

Alexandria B. Boehm
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EDUCATION

2000	Ph.D. Environmental Engineering Thesis title: An Integrative Investigation into Particle Aggregation in Natural Waters University of California, Irvine
1997	M.S. Environmental Engineering University of California, Irvine
1996	B.S. Engineering and Applied Science with Honors California Institute of Technology, Pasadena, CA

RESEARCH INTERESTS

Microbial pollution; pathogen fate and transport in surface waters & groundwater; virus detection in the environment, coastal water quality; submarine groundwater discharge; particle dynamics; nitrogen pollution and eutrophication in coastal systems; water, hand hygiene, and health in sub-Saharan Africa.

TEACHING INTERESTS

Pathogens, microbiology, biogeochemical cycles, colloid science, transport phenomena in environmental systems (fluid and mass transport), coastal processes, environmental science, coastal policy and law

PROFESSIONAL APPOINTMENTS

Sept 2009 to present	STANFORD UNIVERSITY Associate Professor of Environmental Engineering
July 2002 To Aug 2009	STANFORD UNIVERSITY Assistant Professor of Environmental Engineering
Oct.2000 - July 2002	UNIVERSITY OF CALIFORNIA, IRVINE Faculty Fellow
June - Sept. 2000	UNIVERSITY OF CALIFORNIA, IRVINE Post-Doctoral Research Mentor: Stanley Grant
1997 to 2000	UNIVERSITY OF CALIFORNIA, IRVINE Doctoral Research in Environmental Engineering. Mentor: Stanley Grant
1996-1997	UNIVERSITY OF CALIFORNIA, IRVINE Research Assistant in Biotechnology. Mentor: Stanley Grant
1993-1996	CALIFORNIA INSTITUTE OF TECHNOLOGY

Undergraduate Research Assistant in Environmental Chemistry and Microbiology. Mentors: Michael Hoffman & Mary Lidstrom

1995

UNIVERSITY OF HAWAII

Undergraduate Researcher in Biological Oceanography
Mentors: Edward Laws & Michael Landry

TEACHING EXPERIENCE

Currently serve as an instructor for the following classes at Stanford University:

CEE 274E Pathogens in the Environment, CEE 272 Coastal Contaminants, CEE 70 Environmental Science and Technology (a service-learning course), CEE 274P Environmental Health Microbiology (a laboratory class), CEE 175A/275A California Coast: Science, Policy and Law (an iEarth course), CEE 271M/371M Transport Phenomena

Served as an instructor for the following classes at the University of California, Irvine:

Thermodynamics (ENGRCHE 60), Momentum Transfer (ENGRCBE 120A), Graduate Level Transport Phenomenon (ENGRCBE 230), Pollution Control (ENGRCBE 162)

HONORS AND AWARDS

2009 Best paper in 2009 in *Risk Analysis* journal
2009 The Silas H. Palmer Faculty Scholar
2008 National Academy of Engineering, Frontiers of Engineering Participant, Albuquerque, New Mexico
2007 Pacific Rim Center for Oceans and Human Health Visiting Scholar, Honolulu, HI
2007-2012 NSF CAREER Award: "Beach Contributions of Pathogens and Pathogen Indicators to Coastal Waters"
2002 to 2008 Clare Boothe Luce Assistant Professor at Stanford University
2001 Excellence in Teaching Award, University of California, Irvine
Division of Undergraduate Education Committee on Teaching
2001 Faculty Development Award, University of California, Irvine
2000-2002 Faculty Fellow Award, University of California, Irvine
1996-2000 Chancellor's and Regents' Fellowship, (UCI)
1996 Bachelor of Science with Honors, California Institute of Technology
1995 Research for Education of Undergraduates Fellowship, National Science Foundation, University of Hawaii at Manoa
1995 Achievement Rewards for College Students (ARCS) Scholar, Caltech

PROFESSIONAL MEMBERSHIPS

American Geophysical Union, Association of Environmental Engineering and Science Professors, Estuarine Research Federation, American Society of Limnology and Oceanography, International Water Association, American Society of Microbiology

PROFESSIONAL SERVICE

- Membership committee ASEEP (2008-present)
- Science Advisory Team member for the Ocean Protection Council, Sacramento, CA (2008-present)
- Member California Clean Beach Task Force, CA Regional Water Quality Control Board (2007-present)
- Member EPA Experts Panel on Recreational Water Quality (2007)

