndrome" International Low Impact Development Conference, Beijing, China (June 2016). (invited presentation)

Grant, S.B., "Nitrogen processing in the hyporheic zone and its response to stream-groundwater interactions" European Geophysical Union, Vienna, Austria (April 2016). (invited presentation)

Grant, S.B., "Engineering a Water Sensitive City," National Academy of Science and Engineering Symposium on The Future of Engineering, Irvine, California (February 2016). (invited presentation)

Grant, S.B., "Planetary Boundaries, Regime Shifts, Tipping Points, and Nasty Politics," Social Ecology ACCCESS, Irvine, California (February 2016) (invited presentation).

Grant, S.B., "From Platypus to Planet: Managing Water Quantity and Quality in Catchments with Agricultural, Urban, and Climate Stressors," University of California Santa Cruz, Department of Environmental Studies, Santa Cruz, California (January 2016) (invited presentation).

Oral Presentations (cont.)

2015

Grant, S.B., "From rain gardens to catchments: low impact development (LID) technologies to address hydrologic symptoms of the urban stream syndrome," American Geophysical Union Fall Meeting, San Francisco (December 2015).

Grant, S.B. "From rain gardens to catchments: low impact development (LID) technologies to address hydrologic symptoms of the urban stream syndrome," USGS Conference on Island Sustainability, Honolulu (December 2015). (invited presentation)

Grant, S. B., "What California Can Learn from Southeast Australia's Response to the Millennium Drought", California State Water Resources Control Board, State of the Bay Conference, Loyola Marymount University, Los Angeles (September 2015). (invited presentation)

Grant, S. B., "LEED-Certification of Urban Watersheds", Orange County Public Works, City of Orange (September 2015). (invited presentation)

Grant, S.B. "Cities React and Adapt: Regime Shift Model for the Multi-Decadal Evolution of Urban Water Demand," Indo-U.S. Forum, by Skype to India (March 2015).

Grant, S.B., "Possible Collaboration on Water Demand Forecasting between SNWA, UCI, and Melbourne Water," Southern Nevada Water Authority, UC Irvine (January 2015).

2014

Grant, S.B., "UCI Water PIRE Outreach Program," National Science Foundation, NSF PIRE PI Conference, Washington D.C. (December 2014). (invited presentation)

Grant, S.B., "Cities React and Adapt: A Transition State Model for the Multi-Decadal Evolution of Urban Water Demand," Water UCI Conference, UC Irvine (November 2014). (invited presentation)

Grant, S.B., "Urban Stream Syndrome and UCI's NSF funded Water PIRE," Environmental Engineering Seminar Series, UC Irvine (October 2014) (invited presentation)

Grant, S.B., "Cities React and Adapt: Multi-Decadal Dynamics of Water Demand in Southeast Australia", UCI Sustainability Conference, UC Irvine (October 2014) (invited presentation)

Grant, S.B., "An analytical model for contaminant removal in the hyporheic zone of streams," Symposium on Urbanization and Stream Ecology, Portland, OR (May 2014)

Grant, S.B., "30,000 Foot Overview of the UCI Water PIRE", UCI Water PIRE All-Hands-On-Deck Meeting, UC Irvine (January 2014).

Oral Presentations (cont.)

Grant, S.B., "Achievements of the UCI Water PIRE", National Science Foundation, NSF PIRE Reverse Site Visit, Washington D.C. (December 2014).

2013

Grant, S.B., "Low Energy Options for Making Water from Wastewater", Environmental Health Sciences Seminar Series, UCLA, Los Angeles (November 2013). (invited presentation)

Grant, S.B., "Low Energy Options for Making Water from Wastewater", UCI Civil and Environmental Engineering Affiliates, UC Irvine (November 2013) (invited presentation)

Grant, S.B., "Low Energy Options for Making Water from Wastewater", California Stormwater Quality Association (CASQA) Workshop, Tahoe, California (November 2013).

