

Short Curriculum Vitae of Mark D. Sobsey, PhD

Kenan Distinguished Professor of Environmental Sciences and Engineering
Gillings School of Global Public Health, University of North Carolina at Chapel Hill
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Education

- 8/71-4/72 Department of Virology and Epidemiology, Baylor College of Medicine, Texas Medical Center, Houston, Texas. Postdoctoral Fellow in Virology
- 6/67-8/71 School of Public Health, University of California at Berkeley, Berkeley, California. Ph.D. in Environmental Health Sciences
- 1/66-5/67 Graduate School of Public Health, Univ. of Pittsburgh, Pittsburgh, PA. M.S. (Hygiene)
- 9/61-12/65 University of Pittsburgh, Pittsburgh, Pennsylvania. B.S. in Biology

Experience

- 7/84 - Present Professor of Environmental Microbiology (Kenan Distinguished Prof., July 2007), Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, N.C.
- 7/03-6/04 Visiting Scientist and Advisor, Water, Sanitation and Health Programme, World Health Organization, Geneva, Switzerland.
- 1/96-12/96 Guest Scientist, Div. of Parasitic Dis., Centers for Disease Control & Prevention, Atlanta, GA.
- 7/89-1993 Director, Environmental Chemistry and Biology Program (7/89 7/90) and Program in Environmental Health Sciences (7/90 1993), Dept. of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, N.C.
- 7/79-6/84 Associate Professor of Environmental Microbiology, Dept. of Environ. Sci. and Engineering and Department of Bacteriology and Immunology, Univ. of North Carolina, Chapel Hill, N.C.
- 1/81-1/82 Visiting Scientist, Laboratory of Infectious Diseases (Hepatitis and Epidemiology Sections), National Inst. of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD
- 9/74-7/79 Assistant Professor of Environmental Microbiology, Dept. of Environ. Sci. and Engineering and Department of Bacteriology and Immunology, Univ. of North Carolina, Chapel Hill, N.C.
- 11/73-9/74 Assistant Professor of Virology, Department of Virology and Epidemiology, Baylor College of Medicine, Texas Medical Center, Houston, TX.
- 4/72-11/73 Instructor, Dept. Virol. and Epid., Baylor Col. of Medicine, Texas Med. Center, Houston, TX.

Honors and Awards

- Athalie Richardson Irvine Clarke Prize for Water Research, National Water Research Institute, Nov., 2016
- Water Environment Federation, Communications Award.....
- Science and Technology Pioneers Prize Runner-Up, US Agency for International Development, Dec. 2013
- Water Innovation Award, Launch.org water forum, 1 of 10 leading water innovations, Feb. 2010
- Pioneer Award, Disinfection Field, Water Environment Federation, March, 2009
- Project Innovation Global Award, Small Projects Category, International Water Assoc., Sept. 2008
- Project Innovation Award, Small Projects Category, Asia Region, Intl. Water Assoc., July, 2008
- University of North Carolina at Chapel Hill, Kenan Study Leave, 2003-2004
- Bernard G. Greenberg Alumni Endowment Award, 2002, for Excellence in Teaching, Research and Service, School of Public Health, University of North Carolina at Chapel Hill
- American Water Works Association, A.P. Black Award for drinking water research, 2001
- University of North Carolina at Chapel Hill, Kenan Study Leave, 1994
- National Institutes of Health, National Institute of Environmental Health Sciences, Research Career Development Award (1 KO4 ES 00026), 1977-82
- National Institutes of Health Post-Doctoral Fellowship, Baylor College of Medicine, 1971-72
- U.S. PHS and AEC Graduate Traineeships and Fellowships, University of California at Berkeley, 1967-71

U.S. Public Health Service Graduate Traineeship, University of Pittsburgh, 1966-67
Undergraduate scholarships, University of Pittsburgh, 1961-65

Teaching and Mentoring Experience

Courses taught (graduate level): Environmental Chemistry and Biology, Environmental Health Sciences, Environmental Virology, Environmental Health Microbiology, Quantitative Microbial Risk Assessment, Global Water Sanitation and Hygiene

Mentoring Experience: Research Advisor for 36+ PhD and DrPH graduates, 110+ Master's graduates, 18+ post-doctoral fellows, and 50+ undergraduates

Peer-reviewed Publications (of more than 250; most recent 2 years only)

