

## BIOGRAPHICAL SKETCH

Alan J. Nighorn  
Professor

Department of Neuroscience  
611 Gould Simpson Science Building  
The University of Arizona  
Tucson, Arizona 85721-0077  
Phone: (520) 621-9720  
Fax: (520) 621-8282  
nighorn@email.arizona.edu

### A. Preparation

University of Wisconsin-Madison	BS	1986	Biochemistry
Baylor College of Medicine, Houston, TX	Ph.D.	1993	Cell Biology

### B. Appointments

1987-91      Research Assistant, Dept. of Cell Biology, Baylor College of Medicine, Houston, TX  
1991-93      Research Assistant, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY  
1993-94      Research Associate, ARLDN, University of Arizona  
1994-1997    NIH Postdoctoral Fellow with Dr. John Hildebrand and Dr. David Morton . ARLDN,  
University of Arizona, Tucson, AZ  
1997-1999    Research Associate with Dr. John Hildebrand and Dr. David Morton. ARLDN, University  
of Arizona. Tucson, AZ  
1999 - 2005   Assistant Professor, ARL Division of Neurobiology, University of Arizona, Tucson, AZ  
2000 - 2005   Assistant Professor, Molecular and Cellular Biology Dept., Univ. of Arizona, Tucson, AZ  
2005 - 2011   Associate Professor, ARL Division of Neurobiology, University of Arizona, Tucson, AZ  
2005 - 2011   Associate Professor, Molecular and Cellular Biology Dept., Univ. of Arizona, Tucson, AZ  
2011 – present Professor and Associate Head, Dept of Neuroscience, Univ. of Arizona, Tucson, AZ  
2011 – present Professor, Molecular and Cellular Biology Dept., Univ. of Arizona, Tucson, AZ  
2013 - present Professor and Department Head, Dept of Neuroscience, Univ of Arizona, Tucson AZ

### C. Selected Peer-Reviewed Publications. (18 out of 31 total)

Morton, D.B. and **Nighorn A.** (2003) MsGC-II, a receptor guanylyl cyclase isolated from the CNS of *Manduca sexta* that is inhibited by calcium. *Journal of Neurochemistry* **84**:1-10.

Kaneko, M and **Nighorn A.** (2003) Inter-axonal Eph-ephrin signaling may mediate sorting of olfactory sensory axons in *Manduca Sexta*. *J. Neuroscience*. **23**:11523-38

Collmann, C., Carlsson, M., Hansson, B. and **Nighorn, A.** (2004) Odorant-evoked nitric oxide signals in the antennal lobe of *Manduca sexta*. *J. Neuroscience* **24**: 6070-6077.

Mamman A, Simpson JP, **Nighorn A**, Imanishi Y, Palczewski K, Ronnett GV, Moon C (2004) Hippocalcin in the olfactory epithelium: a mediator of second messenger signaling. *Biochem Biophys Res Com.* **322**:1131-9.

- Dacks, A.M., Dacks, J.B., Christensen, T.C., and **Nighorn, A.J.** (2006) The cloning of one putative octopamine receptor and two putative serotonin receptors from the tobacco hawkmoth, *Manduca sexta*. *Insect Biochem Mol Biol.* 2006 Sep;36(9):741-7.
- Boyle, M., **Nighorn, A.**, and Thomas, J.B. (2006) *Drosophila* Eph receptor guides specific axon branches of mushroom body neurons. *Development.* 2006 May;133(9):1845-54.
- Vidovic, M., **Nighorn, A.**, Koblar, S., and Maleszka, R. (2007) Eph receptor and ephrin signaling in developing and adult brain of the honeybee (*Apis mellifera*). *J Neurobiol.* February 67(2) : 233-251
- Coate, T.M., Swanson, T.L., Proctor, T.M., **Nighorn, A.J.**, and Copenhaver P.F. (2007) Eph receptor expression defines midline boundaries for ephrin-positive migratory neurons in the enteric nervous system of *Manduca sexta*. *J. Comp. Neurol.* 502(2):175-91
- Settembrini, B., Coronel, M., Nowicki, S., **Nighorn, A.**, and Villar, M. (2007) Distribution and characterization of nitric oxide synthase in the nervous system of *Tritoma infestans* (Insecta: Heteroptera). *Cell Tis. Res.* 328(2):421-30
- Wilson, C., Christensen, T.A., and **Nighorn, A.** (2007) Inhibition of nitric oxide and soluble guanylyl cyclase signaling affects olfactory neuron activity in the moth, *Manduca sexta*. *J Comp Physiol A* 193(7):715-28.
- Hu X, Murata LB, Weichsel A, Brailey JL, Roberts SA, **Nighorn A**, Montfort WR. (2008) Allostery in recombinant soluble guanylyl cyclase from *Manduca sexta*. *J Biol Chem.* 283(30):20968-77
- Dacks AM, Green DS, Root CM, **Nighorn AJ**, Wang JW. (2009). Serotonin modulates olfactory processing in the antennal lobe of *Drosophila*. *The Journal of Neurogenetics.* 23(4):366-77.
- Dacks, A., Reisenman, C., Paulk, A. and **Nighorn, A.** (2010) Histamine-immunoreactive local neurons in the antennal lobes of the Hymenoptera. *J. Comp. Neurol.* 518(15):2917-33.
- Dacks, A. and **Nighorn, A.** (2011) The Organization of the Antennal Lobe Correlates Not Only with Phylogenetic Relationship, But Also Life History: A Basal Hymenopteran as Exemplar. *Chemical Senses.* Jan;36(2):209-20
- Higgins, M., Miller, M., and Nighorn, A. (2012). Nitric oxide has differential effects on currents in different subsets of *Manduca sexta* antennal lobe neurons *PLOS One.* 2012;7(8):e42556. doi: 10.1371/journal.pone.0042556
- Dacks A.M., Riffell J.A., Martin J.P., Gage S.L., and **Nighorn A.J.** (2012) Olfactory modulation by dopamine in the context of aversive learning. *J Neurophysiol.* 108(2):539-50
- Gage SL, Daly KC, **Nighorn A** (2013) Nitric oxide affects short-term olfactory memory in the antennal lobe of *Manduca sexta*. *J Exp Biol.* 2013 Sep 1;216(Pt 17):3294-300. doi: 10.1242/jeb.086694.

Dacks AM, Reale V, Pi Y, Zhang W, Dacks JB, **Nighorn** AJ, Evans PD. (2013) A characterization of the *Manduca sexta* serotonin receptors in the context of olfactory neuromodulation. PLoS One. 2013 Jul 29;8(7):e69422. doi: 10.1371/journal.pone.0069422.