Title:
NEO: A hub for biomimicry education, research and economic development

Abstract:
Between the mid 1800s and early 1900s, Northeast Ohio was a global leader in technological innovation…everything from advanced lighting to energy storage and more. Inventors, financiers, and industrialists, flocked to NEO helping create an innovation infrastructure that boasted a patent generation rate that was 6-10 times higher than anyplace else in The United States. A hundred years later, although great wealth was created (and spent), much of that capacity has relocated to other parts of the world, but many unintended consequences (i.e., environmental degradation) remain a part of our landscape. As the seemingly conflicting paradigm of sustainability takes greater hold in our region and globally, we are relearning how innovation and sustainability can complement each other, through the lens of "innovation inspired by nature…," also known as biomimicry. In the context of our region's history of innovation, it may not be all that surprising the NEO is emerging as a global hub for sustainable innovation based on nature's genius. I will review some of the developments fueling a transition from an engineering/mechanistic approach to solving problems to a nature inspired paradigm…and how NEO can lead the world.

Bio:
Peter H. Niewiarowski is an evolutionary biologist and ecologist at the University of Akron, where he has taught and done research in ecology, physiology and life history evolution in amphibians and reptiles since 1995. In 2008, in coordination with the launch of a new interdisciplinary PhD program at UA called Integrated Bioscience, his research turned to biologically inspired design of new kinds of adhesives based on the glue-free toe pads of geckos. In 2012 he partnered with faculty from Polymer Science, Painting, and Mechanical Engineering to launch The Biomimicry Research and Innovation Center (BRIC) in collaboration with Great Lakes Biomimicry (a non-profit organization focused on economic development through biomimicry). Today, BRIC recruits and manages corporate sponsors who provide Biomimicry Fellowships for students to pursue a PhD in biomimicry (the first of its kind in the world), while they are embedded in the corporate R&D or in a K12 classroom….connecting the talent pipeline to the academy and the corporate innovation landscape with a new way of thinking about innovation and sustainability.