- Peer Reviewer for *Environmental Science & Technology*, *Water Research*, *Journal of Water and Health*, *Marine Chemistry*, *Marine Biology*, *Environmental Microbiology*, *Applied and Environmental Microbiology*, *Aquatic Ecology*, *Journal of Environmental Quality*, *Journal of Environmental Management*, *Limnology and Oceanography*, *Journal of Environmental Engineering*, *Estuaries & Coasts*, *Aquatic Microbial Ecology*, *Ecotoxicology and Environmental Safety*, *Marine Biology*, *Science of the Total Environment*, *Microbial Ecology*, *Journal of Applied Microbiology*, *Letters in Applied Microbiology* (2000-present)
- Peer Reviewer for California Sea Grant, Delaware Sea Grant, USC Sea Grant, NSF-Chemical Oceanography, NSF-geochemistry, NSF-geobiology, NSF-microbial observatory, Swiss National Science Foundation, EPA STAR program, NSF-environmental engineering, NSF-IGERT program (2002-present)

CURRENT UNIVERSITY SERVICE

Environmental Engineering and Science Admissions Coordinator (2005,2009,2010)
School of Engineering Undergraduate Council (2009- present)
University Library Committee (2006-present)
iEarth Committee (2007-present)
Lead on CEE VPUE research program (2006-present)
Woods Institute for the Environment Education & Pedagogy committee (2006-present)
Woods Institute EVP review committee (2006-2009)
SOE library committee (2005-present)
University Biosafety Panel (2006-present)

PUBLICATIONS AND PRESENTATIONS

Publications in peer reviewed journals

- M. Goebes, A. B. Boehm, L. Hildemann. 201_. Modeling indoor *Aspergillus* concentrations with foot traffic and outdoor concentrations. Submitted.
- A. B. Boehm, K. M. Yamahara, S. P. Walters, B. A. Layton, D. P. Keymer, R. M. Strickfaden, K. L. Knee, and M. Rosener. 201_. Macronutrient and microbial pollutant loading from tropical rural watersheds in Hawai'i to the coastal ocean during non-storm conditions. Submitted.
- A. J. Pickering, T. R. Julian, S. Mamuya, A. B. Boehm, J. Davis. 201_. Hand fecal contamination among Tanzanian mothers varies temporally and following household activities. Submitted.
- D. P. Keymer and A. B. Boehm. 201_. Recombination shapes the structure of an environmental *Vibrio cholerae* population. Submitted.
- J. Davis, A. B. Boehm, A. J. Pickering, K. Rogers, S. Mamuya. 200_. Bacterial contamination levels in stored water and on mothers' hands are affected by informational interventions: Experience from peri-urban communities in Tanzania. Submitted.
- T. R. Julian, J. O. Leckie, A. B. Boehm. 2010. Bacteriophage transfer between fingerpads and fomites. In press at *Journal of Applied Microbiology*.
- K. L. Knee, R. Gossett, A. B. Boehm and A. Paytan. 2010. Caffeine and agricultural pesticide concentrations in surface water and groundwater on the north shore of Kaua'i (Hawai'i, USA). In press at *Marine Pollution Bulletin*.

