

CURRICULUM VITAE

NAME: Stanley Baugh Grant

OFFICE ADDRESS: 916 Engineering Tower, Zot Code: 2575
Department of Chemical Engineering & Material Science
University of California, Irvine
Irvine, CA 92697

CURRENT POSITION: Professor of Chemical Engineering and Materials Science
Professor of Civil and Environmental Engineering (courtesy appointment)

EDUCATION: Ph.D., Environmental Engineering & Science (minor in Applied Biology), 1992
California Institute of Technology
Pasadena, CA.
Thesis Title: "Detection and Partitioning of Bacteriophage in Natural Aquatic Environments"
Thesis Advisor: Dr. Mary E. Lidstrom
Thesis co-Advisor: Dr. E. John List

M.S., Environmental Engineering & Science, 1990
California Institute of Technology
Pasadena, CA.

B.S. with distinction, Geology, 1985
Stanford University
Palo Alto, CA.

PROFESSIONAL INTERESTS:

Environmental Engineering, Sustainability of Urban Systems, Recreational Water Quality, Particle Transport; Environmental Microbiology

ACADEMIC APPOINTMENTS (ALL UCI):

Assistant Professor of Environmental Engineering
July 1991 – June 1996

Associate Professor of Environmental Engineering
July 1996 – June 2001

Professor of Chemical Engineering and Materials Science
June 2001 to present

Professor of Civil and Environmental Engineering
July 2009 to present

Chair, Department of Chemical Engineering and Materials Science
University of California, Irvine
September 2002 to June 2009

INDUSTRIAL APPOINTMENTS:

Seismic Analyst
Unocal Corporation
January 1985 – August 1987

AWARDS AND HONORS:

- Graduate Student Association, Chemical Eng. and Materials Science, Appreciation Award, 2009
- Finalist, Dean of Engineering, College of Engineering, University of Hawaii (Manoa Campus), 2006
- Conservator of the Year for coastal research at Huntington Beach, 2002
(Bolsa Chica Conservancy, with commendations from County of Orange, City of Huntington Beach, California Legislature, California Senate, and US Congress)
- Honorary Member, Golden Key International Honor Society, 2001.
- Commencement Speaker, Schools of Engineering and Social Ecology, 2001
- W.M. Keck Fellow Award (Chapman University), 2000.
- Distinguished Asst. Professor Award for Teaching, UCI Academic Senate, 1998
- NSF Faculty Early Career Development Award, 1995-1999
- School of Engineering (SOE) Outstanding Assistant Professor Award, 1994
- Selected Most Outstanding Professor, SOE Senior Undergraduates, 1993
- Finalist, ASCE Research Initiation Grant Award, 1992
- UCI Faculty Research Fellowship, 1992
- National Research Service Award Fellowship, NIH, 1989-1991
- Caltech Institute Fellowship, 1987-1988
- Honorable Mention, NSF Graduate Fellowship Competition, 1987

PROFESSIONAL ASSOCIATION MEMBERSHIPS:

American Chemical Society
American Association for the Advancement of Science
American Society of Civil Engineers

PROFESSIONAL SERVICE:

MEMBER:

NRC/NAE “Committee on Reducing Stormwater Discharge Contributions to Water Pollution”
(2006-2008)

US EPA Science Advisory Board (2003-2009)

- Member, Drinking Water Panel (2003-2009)
- Member, Science and Technology Achievements Award Panel (2004-2010)

NSF Proposal Review Panel for MUSES: Material Use in Science, Engineering, and Society, 2006

UC Water Resources Center Advisory Board (2000-2002)

Research Advisory Board, Water Environment Research Foundation (2001-2002)

Technical Advisory Committee, Orange County Sanitation District (2001-2002)

National Water Research Institute Blue Ribbon Peer Review Panel (2000)

US EPA Drinking Water Proposal Review Panel (2000)

Water Environment Research Foundation Proposal Review Panel (1999-2000)

NSF-EPA Water & Watersheds Proposal Review Panel (1996)

ADHOC REVIEWER:

Advances in Environmental Research; Applied and Environmental Microbiology); Applied Math and Computation ;ASCE J. Environmental Engineering ; Colloids and Surfaces A ; Environmental Sciences & Technology ; Industrial & Engineering Chemistry Research; Journal of Colloid and Interface Science ; Langmuir ; Water Resources Research; Water Research; Institute for Coastal and Estuarine Environmental Technology; National Science Foundation; Environmental Protection Agency (1997, 1998, 2000); UC Water Resources Center (1998, 2000); The Petroleum Research Fund (1998, 2000, 2003); University of Wisconsin Sea Grant College Program (2000)

POST-DOCTORAL ADVISEES:

Jong Ho Ahn (July 2007 to present)
Karen McLaughlin, Ph.D. (October 2005 - February 2007)
Youngsul Jeong (June 2006 – September 2007)
Joon Ha Kim, Ph.D. (2003-2004)
Semsi Ensari, Ph.D. (2001-2003)
Alexandria Boehm, Ph.D. (2000-2002)
Jeremy Redman, Ph.D. (2001-2002)
Harold Walker, Ph.D. (1996)

PH.D. ADVISEES:

Rachel Litton, Ph.D. expected July 2010

“Water quality impacts of raw and treated sewage on designated marine and freshwater recreational sites and beaches”

Lin Ho, Ph.D. expected September 2010

“Influence of currents and bed shear on water quality in tidal embayments and estuaries”

Morgan Baily, Ph.D. expected July 2011

“Remediation of sewage-contaminated shallow groundwater in Avalon Bay, California”

Jong Ho Ahn, Ph.D., July 2007

“Particle Size Distributions in Stormwater Runoff and the Coastal Ocean”

Current Position: Post-doctoral Researcher, Environmental Engineering, UCI

Cristiane Surbeck, Ph.D., July 2007

"Dynamics of Point and Non-Point Source Fecal Pollution from an Urban Watershed in Southern California"

Recipient: EPA STAR Graduate Fellowship

Current Position: Assistant Professor of Civil and Environmental Engineering, University of Mississippi

Abhishek Pednekar, Ph.D., July 2007

"Measuring, Modeling, and Managing Runoff Impacts on Coastal Wetlands”

Current Position: Consultant for Parsons Engineering, Pasadena, CA.

