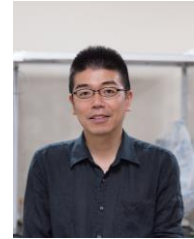


# Laboratory of Invertebrate Neuroethology and Ecotoxicology

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Invertebrates are the most diversely differentiated organisms on the planet, and they play very important roles in hierarchical ecosystems due to their wide distribution throughout a variety of environments. Our research currently focuses on the behavior of arthropods, in particular, insects and crustaceans. Although arthropod body sizes are relatively small and their body organizations are rather simple, they still possess sophisticated nervous systems that allow them to perceive environmental conditions and adapt to changes in those systems. When arthropod behaviors are disturbed by anthropogenic pollutants, significant impacts on associated ecosystems can be expected; however, the effects of human-derived chemicals on invertebrate behaviors have rarely been examined.

Our research aims to understand the physiological mechanisms of invertebrate behaviors and to investigate the impacts of environmental pollutants on invertebrate behavior. Examples of our current research initiatives are shown below.



Neural mechanisms controlling locomotor behavior in crickets



The effects of atmospheric organic chemicals, PPCPs (pharmaceuticals and personal care products), and insecticides on olfactory learning in crickets



The effects of neuroactive PPCPs and insecticides on escape behavior and mating display in mudflat crabs