Armah A. de la Cruz, Research Microbiologist/Immunologist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division
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Area of Expertise: A well-rounded research scientist with background and experience in microbiology, immunology, molecular biology, biochemistry, analytical chemistry, sensor technology and water treatment; developed conventional and emerging methodologies to detect microbial contaminants (e.g., organisms, toxins) and chemical indicators of human contamination in water; assessed rain barrel water quality, organized workshops and technical seminars; mentored postdoctoral, graduate, undergraduate, and high school students; currently working with harmful bloom - detection, degradation, drinking water treatment, monitoring, health effects, toxicity and ecology.

Select Publications:

de la Cruz AA, N Chernoff, J Sinclair, D Hill, DL Diggs, A Lynch. 2016. Introduction to Cyanobacteria and Cyanotoxins. A. Hiskia, D. Dionysiou, M. Antoniou, T. Kaloudis, T. Triantis (eds) Treatment and Purification of Water Contaminated from cyanobacteria and cyanotoxins: Progress, State of the Art and Challenges. John Wiley & Sons, Ltd. (accepted for publication).

Shoemaker, J., Dan Tettenhorst, and A. de la Cruz. METHOD 544. Determination of microcystins and nodularin in drinking water by solid phase extraction and liquid chromatography/tandem mass spectrometry (LC/MS/MS). U.S. Environmental Protection Agency, Washington, DC, 2015.

Geh, E., A. de la Cruz, G. Stelma, and J. Bernstein. Sensitization of a child to cyanobacteria after recreational swimming in a lake. 2015. J. Allergy Clin Immunol. 135(2):AB104.

Geh E, D Ghosh, M McKell, A de la Cruz, G Stelma JA Bernstein. 2015. Identification of *Microcystis aeruginosa* peptides responsible for allergic sensitization and characterization of functional interactions between cyanobacterial toxins and immunogenic peptides. Environ Health Perspec. 123(11): 1159-1166. doi:10.1289/ehp.1409065.

He X, AA de la Cruz, A Hiskia, T Kaloudis, K O'Shea, DD Dionysiou. 2015. Destruction of cyanotoxin microcystins by UV-254 nm based direct photolysis and advanced oxidation processes (AOPs): influence of variable amino acids on the degradation kinetics and reaction mechanisms. Water Res. 74: 227-238. doi:10.1016/j.watres.2015.02.011.

He X, G Zhang, AA de la Cruz, KE O'Shea, DD Dionysiou. 2014. Degradation mechanism of cyanobacterial toxin cylindrospermopsin by hydroxyl radicals in homogeneous UV/H2O2 process. Environ. Sci. Technol., 48, 4495−4504.

View more research publications by Armah de la Cruz.

Education:

- NIH Trainee in Molecular Immunology, Washington State University. 1990 – 1992
- Postdoctoral Research Fellow in Cellular Immunology, University of California San Francisco. 1989 - 1990
- PhD, Medical Microbiology, 1989, University of Georgia Athens
- MA. Biology (Microbiology), 1985, San Francisco State University
- BA. Microbiology and Immunology, University of California Berkeley. 1982
- Trainee in Parasitology, University of California, San Francisco. 1978

Professional Experience:

- 1992 – present, Microbiologist/Immunologist. U.S. EPA, ORD, NERL
- 2005 – 2006, Microbiologist. U.S. EPA, ORD, NCEA
- 1985 – 1989, Research Technician. University of Georgia Athens.
- 1983- 1985, Instructor and Graduate Student Assistant. San Francisco State University