Youngsul Jeong, Ph.D. June 2006

"Now-casting coastal water quality using conditional probabilities and artificial neural networks"

Recipient: UC Marine Council Graduate Fellowship for NEOCO Research
Current Position: Post-doctoral Researcher, UCI

Joon Ha Kim, Ph.D. September 2003

"Generation and Fate of Pollutants in the Lower Santa Ana River, California"

Recipient of the National Water Research Institute Graduate Fellowship

Recipient: UC Marine Council Graduate Fellowship

Current Position: Assistant Professor of Environmental Science and Engineering, Guangju Institute of Science and Technology, S. Korea

Jeremy Redman, Ph.D. June 2001

"Filtration of Norwalk Virus Studied Using Recombinant Norwalk Virus-Like Particles"

Recipient: UCI Regent's Fellowship, 1996

Postdoctoral Fellow, Yale University, 2002-2005

Current Position: Assistant Professor of Civil and Environmental Engineering, California State University, Long Beach

Alexandria Boehm, Ph.D. June 2000

"An Integrative Investigation of Particle Distributions in Natural Waters"

Recipient:

UC Chancellor's Graduate Fellowship, 1997

UC Faculty Fellow, Academic Years 2000/2001 and 2001/2002.

Current Position: Associate Professor of Civil and Environmental Engineering, Stanford University

Scarlet Relle, Ph.D. 1998

"Coagulation and Sedimentation of Magnetic Particles in Water"

Recipient: UCI Graduate Opportunity Fellowship (1995 and 1996); Visiting Student Fellowship, Institute for Rock Magnetism, U of Minnesota (1996); Visiting Scholar, Oak Ridge National Laboratories (1998)

Positions: Offered Assistant Professorship at Chapman University, Orange, CA. (declined)

Currently, instructor at California State University, Northridge

Harold Walker, Ph.D. 1996

"Effect of Model DNA Polymers on the Coagulation Kinetics of Polystyrene Latex Particles"

Recipient of Irvine Ranch Water District Fellowship (1995) & Flour Daniel Graduate Fellowship (1996)

Current Position: Associate Professor of Civil and Environmental Engineering, The Ohio State University.

M.S. ADVISEES: (Thesis Option)

Marc Esplugas, M.S., 2007

"Covariance of temperature, salinity, and fecal indicator bacteria within and across the surf zone"

Terrence Chen, M.S. 2005

"The Transition from Coagulation to Flocculation"

Ryan Reeves, M.S. 2003

"Flux of Indicator Bacteria into the Ocean from Urban Watersheds"

Samuel Penrod, M.S. 1996

"Microelectrophoresis and Packed Bed Filtration of Bacteriophage MS2 and Lambda"

Chris Pendroy, M.S. 1995

"Evaluation of Wastewater Effluent as a Source of Specific bacterial Pathogens in Coastal Environments"

EXTRAMURAL FUNDING:

- [1] "Causes and mitigation of coastal pollution from sewage-contaminated groundwater", submitted to the National Science Foundation, request \$299,999.
- [2] "WSC Category 2: The cyber-water grid (CWG)—a modeling platform for integrative regional water management in the face of climate change", submitted to the National Science Foundation, request \$5,000,000.
- [3] "Avalon Bay Water Quality Improvement Study", California State Water Quality Control Board, Clean Beaches Initiative, 10/06-9/10, \$1,355,000; 80% effort with following co-PIs: J. Largier (UC Davis/ Bodega Bay Marine Institute), A. Bera (private consultant).
- [4] "Newport Bay Fecal Coliform Source Identification and Management Plan", County of Orange, 2/05-2/07, \$745,000, (PI Portion: \$624,772, 90% effort with the following co-PIs: B.F. Sanders, S. Jiang)
- [5] "Dynamics of source and non-point source pollution from an urban watershed in S. California", EPA STAR Fellowship, 8/05-7/07, \$99,861, PI (award to graduate student C. Surbeck).
- [6] "California Sustainable Watershed/Wetland Information Manager (CalSWIM)", County of Orange, 10/04-10/05, \$40,000, PI (100% effort)
- [7] "Bacterial Sources Study in Western Region of Newport Bay", State of California, Water Resources Control Board, 6/04-3/06, \$52,000, PI (100% effort).
- [8] "Forecasting Coastal Water Quality with Real-Time Sensor Webs", CA Regional Water Quality Control Board, 1/05-12/05, \$39,000, PI (100% effort)
- [9] "Identification and control of non-point sources of microbial pollution", U.S. EPA-ORD-NCERQA STAR Competition, 8/00-01/05, \$895,234, co-P.I., (co-PI portion: \$205,967, 40% effort), with Brett Sanders (PI) and co-PIs Mark Sobsey (UNC), Alex Horne (UCB), Robin Keller (UCI).
- [10] "Coastal runoff impact study (UCI-CRIS), Phase III: Loading of fecal pollution from an urban watershed in Southern California", National Water Research Institute, 1/1/03-12/30/03, \$50,000, PI (85% effort), one co-PI Brett F. Sanders (UCI).
- [11] "Water quality impact of a lagoon breach", Southern California Edison, 10/1/02-12/30/03, \$75,000, PI (100% effort) (run as a sales and service contract)
- [12] "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, 9/1/2003-2/28/07, \$534,045 (\$159,045 from NIWR, and \$375,000 from NWRI and the County of Orange), P.I. (60% effort), two co-PIs Brett Sanders (UCI) and Patricia Holden (UCSB).

EXTRAMURAL FUNDING: (Cont'd)

