

## **Stanley B. Grant**

Professor, Civil and Environmental Engineering  
Professor (by courtesy), Chemical Engineering and Materials Science  
Henry Samueli School of Engineering  
University of California, Irvine  
Irvine, CA 92697-2175

## **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**

2013-Present	<i>Professor Step VI</i> , Civil and Environmental Engineering, UC Irvine
2010-2013	<i>Professor</i> , Civil and Environmental Engineering, UC Irvine
2010-2016	<i>Visiting Chair Professor of Hydrology and Water Resources</i> , U. of Melbourne
2002-2009	<i>Chair</i> , Chemical Engineering and Materials Science, UCI
2001-Present	<i>Professor</i> , Chemical Engineering and Materials Science, UC, Irvine
1996-2001	<i>Associate Professor</i> , Civil and Environmental Engineering, UC, Irvine
1991-1996	<i>Assistant Professor</i> , Civil and Environmental Engineering, UC, Irvine

## **Non-Academic Appointments**

1985-1987	<i>Seismic Analyst</i> , Unocal Corporation, Los Angeles, California (full time)
1977-1983	<i>Aircraft Mechanic</i> , Airparts Inc., Anchorage, Alaska (part-time, high school)

## **Research Interests**

Human and ecosystem water security, coastal and drinking water quality, environmental fate and transport modeling

## **Academic Awards and Honors**

- AGU EOS Research Spotlight (2017) for “Ambient Groundwater Flow Diminishes Nitrate Processing in the Hyporheic Zone of Streams” (<http://agupubs.onlinelibrary.wiley.com/hub/article/10.1002/2016WR020048/editor-highlight/>)
- Panelist, “National Science Foundation Frontiers at the Food-Energy-Water Nexus”, Arizona State University (2015)
- Proposal Panelist, U.S. National Science Foundation, Washington D.C. (2015, 2010)
- Program Director, Office of CyberInfrastructure, U.S. National Science Foundation (position offered 2009, declined)
- Croucher Lecture, University of Hong Kong (December, 2009; May, 2010)
- Appreciation Award, Chemical Engineering Graduate Student Association (2009)
- 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)
- Chancellor's International Lecture, University of Melbourne (September, 2009)
- Grand Rounds Lecture, UCI Medical School (October 24, 2007)

**Academic Awards and Honors (cont.)**

- 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)
- Commencement Speaker for Schools of Engineering and Social Ecology, UC Irvine (2001)
- Honorary Member, Golden Key International Honor Society (2001)
- W.M. Keck Fellow Award, Chapman University (2000)
- NSF CAREER Award, National Science Foundation (July 1995 - June 2000)
- Distinguished Assistant Professor Award for Teaching, UCI Academic Senate (1998)
- Outstanding Assistant Professor Award, School of Engineering (1994)
- Most Outstanding Professor, School of Engineering Senior Undergraduates (1993)

**Non-Academic Awards and Honors**

- Chancellor Chamber Music Performance Series, UC Irvine (2013)
- Caltech Centennial Chamber Music Concert Series, California Institute of Technology (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) (2015)
- 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:** Chamber Music, Running, Hiking, Rock Climbing

**Research Journal Articles (Peer Reviewed)**

[A70] Parker, E.A.; Rippey, 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 doi: 10.1021/acs.est.7b00752 (corresponding author).

[A69] Mehring, A.S.; Cook, P.L.M.; Evrard, V.; **Grant, S.B.**; Levin, L.A. (2017) “Enhancement of benthic greenhouse gas flux by oligochaetes and chironomids in urban wetlands”, in press with *Ecological Applications*.

- [A68] Azizian, M.; Boano, F.; Cook, P.L.M.; Detwiler, R.L., **Grant, S.B.** (2017) “Ambient groundwater flow diminishes nitrate processing in the hyporheic zone of streams”, *Water Resources Research*, **53**, doi:10.1002/2016WR020048 (corresponding author) (selected by the editors of *Water Resources Research* for a Research Spotlight in the AGU publication *EOS*.)
- [A67] 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.
- [A66] 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; doi:10.3390/w8120600.
- [A65] 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.
- [A64] 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).
- [A63] 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.
- [A62] 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.
- [A61] 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 (doi: 10.1002/wat2.1128).
- [A60] Azizian, M.; **Grant, S.B.**; Kessler, A.; Cook, P.; Rippy, M.A.; Stewardson, M. (2015) “Bedforms as biocatalytic filters: A pumping and streamline segregation (PASS) model for nitrate removal in permeable sediments” *Environmental Science and Technology* **49**(18): 10993-11002; doi:10.1021/acs.est.5b01941. (corresponding author)
- [A59] Askarizadeh, A.; Rippy, M.A.; Fletcher, T.; Feldman, D.; Peng, J.; Bowler, P.; Mehring, A.; Winfrey, B.; Vrugt, J.; AghaKouchak, A.; Jiang, S.; Sanders, B.; Levin, L.; Taylor, S.; **Grant, S.B.** (2015) “From rain tanks to catchments: use of low-impact development to address hydrologic symptoms of the urban stream syndrome” *Environmental Science and Technology*; **49**(19):11264-11280; doi:10.1021/acs.est.5b01635. (corresponding author)

[A58] Low, K.G.; **Grant, S.B.**; Hamilton, A.J.; Gain, K.; Saphores, J.D.; Arora, M.; Feldman, D. (2015) "Fighting drought with innovation: Melbourne's response to the Millennium Drought in Southeast Australia" *Wiley Interdisciplinary Reviews: Water* **2**:315-328; doi: 10.1002/wat2.1087. (written about in *Scientific American*, *National Public Radio*, *Washington Post*, *The New York Times*, among others)

[A57] Rippy, M., Stein, R., Sanders, B.F., Davis, K., McLaughlin, K., Skinner, J., Kappeler, J., **Grant, S.B.** (2014) "Small drains, big problems: the impact of dry weather runoff on shoreline water quality at enclosed beaches" *Environmental Science and Technology* **48**:14168-14177, doi:10.1021/es503139h. (corresponding author)

[A56] **Grant, S.B.**, Stolzenbach, K., Azizian, M., Stewardson, M.J., Boano, F., Bardini, L. (2014) "First-order contaminant removal in the hyporheic zone of streams: physical insights from a simple analytical model" *Environmental Science and Technology* **48**:11369-11378; doi:10.1021/es501694k. (corresponding author)

[A55] AghaKouchak, A.; Feldman, D.; Stewardson, M.J.; Saphores, J.D.; **Grant, S.B.**; Sanders, B.F. (2014) "Australia's drought: lessons for California" *Science* **343**:1430-1431.