Grant, S.B., "Low Energy Options for Making Water from Wastewater", Environmental Sustainability Seminar Series, Arizona State University (September 2013). (invited presentation)

Grant, S.B., "Mathematical models of mass transfer across the sediment-water interface in turbulent streams", Mechanical Engineering Fluid Mechanics Seminar Series, University of Melbourne (May 2013). (invited presentation)

2012

Grant, S.B., "Overview of the UCI Water PIRE", National Science Foundation, NSF PIRE PI Conference, Washington D.C. (November 2012).

2011

Grant, S.B., "Forecasting Coastal Water Quality", Orange County Sanitation District, Costa Mesa, California (June 2011). (invited presentation)

Grant, S.B., "Forecasting Coastal Water Quality", Environmental Engineering Seminar Series, UC Irvine (May 2011). (invited presentation)

Grant, S.B. "Spectral Multiple Linear Regression: An approach for predicting coastal water quality", EPA Beaches Conference, Miami, FL (March 2011).

Grant, S.B., "Measuring and modeling the flux of fecal bacteria across the sediment-water interface in a turbulent stream," USC Civil and Environmental Engineering Seminar Series, Los Angeles, California (February 2011). (invited presentation)

2010

Grant, S. B., "The Beach Boundary Layer and Recreational Water Quality at Enclosed Beaches," Osher Lifelong Learning Institute, UCI Extension, UC Irvine, California (September 2010). (invited presentation)

Oral Presentations (cont.)

Grant, S. B., "The Beach Boundary Layer and Recreational Water Quality at Enclosed Beaches," Department of Civil and Environmental Engineering, University of Melbourne, Victoria (Australia) (September 2010) (invited presentation)

Grant, S. B., "The Beach Boundary Layer and Recreational Water Quality at Enclosed Beaches," Department of Civil and Environmental Engineering, Monash University, Victoria (Australia) (July 2010). (invited presentation)

Grant, S. B., "Measuring and Modeling the Flux of Bacteria Across the Sediment-Water Interface in a Turbulent Stream," Croucher Lecture, Department of Civil and Environmental Engineering, University of Hong Kong, Hong Kong (China) (May 2010). (invited presentation)

Grant, S. B., "The Beach Boundary Layer and Recreational Water Quality at Enclosed Beaches," Croucher Lecture, Department of Civil and Environmental Engineering, University of Hong Kong, Hong Kong (China) (May 2010). (invited presentation)

Grant, S. B., "Newport Bay Fecal Indicator Bacteria Source Identification Project," State of California Beach Water Quality Work Group, State Water Board, Southern California Coastal Water Research Project, Costa Mesa, California (February 2010).

2009

Grant, S. B., "Beach Water Quality Forecasting: Challenges and Opportunities," Croucher ASI on Nearshore Coastal Water Quality, University of Hong Kong, Hong Kong (China) (December 2009). (invited presentation)

Grant, S. B. (Plenary Lecturer), "Cleaning Up Urban Rivers and Streams: Case Studies from California and Australia," Chancellor's International Lecture, University of Melbourne, Victoria (Australia) (September 2009). (invited presentation)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," National Beaches Conference, U.S. Environmental Protection Agency, Huntington Beach, California (April 2009). (invited presentation)

2008

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Department of Civil and Environmental Engineering, University of Southern California, Los Angeles, California (October 2008). (invited presentation)

Grant, S. B., "Sources and Nearshore Transport of Coastal Pollution," U.S. National Science Foundation, Office of Cyberinfrastructure, Washington D.C. (October 2008). (invited presentation)

Oral Presentations (cont.)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Scripps Institution of Oceanography, UC San Diego, La Jolla, CA. (October 2008). (invited presentation)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," School of Engineering, University of Melbourne, Victoria (Australia) (August 2008). (invited presentation)

Grant, S. B., "Fecal Bacteria Source Tracking in the Middle Santa Ana River," Riverside Middle Santa Ana River Source Tracking Committee, Riverside, California (June 2008).