- [13] "Coastal water quality: The role of wetlands in mitigating the effects of urban and rural runoff", UC Marine Council Multi-campus Competition, 7/1/02-6/30/05, \$663,960, PI (PI Portion: \$210,195, 60% effort), four co-PIs Brett Sanders (UCI), Richard Ambrose (UCLA), Lisa Levin (UCSD/SIO), and Clinton Winant (UCSD/SIO).
- [14] "Huntington Beach water quality investigation-Phase III", Orange County Sanitation District, 9/1/01-8/31/02, \$100,000, PI (95% effort), one co-PI Brett F. Sanders (UCI).
- [15] "Source identification of fecal indicator pollution in Avalon Bay, California" LA Regional Water Quality Control Board, 9/1/01-9/1/03 \$45,620, PI (100% effort) (run as a sales and service contract).
- [16] "Contribution of marinas to fecal indicator bacteria impairment in Newport Bay, California", Santa Ana Regional Water Quality Control Board, 7/1/02-9/1/03 \$126,096, PI (100%) (run as a sales and service contract).
- [17] "Pollutants associated with storm water runoff particle size distributions, Phase I", Caltrans, 2/01/01-6/30/01, \$145,037, PI (60% effort), three co-PIs Steve Bay (SCCWRP), Anders Wistrom (UCR), Mark Matsumoto (UCR).
- [18] "Coastal runoff impact study (UCI-CRIS), Phase II: Sources and dynamics of pollutants in the lower Santa Ana River watershed", National Water Research Institute, matching funds from the California State Water Resources Control Board, Orange County and the Cities of Huntington Beach, Fountain Valley, Costa Mesa, and Santa Ana, 8/1/00-5/1/02, \$601,232 (including \$447,811 in cash, \$85,721 in supply gifts from Orange County Sanitation District, and \$67,700 as in-kind cost contributions from OC PFRD, including station construction) PI (65% effort), two co-PIs Brett Sanders and Sunny Jiang.
- [19] "Coastal runoff impact study (UCI-CRIS)-Phase I: Causes of surf zone pollution in Huntington Beach, California", National Water Research Institute, matching funds from Orange County and the Cities of Huntington Beach, Fountain Valley, Costa Mesa, and Santa Ana, 11/1/99-10/30/00, \$239,188 (with \$91,700 provided as in-kind cost contributions) PI, (75% effort), one co-PI Brett F. Sanders.
- [20] "Microscale mechanisms involved in virus filtration" Water Environment Research Foundation (through Arizona State U.), \$50,000, PI (100% effort).
- [21] "Coagulation and settling of particles in aquatic environments", NSF CAREER Award, 7/95-6/00, \$425,000 (including \$350,000 from NSF, \$41,100 from the National Water Research Institute, and \$33,900 from the Orange County Water District), PI (100% effort).
- [22] "Norwalk Virus-Like Particles (VLPs) for studying natural groundwater disinfection", NSF- EPA STAR Water and Watersheds Program, 11/95-10/98, \$700,000 (\$493,654 awarded to UCI, \$206,346 to Baylor College of Medicine), PI (65% effort), co-PIs Oladele Ogunseitan (UCI) and Mary Estes (Baylor COM).
- [23] "Investigations of polymer conformation and colloid stability using DNA as a model polyelectrolyte", NSF Chemical and Thermal Systems Division, 9/92-9/94, \$161,421, PI (100% effort).
- [24] "Gene probe spectroscopy: A new approach for detecting microorganisms in water samples", U.C. Water Resources Center, 7/92-6/94, \$43,000, PI (100% effort).

EXTRAMURAL FUNDING: (Cont'd)

- [25] "Detection of enterotoxigenic *E. coli* in treated and untreated sewage", County Sanitation Districts of Orange County, California 7/92-1/94, \$100,141, PI (100% effort).
- [26] "DNA-tagged latex particles as tracers for environmental contaminants", 7/92-6/93, UC Faculty Research Grant, \$4,980, PI (100% effort).
- [27] "Investigations of the effects of polyelectrolyte coatings on colloid transport in porous media", DOE, 8/92-7/93, \$105,358, co-P.I., (25% effort), Terese Olson (UCI) as PI.
- [28] "Deposition mechanisms influencing virus transport in porous media", NWRI/EPA, 1/93-12/94, \$137,000, co-PI (40% effort), with Terri Olson (UCI) as P.I. and Costas Chrysikopolous (co-PI).
- [29] "An integrated course series in environmental chemistry and microbiology", NSF Department of Undergraduate Education, 9/94-8/96, \$61,422 (\$30,711 from NSF and \$30,711 in matching funds from UCI), co-P.I., (50% effort), with T.M. Olson as PI.

PUBLICATIONS:

Refereed Journal Articles

- A48. Grant, S.B. and Sanders, B.F., "The beach boundary layer: A framework for addressing recreational water quality impairment at enclosed beaches", submitted May 2010 to *Environmental Science and Technology*.
- A47. Litton, R.M., Ahn, J.H., Sercu, B., Holden, P.A., Sedlak, D.L., Grant, S.B., "Growth of naturalized *Enterococcus* in streambed sediments: limit nutrients or adopt new fecal markers, submitted March 2010 to *Environmental Science and Technology*.
- A46. Grant, S.B., Litton, R.M., Ahn, J.H. "Measuring and modeling the flux of fecal bacteria across the sediment-water interface in a turbulent stream", submitted April 2010 to *Water Resources Research*.
- 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.
- A44. Clark, C.D., De Bruyn, W.J., 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 coastal waters" *Limnology and Oceanography* 53:1923-1933.
- A42. Jeong, Y., B.F. Sanders, K. McLaughlin, **S.B. Grant** (2008) "Treatment of dry weather urban runoff in tidal marshes: A longitudinal study of the Talbert Marsh, southern California", *Environmental Science and Technology*, 42:3609-3614.
- A41. McLaughlin, K., Ahn, J.H., Litton, R.M., **S.B. Grant** (2007) "Use of Salinity Mixing Models to Estimate the Contribution of Creek Water Fecal Indicator Bacteria to an Estuarine Environment", *Water Research* (special issue on Microbial Source Tracking) 41:3595-3604.

- A40. Ahn, J.H., **S.B. Grant** (2007) "Size distribution, sources, and seasonality of suspended particles in southern California marine bathing waters", Environmental Science and Technology, **41**: 695-702.
- A39. **Grant, S.B.**, J. H. Ahn, C.Q. Surbeck, S.C. Jiang, N.P. Nezlin, P.M. DiGiacomo (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.
- A38. Jeong, Y., B.F. Sanders, **S.B. Grant** (2006) "The information content of high frequency environmental monitoring data signals pollution events in the coastal ocean" Environmental Science and Technology, **40**:6215-6220.
- A37. Surbeck, C.Q., S.C. Jiang, J.H. Ahn, **S. B. Grant** (2006) "Flow fingerprinting fecal pollution and suspended solids in storm water runoff from an urban coastal watershed" Environmental Science and Technology, **40**:4435-4441.
- A36. Pednekar, A.M., **S.B. Grant**, Y. Jeong, Y. Poon, C. Oancea (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.
- A35. Jeong, Y., **S.B. Grant**, S. Ritter, A. Pednekar, L. Candelaria, C. Winant (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, **39**:9083-9093.
- A34. Ahn, J., **S.B. Grant**, C.Q. Surbeck, P.M. DiGiacomo, N. Nezlin, P. DiGiacomo (2005) "Coastal water quality impact of storm runoff from an urban watershed in southern California", Environmental Science and Technology, **39**: 5490-5953.
- A33. **S.B. Grant**, J.H. Kim, B.H. Jones, S.A. Jenkins, J. Wasyl, C. Cudaback (2005) "Surf zone entrainment, alongshore transport, and human health implications of pollution from tidal outlets" J. Geophysical Research-Oceans **110**:C10025.
- A32. Kim, J.H., **S.B. Grant**, B.F. Sanders, C.D. McGee, J.L. Largier, (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.
- A31. Reeves, R.L., **S.B. Grant**, R.D. Mrse, C.M.C. Oancea, B.F. Sanders, A.B. Boehm (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.
- A30. Kim, J.H. and **S.B. Grant** (2004) "Public mis-notification of coastal water quality: A probabilistic analysis of posting errors at Huntington Beach, California", Environmental Science and Technology, **38**:2497-2505 (*highlighted on the cover of the journal; featured in the front section of the journal; featured on National Public Radio's "All Things Considered"; featured in US News and World Report; featured in Scientific American*).
- A29. Boehm, A., J. Fuhrman, R.D. Mrse, , **S.B. Grant** (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.

