

Ian N. Balcom

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Education

- Ph.D. Environmental Toxicology, University of California at Riverside, 2007.
- B.S. Botany, University of Vermont, 2001.

Professional Positions

- Current Assistant Professor (2010-) Department of Natural Sciences, Chemistry and Environmental Toxicology. Undergraduate education in environmental and chemistry, environmental toxicology, and environmental science. Research program in applied ecological design for management of persistent and emerging pollutants, microbial ecology of pollutant-impacted ecosystems, and ecological design for environmental restoration. *Lyndon State College*, Lyndonville, VT.
- 2009-2010 Associate Toxicologist. Ecotoxicological technical guidance, supervision, and risk assessment for environmental cleanup sites throughout the state of California. *Cal/EPA Department of Toxic Substances Control*, Sacramento, CA.
- 2008-2009 Natural Resource Specialist. Managed soil and water contamination cleanup projects, ecotoxicological risk assessment, conduct site characterization (soil, surface, and groundwater field sampling), operated and maintained a direct-push geotechnical drill truck, provide GIS renderings, drafted green and sustainable cleanup guidance, and maintained public records database. *Oregon Department of Environmental Quality*, Eugene, OR
- 2007-2008 Agricultural Specialist. Managed statewide agricultural soil impact mitigation program. *Vermont Association of Conservation Districts*. Contracted by *Vermont Agency of Agriculture*, Montpelier, VT
- 2006-2007 Adjunct Professor. Phytotechnologies. Landscape Development and Ornamental Horticulture, *Vermont Technical College*, Randolph, VT
- 2002-2007 Graduate Student Researcher. Researched plant-soil-microbe interactions in organic pollutant phytoremediation systems. Utilized culture-independent molecular techniques to characterize microbial ecology of recalcitrant pollutant biodegradation. Dr. Crowley Lab, *University of California at Riverside*, Riverside, CA

- 2006 Soil Microbial Ecologist. Provided microbiological technical research support for fate and transport of bovine waste contaminants in agricultural soil. *George E Brown Jr. Salinity Lab, USDA, Riverside, CA*
- 2005-2006 Instructor. The Copernicus Project. *Applied Environmental Microbiology: Fingerprinting Microbial Communities in Petroleum Contaminated Soils*. Southern California Community College Consortium Workshop Series. *University of California at Riverside, Riverside, CA*

Current Funded Research

- *Microbial ecology and pharmaceutical removal in an ecological wastewater treatment plant*. Vermont Genetics Network (NIH).
- *Fate and transport of pharmaceuticals an ecological wastewater treatment plant*. Vermont Genetics Network.
- *Coupling mycoremediation and phytoremediation for carbon sequestration and cold-climate soil bioremediation*. Vermont Dept. of Environmental Conservation

Publications

- In Review Balcom, I. N. and H. Driscoll, *Microbial ecology and potential for pharmaceutical removal in an ecological wastewater treatment plant*. In review. Applied Environmental Microbiology control # AEM03706-15
- 2010 Balcom, I. N. and D. E. Crowley. *Isolation and Characterization of Pyrene Metabolizing Microbial Consortia from the Plant Rhizoplane*. International Journal of Phytoremediation. Volume 12 Issue 6, August 2010.
- 2009 Balcom, I. N. and D. E. Crowley. *Pyrene Effects on Rhizoplane Bacterial Diversity*. International Journal of Phytoremediation. 11:609–622, 2009
- 2007 Balcom, I. N. *Phylogenetic Analysis of the Microbial Communities of Soils in the La Brea Asphalt Seeps and PAH Contaminated Rhizoplane*. Doctoral Dissertation. Environmental Toxicology. University of California at Riverside, Riverside, California. 2007

Honors, Grants, and Fellowships

- 2015-2016 Vermont Genetics Network, Vermont Genetics Network Pilot Grant, <http://vgn.uvm.edu/>
- 2014-16 Vermont Dept. of Environmental Conservation Petroleum Cleanup Fund. Pilot Grant.
- 2014- 15 Vermont Genetics Network Pilot Grant, <http://vgn.uvm.edu/>