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Department of Biology, California State University, Los Angeles, California (May 2008). (invited presentation)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Department of Civil and Environmental Engineering, University of Connecticut, Storrs, Connecticut (May 2008). (invited presentation)

2007

Grant, S. B., "Sources and Transport Pathways of Urban Coastal Pollution," Department of Chemical and Environmental Engineering, UC Riverside, Riverside, California (November 2007). (invited presentation)

Grant, S. B. "Exposure patterns and health effects associated with swimming and surfing in polluted marine waters," (Plenary Lecturer), Grand Rounds, UCI Medical School, UC Irvine, California (October 2007). (invited presentation)

Grant, S. B., "Sources and Transport Pathways of Urban Coastal Pollution," Department of Geography and Environmental Engineering, Johns Hopkins University, Baltimore, Maryland (June 2007). (invited presentation)

Grant, S. B., “Exposure patterns and health effects associated with surfing and swimming in polluted marine waters," Acapulco (Mexico) (May 2007)., American Geophysical Union Annual Meeting. (invited presentation)

Grant, S. B., "Pathogen transport in coastal systems," Workshop on Pathogen Transport in the Environment, Michigan State University, Lansing, Michigan (April 2007). (invited presentation)

Grant, S. B., "Sources of Fecal Indicator Bacteria Pollution in Newport Bay”, Newport Bay Fecal Coliform TMDL Technical Advisory Committee, Newport Beach, California (April 2007)

2006

Grant, S. B., "California sustainable watershed/wetland information manager," CASQA Annual Conference, Sacramento, California (September 2006). (invited presentation)

Oral Presentations (cont.)

Grant, S. B., "Causes and remediation of fecal indicator bacteria impairment in Avalon Bay, Catalina Island," Avalon City Council, Avalon, Catalina Island, California (August 2006). (invited presentation)

Grant, S. B., "CalSWIM: California Sustainable Watershed/Wetland Information Manager," Hydrology and Hydraulics Technical Group, American Society of Civil Engineers, Irvine, California (April 2006). (invited presentation)

Grant, S. B., "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," National Water Research Institute Research Advisory Board, Reno, Nevada (April 2006).

Grant, S. B., "Concentration fingerprinting fecal indicator bacteria sources in a coastal wetland," Ocean Science Meeting, American Society of Limnology and Oceanography, Honolulu, Hawaii (February 2006).

Grant, S. B., "Public mis-notification of coastal water quality," Legislator Briefings on Science and Policy, COMPASS and Sea Web, Panel: Protecting California's Ocean and Coast, State Capital Building, Sacramento, California (February 2006). (invited presentation)

Grant, S. B. "Integrating molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution," (Keynote Speaker), Western Regional Meeting, American Chemical Society, Anaheim, California (January 2006). (invited presentation)

Grant, S. B., "Future of engineering in today's society", School of Engineering, University of Hawaii, Honolulu, Hawaii (January 2006). (invited presentation)

2005

Grant, S. B., "Dynamics of point and non-point source fecal pollution in an urban watershed in southern California", Wetlands Advisory Board, City of San Diego, San Diego, California (November 2005).

Grant, S. B., "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," Research Advisory Board Meeting, National Water Research Institute, Costa Mesa, California (October 2005).

Grant, S. B., "Mixing and Swash Zone Water Quality in Tidal Embayments: contrasting case studies at Avalon Bay and Newport Beach," California Clean Beaches Initiative, State of California Water Board, Dana Point Ocean Institute, Dana Point, California (August 2005).

Grant, S. B., "Impact of Stormwater Runoff on Coastal Water Quality," Annual Meeting, American Chemical Society, Panel: Environmental Colloids Session, San Diego, California (April 2005).

Oral Presentations (cont.)

Grant, S. B., "Water Quality Impact of Storm Water Runoff from the Santa Ana River, southern California," Borchardt Conference on Advancements in Water and Wastewater Treatment, College of Engineering, University of Michigan, Ann Arbor, Michigan (February 2005). (invited presentation)

2004

Grant, S. B., "Now-casting coastal water quality," Annual Meeting, National Council on Water Quality Monitoring, San Jose, California (December 2004). (invited presentation)

Grant, S. B., "Impacts of Storm Water Runoff on Coastal Water Quality," California Beach Water Quality Work Group, Southern California Coastal Water Research Project, Westminster, California (November 2004).

Grant, S. B., "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," Research Advisory Board Meeting, National Water Research Institute, Chicago, Illinois (October 2004).