- N. R. De Siewes, K. M. Yamahara, A. Paytan, A. B. Boehm. 2010. Submarine groundwater discharge to a high-energy surf zone at Stinson Beach, California, estimated using radium isotopes. In press at *Estuaries and Coasts*.
- B. A. Layton, S. P. Walters, L. Lam, A. B. Boehm. 2010. *Enterococcus* species distribution among human and animal hosts using multiplex PCR. In press at *Journal of Applied Microbiology*.
- R. L. Whitman, Z. Ge, M. B. Nevers, A. B. Boehm, E. Chern, R. A. Haugland, A. M. Lukasik, M. Molina, K. Przybyla-Kelly, D. A. Shively, E. White, R. G. Zepp, M. N. Byappanahalli. 2010. Relationship and variation of qPCR and culturable enterococci estimates in ambient surface waters are predictable. *Environmental Science & Technology*, 44, 5049-5054.
- A. J. Pickering, J. Davis, S. P. Walters, H. M. Horak, D. P. Keymer, D. Mushi, R. Strickfaden, J. S. Chynoweth, J. Liu, A. Blum, K. Rogers, A. B. Boehm. 2010. Hands, water, and health: fecal contamination in Tanzanian communities with improved, non-networked water supplies. *Environmental Science & Technology*, 44, 3267-3272.
- K. L. Knee, J. H. Street, E. G. Grossman, A. B. Boehm, and A. Paytan. 2010. Nutrient inputs to the coastal ocean from submarine groundwater discharge in a groundwater-dominated system: relation to land use (Kona coast, Hawai'i, USA). *Limnology & Oceanography*, 55, 1105-1122.
- A. J. Pickering, A. B. Boehm, Mathew Mwanjali, J. Davis. 2010. Efficacy of waterless hand hygiene as compared to handwashing with soap: A field study in Dar es Salaam, Tanzania. *American Journal of Tropical Medicine and Hygiene* 82, 270-278.
- A. E. Santoro, N. J. Nidzieko, G. L. van Dijken, K. R. Arrigo, A. B. Boehm. 2010. Contrasting spring and summer phytoplankton dynamics in the nearshore Southern California Bight. *Limnology and Oceanography*, 55, 264-278
- S. P. Walters, K. M. Yamahara, A. B. Boehm. 2009. Persistence of nucleic acid markers of health-relevant organisms in seawater microcosms: Implications for their use in assessing risk in recreational waters. *Water Research*, 43, 4929-4939.
- H. M. Horak, J. S. Chynoweth, W. P. Myers, J. A. Davis, S. Fendorf, A. B. Boehm. 2010. Water quality of water in rain catchments compared to other drinking water sources in the East Sepik Province, Papua New Guinea. *Journal of Water and Health*, 8, 126-138.
- A. B. Boehm, J. Griffith, C. McGee, T. Edge, H. Solo-Gabriele, R. Whitman, Y. Cao, M. Getrich, J. A. Jay, D. Ferguson, K. Goodwin, C. Lee, M. Madison, S. Weisberg. 2009. Fecal indicator bacteria enumeration in beach sand: A comparison study of extraction methods in medium to coarse sands. *Journal of Applied Microbiology*, 107, 1740 - 1750.
- A. B. Boehm, K. M. Yamahara, D. C. Love, B. M. Peterson, K. McNeill, K. L. Nelson. 2009. Covariation and photoinactivation of traditional and novel indicator organisms and human viruses at a sewage-impacted marine beach. *Environmental Science & Technology*, 43, 8046-8052.
- T. R. Julian, R. A. Canales, J. O. Leckie, A. B. Boehm. 2009. A model of exposure to rotavirus from non-dietary ingestion iterated by simulated intermittent contacts. *Risk Analysis*, 25, 617-632.