- A28. Boehm, A.B., , **S.B. Grant**, J.H. Kim, S.L. Mowbray, C.D. McGee, C.D. Clark, C.M. Foley, D.E. Wellman (2002) "Decadal and shorter period variability of surf zone water quality at Huntington Beach, California", Environmental Science and Technology, **36**:3885-3892 (*featured on the cover of the journal*)
- A27. Redman, J.A., **S.B. Grant**, and M.K. Estes (2001) "Resolving microscale and macroscale heterogeneity in pathogen filtration", Colloids and Surfaces A: Physicochemical and Engineering Aspects, **191**:57-70.
- A26. Boehm, A.B. and **S.B. Grant** (2001) "A steady-state model of particulate organic carbon flux below the mixed-layer and application to the joint global ocean flux study", J. Geophysical Research-Oceans, **106**:31,227-31,237.
- A25. **Grant, S.B.**, C. Poor, J. Kim (2001) "Kinetic theories for the coagulation and sedimentation of particles", Journal of Colloid and Interface Science, **238**:238-250.
- A24. Sanders, B.F., C.L. Green, A.K. Chu, **S.B. Grant** (2001) "Case study: modeling tidal transport of urban runoff in channels using the finite-volume method", ASCE J. Hydraulic Engineering, **127**(10): 795-804.
- A23. **Grant, S.B.**, B.F. Sanders, J.A. Redman, J.H. Kim, R. Mrse, C.McGee, N.Gardiner, B.H. Jones, J. Svejkovsky, V. Leipzig, A. Brown (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 (*highlighted on the cover of the journal*)
- A22. J.A. Redman, **Grant, S.B.**, T.M. Olson, M.K. Estes (2001) "Pathogen filtration, heterogeneity, and the potable reuse of wastewater", Environmental Science and Technology, **35**:1798-1805.
- A21. Chin, C.J, S. Yiacoumi, C. Tsouris, S. Relle, **S.B. Grant** (2000) "Secondary-minimum aggregation of superparamagnetic colloidal particles", Langmuir, **16**:3641-3650.
- A20. Relle, S., **S.B. Grant**, and C. Tsouris (1999) "Diffusional coagulation of superparamagnetic particles in the presence of an external magnetic field", Physica A: Statistical Mechanics and its Applications, **270**:427-443.
- A19. Boehm, A.B., Poor, C., and **S.B. Grant** (1999) "Particle coagulation and the memory of initial conditions", J. Physics A: Mathematical and General, **31**:9241-9254.
- A18. Boehm, A.B. and **S.B. Grant** (1998) "The influence of coagulation, sedimentation and grazing by zooplankton on phytoplakton aggregate distributions in aquatic systems", J. Geophysical Research: Oceans, **103**(C8):15,601-15,612.
- A17. Redman, J.A., **S.B. Grant**, T.M. Olson, J.M. Adkins, J.L. Jackson, M.S. Castillo, W.A. Yanko (1999) "Physicochemical mechanisms responsible for the filtration and mobilization of a filamentous bacteriophage in quartz sand", Water Research, **33** (1): 43-52.
- A16. Relle, S. and **S.B. Grant** (1998) "A one-step process for particle separation by magnetic seeding", Langmuir, **14**(9):2316-2328.

- A15. Walker, H.W. and **S.B. Grant** (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.
- A14. Redman, J., **S.B. Grant**, T.M. Olson, M.E. Hardy, and M.K. Estes (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.
- A13. Dunog, M.H., S.P. Penrod, and **S.B. Grant** (1997) "Kinetics of p-Nitrophenol degradation by *Pseudomonas* sp. ATCC29354: an experiment illustrating bioremediation", J. Chemical Education, **74**: 1451-1454.
- A12. Penrod, S.P., T.M. Olson and **S.B. Grant** (1996) "The deposition kinetics of two viruses in packed beds of quartz granular media", Langmuir, **12** (23): 5576-5587
- A11. Walker, H.W. and **S.B. Grant** (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.
- A10. **Grant, S.B.**, C.P. Pendroy, C.L. Mayer, J.K. Bellin and C.J. Palmer (1996) "Prevalence of enterohemorrhagic *Escherichia coli* in raw and treated municipal sewage", Applied and Environmental Microbiology, **62**(9):3466-3469.
- A9. Walker, H.W. and **S.B. Grant** (1996) "Role of polymer flexibility in the stabilization of colloidal particles by model anionic polyelectrolytes", J. Colloid and Interface Science, **179**:552-560
- A8. Walker, H.W. and **S.B. Grant** (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 the cover of June 26th issue).
- A7. **Grant, S.B.**, C.Poor, and S. Relle (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.
- A6. Walker, H.W. and **S.B. Grant** (1995) "The conformation of DNA block copolymer molecules adsorbed on latex particles as revealed by hydroxyl radical footprinting", Langmuir, **11**(10):3772-3777.
- A5. Penrod, S.L., T.M. Olson, and **S.B. Grant** (1995) "Whole particle microelectrophoresis for small viruses and colloids", J. Colloid and Interface Science, **173**:521-523.
- A4. **Grant, S.B.** (1995) "Inactivation kinetics of viral aggregates", ASCE J. of Environmental Engineering, **121**(4):311-319
- A3. Duong, M.H., **S.B. Grant**, and M.E. Lidstrom (1994) "Transfer solvent chemistry affects mixed-phase hybridization", Analytical Biochemistry, **220**:431-433.
- A2. **Grant, S.B.** (1994) "Virus coagulation in aqueous environments", Environmental Science & Technology, **28**:928-933.