Grant, S. B., "Public mis-notification of coastal water quality," National Beaches Conference, U.S. Environmental Protection Agency, San Diego, California (October 2004).

Grant, S. B., "Research update: stormwater runoff from the Santa Ana River," Water Quality Stakeholders Group, County of San Bernadino, San Bernadino, California (October 2004).

Grant, S. B., "Urban runoff: a landside perspective," Urban Runoff Roundtable, National Water Research Institute, Irvine, California (August 2004).

Grant, S. B., "Combining molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution," CalIT2 Hydrology Workshop, CalIT2, San Diego, California (May 2004). (invited presentation)

Grant, S. B., "Surf zone pollution: science, sources, and public notices," Newkirk Lecture, Newkirk Center for Science and Society, UC Irvine, Irvine, California (May 2004). (invited presentation)

Grant, S. B., "Troubled Waters: Our Ocean Our Beaches," Orange County Younger Members Forum, American Society of Civil Engineers, Irvine, California (April 2004). (invited presentation)

Grant, S. B., "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," Research Advisory Board Meeting, National Water Research Institute, Costa Mesa, CA. (April 2004).

Oral Presentations (cont.)

Grant, S. B., "Combining molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution," Department of Environmental Engineering Science, Caltech, Pasadena, California (April 2004). (invited presentation)

Grant, S. B., "Public mis-notification of coastal water quality," Ocean Science Meeting, American Society of Limnology and Oceanography, Honolulu, Hawaii (February 2004).

Grant, S. B., "Combining molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution," Department of Civil and Environmental Engineering, UC Davis, Davis, California (February 2004). (invited presentation)

Grant, S. B., "Combining molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution," Department of Chemical Engineering, UCLA, Los Angeles, California (January 2004). (invited presentation)

2003

Grant, S. B., "Progress Report: UCI Urban watershed runoff studies (Phase III)," Research Advisory Board Meeting, National Water Research Institute, Airlie Conference Center, Warrenton, Virginia (October 2003).

Grant, S. B., "Locating and Quantifying Sources of Surf Zone Pollution," Donald Bren School of Environmental Management, UC Santa Barbara, California (January 2003). (invited presentation)

Grant, S. B., "Locating and Quantifying Sources of Surf Zone Pollution," Department of Civil and Environmental Engineering, UC Davis, Davis, California (January 2003). (invited presentation)

2002

Grant, S. B., "Ocean monitoring and surf zone water quality," Southern California Association of Governments, Panel: Water Policy Task Force, Los Angeles, California (December 2002).

Grant, S. B., "Ocean Water Quality in Surf City: A Scientific Perspective," Water Advisory Committee of Orange County, Fountain Valley, California (November 2002). (invited presentation)

Grant, S. B., "Decadal and shorter period variability of fecal pollution at Huntington Beach, California," Water Quality of Lakes, Rivers, and Coastal Zones, American Society of Limnology and Oceanography, UC Irvine, California (June 2002).

Oral Presentations (cont.)

Grant, S. B., "Role of Interfacial Forces in the Transmission of Pathogens in the Environment," Workshop on Particles and Polymers Near Interfaces: Fundamentals and Applications, Oud Poelgeest, The Netherlands (March 2002). (invited presentation)

2001

Grant, S. B., "Urban Watershed Impacts on Coastal Beaches," Urban Watershed Conference, National Water Research Institute, Costa Mesa, California (October 2001). (invited presentation)

Grant, S. B., "The Policy and Perception of Beach Water Quality," UCI CEO Roundtable Retreat,UCI Advancement (June 2001). (invited presentation)

Grant, S. B., "Pollution in the Surf: Science and Perception of Beach Water Quality," UCI Chancellor's Club Lecture Series, UC Irvine, California (May 2001). (invited presentation)

Grant, S. B., "DNA as a model polymer for coagulation studies," Charge Inversion Workshop, Theoretical Physics Institute, University of Minnesota, Minneapolis, Minnesota (May 2001). (invited presentation)

Grant, S. B., "The Policy and Perception of Beach Water Quality," Department of Civil and Environmental Engineering, UCLA, Los Angeles, California (January 2001). (invited presentation)

