

## Carly J. Nowicki, Ph.D.

email: [carlyjc@umich.edu](mailto:carlyjc@umich.edu)

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### PROFESSIONAL PREPARATION

**Wayne State University** Biology (Aquatic Ecology) Ph.D. 2014  
Dissertation: *Environmental Stressors: Pathways of Exposure and Aquatic Invertebrate Response*

**University of Michigan – Ann Arbor** Molecular & Cellular Biology B.S. 2009

### TEACHING APPOINTMENTS

**Lecturer III**, Department of Ecology & Evolutionary Biology, University of Michigan, Ann Arbor, MI  
January 2020 – *Present*

BIO 173 Introductory Biology Lab (2 cr.) develop new curriculum, manage enrollment, coordinate GSI training, coordinate exam distribution and grading

**Assistant Professor**, Department of Biology, Madonna University, Livonia, MI, Jan 2017 – Dec 2019

BIO 1030 General Biology 1 + Lab (4 cr.)

BIO 1040 General Biology 2 + Lab (4 cr.)

BIO 3750 Evolution (3 cr.)

BIO 3740 Cellular Biology (3 cr.)

BIO 2450 Human Anatomy & Physiology 1 + Lab (4 cr.)

BIO 2460 Human Anatomy & Physiology 2 + Lab (4 cr.)

BIO 4010 Population Genetics (3 cr.)

BIO 4750 Advanced Human Physiology (3 cr.)

BIO 4950 Senior Research Seminar (2 cr.)

BIO 4750 Independent Study in Research Dissemination (3 cr.)

**Faculty Mentor**, Biological and Health Sciences Club, Madonna University, Livonia, MI, Sept 2017 – *Present*. Meet with students bi-monthly to plan events and provide career and academic resources for students.

**Adjunct Assistant Professor**, Depart. of Biology, Bellarmine University, Louisville, KY Jan – April 2015; BIOL 140 Animal Diversity + Lab (4 credits)

**Instructor/Visiting Scientist**, workshop entitled: *Bioassessment Techniques in Aquatic Ecology*, University of Puerto Rico-Mayagüez. August 2013. Designed, prepared and taught a class of 20 undergraduate and graduate students in techniques and concepts of aquatic ecology in tropical streams during a one-week course.

**Graduate Teaching Assistant**, BIO 4130 General Ecology Lab – Writing Intensive (4 cr.), Department of Biological Sciences, Wayne State University. Winter 2012 and Winter 2013

**Education Volunteer**, Rouge River Education Program, Friends of the Rouge River Non-profit Organization. Fall 2012 and Fall 2013. Participated in an active learning program assisting high school teachers to conduct water quality tests, survey streams, and collect aquatic macroinvertebrates with K-12 students.

**Graduate Teaching Assistant**, BIO 1500 Organismal Biology (4 credits), Department of Biological Sciences, Wayne State University. Fall 2010 and Fall 2011 semesters.

**Guest Lecturer**, BIO 1500 Organismal Biology (4 credits) lecture entitled: *Chordates*, Department of Biological Sciences, Wayne State University. July 2011

**Team Leader**, Biannual macroinvertebrate surveys of the Rouge River, Friends of the Rouge River Organization. Fall and winter 2009 – 2014.

**Graduate Teaching Assistant**, BIO 7110 Aquatic Ecology (4 credits), Department of Biological Sciences, Wayne State University. Fall 2009.

### RESEARCH EXPERIENCE

**Postdoctoral Scientist**, University of Toledo & U.S. Geological Survey, Great Lakes Science Center, Ann Arbor, MI. April 2015 – December 2016. Worked with investigators at the University of Toledo and USGS to compile and analyze food-web data from Lake Huron and Lake Michigan and prepare manuscripts. Developed conceptual food-web models and perform statistical analyses using SAS and R statistical software. Participated in three lake-wide research cruises on Lake Michigan in May, July, and October 2015. Supervisor: David ‘Bo’ Bunnell

**Graduate Research Assistant**, Department of Biological Sciences, Wayne State University, Detroit, MI. September 2009 - December 2014. Lead toxicology studies of contaminants in aquatic invertebrates to determine the effects of pollutants on aquatic life; designed and implemented projects examining invasive mussel biology including measuring filtration rates, phosphorus content and impacts of pseudofeces, performing toxicity assays, and conducting extensive caged field experiments; sorted and identified organisms in benthic invertebrate samples; developed a novel oxidative stress assay in dreissenid mussels; assisted in other graduate field projects studying invasive wetland plants, indicator species, and cyanobacteria; ran carbon, phosphorus, nitrogen, metals, and toxins analyses using a spectrophotometer, a Total Organic Carbon (Shimadzu) analyzer and an atomic absorption spectrophotometer. Advisor: Dr. Donna Kashian

