

Rachel N. Lohner

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EDUCATION

M.S. Biology The University of Toledo, Department of Earth, Ecological, & Environmental Sciences. 2002. *Thesis: Diversity, redundancy, and efficiency in microbial decomposition of Typha litter*

B.S. Biology The University of Toledo, Department of Biology. 2000.

WORK EXPERIENCE 9 years of technical laboratory research experience

University of Toledo/Lake Erie Center Toledo, Ohio
Education Program Manager Oct. 2008-Present

- Develop, run, and oversee environmental science programs centered on western Lake Erie and focused on high school, undergraduate, and graduate education, as well as help network these groups and the public
- Design, plan, and coordinate grant funding applications and help manage budgets
- Serve as the program manager for an NSF GK-12 program
- Lead workshops, classroom exercises, science fair projects, etc.
- Analyze data, write grant reports and scientific papers to peer-reviewed primary journals
- Interface with environmental groups and serve as a representative of the LEC

University of Toledo/Lake Erie Center Toledo, Ohio
Laboratory Research Technician (Great Lakes Genetics) Mar. 2006-Oct. 08

- General laboratory maintenance, ordering, record keeping, and organization
- DNA extraction, PCR, DNA sequencing, and microsatellite allelic data collection
- DNA sequence and population genetic data analysis utilizing Arlequin, Genepop, GenBank, Sequence alignment programs, etc.
- Aid in manuscript, report, lab manual, preparation, writing and review
- Assist in grant writing and preparing reports to funding agencies
- Publish scientific papers and reports

University of Toledo/Lake Erie Center Toledo, Ohio
Laboratory Research Technician (Benthic Ecology) Mar. 2004-Mar. 06

- Participated in Lake Erie (Western Basin) water sampling and monitoring regime
- Operate lab equipment including pulse amplitude modulated fluorometer, multiprobe samplers, light meters, dissolved oxygen probes, growth chambers, and microscopes
- Performed general laboratory duties, maintenance, and oversees daily functions including coordinating sampling, supply ordering, inventory management, and safety protocols
- Data analysis, manuscripts and grant proposals writing preparation, and review
- Microbial and genetic techniques including DNA extraction, PCR, community level physiological profiling (CLPP), and denaturing gel gradient electrophoresis (DGGE)

WORK EXPERIENCE CONTINUED

Medical College of Ohio

Laboratory Research Technician

Toledo, Ohio

May 2003-Mar. 04

- RNA and DNA extraction, isolation, and clean up
- PCR including radioactive PCR, long range PCR, and genotyping
- cDNA synthesis and quantitative real time PCR
- Gene amplification, gel extraction, and sequencing
- Worked with laboratory animal colony in genetic study of hypertension and renal disease in accordance with IACUC policies including tissue collection, preparation, and homogenization; blood pressure collection and tail clipping of laboratory rats

University of Toledo/Lake Erie Center

Laboratory Research Technician (Microbial Ecology)

Toledo, Ohio

Jan.–March 2003

- Performed general laboratory duties and maintenance
- DNA isolation and PCR
- Data analysis for presentation to principle investigator

University of Toledo

Graduate Teaching and Research Assistant

Toledo, Ohio

2000-2002

- Taught, prepared, and organized undergraduate biology and ecology laboratory courses
- Executed laboratory, technical, and field duties, on several projects
- Statistically analyzed data, prepared Master's Thesis, and presented research results

COSI (Center of Science and Industry)

Program Area Assistant

Toledo, Ohio

1999-2000

- Interacted with visitors and school groups in hands on museum setting
- Performed educational shows and demonstrations
- Assisted in designing future exhibits, shows, and demonstrations

Sylvania Veterinary Hospital

Veterinary Assistant

Sylvania, Ohio

1997-1999

- Worked directly as an assistant to four doctors in the care of small animals
- Assisted in treatment and surgical procedures
- Conducted medical laboratory tasks

PUBLISHED PAPERS (some under maiden name)

Stepien, C.A., **R.N. Lohner**, and D.J. Murphy. Genetic Patterns among Walleye (*Sander vitreus*) Populations across the Laurentian Great Lakes. In revision. *Journal of Great Lakes Research*.

Stepien, C.A., D.J. Murphy, and **R.N. Lohner**. Status and Delineation of Walleye Genetic Stock Structure across the Great Lakes. *Great Lakes Fishery Commission Report*. (peer-reviewed). Accepted.

Stepien, C.A., D.J. Murphy, and **R.N. Lohner**. Landscape genetic patterning of the walleye *Sander vitreus*: Vicariance, postglacial dispersal, and spawning philopatry. Accepted. *Molecular Ecology*.

PUBLISHED PAPERS CONTINUED

Mayer, C.M., **R.N. Lohner**, T.B. Bridgeman. Benthic Primary Production in Maumee Bay, western Lake Erie: green lake, brown bottom. In preparation for submission to the *Journal of the North American Benthological Society*.

Lohner, R.N., V. Sigler, C.M. Mayer, C. Balogh. 2007. A comparison of the benthic bacterial community within and surrounding *Dreissena* clusters in lakes. *Microbial Ecology*, 54:469-477.

Su, R., **R.N. Lohner**, K.A. Kuehn, R.L. Sinsabaugh, R.K. Neely. 2007. Microbial dynamics associated with decomposing *Typha angustifolia* litter in two contrasting Lake Erie coastal wetlands. *Aquatic Microbial Ecology*, 46:295-307.

Gallo, M.E., **R.N. Amonette**, C.L. Lauber, R.L. Sinsabaugh, D.R. Zak. 2004. Microbial community structure and oxidative enzyme activity in Nitrogen-amended north temperate forest soils. *Microbial Ecology*, 48: 218-229.

Sinsabaugh, R.L., D.R. Zak, M.E. Gallo, C.L. Lauber, **R.N. Amonette**. 2004. Nitrogen deposition and dissolved organic carbon production in northern temperate forests. *Soil Biology and Biochemistry*, 36: 1509-1515.

PRESENTATIONS at PROFESSIONAL CONFERENCES (some under maiden name)

R.N. Lohner, C.M. Mayer, W.V. Sigler. 2005. Effects of *Dreissena* clusters on the benthic microbial community of lakes, (Talk) International Association of Great Lakes Research, Ann Arbor, MI, May 23-27, 2005

R.N. Amonette, R.L. Sinsabaugh, R.K. Neely, K.A. Kuehn. 2002. Diversity, redundancy, and efficiency in microbial decomposition of *Typha* litter. (Talk) American Society of Limnology and Oceanography, Victoria, British Columbia, Canada, June 10-14, 2002.

SKILLS and QUALIFICATIONS

- Knowledge of Lake Erie especially western basin and Maumee River watershed
- Outstanding oral, written, and computer communication skills
- Skilled in operation of laboratory equipment and software packages including fluorimeters, spectropotometers, multiprobe samplers, light meters, dissolved oxygen probes, growth chambers, microscopes, balances, centrifuges, pH meters, polytrons, sonicators, autoclaves, and incubators
- Experienced with automated pipetting systems, extracellular enzyme techniques, TOC analyzer, scintillation counters, and handling radioactive materials
- RNA and DNA extraction and isolation, PCR including radioactive, long range, real time, and genotyping
- Acrylamide and agarose gel techniques
- Experienced in handling laboratory animals and tissue collection
- Proficient with Macintosh and PC systems and many software programs including Microsoft Office, SAS, Adobe Acrobat, Photoshop, and Claris Filemaker Pro
- Experienced in field collections and assays of fishes, invertebrates, and limnological samples