- B. A. Layton, S. P. Walters, and A. B. Boehm. 2009. Distribution and diversity of the enterococcal surface protein (esp) gene in animal hosts and the Pacific Coast Environment. *Journal of Applied Microbiology*, 106, 1521-1531.
- K. M. Yamahara, S. P. Walters, and A. B. Boehm. 2009. Growth of enterococci in unaltered, unseeded beach sands subjected to tidal wetting. *Applied and Environmental Microbiology*, 75, 1517-1524.
- D. P. Keymer, L. Lam, and A. B. Boehm. 2009. Biogeographic patterns in genomic diversity among a large collection of *Vibrio cholerae* isolates. *Applied and Environmental Microbiology*, 75, 1658-1666.
- A. B. Boehm, N. J. Ashbolt, J. M. Colford, Jr., L. E. Dunbar, L. E. Fleming, M. A. Gold, J. A. Hansel, P. R. Hunter, A. M. Ichida, C. D. McGee, J. A. Soller, and S. B. Weisberg. 2009. A sea change ahead for recreational water quality criteria. *Journal of Water and Health*, 7, 9-20.
- K. L. Knee, B. A. Layton, J. Street, A. B. Boehm, A. Paytan. 2008. Sources of nutrients and fecal indicator bacteria to nearshore waters on the North Shore of Kaua'i. *Estuaries and Coasts*, 31, 607-622.
- Shellenbarger, G. G., Athearn, N. D., Takekawa, J. Y., Boehm, A. B. 2008. Fecal indicator bacteria and *Salmonella* in ponds managed as bird habitat, San Francisco Bay, CA. *Water Research*, 42, 2921-2930.
- De Siewes, N. R., Yamahara, K. M., Layton, B. A., Joyce, E. H., Boehm, A. B. 2008. Submarine discharge of nutrient-enriched fresh groundwater at Stinson Beach, California is enhanced during neap tides. *Limnology and Oceanography*, 53, 1434-1445.
- Santoro, A. E., Francis, C. A., DeSiewes, N. R., Boehm, A. B. 2008. Shifts in the relative abundance of ammonia-oxidizing bacteria and archaea across physiochemical gradients in the subterranean estuary. *Environmental Microbiology*, 10, 1069-1079
- Boehm, A. B. 2007. Enterococci concentrations in diverse coastal environments exhibit extreme variability. *Environmental Science & Technology*, 41, 8227-8232.
- Yamahara, K. M., Layton, B. A., Santoro, A. E., Boehm, A. B. 2007. Beach sands along the California coast are diffuse sources of fecal bacteria to coastal waters. *Environmental Science & Technology*, 41, 4515-4521.
- Santoro, A. E., Boehm, A. B. 2007. Frequent occurrence of the human-specific *Bacteroides* fecal marker at an open coast marine beach: Relationship to waves, tides, and traditional indicators. *Environmental Microbiology*, 9, 2038-2049.
- Miller, M. C., Keymer, D. P., Avelar, A., Boehm, A. B., Schoolnik, G. K. 2007. Detection and transformation of genome segments variable within a coastal population of *Vibrio cholerae*. *Applied and Environmental Microbiology*, 73, 3695-3704.
- Keymer, D. P., Miller, M. C., Schoolnik, G. K., Boehm, A. B. 2007. Genomic and phenotypic diversity of coastal *Vibrio cholerae* is explained by environmental factors. *Applied and Environmental Microbiology*, 73, 3705-3714.

- Handler, N. B., Paytan, A., Higgins, C. P., Luthy, R. G., Boehm, A. B. 2006. Human development is linked to multiple water-body impairments along the California Coast. *Estuaries and Coasts* (formerly *Estuaries*), 29, 860-870.
- Givens, S., Pendleton, L., Boehm, A. B. 2006. Regional public health cost estimates of contaminated coastal waters: A case study of gastroenteritis at Southern California beaches. *Environmental Science & Technology*, 40, 4851 – 4858.
- Hou, D., Boehm, A. B., Rabinovici, S. J. 2006. Enterococci predictions from a partial least squares regression model can improve the efficacy of beach management advisories. *Environmental Science & Technology*, 40, 1737 -1743.
- Santoro, A. E., Boehm, A. B., Francis, C. A. 2006. Denitrifier community composition along a nitrate and salinity gradient in a coastal aquifer. *Applied and Environmental Microbiology*, 72, 2102-2109.
- Boehm, A. B., Paytan A., Shellenbarger, G. G., Davis, K. A. 2006. Composition and flux of groundwater from a California beach aquifer: Implications for nutrient supply to the surf zone. *Continental Shelf Research*, 26, 269-282.
- Boehm, A. B., Weisberg, S. B. 2005. Tidal forcing of enterococci at marine recreational beaches. *Environmental Science & Technology*, 39, 5575-5583.
- Boehm, A. B., Keymer, D. P., Shellenbarger, G. G. 2005. An analytical model of enterococci inactivation, grazing, and transport in the surf zone of a marine beach. *Water Research*, 39, 3565-3578.
- Boehm, A. B., Shellenbarger, G. G., Paytan, A. 2004. Groundwater Discharge: A potential association with fecal indicator bacteria in the surf zone. *Environmental Science & Technology*, 38, 3558-3566.
- Boehm, A. B., Lluch-Cota, D.B., Davis, K. A., Winant, C. D., Monismith, S. G. 2004. Covariation of coastal water temperature and microbial pollution at interannual to tidal periods. *Geophysical Research Letters*, 31, L06309, doi:10.1029/2003GL019122.
- Reeves R. L., Grant, S. B., Mrse, R. D., Oancea, C. M. C., Sanders, B. F., Boehm, A. B. 2004. Sources, management, and scaling of fecal indicator bacteria in runoff from a coastal urban watershed in Southern California. *Environmental Science & Technology*, 38, 2637-2648.
- Boehm, A. B. 2003. A model of microbial transport and inactivation in the surf zone and application to field measurements of total coliform in Northern Orange County, California. *Environmental Science and Technology*, 37, 5511-5517.
- Boehm, A. B., Fuhrman, J. A., 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, USA. *Environmental Science & Technology*, 37, 673-680.
- Boehm, A. B. 2002. Evidence of particle self-organization in Lake Zurich. *Journal of Colloid and Interface Science*, 254, 266-273.

