MEMBER PROFILE

LYUBOV BURLAKOVA

Great Lakes Center, SUNY Buffalo State

I am a freshwater biologist studying ecology and diversity of benthic communities, and aquatic invasive species for the last 30 years in Europe and the U.S. I've worked at Buffalo State College since 2007 studying the impacts of Dreissena *invasion on Great Lakes benthic communities and native freshwater mussel diversity. Since 2012, together with Cornell University, our team participates in U.S. EPA GLNPO's monitoring of Great Lakes lower food webs.*



What inspired you to get into this work?

Dreissena is an unusual beast in aquatic ecosystems. When choosing a topic for my Ph.D., I was told the incredible story of how zebra mussels changed the whole ecosystem structure and functioning in Lake Lukomskoe, Belarus. This was the first lake where the effect was tracked at all levels: water chemistry, structure, and productivity of all communities, benthic and pelagic. Plus, for me, a physicist by training, it was astounding and scary to study biological systems with their huge intrinsic variability. Wiens et al. (1986) note that studying ecology is comparable to what it would be like to study chemistry if the chemist were only a few angstroms long and lived only a few microseconds; the overall course of chemical reactions would be difficult to distinguish from the random collision of molecules! The attempt to separate ecosystem trends over time from natural variability and random changes is a fascinating journey.

What body of knowledge would you like to build on?

During my Ph.D. I studied growth, reproduction, population dynamics, spread, and effect of *Dreissena* on lake ecosystems. Almost three decades later, I continue this research, but on a different continent, in much larger lakes, and with two species of dreissenids. This makes it more challenging, but also more interesting. Not every scientist has the opportunity to study the same subject over several decades, but the investment and expertise pay off, providing a broad, unique perspective. It also makes you humble and persistent since right after you get the feeling "I finally got it," nature proves otherwise!

If you could change one thing about the way science is done, what would it be?

Integration of different disciplines can further inform and enrich ecological research and monitoring; for example, a better understanding of the role of physical and chemical processes in community and species dynamics. We also always need historical data for our analyses of long-term community trends; creating regional repositories of samples and primary data will be a crucial investment in the future.

How long have you been an IAGLR member and why did you join?

I attended my first conference in 2008, soon after I joined the Great Lakes Center, to get a quick but comprehensive introduction to contemporary research on the Great Lakes. That conference exceeded my expectations, and I have never skipped a meeting since, first chairing sessions on aquatic invasive species and, later, on benthos and long-term monitoring. We always bring students to the conference since this is the best way to inform them on recent advances in Great Lakes research and integrate them into our wonderful community.

Where will we find you at the conference?

I am usually hard to find since my method is to select many different talks and jump between sessions to cover as much as possible. However, since I will co-chair the session *Mud, Macrofauna and Microbes: Benthic Organism-Abiotic Interactions at Varying Scales* (Thursday and Friday), I'll surely be there! We also will present a photo exhibition and poster at the *State of Lake Ontario* session about our broad benthic survey activities on Lake Ontario in 2018.