**Research Assistant**, Invasives Early Warning Systems Project, Wayne State University, Detroit, MI. May 2012-August 2013. Participated in research cruises by collecting and measuring physicochemical parameters of water samples (dissolved oxygen, pH, conductivity, hardness, and alkalinity); collected plankton samples using plankton tow net; sieved and sorted benthic sediment samples. Supervisor: Dr. Jeffrey Ram

**Research Assistant**, Saginaw Bay Multiple Stressors Project, NOAA Great Lakes Environmental Research Lab, Ann Arbor, MI. 2010-2011. Collected and measured physicochemical parameters of water samples (dissolved oxygen, pH, conductivity, hardness, and alkalinity) and recorded data during monthly sampling trips on NOAA research vessels; prepared water samples for nitrogen, phosphorus, and carbon analysis; sieved and sorted benthic sediment samples. Supervisor: Dr. Donna Kashian

**Research Assistant**, Department of Neurology, University of Michigan, Ann Arbor, MI. September 2007-June 2009. Supervisor: Dr. Jack Parent

**Research Assistant**, Providence Hospital Patient Care Research Department, Southfield, MI. January 2005-Aug 2005. Supervisor: Dr. David M. Svinarich

## **PUBLICATIONS**

Steiner CF and **CJ Nowicki**. 2019. Eco-evolutionary dynamics in the wild: clonal turnover and stability in *Daphnia* populations. *American Naturalist*, 194(1), 117 – 123.

**Nowicki CJ** and DR Kashian. 2018. Comparison of lipid peroxidation and catalase response to single and multiple stressors in invasive dreissenid mussels. *Environmental Toxicology and Chemistry*, 37(6), 1643-1654

**Nowicki CJ**, Bunnell DB, Armenio PM, Warner DM, Vanderploeg HA, Cavaletto JF, Mayer CM, and JV Adams. 2017. Biotic and abiotic factors influencing zooplankton vertical distribution in Lake Huron. Submitted to *Journal of Great Lakes Research* 43, 1044-1054

**Nowicki CJ**, van Hees EH, Kashian DR. 2014. Comparative effects of sediment versus aqueous PCB exposure on benthic and planktonic invertebrates. *Environmental Toxicology and Chemistry* 33(3), 641-647

Siersma HMH, Foley CJ, **Nowicki CJ**, Qian SS, Kashian DR. 2014. Trends in the distribution and abundance of *Hexagenia spp.* in Saginaw Bay, Lake Huron, 1954-2012: Moving towards recovery? *Journal of Great Lakes Research* 40, 156-167

## **OTHER PUBLISHED WORK**

**Nowicki CJ** and NA Butkevich. 2019. BIO 2450 Human Anatomy & Physiology 1 Laboratory Manual. Madonna University. 2nd Ed. Hayden-McNeil, LLC. ISBN 978-1-5339-1516-0

- Nowicki CJ** and NA Butkevich. 2019. BIO 2460 Human Anatomy & Physiology 2 Laboratory Manual. Madonna University. 2nd Ed. Hayden-McNeil, LLC. ISBN 978-1-5339-1515-3
- Nowicki CJ** and NA Butkevich. 2018. BIO 2430 Human Anatomy & Physiology 1 Laboratory Manual. Madonna University. 1<sup>st</sup> Ed. Hayden-McNeil, LLC. ISBN 978-0-7380-9912-5
- Nowicki CJ** and NA Butkevich. 2018. BIO 2440 Human Anatomy & Physiology 2 Laboratory Manual. Madonna University. 1<sup>st</sup> Ed. Hayden-McNeil, LLC. ISBN 978-0-7380-9912-7