Boehm, A. B., Kim, J. H., Mowbray, S., McGee, C., Clark, C., Foley, D., Grant, S. B. 2002. Decadal and shorter period variability in surf zone water quality at Huntington Beach, California. *Environmental Science & Technology*, 36, 3885-3892.

Boehm, A. B., Sanders, B. F., Winant, C. D. 2002. Cross-shelf transport by internal tides at Huntington Beach – Implications for the fate of sewage discharged through an offshore ocean outfall. *Environmental Science & Technology*, 36, 1899-1906.

Grant, S. B., Sanders, B. F., Boehm, A. B., Redman, J. A., Kim, J.-H., Mrse, R. D. & others. 2001. Generation of enterococci bacteria in a coastal saltwater marsh and its impact on surf zone water quality. *Environmental Science & Technology*, 35, 2407-2416.

Boehm, A. B., Grant, S. B. 2001. A steady-state model of POC flux below the mixed-layer and application to the Joint Global Ocean Flux Study. *Journal of Geophysical Research-Oceans* 106, 31227-31237.

Boehm, A. B., Poor, C., Grant, S. B. 1998. Particle coagulation and the memory of initial conditions. *Journal of Physics A- Mathematical and General* 31, 9241-9254.

Boehm, A. B., Grant, S. B. 1998. Influence of coagulation, sedimentation, and grazing by zooplankton on phytoplankton aggregate distributions in aquatic systems. *Journal of Geophysical Research – Oceans* 103, 15601-15612.

Book Chapters

A. B. Boehm and J. A. Soller. 201_. Risks Associated with Recreational Waters: Pathogens and Fecal Indicators. A chapter in *Encyclopedia of Sustainability Science and Technology* edited by E. A. Laws. In press.

H. M. Solo-Gabriele, A. B. Boehm, T. M. Scott, C. Sinigalliano. 201_. Case Studies: Beach Environments. A chapter in *Microbial Source Tracking: Methods, Applications, and Case Studies* edited by Charles Hagedorn, Anicet Blanch, Jody Harwood. In press.

M. N. Nevers and A. B. Boehm. 201_. Modeling Fate and Transport of Fecal Bacteria in Surface Water. A chapter in *The Fecal Indicator Bacteria* edited by Michael Sadowsky and Richard Whitman. In press.

T. A. Edge and A. B. Boehm. 201_. Classical and Molecular Methods to Measure Fecal Bacteria. A chapter in *The Fecal Indicator Bacteria* edited by Michael Sadowsky and Richard Whitman. In press.

A. B. Boehm and H. N. Bischel. 201_. Oceans and human health. A chapter in *Encyclopedia of Environmental Health* edited by Jerome Nriagu. In press.

A. B. Boehm, R. L. Whitman, M. B. Nevers, D. Hou, and S. B. Weisberg. 2007. Now-casting recreational water quality. A chapter in *Statistical Framework for Water Quality Criteria and Monitoring*. Edited by Larry Wymer and Alfred Dufour.

Technical Reports

1. Numerous authors and A. B. Boehm. 2009. Report on the Experts Scientific Workshop on Critical Research and Science Needs for the Development of Recreational Water Quality Criteria for Inland Waters. Assisted in writing of 'Water Matrix Group' chapter. Published by WERF. Report number **PATH4W09**.

2. **Boehm, A.B.**, Francy, D., Zepp, R., Wathan, J, Pfister, M. 2007. Modeling Applications to Bacteria Criteria Development and Implementation *in Report of the Experts Scientific Workshop on Critical Research Needs for the Development of New or Revised Recreational Water Quality Criteria* (EPA 823-R-07-006; June 2007).

3. Olivieri, A. W., **Boehm, A. B.**, Sommers, C. A., Soller, J. A., Eisenberg, J. N. S., Danielson, R. 2007. Development of a protocol for risk assessment of separate stormwater system microorganisms. Water Environment Research Foundation, Project 03-SW-2.