[A54] **Grant, S.B.** et al. (2013) "Adapting urban water systems to a changing climate: lessons from the Millennium Drought in Southeast Australia" *Environmental Science and Technology* **47**:10727-10734. (Feature Article) (corresponding author)

[A53] **Grant, S.B.**, J. D. Saphores, D.L. Feldman, A.J. Hamilton, T. Fletcher, P. Cook, M. Stewardson, B.F. Sanders, L.A. Levin, R.F. Ambrose, A. Deletic, R. Brown, S.C. Jiang, D. Rosso, W.J. Cooper, I. Marusic (2012) "Taking the 'waste' out of 'wastewater' for human water security and ecosystem sustainability" *Science* **337**:681-686. (corresponding author)

[A52] **Grant, S.B.**; Stewardson, M.J.; Marusic, I. (2012) "Effective diffusivity and mass flux across the sediment-water interface in streams" *Water Resources Research* **48**, W05548. (corresponding author)

[A51] Bailey, M.M.; Cooper, W. J.; **Grant, S.B.** (2011) "In situ disinfection of sewage contaminated shallow groundwater: A feasibility study" *Water Research* **45**:5641-5653. (corresponding author)

[A50] **Grant, S.B.**, Marusic, I. (2011) "Crossing turbulent boundaries: interfacial flux in environmental flows" *Environmental Science and Technology* **45**:7107-7113. (Feature Article) (corresponding author)

[A49] Ho, L.C.; Litton, R.M.; **Grant, S.B.** (2011) "Anthropogenic currents and shoreline water quality in Avalon Bay, California" *Environmental Science and Technology*, **45**:2079-2085. (corresponding author)

- [A48] **Grant, S.B.**, Litton-Mueller, R.M., Ahn, J.H. (2011) “Measuring and modeling the flux of fecal bacteria across the sediment-water interface in a turbulent stream” *Water Resources Research* **47**, WO5517. (corresponding author)
- [A47] **Grant, S.B.**, Sanders, B.F. (2010) “Beach boundary layer: A framework for addressing recreational water quality impairment at enclosed beaches” *Environmental Science and Technology* **44**:8804-8813. (corresponding author)
- [A46] Litton, R.M., Ahn, J.H., Sercu, B., Holden, P.A., Sedlak, D.L., **Grant, S.B.** (2010) “Evaluation of chemical, molecular, and traditional markers of fecal contamination in an effluent dominated urban stream” *Environmental Science and Technology* **44**:7369- 7375. (featured in Chemical and Engineering News). (corresponding author)
- [A45] Surbeck, C.Q., Jiang, S.C., **Grant, S.B.** (2010) “Ecological control of fecal indicator bacteria in an urban stream” *Environmental Science and Technology* **44**:631-637. (corresponding author)
- [A44] Clark, C.D.; De Bruyn, S.J.D.; Jakubowski, S.D.; **Grant, S.B.** (2008) “Hydrogen peroxide production in marine bathing waters: implications for fecal indicator bacteria mortality” *Marine Pollution Bulletin* **56**:397-401.
- [A43] Clark, C.D.; Litz, L.P.; **Grant, S.B.** (2008) “Salt marshes as a source of chromophoric dissolved organic matter (CDOM) to Southern California waters” *Limnology and Oceanography* **53**:1923-1933.
- [A42] Jeong, Y.; Sanders, B.F.; McLaughlin, K.; **Grant, S.B.** (2008) “Treatment of dry weather urban runoff in tidal saltwater marshes: A longitudinal study of the Talbert Marsh in Southern California” *Environmental Science and Technology* **42**:3609-3614. (corresponding author)
- [A41] McLaughlin, K.; Ahn, J.H.; Litton, R.M.; **Grant, S.B.** (2007) “Use of salinity mixing models to estimate the contribution of creek water fecal indicator bacteria to an estuarine environment: Newport Bay, California” *Water Research* **41**:3595-3604. (corresponding author)
- [A40] Ahn, J.; **Grant, S.B.** (2007) “Size distribution, sources, and seasonality of suspended particles in Southern California marine bathing waters” *Environmental Science and Technology* **41**:695-702. (corresponding author)
- [A39] Ahn, J. H., **Grant, S.B.** (2007). “Characteristics of storm runoff and sediment dispersal in the San Pedro Channel, southern California” *Water Science and Technology* **55**(1-2):519-526. (corresponding author)
- [A38] Jeong, Y.; Sanders, B.F.; **Grant, S.B.** (2006) “The information content of high frequency environmental monitoring data signals pollution events in the coastal ocean” *Environmental Science and Technology* **40**:6215-6220. (corresponding author)

- [A37] Surbeck, C.Q.; Jiang, S.C.; Ahn, J.H.; **Grant, S.B.** (2006) "Flow fingerprinting fecal pollution and suspended solids in stormwater runoff from an urban coastal watershed" *Environmental Science and Technology* **40**:4435-4441. (corresponding author)
- [A36] Pednekar, A.M.; **Grant, S.B.**; Jeong, Y.; Poon, Y.; Oancea, C. (2005) Influence of climate change, tidal mixing, and watershed urbanization on historical water quality in Newport Bay, a saltwater wetland and tidal embayment in southern California" *Environmental Science and Technology* **39**:9071-9082. (corresponding author)
- [A35] Jeong, Y.; **Grant, S.B.**; Ritter, S.; Pednekar, A.; Candelaria, L.; Winant, C. (2005) "Identifying pollutant sources in tidally mixed systems: case study of fecal indicator bacteria from marinas in Newport Bay, Southern California" *Environmental Science and Technology* **32**:9083-9093. (corresponding author)
- [A34] Ahn, J., **Grant, S.B.**, Surbeck, C.Q., DiGiacomo, P.M., Nezlin, N. (2005) "Coastal water quality impact of storm runoff from an urban watershed in Southern California" *Environmental Science and Technology* **39**:5490- 5953. (corresponding author)
- [A33] **Grant, S.B.**; Kim, J.H.; Jones, B.H; Jenkins, S.A.; Wasyl, J.; Cudaback, C. (2005) "Surf zone entrainment, along-shore transport, and human health implications of pollution from tidal outlets" *J. Geophysical Research: Oceans* **110**:1978-2012. (corresponding author)
- [A32] Kim, J. H., **Grant, S.B.**, Sanders, B. F., McGee, C. D., Largier, J. L. (2004). "Locating sources of surf zone pollution: a mass budget analysis of fecal indicator bacteria at Huntington State Beach, California" *Environmental Science and Technology* **38**:2626-2636. (corresponding author)
- [A31] Reeves, R. L., **Grant, S.B.**, Mrse, R. D., Oancea, C., Sanders, B. F., Boehm, A. (2004). "Scaling and management of fecal indicator bacteria in runoff from a coastal urban watershed in southern California" *Environmental Science and Technology* **38**:2637-2648. (corresponding author)
- [A30] Kim, J. H., **Grant, S.B.** (2004). "Public mis-notification of coastal water quality: A probabilistic analysis of posting errors at Huntington Beach, California" *Environmental Science and Technology* **38**:2947-2505. (highlighted on cover; featured in the front section of the journal; written about in National Public Radio's "All Things Considered", US News and World Report, Scientific American). (corresponding author)
- [A29] Boehm, A., Fuhrman, J., Mrse, R. D., **Grant, S.B.** (2003). "A tiered approach for identification of a human fecal pollution source at a recreational beach: Case study at Avalon Bay, Catalina Island, California" *Environmental Science and Technology* **37**:673-680. (corresponding author)
- [A28] Boehm, A. B., **Grant, S. B.**, Kim, J. H., Mowbray, S. L., McGee, C. D., Clark, C. D., Foley, D. M., Wellman, D. E. (2002) "Decadal and shorter period variability of surf zone water

quality at Huntington Beach, California” *Environmental Science and Technology* **36**:3885-3892. (featured on cover). (corresponding author)

[A27] Redman, J. A., **Grant, S.B.**, Estes, M. K. (2001) “Resolving microscale and macroscale heterogeneity in pathogen filtration” *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **191**:57-70. (corresponding author)

[A26] Boehm, A. B., **Grant, S.B.** (2001) “A steady-state model of particulate organic carbon flux below the mixed-layer and application to the joint global ocean flux study” *Journal Geophysical Research-Oceans* **106**(31):31227-31237.