2000

Grant, S. B., "The Policy and Science of Clean Beaches: Lessons from Huntington Beach," W.M. Keck Lecture Series, Chapman University, Chapman, California (November 2000). (invited presentation)

Grant, S. B., "The Sun, The Moon, and Bacterial Pollution at Huntington Beach," Department of Chemical and Environmental Engineering, UC Riverside, Riverside, California (June 2000). (invited presentation)

Grant, S. B., "Ocean Water Quality: Problems and Progress," City of Laguna Beach City Council, Laguna Beach, California (March 2000). (invited presentation)

Grant, S. B., "Tidal Transport of Bacteria Between the Talbert Watershed and the Ocean," USC Sea Grant Blue Ribbon Peer Review Panel, National Water Research Institute, Orange County, California (March 2000).

1999

Grant, S. B., "The effects of biofilms on the filtration of recombinant Norwalk virus particles in capillary columns," Annual Meeting, American Chemical Society, Anaheim, California (March 1999).

Oral Presentations (cont.)

1998

Grant, S. B., "Virus Filtration and Water Reuse: From Microscale Phenomena to Field-Scale Observations," Department of Civil and Environmental Engineering, UC Berkeley, Berkeley, California (October 1998). (invited presentation)

Grant, S. B., "Drinking Water Pollution and Your Health," St. Mark Presbyterian Church, Newport Beach, California (September 1998). (invited presentation)

Grant, S. B., "Virus Filtration and Water Reclamation," National Research Council/Water Science and Technology Board, National Academy of Sciences, Beckman Academy of Sciences, Irvine, California (February 1998). (invited presentation)

1997

Grant, S. B., "Future of Water Reuse in Orange County," CEE Affiliates Quarterly Meeting, Department of Civil and Environmental Engineering, UC Irvine, California (November 1997). (invited presentation)

Grant, S. B., "Biological indications of coastal pollution," Workshop on Coastal Pollution, National Science Foundation, Milwaukee, Wisconsin (October 1997). (invited presentation)

Grant, S. B., "The removal of fluidborne particles by coagulation: physical insights based on mathematical solutions," 47th Canadian Chemical Engineering Conference, Canadian Chemical Engineering Society, Edmonton, Alberta (Canada) (October 1997). (invited presentation)

Grant, S. B., "Factors influencing the stabilization of particles by a model polyelectrolyte," Colloid and Surface Science Symposium, American Chemical Society, Panel: Environmental Phenomena Program, University of Delaware, Newark, Delaware (July 1997).

Grant, S. B., "The importance of pore water pH in the transmission of Norwalk Virus through porous media studied using recombinant Norwalk Virus Particles," Colloid and Surface Science Symposium,American Chemical Society, Panel: Environmental Phenomena Program, University of Delaware, Newark, Delaware (July 1997).

Grant, S. B., "Recombinant virus particles and water reuse in the 21st century," UC Water Reuse Research Conference, UC Water Research Foundation, Monterey, California (June 1997).

Grant, S. B., "Virus Filtration and Water Reuse in the 21st Century," Department of Civil and Environmental Engineering, UCLA, Los Angeles, California (April 1997). (invited presentation)

Grant, S. B., "Recombinant virus particles and water reuse in the 21st century," Department of Environmental Engineering Science, Caltech, Pasadena, California (January 1997). (invited presentation)

1996

Oral Presentations (cont.)

Grant, S. B., "Scaling theory and solutions for the steady-state coagulation and settling of fractal aggregates in aqueous environments," 70th Colloid and Surface Science Symposium, American Chemical Society, Panel: Environmental Phenomena Program, Clarkson University, Potsdam, New York (July 1996).

Grant, S. B., "The coagulation and stabilization of colloidal particles by model anionic polyelectrolytes," 70th Colloid and Surface Science Symposium, American Chemical Society, Panel: Environmental Phenomena Program, Clarkson University, Potsdam, New York (July 1996).

Grant, S. B., "The deposition kinetics of two viruses in packed beds of quartz granular media," 70th Colloid and Surface Science Symposium, American Chemical Society, Panel: Environmental Phenomena Program, Clarkson University, Potsdam, New York (July 1996).

