

Jay L. Garland, Division Director, in EPA's National Exposure Research Laboratory

Systems Exposure Division

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Area of Expertise: Dr. Garland worked for over 20 years on NASA's efforts to develop regenerative, closed-loop life support systems, including testing of recycling systems based on plants and microorganisms, before joining EPA's Office of Research and Development in 2011. He has authored over 100 scientific papers on various topics, including methods for microbial community analysis, the ecology of plant-associated microorganisms and the recycling of solid and liquid wastes in plant growth systems. His work is committed to the development of sustainable systems using sound ecological principles and innovative technology.

Select Publications:

Garland, J.L., M.C. Zabaloy, M. Birmele, C. Mackowiak, M. Lehman, and S.D. Frey. 2012
Examining N-limited Soil Microbial Activity using Community Level Physiological Profiling based on O₂ consumption. *Soil Biology Biochemistry* 47:46-52

Jaroch, D., E. McLamore, W. Zhang, J., Shi, J. Garland, M.K. Banks, D.M. Porterfield, and J.L. Rickus. 2011. Cell mediated deposition of porous silica on bacterial biofilms. *Biotech. Bioengineer.* 108:2249-2260

Montecchia, M.S., O., S. Correa, M.A. Soria, S.D. Frey, A.F. Garcia, and J.L. Garland. 2011
Multivariate approach to characterizing soil microbial communities in pristine and agricultural sites in Northwest Argentina. *Applied Soil Ecology* 47:176-183

Phlips, E.J., S. Badylak, M. Christman, J. Wolny, J. Brame, J. Garland, L. Hall, J. Hart, J.Landsberg, M. Lasi, J.Lockwood, R. Paperno, D.Scheidt, A.Staples, and K.Steidinger 2010. Scales of temporal and spatial variability in the distribution of harmful algae species in the Indian River Lagoon, Florida, USA *Harmful Algae* 10: 277–290

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Education:

- Ph.D. Environmental Science, University of Virginia, 1991
- M.S. Biology (Aquatic Ecology), Virginia Tech, 1985
- B.S. Zoology, Ohio State University, 1983

Professional Experience:

- Division Director, USEPA, ORD, NERL-MCEARD, Cincinnati, OH 2011-present
- Chief Scientist, Biological Program Manager, Dynamac Corporation, Kennedy Space Center, FL 1991-2011