[A25] **Grant, S.B.**, Poor, C., Kim, J. H. (2001) “Kinetic theories for the coagulation and sedimentation of particles” *Journal of Colloid and Interface Science* **238**:238-250. (corresponding author)

[A24] Sanders, B. F., Green, C. L., Chu, A., **Grant, S.B.** (2001) “Case study: modeling tidal transport of urban runoff in channels using the finite volume method” *ASCE Journal of Hydraulic Engineering* **127**(10):795-804.

[A23] **Grant, S.B.**, Sanders, B. F., Redman, J. A., Kim, J. H., Mrse, R., McGee, C. D., Gardiner, N., Jones, B. H., Sveikovsky, J., Leipzig, V., Brown, A. (2001) “Generation of enterococci bacteria in a coastal salt water marsh and its impact on surf zone water quality” *Environmental Science and Technology* **35**:2407-2415. (corresponding author)

[A22] Redman, J. A., **Grant, S.B.**, Olson, T. M., Estes, M. K. (2001) “Pathogen filtration, heterogeneity, and the potable reuse of wastewater” *Environmental Science and Technology*, **35**:1798-1805. (corresponding author)

[A21] Chin, C. J., Yiacoymi, S., Tsouris, C., Relle, S., **Grant, S.B.** (2000) “Secondary-minimum aggregation of superparamagnetic colloidal particles” *Langmuir* **16**:3641-3650.

[A20] Relle, S., **Grant, S.B.**, Tsouris, C. (1999). “Diffusional coagulation of superparamagnetic particles in the presence of an external magnetic field” *Physica A: Statistical Mechanics and its Applications* **270**:427-443. (corresponding author)

[A19] Boehm, A. B., Poor, C., **Grant, S.B.** (1999). “Particle coagulation and the memory of initial conditions” *Journal Physics A: Mathematical and General* **31**:9241-9254. (corresponding author)

[A18] Redman, J. A., **Grant, S.B.**, Olson, T. M., Adkins, J. M., Jackson, J. L., Castillo, M. S., Yanko, W. A. (1999). “Physicochemical mechanisms responsible for the filtration and mobilization of a filamentous bacteriophage in quartz sand” *Water Research* **33**:43-52. (corresponding author)

- [A17] Boehm, A. B., **Grant, S.B.** (1998). "The influence of coagulation, sedimentation, and grazing by zooplankton on phytoplankton aggregate distributions in aquatic systems" *Journal of Geophysical Research: Oceans* **103**(C8):15601-15612.
- [A16] Relle, S., **Grant, S.B.** (1998) "A one-step process for particle separation by magnetic seeding" *Langmuir* **14**(9):2316-2328. (corresponding author)
- [A15] Walker, H. W., **Grant, S.B.** (1998) "Influence of surface charge and particle size on the stabilization of colloidal particles by model polyelectrolytes" *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **135**:123-133. (corresponding author)
- [A14] Redman, J. A., **Grant, S.B.**, Olson, T. M., Hardy, M. E., Estes, M. K. (1997) "Filtration of recombinant Norwalk virus particles and bacteriophage MS2 in quartz sand: importance of electrostatic interactions" *Environmental Science and Technology* **31**(12):3378-3383. (corresponding author)
- [A13] Duong, M. H., Penrod, S. P., **Grant, S.B.** (1997) "Kinetics of p-Nitrophenol degradation by *Pseudomonas* sp. ATCC29354: an experiment illustrating bioremediation" *Journal of Chemical Education* **74**:1451-1454. (corresponding author)
- [A12] Penrod, S. P., Olson, T. M., **Grant, S.B.** (1996) "The deposition kinetics of two viruses in packed beds of quartz granular media" *Langmuir* **12**(23):5576-5587. (corresponding author)
- [A11] Walker, H. W., **Grant, S.B.** (1996) "Factors influencing the flocculation of colloidal particles by a model anionic polyelectrolyte" *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **119**(2-3):229-239. (corresponding author)
- [A10] **Grant, S.B.**, Pendroy, C. P., Mayer, C. L., Bellin, J. K., Palmer, C. J. (1996) "Prevalence of Enterohemorrhagic *Escherichia coli* in raw and treated municipal sewage" *Applied and Environmental Microbiology* **62**(9):3466-3469. (corresponding author)
- [A9] Walker, H. W., **Grant, S.B.** (1996) "Role of polymer flexibility in the stabilization of colloidal particles by model anionic polyelectrolytes" *Journal of Colloid and Interface Science* **179**:552-560. (corresponding author)
- [A8] Walker, H. W., **Grant, S.B.** (1996) "The coagulation and stabilization of colloidal particles by adsorbed DNA block copolymers: the role of polymer conformation" *Langmuir* **12**(13):3151-3156 (featured on cover). (corresponding author)
- [A7] **Grant, S.B.**, Poor, C., Relle, S. (1996) "Scaling theory and solutions for the steady-state coagulation and settling of fractal aggregates in aquatic systems" *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **107**:155-174. (corresponding author)
- [A6] Walker, H. W., **Grant, S.B.** (1995) "The conformation of DNA block copolymer molecules adsorbed on latex particles as revealed by hydroxyl radical footprinting" *Langmuir* **11**(10):3772-3777. (corresponding author)



[A5] Penrod, S. L., Olson, T. M., **Grant, S.B.** (1995) “Whole particle microelectrophoresis for small viruses and colloids” *Journal of Colloid and Interface Science* **173**:521-523. (corresponding author)

[A4] Grant, S. B. (1995) “Inactivation kinetics of viral aggregates” *ASCE Journal of Environmental Engineering* **121**(4):311-319. (corresponding author)

[A3] Duong, M. H., **Grant, S.B.**, Lidstrom, M. E. (1994) “Transfer solvent chemistry affects mixed-phase hybridization” *Analytical Biochemistry* **220**:431-433. (corresponding author)

[A2] **Grant, S.B.** (1994) “Virus coagulation in aqueous environments” *Environmental Science and Technology* **28**:928-933. (corresponding author)

[A1] **Grant, S.B.**, List, E. J., Lidstrom, M. E. (1993) “Kinetic analysis of virus adsorption and inactivation in batch experiments” *Water Resources Research* **29**:2067-2085 (corresponding author)

#### **Research Journal Letters and Notes (not Peer Reviewed)**

[A50a] **Grant, S.B.**, Marusic, I. (2012) “Response to ‘Letter to the Editor Regarding ‘Crossing Turbulent Boundaries: Interfacial Flux in Environmental Flows’” *Environmental Science and Technology* **46**:920-920.