Grant, S. B., "Norwalk Recombinant Virus-Like-Particles (rVLPs) for Studying Natural Groundwater Disinfection," Symposium on Virus in Groundwater, National Water Research Institute/US Environmental Proection Agency, Washington D.C. (March 1996). (invited presentation)

1995

Grant, S. B., "Gene Probe Spectroscopy: A New Approach for Detecting Microorganisms in Water Samples," The 1995 Water Seminar, National Water Research Institute/UC Water Resources Center, National Academies of Sciences, Irvine, California (September 1995).

Grant, S. B., "DNA as a model polymer for adsorption studies," 69th Colloid Science Symposium, American Chemical Society, Panel: Biopolymers at Interfaces, University of Utah, Salt Lake City, Utah (June 1995).

1994

Grant, S. B., "DNA Diagnostics for Tracking Microbial Contaminants in the Environment," Municipal Water Quality Investigations, State of California Department of Water Resources, State Capital Building, Sacramento, California (September 1994)

Grant, S. B., "Train-Loop-Tail Structure of Adsorbed Polymers as Revealed by Hydroxyl Radical Footprinting (HRF)," Department of Environmental Engineering Science, Caltech, Pasadena, California (June 1, 1994). (invited presentation)

Grant, S. B., "Virus inactivation and coagulation in aqueous environments," Annual Meeting, American Chemical Society, Panel: Division of Environmental Chemistry, San Diego, California (March 1994).

1993

Oral Presentations (cont.)
Grant, S. B., "Virus Adsorption at the Solid-Liquid Interface," Department of Civil and Environmental Engineering, University of Southern California, Los Angeles, California (February 1993). (invited presentation)

1992

Grant, S. B., "Virus Adsorption at the Solid-Liquid Interface," Department of Civil and Environmental Engineering, UCLA, Los Angeles, California (November 1992)

Grant, S. B., "Detection and Partitioning of Viruses in Fluid/Solid Systems," Department of Environmental Engineering Science, Caltech, Pasadena, California (September 1992).

Classroom Teaching (Virginia Tech, 2019-present)
- CEE 5140 Environmental Transport Phenomena (F2019, F2020, F2023, S2024 enrollment ~10)
- Interfacial Transport Phenomena (S2021, S2022, grad enrollment ~10). (currently working on a textbook for CEE 5140)
- CEE 3104 Introduction to Environmental Engineering (S2025, undergrad enrollment ~100)
- CEE 5794 Environmental Engineering Principles (F2025, grad enrollment ~25). [Note two course teaching release for OWML Director position]

Classroom Teaching (UCI & University of Melbourne, 1998-2018)
[Note teaching releases for: (1) service as Chair (2002-2009); (2) leave of absence to work at University of Melbourne (2012, 2013); and (3) sabbaticals]

UC Irvine Department of Civil and Environmental Engineering
- Probability and Statistics for Engineers (SQ2016, WQ2017, WQ 2018, undergrad enrollment: ~150)
- Mass Transport in Environmental Systems (WQ 2015, 2016, SQ 2018, graduate enrollment: ~15)
- Urban Water Sustainability (FQ 2013-2017, graduate enrollment: 13-37)
- Open Channel Flow (WQ 2013, undergraduate enrollment: 10; graduate enrollment: 15)
- Hydrodynamic Transport Fundamentals (WQ 2012, graduate enrollment: 12)
- Open Channel Flow (FQ 2011, undergraduate enrollment: 20; graduate enrollment: 6)
- Microbial Processes (SQ 2000, undergraduate enrollment: 22)
- Physicochemical Hydrodynamics (SQ 1999, graduate enrollment: 3)
- Microbial Processes (WQ 1999, undergraduate enrollment: 20)
- Mass Transport in Environmental Systems (WQ 1999, graduate enrollment: 4)
- Environmental Microbiology (FQ 1998, graduate enrollment: 12)
- Colloid Transport Phenomenon (FQ 1998, graduate enrollment: 8)
- Intro. to Environ. Science and Engineering (SQ 1998, undergraduate enrollment: 22)
- Hazardous Waste Management (SQ 1998, undergraduate enrollment 32)
- Colloid Transport Phenomenon (WQ 1998, graduate enrollment: 10)