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

Refereed, Archival Conference Proceedings

- B1. Grant, S.B. (1994) "Virus Inactivation and Coagulation in Aqueous Environments", Annual Meeting, ACS Division of Environmental Chemistry, San Diego, **34**(1):567-569.
- B2. Walker, H.W. and S.B. Grant (1994) "Determination of the Conformation of Adsorbed Macromolecules by DNA Footprinting", ACS Division of Environmental Chemistry, San Diego, **34**(1):553-565.
- B3. Walker, H.W. and S.B. Grant (1995) "Effect of Polyelectrolyte Chain Length on the Stabilization of Colloidal Particles", Annual Meeting, ACS Division of Environmental Chemistry, Anaheim, **35**(1):615-617.
- B4. Penrod, S.L., T.M. Olson, and S.B. Grant (1995) "Deposition Mechanisms of Bacteriophage MS-2 and Lambda on Ultra-Pure Crushed Quartz", Annual Meeting, ACS Division of Environmental Chemistry, Anaheim, **35**(1):620-623.
- B5. Grant, S.B. (1995) "Scaling Theory for the Steady-State Coagulation and Settling of Fractal Aggregates", Annual Meeting, ACS Division of Environmental Chemistry, Anaheim, **5**(1):642-645.
- B6. Walker, H.W. and S.B. Grant (1995) "Flocculation and Stabilization of Colloidal Particles by Adsorbed Block Copolymers: Role of Polymer Conformation", Annual Meeting, ACS Division of Environmental Chemistry, Anaheim, **35**(1):571-574.
- B7. Grant, S.B. (1997) "Biological Indications of Coastal Pollution" invited presentation and paper at the NSF Workshop on Coastal Pollution Milwaukee, Wisconsin, October 17.
- B8. Grant, S.B. and J. Kim (2004) "Public mis-notification of coastal water quality" American Society of Limnology Oceanography Ocean Sciences Conference, Honolulu, HI, 2/16/04
- B9. Grant, S.B. and J. Ahn (2005) "Impact of stormwater runoff on coastal water quality" American Chemical Society National Meeting (Environmental Colloids Session), San Diego, CA., 4/25/05
- B10. Grant, S.B. (2005) "Urban runoff: a landside perspective", National Water Research Institute 2004 Urban Runoff Roundtable, Irvine, CA., 8/04/04
- B11. Grant, S.B. (2004) "Public mis-notification of coastal water quality" Environmental Protection Agency National Beaches Conference, San Diego, CA., 10/13/04
- B12. Grant, S.B. (2005) "Mixing and swash zone water quality in tidal embayments: contrasting case studies at Avalon Bay and Newport Beach", California Clean Beaches Initiative, Dana Point Ocean Institute, Dana Point, CA., 8/16/05
- B13. Grant, S.B. (2006) "Integrating molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution", Keynote Talk at the American Chemical Society Western Regional Meeting, Anaheim, CA., 1/23/06.
- B14. Grant, S.B. and Y. Jeong (2006) "Concentration fingerprinting fecal indicator bacteria sources in

coastal wetlands”, American Society of Limnology Oceanography Ocean Sciences Conference, Honolulu, HI, 2/22/06

- B15. Y. Jeong (presenter) and S.B. Grant (2005) “Fisher information and analysis of complex environmental signals in coastal water quality monitored at Newport Bay, California” American Society of Limnology and Oceanography Ocean Science Meeting, Salt Lake City, UT, 2/25/05
- B16. A. Pednekar (presenter) and S.B. Grant (2005) “Water quality in a tidal salt water wetland: influence of climate change, tidal mixing, and watershed urbanization” World Water and Environmental Research Congress, Anchorage, AK, 3/18/05
- B17. A. Pednekar (presenter) and S.B. Grant (2006) “California Sustainable Watershed/Wetland Information Manager” California Stormwater Quality Association 2006 Conference, Sacramento, CA, 9/25/06

Other Conference Papers and Workshops

- C1. Grant, S.B. and M.E. Lidstrom (1991) "Estimating Virus Viability Using a Modified Nucleic Acid Hybridization Assay", presented at the American Society of Microbiology Biotechnology Conference, N.Y.
- C2. Grant, S.B. and Lidstrom, M.E. (1991) "Partitioning of Bacteriophage in Quartz/Water Systems", presented at the American Society of Microbiology Biotechnology Conference, N.Y.

Other Conference Papers and Workshops (Cont'd)

- C3. Walker, H.W. and S.B. Grant (1992) "Investigations of the Effects of Model Polyelectrolyte Coatings on Colloid Transport in Porous Media", American Geophysical Union Fall Meeting, San Francisco, 1992.
- C4. Duong, M.H. and S.B. Grant (1994) "Microorganism Detection by Multiple Non-Specific Oligonucleotide Probes", presented at the ASM Annual Meeting, Las Vegas, May 26.
- C5. Walker, H.W. and S.B. Grant (1995) "DNA as a Model Polymer for Adsorption Studies", Presented before the Biopolymers at Interfaces Program as part of the Colloid Science Symposium, University of Utah, Salt Lake City, Utah.
- C6. Walker, H.W. and S.B. Grant (1996) "The Coagulation and Stabilization of Colloidal Particles By Model Anionic Polyelectrolytes" presented before the Environmental Phenomena Program As part of the 70th Colloid and Surface Science Symposium, Clarkson U, Potsdam NY.
- C7. S.B. Grant (1996) "Scaling Theory and Solutions for the Steady-State Coagulation and Settling of Fractal Aggregates in Aqueous Environments", presented before the Environmental Phenomena Program as part of the 70th Colloid and Surface Science Symposium, Clarkson University, Potsdam NY.
- C8. Penrod, S.P., T.M. Olson and S.B. Grant (1996) "The Deposition Kinetics of Two Viruses in Packed Beds of Quartz Granular Media", presented before the Environmental Phenomena Program as part of the 70th Colloid and Surface Science Symposium, Clarkson University, Potsdam, N.Y.

- C9 Redman, J., S.B. Grant, T.M. Olson, M.E. Hardy and M.K. Estes (1997) "The Importance of Pore Water pH in the Transmission of Norwalk Virus Through Porous Media Studied Using Recombinant Norwalk Virus Particles" presented before the Environmental Phenomena Program as part of the 71st Colloid and Surface Science Symposium, University of Delaware.
- C10. Walker, H.W. and S.B. Grant (1997) "Factors Influencing the Stabilization of Particle by a Model Polyelectrolyte", presented before the Environmental Phenomena Program as part of The 71st Colloid and Surface Science Symposium, University of Delaware, Newark, Delaware, July 2.
- C11. S.B. Grant (1997) "The Removal of Fluidborne Particles by Coagulation: Physical Insights Based on Mathematical Solutions", invited presentation before the 47th Canadian Chemical Engineering Conference, Westin Hotel, Edmonton, Alberta, October 8.
- C12. Relle, S. and S.B. Grant (1997) " A Theoretical Model for Particle Separation by Magnetic Seeding", invited presentation before the 47th Canadian Chemical Engineering Conference, Westin Hotel, Edmonton, Alberta, October 8 (delivered by S. Relle).
- C13. Redman, J.A., S.B. Grant, and T.M. Olson (1997) "Physicochemical Mechanisms Governing Virus filtration", invited presentation before the American Geophysical Union, Fall Meeting, San Francisco, CA., December 9 (delivered by J. Redman).
- C14. Redman, J.A., S.B. Grant, T.M. Olson, J.M. Adkins, J.L. Jackson, M.S. Castillo, and W.A. Yanko, (1997) "An Electrostatic Mechanism for the Filtration of a Filamentous Bacteriophage in Quartz Sand", poster presented at the UC Water Reuse Research Conference, Monterey, CA. June 6.