[A34a] **Grant, S.B.** et al. (2006) “Response to comment on ‘Coastal water quality impact of storm runoff from an urban watershed in southern California’” *Environmental Science and Technology* **40**:3441-3442.

[A51a] Bailey, M. M., **Grant, S.B.**, Cooper, W. J. (2012) “Erratum to ‘In situ disinfection of sewage contaminated shallow groundwater: A Feasibility Study’” *Water Research* **46**:920-920.

#### **Newspaper Articles (not Peer Reviewed)**

[1] **Grant, S.B.** (2002) “Runoff is far greater threat to coast than sewage plume.” Los Angeles Times (Op/Ed Piece in Sunday LA Times)

[2] **Grant, S.B.** (1999). “An all points bulletin: Coast must be cleared” Los Angeles Times (Op/Ed Piece in Sunday LA Times)

#### **Books**

[1] Feldman, D.F.; **Grant, S.B.** et al, *The Water-Sustainable City: Science, Policy, and Practice*, Edward Elgar Publishing, U.K., 2017.

#### **Book Chapters and Conference Proceedings (Peer Reviewed)**

[1] Stewardson, M.J.; **Grant, S.B.** (2012) *Catchment-scale patterns of hyporheic exchange, in IS.Rivers, C4-Eaux Souterraines/Groundwaters.*

[2] Stewardson, M.J.; **Grant, S.B.**; Marusic, I. (2011) “Modeling hyporheic exchange: From the boundary layer to the basin” in *Proceedings of the 19<sup>th</sup> International Congress on Modelling and Simulation*, Perth, Australia, 12-16, December.

[3] Javanmardi, S.; Ganjisaffar, Y.; Lopes, C.; **Grant, S.B.** (2010) “Scientific mashups: The issue of trust in the aggregation of Web 2.0 content” in *Proceedings of the Web Science Conference*, Raleigh, NC, U.S., 26-27, April.

[4] Ganjisaffar, Y.; Javanmardi, S.; **Grant, S.B.** et al. (2008) “CalSWIM: A Wiki-based data sharing platform” in *Proceedings of the 4<sup>th</sup> International Conference of Collaborative Computing: Networking, Applications, and Worksharing*, Orlando, FL, U.S., 13-16.

[5] Kim, J.H.; Ensari, S.; **Grant, S.B.** (2002) *Fate and transport of fecal indicator bacteria in the surf zone at Huntington Beach, California* in *Environmental Problems in Coastal Regions IV*, 371-384.

### **Project Final Reports (Peer Reviewed)**

[1] Grant et al. (2010). *Avalon Bay Water Quality Improvement Project, Catalina Island, California: A Final Report on Shallow Groundwater Characterization*. Clean Beaches Initiative Program, California State Water Resources Control Board, 24, August.

[2] Grant et al. (2010). *Avalon Bay Water Quality Improvement Project, Catalina Island, California: A Final Report on Pilot Disinfection Studies*. Clean Beaches Initiative Program, California State Water Resources Control Board, 24, August.

[3] Grant et al. (2010). *Avalon Bay Water Quality Improvement Project, Catalina Island, California: A Final Report on Source Identification of FIB in Ankle Depth Waters in Avalon Bay*. Clean Beaches Initiative Program, California State Water Resources Control Board, 24, August.

[4] Grant, S. B., Jiang, C., Sanders, B. F., McLaughlin, K., Ahn, J. H., Litton, R. M., Ho, L., Moore, D. (2009). *Newport Bay Fecal Indicator Bacteria Source Identification Project: A final report submitted to the County of Orange and the California Santa Ana Regional Water Quality Control Board*, California State Water Resources Control Board, 26, July.

[5] Grant, S. B., Mrse, R., Jensen-Mullin, C., Bachman, M., Boehm, A., Fuhrman, J., Jones, B. (2006) *Sources and mitigation of water quality impairment in Avalon Bay, Catalina Island*. City of Avalon and the State Water Resources Control Board (includes appendix).

[6] Grant, S. B., Rekhi, N., Pise, N. R., Reeves, R. L., Matsumoto, M., Wistrom, A., Moussa, L., Bay, S., Kayhanian, M. (2003) *A review of the contaminants and toxicity associated with particles in stormwater runoff*. California Department of Transportation (CALTRANS) (includes appendix).

[7] Grant, S. B., Sanders, B., Boehm, A., Arega, G., Ensari, S., Mrse, R., Kang, H., Reeves, R., Kim, J. H., Redman, J., Jiang, S., Chu, W., Choi, S., Clark, C., Litz, L., Sutula, M., Noblet, J., Sobsey, M., McGee, C. (2002). *Coastal Runoff Impact Study (UCI-CRIS), Phase I: Sources and*

*dynamics of fecal indicator bacteria in the Lower Santa Ana River Watershed*. National Water Research Institute. (Technical Completion Report).

[8] Grant, S. B., Webb, C., Sanders, B., Jones, B., Boehm, A., Kim, J., Redman, J., Chu, A., Mrse, R., Gardiner, N., Brown, A. (2000). *Huntington Beach Water Quality Investigation Phase II: An Analysis of Ocean, Surf Zone, Watershed, Sediment, and Groundwater Data Collected from June 1998 through September 2000*. National Water Research Institute.

[9] Grant, S. B., Sanders, B. (2000). *Tidal Transport of Bacteria Between The Talbert Watershed and the Ocean*. National Water Research Institute. (Technical Completion Report).

[10] Grant, S. B. (1994). *Microorganism Detection by Multiple Non-Specific Oligonucleotide Probes, or "Gene Probe Spectroscopy"*. UC Water Resources Center. (Technical Completion Report).

### **Reports (not Peer Reviewed)**

[1] Grant, S. B. (2008). *2008 Academic Plan: UCI Chemical Engineering and Materials Science*. UC Irvine.

[2] Grant, S. B. (2005). *Achieving Excellence at the Intersection of Chemical Engineering and Materials Science*. UC Irvine. (Academic Plan for the Department of Chemical Engineering and Materials Science).

### **Research Grants (as Principal Investigator, PI)**

[1] "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).

[2] "PIRE: Low Energy Options for Making Water from Wastewater," NSF - National Science Foundation, **\$4,882,521** (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/>).