### **SELECT PRESENTATIONS**

- CJ Nowicki** and NA Butkevich. Changing the Culture in an A&P Laboratory Course. Human Anatomy and Physio. Society Conf., Ohio State University, Columbus, OH, USA. May 2018. Workshop
- Pegg JM and **CJ Nowicki**. Benefits of State Park Protections on Shark and Ray Communities in Clearwater, Florida. Michigan Academy of Science, Arts and Letters Annual Conference, Central Michigan University, Mt. Pleasant, MI, USA. March 2018.
- O'Dowd P and **CJ Nowicki**. Regional Incidence of Methicillin Resistant Staphylococcus aureus in the United States. Michigan Academy of Science, Arts and Letters Annual Conference, Central Michigan University, Mt. Pleasant, MI, USA. March 2018.
- Pegg JM and **Nowicki CJ**. Benefits of state park protections on shark and ray communities in Clearwater, Florida. Senior Seminar Research Symposium, Madonna University, December 2017.
- O'Dowd P and **CJ Nowicki**. Regional Incidence of Methicillin Resistant Staphylococcus aureus in the United States. Senior Seminar Research Symposium, Madonna University, December 2017.
- Bunnell, D. B., P. M. Armenio, D. M. Warner, and **C. J. Nowicki**. Trophic ecology of *Coregonus hoyi* in lakes Michigan and Huron. 13th International Coregonid Symposium, Bayfield, WI. 2017
- Nowicki, C. J.**, Armenio, P.M., Bunnell, D.B., Warner, D., Mayer, C.M. Comparing niche space overlap and trophic shifts between Lakes Michigan and Huron using stable isotopes. Internat. Assoc. for Great Lakes Research Annual Meeting, Detroit, MI. May 2017.
- Nowicki CJ**, Armenio PM, Bunnell DB, Warner DM, Vanderploeg HA, Cavaletto JF, and CM Mayer. "To eat or be eaten? The ups and downs of zooplankton diel vertical migration in Lake Huron." Internat. Assoc. for Great Lakes Research Annual Meeting, Guelph, Ontario, Canada. May 2016.
- Nowicki CJ** and DR Kashian. "Mechanisms of Tolerance and Distribution: Comparing the Oxidative Stress Response in Two Invasive Dreissenid Mussels under Different Environmental Conditions." Society for Freshwater Science Annual Meeting, Burlington, VT, USA. May 2015.
- Nowicki CJ** and DR Kashian. "Mechanisms of PCB Tolerance: Comparing the Oxidative Stress Response in Two Invasive Dreissenid Mussels." Joint Aquatic Science Meeting, Portland, OR, USA. May 2014.
- Nowicki CJ** and DR Kashian. "Mechanisms of PCB Tolerance: Comparing the Oxidative Stress Response in Two Invasive Dreissenid Mussels." Society of Environmental Toxicology and Chemistry Europe 23rd Annual Meeting, Glasgow, Scotland, UK. May 2013. Poster
- Collins\* CJ**, van Hees EH, Kashian DR. "Comparative Effects of Sediment versus Aqueous PCB Exposure on Benthic and Planktonic Invertebrate." Society for Freshwater Science Annual Meeting, Louisville, KY, USA. May 2012.
- Collins\* CJ**, van Hees EH, Kashian DR. "Comparative Effects of PCB Contaminations on Benthic and Planktonic Invertebrate Survival." North American Benthological Society Annual Meeting, Providence, RI, USA. May 2011.
- Collins\* CJ**, van Hees EH, Kashian DR. "Comparative Effects of PCB Contaminations on Benthic and Planktonic Invertebrate Survival." WSU Graduate Exhibition, Wayne State University, Detroit, MI, USA. March 2011. Poster
- Collins\* CJ**, van Hees EH, Kashian DR. "Comparative Effects of PCB Contaminations on Benthic and Planktonic Invertebrate Survival." American Society for Limnology and Oceanography Annual Meeting, San Juan, Puerto Rico. Feb 2011. Poster

\*maiden name

### **SELECT AWARDS & GRANTS**

## Teaching Awards

2019 Student Senate Advisor of the Year Award - Honorable Mention

2019 Student Senate Outstanding Faculty of the Year Award - Honorable Mention

2018 Student Senate Outstanding Faculty of the Year Award

<b>Grants</b>	<b>Period</b>	<b>Total</b>
Society for Freshwater Science General Endowment Award	2014	\$1,000
Thomas C. Rumble University Graduate Fellowship	2013-2014	\$38,200
WSU Graduate School Summer Dissertation Fellowship	2013	\$5,000
WSU Graduate Research Assistant Enhancement Award	2012	\$16,590
WSU Graduate School Dissertation Research Support Grant	2012	\$2,000
Michigan Garden Club Scholarship	2012	\$1,000
MSU Kellogg Biological Station G.H. Lauff Scholarship	2011	\$2,600
North American Benthological Society's Conservation Award	2011	\$750
Saginaw Bay Walleye Club Research Grant	2009	\$1,000
Wayne State Graduate School Rumble Award	2009	\$32,000

