**Chunbo Zhang , Ph.D.**

*Assistant Professor of Biology*

**Office:** 392 Life Sciences Building  
**Phone:** 312.567.3575  
**Fax:** 312.567.3494  
**Email:** [zhangc@iit.edu](mailto:zhangc@iit.edu)

**Education**

* B.S. Ningbo University
* Ph.D. University of Manitoba

**Research & Major Accomplishments**

We are a neurobiology research lab. In our lab, we use animal models (transgenic mice and zebrafish) to study the development of the olfactory system and the structural and molecular mechanisms of olfactory sensation. Recent discoveries in the genetics and functions of the olfactory system show that sense of smell is extremely important for survival of a species. The olfactory system is also a good model system to study neural specification, patterning and regeneration. Our current research focus is to understand how gap junctions are involved in neural specification and organization throughout development and what are the molecular mechanisms of gap junctions in modulating olfactory sensitivity. A side project we are developing is to study the connection between gap junction expression and cancer causation to explore possible cancer prevention pathways. We utilize a variety of research approaches including molecular biology, electrophysiology, optical imaging, immunohistochemistry and biochemistry to address these questions.

Recently, we utilized our expertise in neurobiology and developmental biology to study the development of the olfactory system in lake sturgeon. Our work received various support from multiple parties in the Great Lakes. The Great Lakes Fishery Trust provided financial support. We are also interested in extending our previous work with lake trout to provide scientific data for the lake trout rehabilitation program in the Great Lakes.

**Selected Publications**

Zhang C and Hara TJ. 2009. Lake char (*Salvelinus namaycush*) olfactory neurons are highly sensitive and specific to bile acids. J. Comp. Physiol. A 195:203-215.

Salcedo E, Zhang C, Kronberg E and Restrepo D. 2005. Analysis of training-induced changes in ethyl acetate odor maps using a new computational tool to map the glomerular layer of the olfactory bulb. Chem. Senses 30: 615-626.

Zhang C and Restrepo D. 2003. Heterogeneous expression of connexin 36 in the olfactory epithelium and glomerular layer of the olfactory bulb. J. Comp. Neurol. 459:426-439.  
  
Zhang C and Restrepo D. 2002. Expression of connexin 45 in the olfactory system. Brain Res. 929:37-47.  
  
Zhang C, Brown SB and Hara TJ. 2001. Biochemical and physiological evidence that bile acids produced and released by lake char (*Salvelinus namaycush*) function as chemical signals. J. Comp. Physiol. B 171:161-171

Zhang C, Finger TE and Restrepo D. 2000. Mature olfactory receptor neurons express connexin 43. J. Comp. Neurol. 426:1-12.