[3] "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)

[4] "Discovery Project: Role of turbulence in transporting waterborne material within streambed sediments and across the sediment-water interface", Australian Research Council, **\$430,000 (AUD)** (July 1, 2013 – June 30, 2016) (with co-PI M. Stewardson)

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

[6] "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)

- [7] "Dynamics of Source and Non-point Source Pollution from an Urban Watershed in Southern California," EPA - Environmental Protection Agency, **\$26,574.00** (August 1, 2005 - July 31, 2008)
- [8] "Dynamics of Point and Non-point Source Fecal Pollution from an Urban Watershed in Southern California," EPA - Environmental Protection Agency, **\$99,861.00** (August 2005 - July 2007).
- [9] "Dynamics of Point and Non-point Source Fecal Pollution from an Urban Watershed in Southern California," National Water Research Institute, **\$375,000.00** (September 1, 2003 - April 9, 2007). (with co-PIs B. Sanders, P. Holden)
- [10] "Dynamics of point and non-point source fecal pollution from an urban watershed in Southern California," US Geological Survey National Institutes for Water Resources and the National Water Research Institute, **\$534,045.00** (September 1, 2003 - February 28, 2007) (with co-PIs B. Sanders, P. Holden)
- [11] "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)
- [12] "Bacterial Sources Study in Western Region of Newport Bay," State of California, Water Resources Control Board, **\$52,000.00** (June 2004 - March 2006)
- [13] "Forecasting Coastal Water Quality with Real-Time Sensor Webs," California Regional Water Quality Control Board, **\$39,000.00** (January 2005 - December 2005)
- [14] "California Sustainable Watershed/Wetland Information Manager (CalSWIM)," County of Orange, **\$40,000.00** (October 2004 - October 2005)
- [15] "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)
- [16] "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)
- [17] "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)
- [18] "Coastal runoff impact study (UCI-CRIS), Phase III: Loading of fecal pollution from an urban watershed in Southern California," National Water Research Institute, **\$50,000.00** (January 1, 2003 - December 30, 2003) (with co-PI B. Sanders)

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

[20] "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)

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

[22] "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).

[23] "Microscale mechanisms involved in virus filtration," sub-contract from Arizona State University, **\$50,000.00** (1999 - 2000).

[24] "Coastal runoff impact study (UCI-CRIS), Phase I: Causes of surf zone pollution in Huntington Beach, California," National Water Research Institute, **\$147,488.00** (November 11, 1999 - October 30, 2000) (with co-PI B. Sanders)

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

[26] "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)

[27] "Investigations of polymer conformation and colloid stability using DNA as a model polyelectrolyte," NSF - National Science Foundation, **\$161,421.00** (September 1992 - September 1994)

[28] "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)**

[1] "CPS Frontier—Collaborative Research: CISTERN—Community Based Intelligent STormwater Networks", NSF – National Science Foundation, **\$5,296,730** (pending) (with PI N. Venkatasubramanian).

[2] "MRI: Acquisition of a high-throughput MIni CARbon DAting System (MICADAS) for sub-milligram scale samples in Earth, environmental and life science research and training", NSF – National Science Foundation, **\$1,986,142** (pending) (with PI C Czimczik).

[3] "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)

[4] "Linkage Project (with Melbourne Water): Sources, Sinks, and Processes of Feecal Contamination in Urban Estuaries: A Case Study of the Lower Yarra River Estuary", Australian Research Council, **\$440,900** (July 1, 2012 – June 30, 2015) (with D. McCarthy as PI, A. Deletic as co-PI)

[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

Grant, S.B., "Low Impact Development, Urban Streams, and Related UCI Research" (invited) TAU-UCI Workshop: Water Management Challenges in Arid and Semi-Arid Regions, Tel Aviv University, Israel (September 20, 2016)

Grant, S.B., "It's Great to be T-Shaped: Environmental Engineering and Water Sustainability" (invited) McGill University, Montreal, Canada (September 12, 2016)

Grant S.B., Askarizadeh, A., Rippey, M.A. "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 27, 2016)

Grant, S.B., "Nitrogen processing in the hyporheic zone and its response to stream-groundwater interactions" (invited) European Geophysical Union, Vienna, Austria (April 21, 2016)

Grant, S.B., "Engineering a Water Sensitive City", (invited) National Academy of Science and Engineering Symposium on The Future of Engineering, Irvine, California (February 23, 2016)

Grant, S.B., "Planetary Boundaries, Regime Shifts, Tipping Points, and Nasty Politics" Social Ecology ACCESS, Irvine, California (February 20, 2016).

Grant, S.B., “From Platypus to Planet: Managing Water Quantity and Quality in Catchments with Agricultural, Urban, and Climate Stressors” (invited) University of California Santa Cruz, Department of Environmental Studies, Santa Cruz, California (January 11, 2016).

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 16, 2015)

Grant, S.B. “From rain gardens to catchments: low impact development (LID) technologies to address hydrologic symptoms of the urban stream syndrome” (invited), USGS Conference on Island Sustainability, Honolulu (December 5, 2015)

Grant, S. B., California State Water Resources Control Board, “What California Can Learn from Southeast Australia’s Response to the Millennium Drought”, State of the Bay Conference, Loyola Marymount University, Los Angeles (invited) (September 9, 2015).

Grant, S. B., Orange County Public Works, “LEED-Certification of Urban Watersheds”, City of Orange (invited) (September 10, 2015).

Grant, S.B. Indo-U.S. Forum, “Cities React and Adapt: a Regime Shift Model for the Multi-Decadal Evolution of Urban Water Demand”, by Skype to India (March 15, 2015)

Grant, S.B., Southern Nevada Water Authority, “Possible Collaboration on Water Demand Forecasting between SNWA, UCI, and Melbourne Water”, UC Irvine (January 13, 2015)

Grant, S.B., National Science Foundation, “UCI Water PIRE Outreach Program”, NSF PIRE PI Conference, Washington D.C. (invited) (December 10, 2014)

Grant, S.B., Water UCI Conference, “Cities React and Adapt: A Transition State Model for the Multi-Decadal Evolution of Urban Water Demand”, UC Irvine (November 19, 2014)

Grant, S.B., Environmental Engineering Seminar Series, “Urban Stream Syndrome and UCI’s NSF funded Water PIRE”, UC Irvine (October 29, 2014)

Grant, S.B., UCI Sustainability Conference, “Cities React and Adapt: Multi-Decadal Dynamics of Water Demand in Southeast Australia”, UC Irvine (October 23, 2014)

Grant, S.B., Symposium on Urbanization and Stream Ecology, “An analytical model for contaminant removal in the hyporheic zone of streams”, Portland, OR (May 15, 2014)

Grant, S.B., UCI Water PIRE All-Hands-On-Deck Meeting, “30,000 Foot Overview of the UCI Water PIRE”, UC Irvine (January 25, 2014)

Grant, S.B., National Science Foundation, “Achievements of the UCI Water PIRE”, NSF PIRE Reverse Site Visit, Washington D.C. (December 11, 2014)

Grant, S.B., Environmental Health Sciences Seminar Series, “Low Energy Options for Making Water from Wastewater”, UCLA, Los Angeles (November 22, 2013)

Grant, S.B., UCI Civil and Environmental Engineering Affiliates, “Low Energy Options for Making Water from Wastewater”, UC Irvine (November 13, 2013)

Grant, S.B., California Stormwater Quality Association (CASQA) Workshop, “Low Energy Options for Making Water from Wastewater”, Tahoe, California (November 12, 2013)

Grant, S.B., Environmental Sustainability Seminar Series, “Low Energy Options for Making Water from Wastewater”, Arizona State University (September 23, 2013)

Grant, S.B., Mechanical Engineering Fluid Mechanics Seminar Series, “Mathematical models of mass transfer across the sediment-water interface in turbulent streams”, University of Melbourne (May 16, 2013)

Grant, S.B., National Science Foundation, “Overview of the UCI Water PIRE”, NSF PIRE PI Conference, Washington D.C. (November 14, 2012)

Grant, S.B., Orange County Sanitation District, “Forecasting Coastal Water Quality”, Costa Mesa, California (June 8, 2011)

Grant, S.B., Environmental Engineering Seminar Series, “Forecasting Coastal Water Quality”, UC Irvine (May 6, 2011)

Grant, S.B. EPA Beaches Conference, “Spectral Multiple Linear Regression: An approach for predicting coastal water quality”, Miami, FL (March 15, 2011)

Grant, S.B., USC Civil and Environmental Engineering Seminar Series, “Measuring and modeling the flux of fecal bacteria across the sediment-water interface in a turbulent stream”, Los Angeles, California (February 15, 2011)

Grant, S. B., Osher Lifelong Learning Institute, "The Beach Boundary Layer and Recreational Water Quality at Enclosed Beaches," UCI Extension, UC Irvine, California (September 30, 2010)

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 9, 2010)

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 20, 2010).