- Armstrong, A. M., Sobsey, M. D. and Casanova, L. M. (2016). Disinfection of *Escherichia coli* and *Pseudomonas aeruginosa* by copper in water. *Journal of Water and Health*, 14(3), 424-32.
- Edmunds, K. L., Elrahman, S. A., Bell, D. J., Brainard, J., Dervisevic, S., Fedha, T. P., Few, R., Howard, G., Lake, I., Maes, P., Matofari, J., Minnigh, H., Mohamedani, A. A., Montgomery, M., Morter, S., Muchiri, E., Mudau, L. S., Mutua, B. M., Ndambuki, J. M., Pond, K., Sobsey, M. D., van der Es, M., Zeitoun, M. and Hunter, P. R. (2016). Recommendations for dealing with waste contaminated with Ebola virus: a Hazard Analysis of Critical Control Points approach. *Bulletin of the World Health Organization*, 94(6), 424-32. PMID: 4890207
- Abebe LS, Chen X, Sobsey MD. (2016) Chitosan Coagulation to Improve Microbial and Turbidity Removal by Ceramic Water Filtration for Household Drinking Water Treatment. *Int J Environ Res Public Health*. 2016 Feb 27;13(3). pii: E269. doi: 10.3390/ijerph13030269.
- Sholtes KA, Lowe K, Walters GW, Sobsey MD, Linden KG, Casanova LM. (2016) Comparison of ultraviolet light-emitting diodes and low-pressure mercury-arc lamps for disinfection of water. *Environ Technol*. 2016 Feb 22:1-6.
- Casanova LM, Sobsey MD. (2015) Reduction of Acid-Fast and Non-Acid-Fast Bacteria by Point of Use Coagulation-Flocculation-Disinfection. *Int J Environ Res Public Health*. 2015 Nov 13;12(11):14420-8.
- Elliott, M., Stauber, C. E., DiGiano, F. A., de Aceituno, A. F. and **Sobsey, M. D.** (2015). Investigation of *E. coli* and Virus Reductions Using Replicate, Bench-Scale Biosand Filter Columns and Two Filter Media. *International Journal of Environmental Research and Public Health*, 12(9), 10276-99. PMID: 4586611
- Vergara GG, Goh SG, Rezaeinejad S, Chang SY, Sobsey MD, Gin KY. (2015) Evaluation of FRNA coliphages as indicators of human enteric viruses in a tropical urban freshwater catchment. *Water Res*. 2015 Aug 1;79:39-47. doi: 10.1016/j.watres.2015.04.022. Epub 2015 Apr 29.
- Liang L, Goh SG, Vergara GG, Fang HM, Rezaeinejad S, Chang SY, Bayen S, Lee WA, Sobsey MD, Rose JB, Gin KY. (2015) Alternative fecal indicators and their empirical relationships with enteric viruses, *Salmonella enterica*, and *Pseudomonas aeruginosa* in surface waters of a tropical urban catchment. *Appl Environ Microbiol*. 2015 Feb;81(3):850-60. doi: 10.1128/AEM.02670-14. Epub 2014 Nov 2
- Shin, GA and MD Sobsey (2015) Removal of norovirus from water by coagulation, flocculation and sedimentation processes. *Wat. Sci. & Technol.: Water Supply* Vol 15(1): 158–163 doi:10.2166/ws.2014.100
- Polston PM, Rodríguez RA, Seo K, Kim M, Ko G, Sobsey MD. (2014) Field evaluation of an improved cell line for the detection of human adenoviruses in environmental samples. *J Virol Methods*. 2014 May 10;205C:68-74. doi: 10.1016/j.jviromet.2014.05.002. [Epub ahead of print]
- Rezaeinejad S, Vergara GG, Woo CH, Lim TT, Sobsey MD, Gin KY. (2014) Surveillance of enteric viruses and coliphages in a tropical urban catchment. *Rezaeinejad S, Vergara GG, Woo CH, Lim TT, Sobsey MD, Gin KY. Water Res*. 2014 Jul 1;58:122-31. doi: 10.1016/j.watres.2014.03.051. Epub 2014 Apr 3.
- Love DC, Rodríguez RA, Gibbons CD, Griffith JF, Yu Q, Stewart JR, Sobsey MD. (2014) Human viruses and viral indicators in marine water at two recreational beaches in Southern California, USA. *J Water Health*. 2014 Mar;12(1):136-50. doi: 10.2166/wh.2013.078.
- Choi WS, Rodríguez RA, Sobsey MD. (2014) Persistence of viral genomes after autoclaving. *J Virol Methods*. 2014 Mar;198:37-40. doi: 10.1016/j.jviromet.2013.12.021. Epub 2013 Dec 31.