## **PROFESSIONAL SERVICE**

- Journal reviewer, *Journal of Great Lakes Research* (2015, 2016, 2017, 2018), *Aquatic Toxicology* (2015, 2017), *PeerJ* (2016)
- Sigma Zeta National Science and Mathematics Honor Society (2017 – present)
- International Association for Great Lakes Research member (2011, 2013 - present)
- Society of Environmental Toxicology and Chemistry member (2013 - 2015)
- Society for Freshwater Science member (2009-present)/ Graduate Student Chair (2013)
- American Society for Limnology and Oceanography member (2011-2013)
- Wayne State University Biological Sciences Graduate Student Association (2009-2014)
- UofM Student Society for Stem Cell Research member/PR Director (Sept 2006-2009)

## **PUBLIC SERVICE**

- Friends of the Rouge River Survey Leader (2009-2016)
- Rouge River Education Program Leader Volunteer (2012-2013)
- Fish Consumption Advisories booth, Detroit River Days (2010 & 2011)
- Fish Consumption Advisory booth, Health Day Fair in Detroit, MI (2010)

## **RELEVANT COURSES & TRAINING:**

### **Professional Training:**

*Active LENS Evolution Educator Workshop*, Michigan State University, East Lansing, MI. August 2018.

A 3-day workshop training in the use and implementation of the Avida-ED evolution software.

*Online Instructor Professional Development Course* and Certificate, Madonna University, Livonia, MI March-April 2017. This course was designed to prepare faculty to develop and teach effective and engaging interactive online courses. Faculty were taught to use the Blackboard course delivery software for asynchronous and synchronous learning activities.

*Michigan Blackboard User Group Conference (MiBUG)*. 2017, 2018

### **Relevant Courses Taken:**

BIOLOGY 162: Intro to Biology & Lab

BIOLCHEM 415: Biochemistry

BIOLOGY 207: Microbiology & Lab

BIOLOGY 305: Genetics

MCDB 306: Genetics Lab

MCDB 422: Cellular and Molecular  
Neurobiology  
MCDB 427: Molecular Biology  
MCDB 428: Cellular Biology  
MCDB 401: Advanced Topics: Genetics and  
Molecular Biology of Behavior  
MCDB 400: Advanced Research  
BIO 5330: Recombinant DNA  
BIO 5620: Developmental Biology  
BIO 7440: Biometry

BIO 6190: Advanced Special Topics: Risk  
Assessment of Aquatic Nuisance Species  
BIO 6190: Adv Special Topics: Ecotoxicology  
BIO 7110: Aquatic Ecology  
GEL 5450: Hydrogeology  
BIO 7440: Terrestrial Ecology  
BIO 5040: Biometry  
BIO7540: Ecosystems and Landscape Ecology  
BIO 6190: Population and Community Ecology  
ENT 459: Biomonitoring of Streams and Rivers  
EEES 6980: Advanced Data Management

### **PROFESSIONAL REFERENCES:**

#### **Dr. Donna Kashian**

Associate Professor  
Department of Biological Sciences  
3115 Biological Sciences Building  
Wayne State University  
5047 Gullen Mall  
Detroit, MI 48202  
Phone: (313) 577-8052  
Email: [dkashian@wayne.edu](mailto:dkashian@wayne.edu)

#### **Dr. David “Bo” Bunnell**

Research Fishery Biologist  
USGS Great Lakes Science Center  
1451 Green Road  
Ann Arbor, MI 48105  
Phone: (734) 214-9324  
Email: [dbunnell@usgs.gov](mailto:dbunnell@usgs.gov)

#### **Linda VanThiel**

Laboratory Coordinator Emeritus  
Department of Biological Sciences  
Wayne State University  
Phone: (248) 225-9227  
Email: [lvt@wayne.edu](mailto:lvt@wayne.edu)

### **STUDENT REFERENCES:**

#### **Sarah Knapp**

(734) 679-3623  
[sknapp@my.madonna.edu](mailto:sknapp@my.madonna.edu)

#### **Patrick O’Dowd**

(734) 658-3646