Grant, S. B., Croucher Lecture, "Measuring and Modeling the Flux of Bacteria Across the Sediment-Water Interface in a Turbulent Stream," Department of Civil and Environmental Engineering, University of Hong Kong, Hong Kong (China) (May 11, 2010).



Grant, S. B., Croucher Lecture, "The Beach Boundary Layer and Recreational Water Quality at Enclosed Beaches," Department of Civil and Environmental Engineering, University of Hong Kong, Hong Kong (China) (May 10, 2010)

Grant, S. B., State of California Beach Water Quality Work Group, "Newport Bay Fecal Indicator Bacteria Source Identification Project," State Water Board, Southern California Coastal Water Research Project, Costa Mesa, California (February 3, 2010)

Grant, S. B., Litton, R. (Presenter), 2010 Ocean Sciences Meeting, "Enhancing the predictive capabilities of a water quality model that assesses the fecal impairment of recreational waters by incorporating stratified random sampling design into the model development," American Geophysical Union, Portland, Oregon (February 2, 2010)

Grant, S. B., Croucher ASI on Nearshore Coastal Water Quality, "Beach Water Quality Forecasting: Challenges and Opportunities," University of Hong Kong, Hong Kong (China) (December 16, 2009)

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 3, 2009)

Grant, S. B., National Beaches Conference, "Tidal Saltwater Wetlands and Coastal Water Quality," U.S. Environmental Protection Agency, Huntington Beach, California (April 21, 2009)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Department of Civil and Environmental Engineering, University of Southern California, Los Angeles, California (October 23, 2008)

Grant, S. B., "Sources and Nearshore Transport of Coastal Pollution," U.S. National Science Foundation, Office of Cyberinfrastructure, Washington D.C. (October 10, 2008)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Scripps Institution of Oceanography, UC San Diego, La Jolla, CA. (October 1, 2008)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," School of Engineering, University of Melbourne, Victoria (Australia) (August 8, 2008)

Grant, S. B., "Fecal Bacteria Source Tracking in the Middle Santa Ana River," Riverside Middle Santa Ana River Source Tracking Committee, Riverside, California (June 5, 2008)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Department of Biology, California State University, Los Angeles, California (May 6, 2008)

Grant, S. B., "Tidal Saltwater Wetlands and Coastal Water Quality," Department of Civil and Environmental Engineering, University of Connecticut, Storrs, Connecticut (May 1, 2008)

Grant, S. B., "Sources and Transport Pathways of Urban Coastal Pollution," Department of Chemical and Environmental Engineering, UC Riverside, Riverside, California (November 30, 2007)

Grant, S. B. (Plenary Lecturer), Grand Rounds, UCI Medical School, "Exposure patterns and health effects associated with swimming and surfing in polluted marine waters," UC Irvine, California (October 24, 2007)

Grant, S. B., "Sources and Transport Pathways of Urban Coastal Pollution," Department of Geography and Environmental Engineering, Johns Hopkins University, Baltimore, Maryland (June 6, 2007)

Grant, S. B. (Keynote Speaker), American Geophysical Union Annual Meeting, "Exposure patterns and health effects associated with surfing and swimming in polluted marine waters," Acapulco (Mexico) (May 22, 2007 - May 24, 2007)

Grant, S. B., Workshop on Pathogen Transport in the Environment, "Pathogen transport in coastal systems," Michigan State University, Lansing, Michigan (April 20, 2007)

Grant, S. B., Newport Bay Fecal Coliform TMDL Technical Advisory Committee, "Sources of Fecal Indicator Bacteria Pollution in Newport Bay", Newport Beach, California (April 13, 2007)

Grant, S. B. (Author), Pednekar, A. (Presenter), Annual Conference, "California sustainable watershed/wetland information manager," California Stormwater Quality Association, Sacramento, California (September 25, 2006)

Grant, S. B., Avalon City Council, "Causes and remediation of fecal indicator bacteria impairment in Avalon Bay, Catalina Island," Avalon, Catalina Island, California (August 17, 2006)

Grant, S. B., Hydrology and Hydraulics Technical Group, "CalSWIM: California Sustainable Watershed/Wetland Information Manager," American Society of Civil Engineers, Irvine, California (April 29, 2006)

Grant, S. B., National Water Research Institute Research Advisory Board, "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," Reno, Nevada (April 29, 2006)

Grant, S. B., Ocean Science Meeting, "Concentration fingerprinting fecal indicator bacteria sources in a coastal wetland," American Society of Limnology and Oceanography, Honolulu, Hawaii (February 22, 2006)

Grant, S. B., Legislator Briefings on Science and Policy, "Public mis-notification of coastal water quality," COMPASS and Sea Web, Panel: Protecting California's Ocean and Coast, State Capital Building, Sacramento, California (February 2, 2006)

Grant, S. B. (Keynote Speaker), Western Regional Meeting, "Integrating molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution," American Chemical Society, Anaheim, California (January 23, 2006)

Grant, S. B., "Future of engineering in today's society", School of Engineering, University of Hawaii, Honolulu, Hawaii (January 7, 2006)

Grant, S. B., Wetlands Advisory Board, "Dynamics of point and non-point source fecal pollution in an urban watershed in southern California", City of San Diego, San Diego, California (November 15, 2005)

Grant, S. B., Research Advisory Board Meeting, "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," National Water Research Institute, Costa Mesa, California (October 15, 2005)

Grant, S. B., California Clean Beaches Initiative, "Mixing and swash zone water quality in tidal embayments: contrasting case studies at Avalon Bay and Newport Beach," State of California Water Board, Dana Point Ocean Institute, Dana Point, California (August 16, 2005)

Grant, S. B., Annual Meeting, "Impact of stormwater runoff on coastal water quality," American Chemical Society, Panel: Environmental Colloids Session, San Diego, California (April 25, 2005).