- Mans J, van Zyl WB, Taylor MB, Page NA, Sobsey MD, Barnard TG, Potgieter N. (2014) Applicability of Bio-wipes for the collection of human faecal specimens for detection and characterisation of enteric viruses. *Trop Med Int Health*. 2014 Mar;19(3):293-300. doi: 10.1111/tmi.12251. Epub 2013 Dec 24.
- Wu J, Gronewold AD, Rodriguez RA, Stewart JR, Sobsey MD. (2014) Integrating quantitative PCR and Bayesian statistics in quantifying human adenoviruses in small volumes of source water. *Sci Total Environ*. 2014 Feb 1;470-471:255-62. doi: 10.1016/j.scitotenv.2013.09.026. Epub 2013 Oct 18.
- Baum R, Kayser G, Stauber C, Sobsey M. (2014) Assessing the microbial quality of improved drinking water sources: results from the Dominican Republic. *Am J Trop Med Hyg*. 2014 Jan;90(1):121-3.

Invited Presentations (Since July, 2015)

- Sobsey, MD (2015) Review of the JPIAMR SRA: Focus on Environment. Presented at the Science Advisory Board Meeting, EU Joint Program Initiative on Antimicrobial Resistance, September 8, 2015, Brussels, Belgium.
- Sobsey, MD (2015) Water, Sanitation and Hygiene in the Developing World: Focus on Technologies for Microbial Detection, Household Water Treatment, Hygienic Interventions and Virus Survival in Sewage and Feces. Presented at the IWA International Symposium on Health-related Water Microbiology, Lisbon, Portugal, Sept. 17, 2015
- Sobsey, MD (2015) Overview of the EU Joint Program Initiative on Antimicrobial Resistance Strategic Research Agenda, with a Focus on the Environment. Presented at the IWA International Symposium on Health-related Water Microbiology, Lisbon, Portugal, Sept. 17, 2015
- Sobsey, MD (2015) Coliphages in water and wastewater: methods for their detection, occurrence and reduction by wastewater treatment and disinfection. Presented at WEFTEC (Water Environment Federation Annual Technical Exhibition and Conference, Chicago, IL, Sept. 29, 2015
- Sobsey, MD (2015) Innovations in WaSH Technology to Improve Performance, Access, Acceptance and Sustainability: An Academic's Experience", keynote address, UNC Water and Health Conference, Chapel Hill, NC, October 29, 2015.
- Sobsey, MS (2016) Revisions of the Environmental Content of the Strategic Research Agenda of the JPIAMR, presented at the Science Advisory Board Meeting of the JPIAMR, Amsterdam, The Netherlands, February 2, 2016.
- Sobsey, MD (2016) The Need for Viral Indicators. Presented at the US EPA Coliphage Experts Workshop., Alexandria, VA. March 1, 2016
- Sobsey, MD, E. Sozzi and J. Strasser (2016) Survival and disinfection of surrogates of Ebola virus in wastewater: preliminary results. Presented at the National Science Foundation-Water Environmental Research Foundation Workshop on Wastewater Handling in Outbreak Response – Lessons and Research Needs from the 2014/15 Ebola Virus Outbreak, Old Town Alexandria, VA. May 11, 2016.
- Sobsey, MD (2016) The Biowipe: A non-invasive, user-friendly sampling method for fecal pathogens and biomarkers, presented at a workshop/side event on the Use of Serum and Saliva for Identifying Waterborne Infections in Population Based Studies, UNC Water Microbiology Conference, May 17, 2016, Chapel Hill, NC
- Sobsey, MD ((2016) What is in wastewater: Bacteria, Virus, Parasite and Mycotic Pathogens, Plus Their Genes, Plus Chemicals and Radiochemicals. Presented at the Workshop on Protecting Wastewater Workers from Infectious Disease Risks, American Water, Mount Laurel, NJ, June 29-30, 2016