Other Conference Papers and Workshops (Cont'd)

- C15. Grant, S.B. (1997) "Recombinant Virus Particles and Water Reuse in the 21st Century", invited presentation before the UC Water Reuse Research Conference, Monterey, CA., June 6.
- C16. Boehm, A.B., and S.B. Grant (1999) "Influence of coagulation, sedimentation, and grazing by zooplankton on phytoplankton aggregate distributions below the mixed layer", presentation before the ACS Annual Meeting, Anaheim, CA, March 21 (delivered by A. Boehm).
- C17. Adkins, J.M., and S.B. Grant (1999) "The effects of biofilms on the filtration of recombinant Norwalk virus particles in capillary columns" Poster before the ACS Annual Meeting, Anaheim, CA, March 21.
- C18. Boehm, A.B., and S.B. Grant (1999) "Particle coagulation and the memory of initial conditions" Poster before the ACS Annual Meeting, Anaheim, CA, March 21.
- C19. Chen T.T., and S.B. Grant (1999) "Experimental evidence for the universality of particle flocculation" Poster before the ACS Annual Meeting, Anaheim, CA, March 21.
- C20. Redman, J.A., S.B. Grant, T.M. Olson, M.K. Estes (1999) "The filtration of a filamentous bacteriophage in quartz sand" Poster before the ACS Annual Meeting, Anaheim, CA, March 21.
- C21. Grant, S.B. and H.W. Walker (2001) "DNA as a model polymer for coagulation studies", invited presentation to the Institute for Theoretical Physics, Univ. of Minnesota, May 11-13 (delivered by S. Grant).

- C22. Grant, S.B. and J.A. Redman (2001) "Influence of Heterogeneity on Virus Filtration in Porous Media", invited presentation before a special session on pathogen transport, Annual Meeting of the American Geophysical Society, San Francisco, CA, December 10-15 (delivered by J. Redman).
- C23. Grant, S.B. (2001) "Urban Watershed Impacts on Coastal Beaches", invited presentation before the National Urban Watershed Conference, NWRI, Costa Mesa, CA., Oct. 17-19.
- C23. Wellman, D.E., C. D. Clark, D. M. Foley, and S.B. Grant (2002) "Diurnal photochemical and biological processes of CDOM in Southern California coastal waters", American Geophysical Union Ocean Sciences Meeting, Honolulu, Hawaii, February 11-15 (poster delivered by C. Clark).
- C24. Jakubowski, S.D, L.P. Litz, C. D. Clark, S. B. Grant, and J. H. Kim (2002) "Variability of hydrogen peroxide, a cdom photochemical product, in the surf zone", American Geophysical Union Ocean Sciences Meeting, Honolulu, Hawaii, February 11-15 (poster delivered by C. Clark).
- C25. Boehm, A.B. S.B. Grant, and J.H. Kim (2002) "Long and short term variability in ocean water quality at Huntington Beach, CA.", presentation before the American Geophysical Union Ocean Sciences Meeting, Honolulu, Hawaii, February 11-15 (delivered by A. Boehm).
- C26. Grant, S.B. (2002) "Role of Interfacial Forces in the Transmission of Pathogens in the Environment", invited presentation before the "Workshop on Particles and Polymers Near Interfaces: Fundamentals and Applications", Oud Poelgeest, The Netherlands, March 23-26.
- C27. Grant, S.B. (2003) "Progress Report: UCI urban watershed runoff studies (Phase III)", National Water Research Institute Research Advisory Board, VA., 10/17/03
- C28. Grant, S.B. (2004) "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, CA., 1/30/04
- C29. Grant, S.B. (2004) "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, CA., 2/05/04
- C30. Grant, S.B. (2004) "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, CA., 4/07/04
- C31. Grant, S.B. (2004) "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, Costa Mesa, CA., 4/24/04
- C32. Grant, S.B. (2004) "Troubled Waters: Our Ocean Our Beaches", American Society of Civil Engineers Orange County Younger Members Forum, Irvine, CA., 4/27/04
- C33. Grant, S.B. (2004) "Surf zone pollution: science, sources, and public notices", Newkirk Center for Science and Society, UC Irvine, Irvine, CA., 5/6/04
- C34. Grant, S.B. (2004) "Combining molecular biology, physical oceanography, and remote sensing technology to illuminate the sources and pathways of urban coastal pollution" CallT2 Hydrology Workshop, UC San Diego, San Diego, CA., 5/17/04
- C35. Grant, S.B. (2004) "Research update: storm water runoff from the Santa Ana River", Water Quality Stakeholder Group, County of San Bernadino, CA. 10/05/04