- Microbial Processes (WQ 1998, undergraduate enrollment: 24)

University of Melbourne Department of Infrastructure Engineering
- Intro. Fluid Mechanics (S1 2013, undergraduate enrollment: 248)
- Intro. Fluid Mechanics (S1 2014, undergraduate enrollment: 254)

UC Irvine Department of Chemical Engineering and Materials Science
- Chemical Engineering Mass Transfer (WQ 2012, undergraduate enrollment: 41)
- Chemical Engineering Mass Transfer (SQ 2011, undergraduate enrollment: 36)
- Introduction to Biochemical Engineering (WQ 2011, undergraduate enrollment: 7)
- Chemical Engineering Heat and Mass Transfer (WQ 2009, undergraduate enrollment: 38)
- Chemical Engineering Heat and Mass Transfer (WQ 2008, undergraduate enrollment: 42)
- Field Environ. Eng. (WQ 2007, undergraduate enrollment: 3; graduate enrollment: 15)
- Physicochemical Hydrodynamics (SQ 2006, graduate enrollment: 8)
- Chemical Engineering Transport Phenomenon (WQ 2005, graduate enrollment:16)
- Chemical Engineering Transport Phenomenon (WQ 2004, graduate enrollment:14)
- Chemical Engineering Transport Phenomenon (WQ 2003, graduate enrollment:11)
- Physicochemical Hydrodynamics (SQ 2002, graduate enrollment: 4)
- Chemical Engineering Transport Phenomenon (WQ 2002, graduate enrollment:11)
- Introduction to Biochemical Engineering (FQ 2001, undergraduate enrollment: 11)
- Field Environ. Eng. (SQ 2001, undergraduate enrollment: 12; graduate enrollment: 1)
- Intro. Chemical Engineering Thermodynamics (WQ 2001, undergraduate enrollment: 27)

Post-doctoral Researchers Supervised (18 total: 5 at VT, 13 at UCI)
- Dr. Lauren Krauss (March 2025 – present)
- Dr. Sydney Turner (December 2023 – present)
- Dr. Ahmed Monofy (January 2023 – November 2024)
  Current Position: Water Resource Engineer, ESP Associates, Inc.
- Dr. Shantanu Bhide (August 2023 – March 2026)
  Current Position: Water Resource Engineer, Geosyntec
- Dr. Hannah Whitley (January 2023 – September 2024)
  Current Position: Deputy Grant Director, New York City Schools
- Dr. Morvarid Azizian (September 2017 – July 2018)
  Current Position: Civil Project Engineer, IMEG
- Dr. Eleanor Gee (June 2013 - June 2015)
  Current Position: Research Engineer, Bureau of Meteorology (Melbourne, Australia)
- Dr. Roser Casas-Mulet (July 2014-2016)
- Dr. Morgan Bailey (January 2013- June 2014)
  Current Position: National Institute of Health Global Health Fellow at UC San Francisco and Operations Director, ECOLIFE Conservation
- Dr. Lin Ho (July 2011-July 2012)
  Current Position: Chemical Engineer, Yorke Engineering (San Juan Capistrano, California)
- Dr. Youngsul Jeong (June 2006 - September 2007)
  Current Position: no academic position

Post-doctoral Researchers Supervised (cont.)

- Dr. Jong Ho Ahn (July 2007)
  Current Position: Senior Research Fellow, U.N. Korea Environment Institute, Policy Research Group, Division of Water Environment (Seoul, Korea)
- Dr. Karen McLaughlin (October 2005 - February 2007)
  Current Position: Environmental Scientist, So. Cal. Coastal Water Research Project
- Dr. Joon Ha Kim (2003 – 2004)
  Current Position: Professor, School of Environmental Science and Engineering, Guangju Institute of Science and Technology (South Korea)
- Dr. Semsi Ensari (2001 – 2003)
  Current Position: Principal Engineer & Transfer Team Lead, Genentech (San Diego, CA)
- Dr. Jeremy Redman (2001 – 2002)
  Current Position: Lecturer, Department of Civil and Environmental Engineering, California State University Long Beach
- Dr. Alexandria Boehm (2000 – 2002)
  Current Position: Professor, Department of Civil and Environmental Engineering, Stanford University & Senior Fellow of the Woods Institute for the Environment
- Dr. Harold Walker (1996)
  Current Position: Schwaber Professor of Civil & Environmental Engineering, Department of Civil and Environmental Engineering, Worcester Polytechnic Institute.