- 2014 Award recipient for integrating research into undergraduate courses: Vermont Genetics Network Annual Conference.
- 2013-14 Vermont Genetics Network Pilot Grant, <http://vgn.uvm.edu/>
- 2004-06 Fellowship, University of California Toxic Substances Research and Teaching Program
- 2004 Scholarship, SETAC Summer School, Life Cycle Assessment and Green Chemistry. Prague, Czech Republic
- 2002-03 Dean's Dissertation Fellowship, UCR Environmental Toxicology Interdisciplinary Graduate Program.
- 2002 Travel and Attendance Scholarship, NATO ASI on Phytoremediation. Trest, Czech Republic.

Professional Activities

- Current (2004-) Member, American Society of Microbiology
- Current (2014-) Board of Directors of the International Phytotechnology Society. <http://phytosociety.org/>
- Current (2011-) Northeast Regional Development Council Brownfield advisory board.
- Current (2015-) Workgroup committee member for bioavailability of organic pollutants in soil technical guidance document. Interstate Technical and Regulatory Committee (ITRC). <http://www.itrcweb.org>
- Current (2004-) Member of Society of Environmental Toxicology and Chemistry (SETAC). <http://www.setac.org/>
- Current (2005-) Member of the International Phytotechnology Society <http://phytosociety.org>
- Current (2010-) Journal review panel. International Journal of Phytoremediation. <http://www.tandfonline.com/toc/bijp20/current#.VK1RVicvCcM>
- 2015 Battelle Bioremediation Conference, Miami, FL
- 2013-2014 Interim Chair of the Department of Natural Sciences. *Lyndon State College*, Lyndonville, VT. <http://lyndonstate.edu/degree-programs/natural-sciences/>
- 2013 Vermont Science Initiative lead instructor. Summer intensive science workshop for Vermont K-8 science teachers. *Applying ecosystem services*

for the management of water resources. Lyndon State College, Lyndonville, VT. <http://vtscience.org/>

- 2009 Sixth International Phytotechnologies Conference – *Presenter* St Louis MO
- 2009 Interstate Technology and Regulatory Council (ITRC) Green and Sustainable Remediation guidance team member.
http://www.itrcweb.org/teampublic_GSR.asp
- 2009 Soak It Up: Phytotechnology Solutions for Water Challenges. Presentation Title: *Plant Physiology of Phytotechnology*. Sustainable Plant Research and Outreach Center, Silverton, Oregon.
- 2008 24hr HAZWOPER Certification. Portland, OR
- 2005-2006 Founder – SustainableUCR student organization. Chancellor’s Committee on Sustainability. Invited member of City of Riverside Mayor’s “Clean and Green” Round Table. University of California at Riverside, Riverside, CA
- 2005 Bioneers Annual Conference. San Rafael, CA. Volunteer Conference Assistant.
- 2004 Society of Environmental Toxicology And Chemistry (SETAC) Summer School- Lifecycle Cost Assessment - Institute of Chemical Technology, Prague, Czech Republic
- 2002 NATO Advanced Studies Institute on Phytoremediation- Trest, Czech Republic
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Teaching Experience

- 2010 – Present Lyndon State College, Department of Natural Sciences.
Courses taught: General Chemistry I & II, Organic Chemistry I & II, General Chemistry Lab, Organic Chemistry Lab, Outline of Chemistry (General, Organic and Biochemistry), Intro to Env. Science, Sustainable Living, Microbiology, Environmental Toxicology, Ecology, and Environmental Site Assessment.
- 2007-2008 Vermont Technical College, Department of Horticulture and Ornamental Landscape Development.
Courses taught: Greenhouse Management and Plant Pathology.
- 2005-2006 University of California, Riverside. Department of Environmental Sciences.
Courses taught: Environmental Science Lab, Food Microbiology Lab.