- C36. Grant, S.B. (2004) "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, Chicago, IL., 10/15/04
- C37. Grant, S.B. (2004) "Impacts of storm water runoff on coastal water quality" California Beach Water Quality Work Group, Southern California Coastal Water Research Project, Westminster, CA., 11/16/04
- C38. Grant, S.B. (2004) "Now-casting coastal water quality", National Council on Water Quality Monitoring, San Jose, CA., 12/07/04
- C39. Grant, S.B. (2005) "Water quality impact of storm water runoff from the Santa Ana River, southern California", The 2005 Borchardt Conference on Advancements in Water and Wastewater Treatment (sponsored by the College of Engineering/University of Michigan, Michigan Section of the American Water Works Association, Michigan Water Environment Association, Michigan Department of Environmental Quality), Ann Arbor, MI, 2/23/05.
- C40. Grant, S.B. (2005) "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, Costa Mesa, CA., 10/15/05
- C41. Grant, S.B. (2005) "Dynamics of point and non-point source fecal pollution in an urban watershed in southern California", City of San Diego Wetlands Advisory Board Seminar, San Diego, CA., 11/15/05
- C42. Grant, S.B. (2006) "Future of engineering in today's society", College of Engineering, University of Hawaii (Manoa Campus), Honolulu, HI, 1/17/06
- C43. Grant, S.B. (2006) "Public mis-notification of coastal water quality", Legislator Briefings on Science and Policy: Protecting California's Ocean and Coast (sponsored by COMPASS and Sea Web), State Capitol Building, Sacramento, CA., 2/02/06
- C44. Grant, S.B. (2006) "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, NV, 4/29/06
- C45. Grant, S.B. (2006) "CalSWIM: California Sustainable Watershed/Wetland Information Manager", American Society of Civil Engineers, Hydrology and Hydraulics Technical Group Luncheon, Irvine, CA, 6/1/06
- C46. Grant, S.B. (2006) "Causes and remediation of fecal indicator bacteria impairment in Avalon Bay, Catalina Island", Avalon City Council, Avalon, CA., 8/17/06
- C47. Grant, S.B. (2007) "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, NV, 4/29/06
- C47. Grant S.B. (2007) "Pathogen transport in coastal systems", Workshop on Pathogen Transport in the Environment, Michigan State University, Lansing, MI, 4/20/07.
- C48. Grant, S.B. (2007) "Exposure patterns and health effects associated with surfing and swimming in polluted marine waters", American Geophysical Union Annual Meeting, Acapulco, 5/24/07.

Articles in General Readership

- D1. Grant, S.B. and L.B. Grant (1999) "An All Points Bulletin: Coast Must Be Cleared", Op/Ed Piece in Sunday L.A. Times, Orange/County Edition page B7, September 12.
- D2. Grant, S.B. (2002) "Runoff is Far Greater Threat to Coast than Sewage Plume", Op/Ed Piece in Sunday LA Times, Orange/County Edition, page B6, March 10.

Other Reports and Lab Manuals

- E1. S.B. Grant (1994) "Microorganism Detection by Multiple Non-Specific Oligonucleotide Probes or 'Gene Probe Spectroscopy", University of California Water Resources Center Technical Completion Report
- E3. M. Duong and S.B. Grant (1995) "Laboratory Manual for Environmental Microbiology, CE166", unpublished report, UCI.
- E4. Grant, S.B., B.F. Sanders (2000) "Tidal Transport of Bacteria Between the Talbert Watershed and the Ocean", UCI Coastal Runoff Impact Study Interim Report, January 21.
- E5. Grant, S.B., C. Webb, B.F. Sanders, B. Jones, A. Boehm, J. Kim, J.A. Redman, A.K. Chu, R.D. Mrse, N. Gardiner, A. Brown (2000) "Huntington Beach Water Quality Investigation Phase II: An Analysis of Ocean, Surf Zone, Watershed, Sediment, and ground water Data Collected from June 1998 through September 2000.
- E6. Grant, S.B., B.F. Sanders, A. Boehm, G. Arega, S. Ensari, R. Mrse, H. Kang, R. Reeves, J. Kim, J. Redman, S. Jiang, W. Chu, S. Choi, C. Clark, L. Litz, M. Sutula, J. Noblet, M. Sobsey, C. McGee (2002) "Coastal Runoff Impact Study (UCI-CRIS), Phase II: sources and dynamics of fecal indicators in the lower Santa Ana River watershed".
- E7. Grant, S.B., N. Rekhi, N.R. Pise, R.L. Reeves, M. Matsumoto, A. Wistrom, L. Moussa, S. Bay, M. Kayhanian "A review of the contaminants and toxicity associated with particles in stormwater runoff" (includes appendix).
- E8. Grant, S.B., R. Mrse, C. Jensen-Mullin, M. Bachman, A. Boehm, J. Fuhrman, B. Jones (2006) "Sources and mitigation of water quality impairment in Avalon Bay, Catalina Island" a report to City of Avalon and the State Water Resources Control Board (includes appendix)

Public Lectures

"Detection and Partitioning of Viruses in Fluid/Solid Systems", California Institute of Technology, September 1992.

"Virus Adsorption at the Solid-Liquid Interface", Civil and Environmental Engineering, UCLA, November 1992.

"Virus Adsorption at the Solid-Liquid Interface", Civil and Environmental Engineering, Univ. So. California, February, 1993.

"Train-Loop-Tail Structure of Adsorbed Polymers as Revealed by Hydroxyl Radical Footprinting (HRF)", California Institute of Technology, June 1, 1994.

"DNA Diagnostics for Tracking Microbial Contaminants in the Environment", State of California Dept. of Water Resources, Municipal Water Quality Investigations, State Capital, Sacramento, CA., September, 1994.

"Gene Probe Spectroscopy: A New Approach for Detecting Microorganisms in Water Samples" The 1995 National Water Research Institute/UC Water Resources Center Water Seminar, National Academy of Sciences, Irvine, CA., September 13, 1995.

"Norwalk Recombinant Virus-Like-Particles (rVLPs) for Studying Natural Groundwater Disinfection", Symposium on Virus in Groundwater sponsored by the National Water Research Institute and EPA, EPA Headquarters, Washington D.C., March 10, 1996.

"Recombinant Virus Like Particles and Water Reuse in the 21st Century", California Institute of Technology, Department of Environmental Engineering and Science, January 16, 1997.

"The Sun, The Moon, and Bacterial Pollution at Huntington Beach", Department of Chemical and Environmental Engineering, University of California, Riverside, June 6, 2000.

"Tidal Transport of Bacteria Between the Talbert Watershed and the Ocean", presented before the USC Sea Grant Blue Ribbon Peer Review Panel, March 1, 2000.

"Ocean Water Quality: Problems and Progress", Ocean Water Quality, City of Laguna Beach, March 9, 2000.

"Virus Filtration and Water Reuse in the 21st Century", University of California, Los Angeles, Department of Civil and Environmental Engineering, April 29, 1997.

"Future of Water Reuse in Orange County," CEE Affiliates Quarterly Meeting, November 4, 1997.

"Virus Filtration and Water Reclamation," National Research Council/Water Science & Technology Board, Beckman Center of the National Academies, Irvine, CA, February 2, 1998.

Guest appearance on the TV show "Prime Story," Orange County Network (OCN), March 29, 1998.

"Drinking Water Pollution & Your Health", St. Mark Presbyterian Church, Newport Beach, CA, September 13, 1998.

"Virus Filtration and Water Reuse: From Microscale Phenomena to Field-Scale Observations", Department of Civil and Environmental Engineering, UC Berkeley, October 30, 1998

Appearance on Channel 4 (NBC) Evening News discussing water quality studies at Huntington Beach, May 21, 2001.