4. Grant, S. B., Mrse, R., Jensen-McMullin, C., Bachman, M., **Boehm, A. B.**, and Fuhrman, J. A¹. Sources and mitigation of water quality impairment in Avalon Bay, Catalina Island, CA. The City of Avalon, Los Angeles Regional Water Quality Control Board, and State of California Clean Beaches Initiative. 2006.

5. Grant, S. B., B. F. Sanders, **A. B. Boehm**, F. Arega, S. Ensari, R. Mrse, H. Y. Kang, R. Reeves, J. H. 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 phase II: Sources and dynamics of fecal indicators in the lower Santa Ana River watershed. A draft report prepared for the National Water Research Institute, County of Orange, and the Santa Ana Regional Water Quality Control Board.

6. Grant, S. B., C. Webb, B. F. Sanders, **A. Boehm**, J. H. Kim, J. A. Redman, A. K. Chu, R. Mrse, S. Jiang, N. Gardiner, A. Brown. 2000. Final Report: 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. Prepared for National Water Research Institute, County of Orange, Cities of Huntington Beach, Fountain Valley, Costa Mesa, Santa Ana, Newport Beach, Orange County Sanitation District.

Presentations (2008-present)

A. B. Boehm. 2010. Oceans and human health: Occurrence, fate, and transport of pathogen indicators and pathogens in beach sands. Environmental Science: Water Gordon Research Conference, Invited Speaker, June 20-25, 2010, Holderness, NH.

A. B. Boehm. 2010. Occurrence and Distribution of Pathogens and Fecal Indicators in Temperate and Tropical Coastal Streams that Discharge to Marine Beaches. Oceans and Human Health Gordon Research Conference, Invited Speaker, June 13-18, 2010, Biddeford, ME.

E. J. Viau, K. M. Yamahara, Kelly, D. Goodwin, A. B. Boehm. 2010. An Assessment of Fecal Indicator and Pathogen Concentrations in 22 Hawaiian Coastal Streams. ASM San Deigo, May 24, 2010.

¹ Author order is by affiliation not contribution

Sarah P Walters, Narjol Gonzalez-Escalona, Insook Son, Anne Thebo, and Alexandria Boehm. 2010. *Salmonella* Occurrence, Distribution and Diversity in Streams Along the Central California Coast. ASM San Deigo, Q-1432. May 24, 2010.

A B. Boehm. 2010. Sources, fate, and transport of pathogen indicators at the land-sea interface: the role of sediments and groundwater. Keynote talk at IWA Water Research Conference, Lisbon, Portugal, April 2010.

A B Boehm, N R de Sienes, A Paytan, K M Yamahara. 2010. An interdisciplinary study of submarine groundwater discharge from a coastal aquifer receiving leachate from septic tanks. Invited poster: Ocean Science Conference, Portland, OR, February 2010. **IT25D-02**

A. B. Boehm. Covariation and Photoinactivation of Traditional and Novel Indicator Organisms and Human Viruses at a Sewage-Impacted Marine Beach, Northern California. Invited talk at State Water Resources Control Board Central/Northern California Ocean and Bay Water Quality Monitoring Group, November 19, 2009.

Karen Knee, Joseph Street, Eric Grossman, Alexandria Boehm, Adina Paytan A Tale of Two Islands: Land Use, Submarine Groundwater Discharge, and Nutrient Additions to Coastal Waters on Hawai'i and Kaua'i. 2009. Coastal and Estuarine Research Federation 20th Biennial Conference, Portland Oregon, Nov 4, 2009. Oral presentation.

Amy J. Pickering, Timothy R. Julian, Jennifer Davis, Alexandria B. Boehm. 2009. Causal mechanisms of hand contamination with fecal indicator bacteria among mothers in Dar es Salaam, Tanzania. ASTMH conference. November.

Amy Pickering, Jenna Davis, A. B. Boehm. 2009. Waterless hand hygiene in Dar es Salaam, Tanzania: A field study of microbial efficacy and user perceptions. APHA meeting. November 2009, Pennsylvania.

A. B. Boehm. 2009. Buckets, borewells, and hands: An informational intervention aimed at reducing diarrhea and respiratory illnesses in Dar es Salaam, Tanzania. Invited lecture at University of Arizona School of Public Health, October 2009.