Grant, S. B., Pednekar, A. (Presenter), World Water and Environmental Research Congress, "Water quality in a tidal saltwater wetland: influence of climate change, tidal mixing, and watershed urbanization," American Society of Civil Engineers, Anchorage, Alaska (March 18, 2005)

Grant, S. B., Jeong, Y. (Presenter), Ocean Science Meeting, "Fisher information and analysis of complex environmental signals in coastal water quality monitored at Newport Bay, California," American Society of Limnology and Oceanography, Salt Lake City, Utah (February 25, 2005)

Grant, S. B., Borchardt Conference on Advancements in Water and Wastewater Treatment, "Water Quality Impact of Storm Water Runoff from the Santa Ana River, southern California," College of Engineering, University of Michigan, Ann Arbor, Michigan (February 23, 2005)

Grant, S. B., Annual Meeting, "Now-casting coastal water quality," National Council on Water Quality Monitoring, San Jose, California (December 7, 2004)

Grant, S. B., California Beach Water Quality Work Group, "Impacts of Storm Water Runoff on Coastal Water Quality," Southern California Coastal Water Research Project, Westminster, California (November 16, 2004)

Grant, S. B., Research Advisory Board Meeting, "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," National Water Research Institute, Chicago, Illinois (October 15, 2004)

Grant, S. B., National Beaches Conference, "Public mis-notification of coastal water quality," U.S. Environmental Protection Agency, San Diego, California (October 13, 2004).

Grant, S. B., Water Quality Stakeholders Group, "Research update: stormwater runoff from the Santa Ana River," County of San Bernadino, San Bernadino, California (October 5, 2004)

Grant, S. B., Urban Runoff Roundtable, "Urban runoff: a landside perspective," National Water Research Institute, Irvine, California (August 4, 2004)

Grant, S. B., CalIT2 Hydrology Workshop, "Combining molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution," CalIT2, San Diego, California (May 17, 2004)

Grant, S. B., Newkirk Lecture, "Surf zone pollution: science, sources, and public notices," Newkirk Center for Science and Society, UC Irvine, Irvine, California (May 6, 2004)

Grant, S. B., Orange County Younger Members Forum, "Troubled Waters: Our Ocean Our Beaches," American Society of Civil Engineers, Irvine, California (April 27, 2004)

Grant, S. B., Research Advisory Board Meeting, "Continuing Project Review: Dynamics of point and non-point source fecal pollution from an urban watershed in southern California," National Water Research Institute, Costa Mesa, CA. (April 24, 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 Environmental Engineering Science, Caltech, Pasadena, California (April 7, 2004)

Grant, S. B., Ocean Science Meeting, "Public mis-notification of coastal water quality," American Society of Limnology and Oceanography, Honolulu, Hawaii (February 16, 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 5, 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 Chemical Engineering, UCLA, Los Angeles, California (January 30, 2004)

Grant, S. B., Research Advisory Board Meeting, "Progress Report: UCI Urban watershed runoff studies (Phase III)," National Water Research Institute, Airlie Conference Center, Warrenton, Virginia (October 17, 2003)

Grant, S. B., "Locating and Quantifying Sources of Surf Zone Pollution," Donald Bren School of Environmental Management, UC Santa Barbara, California (January 27, 2003)

Grant, S. B., "Locating and Quantifying Sources of Surf Zone Pollution," Department of Civil and Environmental Engineering, UC Davis, Davis, California (January 21, 2003)

Grant, S. B., "Ocean monitoring and surf zone water quality," Southern California Association of Governments, Panel: Water Policy Task Force, Los Angeles, California (December 12, 2002)

Grant, S. B., "Ocean Water Quality in Surf City: A Scientific Perspective," Water Advisory Committee of Orange County, Fountain Valley, California (November 1, 2002)

Grant, S. B., Water Quality of Lakes, Rivers, and Coastal Zones, "Decadal and shorter period variability of fecal pollution at Huntington Beach, California," American Society of Limnology and Oceanography, UC Irvine, California (June 14, 2002)

Grant, S. B., Workshop on Particles and Polymers Near Interfaces: Fundamentals and Applications, "Role of Interfacial Forces in the Transmission of Pathogens in the Environment," Oud Poelgeest, The Netherlands (March 23, 2002 - March 26, 2002)

Grant, S. B., Clark, C. (Presenter), Ocean Sciences Meeting, "Diurnal photochemical and biological processes of CDOM in southern California coastal waters," American Geophysical Union, Honolulu, Hawaii (February 11, 2002 - February 15, 2002)

Grant, S. B., Boehm, A. (Presenter), Ocean Sciences Meeting, "Long and short term variability in ocean water quality at Huntington Beach, CA," American Geophysical Union, Honolulu, Hawaii (February 11, 2002 - February 15, 2002)

Grant, S. B., Clark, C. (Presenter), Ocean Sciences Meeting, "Variability of hydrogen peroxide, a CDOM photochemical product, in the surf zone," American Geophysical Union, Honolulu, Hawaii (February 11, 2002 - February 15, 2002)

Grant, S. B. (Author), Redman, J. (Presenter), Annual Meeting, "Influence of Heterogeneity on Virus Filtration in Porous Media," American Geophysical Union, Panel: Pathogen Transport, San Francisco, California (December 10, 2001 - December 15, 2001)

Grant, S. B., Urban Watershed Conference, "Urban Watershed Impacts on Coastal Beaches," National Water Research Institute, Costa Mesa, California (October 17, 2001 - October 19, 2001)

Grant, S. B., UCI CEO Roundtable Retreat, "The Policy and Perception of Beach Water Quality," UCI Advancement (June 7, 2001)

Grant, S. B., UCI Chancellor's Club Lecture Series, "Pollution in the Surf: the Science and Perception of Beach Water Quality," UC Irvine, California (May 16, 2001)

Grant, S. B., Charge Inversion Workshop, "DNA as a model polymer for coagulation studies," Theoretical Physics Institute, University of Minnesota, Minneapolis, Minnesota (May 11, 2001 - May 13, 2001)

Grant, S. B., "The Policy and Perception of Beach Water Quality," Department of Civil and Environmental Engineering, UCLA, Los Angeles, California (January 16, 2001)

Grant, S. B., W.M. Keck Lecture Series, "The Policy and Science of Clean Beaches: Lessons from Huntington Beach," Chapman University, Chapman, California (November 28, 2000)

Grant, S. B., "The Sun, The Moon, and Bacterial Pollution at Huntington Beach," Department of Chemical and Environmental Engineering, UC Riverside, Riverside, California (June 6, 2000)

Grant, S. B., City Council, "Ocean Water Quality: Problems and Progress," City of Laguna Beach, Laguna Beach, California (March 9, 2000)

Grant, S. B., USC Sea Grant Blue Ribbon Peer Review Panel, "Tidal Transport of Bacteria Between the Talbert Watershed and the Ocean," National Water Research Institute, Orange County, California (March 1, 2000)

Grant, S. B. (Author), Boehm, A. (Presenter), Annual Meeting, "Influence of coagulation, sedimentation, and grazing by zooplankton on phytoplankton aggregate distribution below the mixed layer," American Chemical Society, Anaheim, California (March 21, 1999)

Grant, S. B., Annual Meeting, "The effects of biofilms on the filtration of recombinant Norwalk virus particles in capillary columns," American Chemical Society, Anaheim, California (March 21, 1999)

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 30, 1998)

Grant, S. B., "Drinking Water Pollution and Your Health," St. Mark Presbyterian Church, Newport Beach, California (September 13, 1998)

Grant, S. B., National Research Council/Water Science and Technology Board, "Virus Filtration and Water Reclamation," National Academy of Sciences, Beckman Academy of Sciences, Irvine, California (February 2, 1998)

