

Richard G. Zepp, Senior Research Scientist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

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Area of Expertise: My current research focuses on assessing environmental pathogen fate and transport, carbon nanomaterial transformations, and biogeochemical cycles, especially carbon, nitrogen, and trace metal. One emphasis is on photo-chemical and photo-biological processes in aquatic and terrestrial environments, including direct and sensitized photo-reactions (of nanomaterials, pesticides, polycyclic aromatics, halogenated pollutants, metals); light-initiated free radical reactions; and photo-reactions on soil and plant surfaces. Kinetic, mechanistic and photo-product studies relevant to risk assessment are drivers of these studies.

Select Publications:

Whelan, G., K. Kim, M. Pelton, J. Soller, K. Castleton, M. Molina, Y. Pachepsky, AND R. Zepp. An integrated environmental modeling framework for performing Quantitative Microbial Risk Assessments. ENVIRONMENTAL MODELLING & SOFTWARE. Elsevier Science, New York, NY, 55:77-91, (2014).

Hu, C., F. E. MullerKarger, AND R. G. Zepp. ABSORBANCE, ABSORPTION COEFFICIENT, AND APPARENT QUANTUM YIELD: A COMMENT ON AMBIGUITY IN THE USE OF THESE OPTICAL CONCEPTS. LIMNOLOGY AND OCEANOGRAPHY 47(4):1261-1267, (2002).

Moran, M. A., W. Sheldon, AND R. G. Zepp. CARBON LOSS AND OPTICAL PROPERTY CHANGES DURING LONG-TERM PHOTOCHEMICAL AND BIOLOGICAL DEGRADATION OF ESTUARINE DISSOLVED ORGANIC MATTER. LIMNOLOGY AND OCEANOGRAPHY 45(6):1254-1264, (2000).

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Education:

- Ph.D., Florida State University, 1969
- B.S. Chemistry, Furman University, 1963

Professional Experience:

- Guest Investigator. Max-Planck Institute for Chemistry, Mainz. 1989

- Visiting Scientist, Swiss Federal Institute of Technology, (EAWAG), Zuerich, 1985, 1987
- Research Chemist. USEPA ORD NERL/ERD, Athens, GA, 1972-present
- Research Associate, Michigan State University, 1969-1971