A. B. Boehm, J. Y. Kim, D. Love, K. McNeill, K. L. Nelson, B. M. Peterson, K. M. Yamahara. 2009. Dynamics of fecal indicator organisms and human viruses at Avalon Bay, Catalina Island, CA, USA; Implications for beach monitoring and health risk assessment. Oral presentation at IWA Health Related Water Microbiology Conference. Naxos Greece, 31 May – 5 June, 2009. P. 111.

A. B. Boehm, J. Davis, A. J. Pickering, D. P. Keymer, S. P. Walters, H. Horak, R. Strickfaden, J. Liu, D. Mushi. 2009. Clean source water and dirty stored water in peri-urban Dar es Salaam indicates improved water supply is not enough for reducing waterborne disease. Poster presentation at at IWA Health Related Water Microbiology Conference. Naxos Greece, 31 May – 5 June, 2009. P. 177-178.

S. P. Walters, A. B. Boehm. *Salmonella* and Shiga Toxin Encoding Genes in Coastal Streams of Central California: Relation to Land Use American Society for Microbiology 109th General Meeting, Pennsylvania Convention Center, Philadelphia, PA, May 17-21, 2009, 107.

- A. B. Boehm, J. Griffith, C. M. McGee, T. A. Edge, H. M. Solo-Gabriele, R. Whitman, M. Getrich, J. A. Jay, D. Ferguson, Y. Cao, S. B. Weisberg. 2009. Enterococci enumeration in medium to coarse beach sands: A methods comparison study. National Beaches Conference, Huntington Beach, CA. April 20-22, 2009. P. 118.
- A. B. Boehm, J.-Y. Kim, D. Love, K. McNeill, K. L. Nelson, B. Petterson, K. M. Yamahara. 2009. A model of fecal indicator organisms and viruses at Avalon Bay, Catalina Island, CA, provides insight into sources and fate. National Beaches Conference, Huntington Beach, CA. April 20-22, 2009. P. 49
- K. M. Yamahara, S. P. Walters, A. B. Boehm. 2009. Growth of indigenous enterococci in natural beach sands subjected to tidal wetting measured using culture-based and nucleic-acid based methods. National Beaches Conference, Huntington Beach, CA. April 20-22, 2009. P. 154.
- Alexandria Boehm, Amy Pickering, Jenna Davis. 2009. Does personalized information on water quality and hand hygiene result in changes in stored water quality in Dar es Salaam, Tanzania? UC Berkeley International Water and Sanitation Half-Day Symposium, April 2009. No abstract book.
- Amy Pickering, Jenna Davis, Alexandria Boehm. 2009. Efficacy of waterless hand hygiene as compared to handwashing with soap: A field study in Dar es Salaam, Tanzania. UC Berkeley International Water and Sanitation Half-Day Symposium, April 2009. No abstract book.
- A. B. Boehm and S. P. Walters. 2009. Salmonella and Shiga Toxin Encoding Genes in Coastal Streams of Central California: Relation to Land Use. USDA NRI CRSEES Conference, February 2009, St. Louis, MO.
- K. L. Knee, J. H. Street, E. G. Grossman, A. B. Boehm, A. Paytan. 2008. Submarine Groundwater Discharge and Coastal Water Quality on the Kona Coast: The Land Use Connection. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS51D-1274.
- J. Davis, A. Pickering, H. Horak, A. B. Boehm. 2008. Does Personalized Water and Hand Quality Information Affect Attitudes, Behavior, and Health in Dar es Salaam, Tanzania? *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract H41J-06.
- F. J. Tamayo, T. R. Julian, A. B. Boehm. 2008. An exploration of viral transfer efficiency factors. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract ED43A-0583.
- A. Pickering, A. B. Boehm, J. Davis. 2008. Microbial Efficacy of Waterless Hand Hygiene in Dar es Salaam, Tanzania. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract H43C-1014.
- Timothy R. Julian, Robert Canales, James O. Leckie, Alexandria B. Boehm. A Stochastic Model of Viral Pathogen Transmission via Fomites. 2008 Joint International Society for Environmental Epidemiology & International Society of Exposure Analysis Conference October 12-16, 2008. E-abstract, no page number available.
- Alyson E. Santoro, C. A. Francis, A. B. Boehm. Testing the effect of salinity on communities of ammonia-oxidizing bacteria and archaea in a subterranean estuary using column experiments and selective enrichments. International Society for Microbial Ecology. Cairns, Australia. Aug 17-22, 2008. P. 101.