Grant, S. B. (Author), Redman, J. (Presenter), Fall Meeting, "Physicochemical mechanisms governing virus filtration," American Geophysical Union, San Francisco, California (December 9, 1997)

Grant, S. B., CEE Affiliates Quarterly Meeting, "Future of Water Reuse in Orange County," Department of Civil and Environmental Engineering, UC Irvine, California (November 4, 1997)

Grant, S. B., Workshop on Coastal Pollution, "Biological indications of coastal pollution," National Science Foundation, Milwaukee, Wisconsin (October 17, 1997)

Grant, S. B. (Author), Relle, S. (Presenter), 47th Canadian Chemical Engineering Conference, "A theoretical model for particle separation by magnetic seeding," Canadian Chemical Engineering Society, Edmonton, Alberta (Canada) (October 8, 1997)

Grant, S. B., 47th Canadian Chemical Engineering Conference, "The removal of fluidborne particles by coagulation: physical insights based on mathematical solutions," Canadian Chemical Engineering Society, Edmonton, Alberta (Canada) (October 8, 1997)

Grant, S. B., Colloid and Surface Science Symposium, "Factors influencing the stabilization of particles by a model polyelectrolyte," American Chemical Society, Panel: Environmental Phenomena Program, University of Delaware, Newark, Delaware (July 2, 1997)

Grant, S. B., Colloid and Surface Science Symposium, "The importance of pore water pH in the transmission of Norwalk Virus through porous media studied using recombinant Norwalk Virus Particles," American Chemical Society, Panel: Environmental Phenomena Program, University of Delaware, Newark, Delaware (July 2, 1997)

Grant, S. B. (Author), Redman, J. (Presenter), UC Water Reuse Research Conference, "An Electrostatic Mechanism for the Filtration of a Filamentous Bacteriophage in Quartz Sand," UC Water Research Foundation, Monterey, California (June 6, 1997)

Grant, S. B., UC Water Reuse Research Conference, "Recombinant virus particles and water reuse in the 21st century," UC Water Research Foundation, Monterey, California (June 6, 1997)

Grant, S. B., "Virus Filtration and Water Reuse in the 21st Century," Department of Civil and Environmental Engineering, UCLA, Los Angeles, California (April 29, 1997)

Grant, S. B., "Recombinant virus particles and water reuse in the 21st century," Department of Environmental Engineering Science, Caltech, Pasadena, California (January 16, 1997)

Grant, S. B., 70th Colloid and Surface Science Symposium, "Scaling theory and solutions for the steady-state coagulation and settling of fractal aggregates in aqueous environments," American Chemical Society, Panel: Environmental Phenomena Program, Clarkson University, Potsdam, New York (July 11, 1996 - July 16, 1996)

Grant, S. B., 70th Colloid and Surface Science Symposium, "The coagulation and stabilization of colloidal particles by model anionic polyelectrolytes," American Chemical Society, Panel: Environmental Phenomena Program, Clarkson University, Potsdam, New York (July 11, 1996 - July 16, 1996)

Grant, S. B., 70th Colloid and Surface Science Symposium, "The deposition kinetics of two viruses in packed beds of quartz granular media," American Chemical Society, Panel:

Environmental Phenomena Program, Clarkson University, Potsdam, New York (June 11, 1996 - June 16, 1996)

Grant, S. B., Symposium on Virus in Groundwater, "Norwalk Recombinant Virus-Like-Particles (rVLPs) for Studying Natural Groundwater Disinfection," National Water Research Institute/US Environmental Protection Agency, Washington D.C. (March 10, 1996)

Grant, S. B., The 1995 Water Seminar, "Gene Probe Spectroscopy: A New Approach for Detecting Microorganisms in Water Samples," National Water Research Institute/UC Water Resources Center, National Academies of Sciences, Irvine, California (September 13, 1995)

Grant, S. B., 69th Colloid Science Symposium, "DNA as a model polymer for adsorption studies," American Chemical Society, Panel: Biopolymers at Interfaces, University of Utah, Salt Lake City, Utah (June 11, 1995 - June 14, 1995)

Grant, S. B., Municipal Water Quality Investigations, "DNA Diagnostics for Tracking Microbial Contaminants in the Environment," 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)

Grant, S. B., Annual Meeting, "Virus inactivation and coagulation in aqueous environments," American Chemical Society, Panel: Division of Environmental Chemistry, San Diego, California (March 13, 1994 - March 17, 1994)

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).

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 (since 1998)**

[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, undergrad enrollment: ~100)
- Mass Transport in Environmental Systems (WQ 2015, 2016, graduate enrollment: ~15)
- Urban Water Sustainability (FQ 2013, 2014, 2015, 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)

**UCI Post-doctoral Researcher Supervision**

- 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. Youngsul Jeong (June 2006 - September 2007)  
Current Position: no academic position
- 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: Professor and Civil Engineering Program Director, Department of Mechanical Engineering, State University New York (SUNY-Stony Brook)

#### **University of Melbourne Post-doctoral Researcher Supervision**

- Dr. Lin Ho (July 2011-July 2012)  
Current Position: Chemical Engineer, Yorke Engineering (San Juan Capistrano, California)
- Dr. Eleanor Gee (June 2013 - June 2015)  
Current Position: Research Engineer, Bureau of Meteorology (Melbourne, Australia)
- Dr. Roser Casas-Mulet (July 2014-2016)

#### **UCI Graduate Student Researcher Supervision (Committee Chair, current students)**

- Ms. Morvarid Azizian (2012-present, advanced to PhD candidate 2015)
- Ms. Asal Askarizadeh (2013-present, advanced to PhD candidate 2015)
- Ms. Kimberly Duong (2015-present)
- Ms. Emily Parker (2014-present)
- Ms. Azadeh Hemati (2014-present)

#### **UCI Graduate Student Researcher Supervision (Chair, former students)**

- Morgan Bailey (2009-2013)  
Current Position: National Institute of Health Global Health Fellow at UC San Francisco and Operations Director, ECOLIFE Conservation
- Lin Ho (2005-2010)  
Current Position: Chemical Engineer, Yorke Engineering (San Juan Capistrano, California)
- Rachel Litton (2006-2010)  
Current Position: no academic appointment
- Abhishek Pednekar (2002-2007)  
Current Position: Senior Engineer/Scientist, Research and Development Division, Honeywell UOP (Chicago, IL)
  
- Cristiane Q. Surbeck (2001-2007)

Current Position: Associate Professor of Environmental Engineering (University of Mississippi) and Vice President Elect of ASCE Environmental Water Resources Institute (EWRI)

- Youngsul Jeong (2002-2006)

Current Position: no academic appointment

- Jong Ho Ahn (2001-2007)

Current Position: Senior Research Fellow, U.N. Korea Environment Institute, Policy Research Group, Division of Water Environment (Seoul, Korea)

- Joon Ha Kim (1997-2003)

Current Position: Professor, School of Environmental Science and Engineering, Guangju Institute of Science and Technology (South Korea)

- Jeremy Redman (1997 – 2001)

Current Position: Lecturer, Department of Civil and Environmental Engineering, California State University Long Beach

- 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

- 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)