Appearance on Orange County Network (OCN) re: water quality studies at Huntington Beach, June 4, 2001.

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

"Pollution in the Surf: the Science and Perception of Beach Water Quality", UCI Chancellor's Club, May 16, 2001.

"The Policy and Perception of Beach Water Quality", Department of Civil and Environmental Engineering, UCLA, January 16, 2001.

"The Policy and Perception of Beach Water Quality", UCI CEO Roundtable Retreat, June 7-10, 2001.

"Decadal and shorter period variability of fecal pollution at Huntington Beach, California", invited presentation before the American Society of Limnology and Oceanography special session on Water Quality of Lakes, Rivers, and Coastal Zones, June 10-14, 2002.

Ocean Water Quality in Surf City: A Scientific Perspective", Water Advisory Committee of Orange County, Fountain Valley, CA., November 1, 2002.

"Ocean monitoring and surf zone water quality", Water Policy Task Force, So. Cal. Association of Governments, December 12, 2002.

Appearance on KOCE Public TV's "Real Orange" Talk Show, Discussing Coastal Water Quality Research, March 19, 2002.

"Locating and Quantifying Sources of Surf Zone Pollution", Donald Bren School of Environmental Management, UC Santa Barbara, January 27, 2003.

"Locating and Quantifying Sources of Surf Zone Pollution", Department of Civil and Environmental Engineering, UC Davis, January 21, 2003.

"Sources of Fecal Indicator Bacteria Pollution in Newport Bay", a report to the Newport Bay Fecal Coliform TMDL Technical Advisory Committee, Newport Beach, California, April 13, 2007.

COURSES TAUGHT:

Lower Division Undergraduate

CBEMS40B	Chemical Engineering Thermodynamics (Winter, 2000)
CEE 3	Introduction to Environmental Science and Engineering (Spring, 1997 to 1998)
CEE 69	Hazardous Waste Management (Spring, 1998)

Upper Division Undergraduate:

CBEMS 112	Introduction to Biochemical Engineering (Fall, 2001)
CBEMS 116	Field Practicum in Environmental Engineering (Spring, 2001; Winter, 2007)
CBEMS 120b	Heat and Mass Transfer (Winter 2008, 2009)
CBEMS 199	Individual Study (2000-2007)
CEE 166	Microbial Processes (Winter, 1992 to 2000)
CEE 170a	Introduction to Fluid Mechanics (Winter, 1992 to 1994, 1996)
CEE 199	Individual Study (Fall, 1992 to 1998; Winter, 1992 to 1998; Spring, 1992 to 1998, 2000)

Graduate:

CBEMS 216	Field Practicum in Environmental Engineering (Fall, 2001; Spring, 2001; Winter 2007)
-----------	--

CBEMS 220	Chemical Engineering Transport Phenomena (Winter, 2002 to 2006)
CBEMS 249	Physicochemical Hydrodynamics (Spring, 2002)
CBEMS 222	Physicochemical Hydrodynamics (Spring, 2006)
CEE 261	Environmental Microbiology (Spring, 1993, 1995 to 1996, 1998)
CEE 262a	Colloid Transport Phenomena I (Fall, 1995, 1998; Winter, 1997; Spring, 1992, 1994, 1996)
CEE 262b	Colloid Transport Phenomena II (Spring, 1995)
CEE 298	Biophysical Techniques for Studying Biological Macromolecules (Spring, 1993)

Graduate Seminars:

CBEMS 295	Seminar in Engineering (Fall, 2000; Winter, 2001; Spring, 2001)
CBEMS 296	MS Thesis Research (Fall, 2001 to 2005; Winter, 2002 to 2006; Spring, 2001 to 2006)
CBEMS 297	Ph.D. Dissertation Research (Fall, 1999 to 2005; Winter, 2000 to 2006; Spring, 2000 to 2006)
CBEMS 299	Individual Research (Fall, 2002-2003; Winter, 2001 to 2004, 2006; Spring, 2002 to 2003, 2005 to 2006)
CEE 295b	Water Resources Seminar (Fall, 1991 to 1993; Winter, 1994 to 1996)
CEE 296	M.S. Thesis Research (Spring, 2000)
CEE 297	Doctor of Philosophy Research (Fall, Winter, Spring, 1996 to 1999)
CEE 298	Special Topics in Civil Engineering (Fall, 1996, 1998; Winter, 1998 to 1999; Spring, 1997 to 1999)
CEE 299	Individual Research (1992-1999)

UNIVERSITY SERVICES:

Campus

- UC Hazardous Material Training Manual-reviewer (1993)
- Member, UC Water Resources Coordinating Board (1999 to present) Irvine Campus
- Senate Assembly-representative (April 1991 to July 1994)
- Site Assessment Curriculum Review Committee, UCI Extension-member (June 1992 to May 1995)
- Environmental Engineering Curriculum Review Committee, UCI Extension-member (1995 to 1999)
- Faculty Advisor for Undecided/Undeclared Students (1995 to 1999)
- Committee on Undergraduate Scholarships and Financial aid (1997 to 1999)
- Elected Member of the Graduate Council, Academic Senate (2001 to 2002)

School of Engineering

- Screening Committee for SOE Assistant Dean Search-member (1992)
- Screening Committee for SOE Assistant Dean Search-member (1993)
- Director, Interdisciplinary Graduate Program in Environmental Engineering (2001 to 2002)

Department of Civil and Environmental Engineering

- Graduate Studies Committee-member (September 1991 to July 1994)
- Geotechnical Faculty Search Committee-member (1994)
- Environmental Engineering Faculty Search Committee-member (1996)
- MSO Search Committee-member (1996)
- Department Laboratory Committee-member (September 95 to June 1999)

- Undergraduate Affairs Committee-member (September 1995 to June 1999)
- Chair, ABET Coordinating Committee (September 1997 to June 1999)

Department of Chemical Engineering and Materials Science

- Chair, Merit/Promotion Committee (Fall 1999, Fall 2001)
- Chair, (Fall 2002-present)

Pre-Graduate Mentoring Activities

- Summer Undergraduate Research Fellowship (SURF) mentor (summer 1992, 1994)
- Pregraduate Mentorship Program (PGMP)-mentor (summer 1993, 1994, 1996, 1998)
- Fluor-Daniel's National Engineer's Week Science Showcase-participant (1994)
- SOE "Applying to Graduate School" Workshop-panelist (1992)
- Chi-Epsilon Pacific District Conference-speaker (1992)
- Faculty Mentor, UC Leads Program (2000)