

Alfred Dufour, Senior Research Microbiologist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

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Area of Expertise: Research interests involve public health issues related to water, which includes risk assessments associated with drinking water, recreational water and shellfish harvesting waters. Health-related water microbiology, which includes the development of methods for measuring recreational water quality, identifying pathogens associated with human exposure to water, and sources of human pollution that affect recreational waters. Interests also include defining swimmer behavior, e.g., how long do swimmers immerse their bodies beneath the surface of the water while swimming; the development of water sampling designs for monitoring beach waters, and characterizing microbial behavior in water environments.

Select Publications:

Wade, TJ, Sams, EA, Beach, MJ, Collier, SA and Dufour, AP, The incidence and health burden of earaches attributable to recreational swimming in natural waters: a prospective cohort study, *Environmental Health*, 12:67, 2013

Collier, SA, Wade, TJ, Sams, RA, Hlavsa, M, Dufour, AP, Beach, MJ Swimming in the USA: Beachgoer characteristics and health outcomes at marine and freshwater beaches, *Journal of Water and Health*, 13(2):531-543, 2015

Wade TJ, Sams E., Brenner KP, Haugland R, Chern E, Beach M, Wymer, L, Rankin, CC, Love, D, Li, Q, Noble, R, Dufour, AP, Rapidly measured indicators of recreational water quality and Swimming associated illness at marine beaches: a prospective cohort study, *Environmental Health*, 9:66-80, 2010

Li, L. and Dufour, A, Using IFN- γ as a Biomarker for Detecting Exposure to Viral Pathogens, *Current Microbiology*, 56:84-88, 2008 Dufour, AP, Evans, O, Behymer, TD and Cantu, R., Water Ingestion During Swimming Activities in a Pool: a Pilot Study, *J. of Water and Health*, 4:425-430, 2006

Wade, TJ, Calderon, RL, Sams, E., Beach, M., Brenner, KP, Williams, AH and Dufour, AP, Rapidly Measured Indicators of Recreational Water Quality are Predictive of Swimming-Associated Gastrointestinal Illness, *Environmental Health Perspectives*, 114(1):24-28, 2006

Craun, G.F., Frost, F.J., Calderon, R.L., Hilborn, E.D., Fox, K.R., Reasoner, D.J., Poole, C.L., Rexing, D.J., Hubbs, S.A. and Dufour, A.P. Improving Waterborne Disease Outbreak Investigations. *Int'l J. Environ. Health Research*, 11:229-243, 2001

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Education:

- M.P.H., Epidemiology & Environmental Health Science, Yale University, 1981
- Ph.D., Bacteriology, University of Rhode Island, 1975
- B.A., Biology, Northern Michigan University, 1955

Professional Experience:

- Senior Research Microbiologist, U.S. Environmental Protection Agency, National Exposure Research Laboratory, Cincinnati, OH, July, 2000-Present
- Director, Microbiological and Chemical Exposure Assessment Research Division, U.S. Environmental Protection Agency, National Exposure Research Laboratory, Cincinnati, OH, October, 1995-July, 2000
- Director, Aquatic Research Division, U.S. Environmental Protection Agency, National Exposure Research Laboratory, Cincinnati, OH, May, 1995-October, 1995
- Director, Microbiology Research Division, U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Cincinnati, OH, November, 1988-May, 1995
- Acting Director, Microbiology Research Division, U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Cincinnati, OH, August, 1988-November, 1988
- Chief, Microbiology and Hazard Assessment Branch; U.S. Environmental Protection Agency, Health Effects Research Laboratory, Cincinnati, OH, July, 1986-August, 1988
- Acting Chief, Microbiology Branch; U.S. Environmental Protection Agency, Health Effects Research Laboratory, Cincinnati, OH, June, 1985-July, 1986
- Chief, Bacteriology Group; U.S. Environmental Protection Agency, Health Effects Research Laboratory, Cincinnati, OH, June, 1981-June, 1985