Ph.D. Graduate Students Supervised (21 total: 5 at VT, 16 at UCI)

- Diver Marin (2022-present, co-advisor; Professor Husic primary advisor)
- Dr. Ahmed Monofy (degree awarded at Politenico di Torino, Italy, 2019-2022, co-advised with Professor Fulvio Boano)
  Current Position: Water Resource Engineer, ESP Associates, Inc..
- Dr. Azadeh Hemati (degree awarded at UC Irvine, 2017-2023)
  Current Position: Design Engineer, Q3 Engineering
- Dr. Shantanu Bhide (2019-2023)
  Current Position: Water Resource Engineer, Geosyntec.
- Dr. Emily Parker (2014-2021), ORISE Fellow
  Current Position: Office of Water, Environmental Protection Agency, Washington D.C.
- Dr. Kimberly Duong (2015-2019)
  Current Position: Civil Engineer, Los Angeles Department of Water and Power
- Dr. Morvarid Azizian (2012-2017)
  Current Position: Civil Project Engineer, IMEG
- Dr. Asal Askarizadeh (2013-2017)
  Current Position: Civil Engineering Associate, LA DWP
- Dr. Alexander McCluskey (2014-2017) (deceased)
  Last Position: Technical University Munich (TUM) University Foundation Fellow
- Dr. Morgan Bailey (2009-2013)
  Current Position: National Institute of Health Global Health Fellow at UC San Francisco and Operations Director, ECOLIFE Conservation

Ph.D. Graduate Students Supervised (cont.)

- Dr. Lin Ho (2005-2010)
  Current Position: Chemical Engineer, Yorke Engineering (San Juan Capistrano, California)
- Dr. Rachel Litton (2006-2010)
  Current Position: no academic appointment
- Dr. Abhishek Pednekar (2002-2007)
  Current Position: Senior Engineer/Scientist, Research and Development Division, Honeywell UOP (Chicago, IL)
- Dr. Cristiane Q. Surbeck (2001-2007)
  Current Position: Professor of Environmental Engineering and Chair of Civil and Environmental Engineering (University of Mississippi); past Vice President of ASCE Environmental Water Resources Institute (EWRI)
- Dr. Youngsul Jeong (2002-2006)
  Current Position: unknown
- Dr. Jong Ho Ahn (2001-2007)
  Current Position: Senior Research Fellow, U.N. Korea Environment Institute, Policy Research Group, Division of Water Environment (Seoul, Korea)
- Dr. Joon Ha Kim (1997-2003)
  Current Position: Professor, School of Environmental Science and Engineering, Guangju Institute of Science and Technology (South Korea)
- Dr. Jeremy Redman (1997 – 2001)
  Current Position: Lecturer, Department of Civil and Environmental Engineering, California State University Long Beach
- Dr. Alexandria Boehm (1996 – 2000)
  Current Position: Professor, Department of Civil and Environmental Engineering, Stanford University and Senior Fellow of the Woods Institute for the Environment
- Dr. Scarlet Relle (1992-1998)
  Current Position: Professor, Moorpark Community College (Moorpark, CA)
- Dr. Harold Walker (1992-1996)
  Current Position: Professor and Civil Engineering Program Director, Department of Mechanical Engineering, State University New York (SUNY-Stony Brook)

M.S. Graduate Students Supervised at Virginia Tech (3 total)

- Larissa Trejo (2022-2024)
  Current Position: World Bank
- Caitlin Shipman (2020-2023)
  Current Position: Office of Pesticides, EPA
- Melissa Stacy (2022-2023)
  Current Position: Environmental Engineer, GKY Consulting
- Nelson Werber (2022-2023)
  Current Position: Environmental Designer, Wildlands Engineering