POSTDOCTORAL POSITION: CHEMOSENSORY RESEARCH

POSTDOCTORAL POSITION: Funded by an NIH training grant and available for 2 years from Fall 2011 or Spring 2012; Training in Chemical Senses research, with one or a combination of the following Chemosensory Training Program (CTP) members of the Program in Neuroscience at Florida State University:

**Dr. Robert Contreras** (Psychology): Taste physiology; Sodium/fluid intake; Hypertension. The research focuses on how the rodent peripheral gustatory system codes information about taste quality and intensity, as well as how internal (e.g. sodium deprivation, hormone levels) and external (e.g. stimulus temperature) factors influence coding using electrophysiological recording methods of whole nerve and single-cell responses and parallel psychophysical studies of taste-mediated behavior.

**Dr. Lisa Eckel** (Psychology): Taste and intake regulation; Role of estrogen and serotonin. Decrease of food intake by estrogen during the estrous cycle in an animal model of anorexia, and brain mechanisms of estrogen action and modulation by taste are studied in female rats.

**Dr. Debra-Ann Fadool** (Biology/Biophysics): Olfaction/VNO cell physiology, Ion channel structure and function. Patch-clamp electrophysiology (brain slice, heterologous expression, and primary cultures), molecular mutagenesis, transgenic models, and protein biochemistry are used to study modulation of the functional characteristics of ion channel proteins by phosphorylation, protein-protein interactions, or metabolic environments. Current projects involve the regulation of ion channels to abrogate diabetes and obesity related to endocrine sensing in the olfactory bulb and the impact of obesity on olfactory anatomy and olfactometry-assessed behaviors in control and transgenic models.

**Dr. Thomas Houpt** (Biology): Conditioned Taste Aversion (CTA) learning; Taste and intake; Molecular mechanisms of learning. CTA learning is a simple but robust switch in an animal’s behavior from acceptance of a palatable taste to rejection. The resulting changes in physiology and gene expression provide clues to the location and mechanisms of learning.

**Dr. Michael Meredith** (Biology; CTP Program Director): Olfaction/VNO physiology; Chemosensory communication. We study brain mechanisms that interpret natural chemical signals, unlearned (e.g. pheromones) or learned, using immediate-early gene expression and electrophysiology to map neural activation of central chemosensory circuits in the amygdala.

**Dr. Alan Spector** (Psychology): Gustatory processing; animal psychophysics; taste and ingestive behavior. We use behavioral procedures to study neural organization underlying taste processing; including manipulations of the peripheral and central gustatory system. Current projects involve the psychophysical characterization of various genotypes of knock-out mice, assessment of the effects of gustatory nerve transection and regeneration, and of CNS lesions.

**Dr. Paul Trombley** (Biology): Olfactory synaptic physiology, AMPA/KA ion-channel mechanisms. Synaptic circuits formed between principal neurons and interneurons in culture or in brain slices from the olfactory bulb are used to study the actions of neuro-transmitters and neuromodulators on molecular receptors, including special types of glutamate receptor.

Current research of Program in Neuroscience faculty-members ranges from transduction through neuronal cell physiology, electrophysiology and neural circuit function, to psychophysics, mechanisms of learning, regulation of food and fluid intake and social behavior. More
information is available at www.neuro.fsu.edu The FSU Neuroscience Program includes a
dynamic collaborative group of faculty, postdoctoral fellows and students in several departments.
The Program in Neuroscience has substantial research support facilities including machine and
electronic shops for the construction of experimental apparatus. Neuroscience research at FSU
has been expanding over the last several years through the hiring of five new faculty members
into the Program and affiliation of additional senior FSU faculty.

The Department of Biological Science and the Department of Psychology at FSU are large
diverse departments with, in addition to Neuroscience, interdisciplinary programs in Molecular
Biophysics, Computational Science, and Structural Biology. The university supports fully staffed
imaging, DNA, microarray, hybridoma, and instrument-design core facilities.

The city of Tallahassee is the State Capital, situated in the Florida panhandle in close proximity
(15-45 minutes) to freshwater springs, national forest, and the ocean (but far outside the
hurricane storm-surge zone!).

Candidates must be US citizens or US permanent residents. Please contact one or more of the
mentors listed above via their website contacts. Please be prepared to discuss how you can
contribute to the mentor's research program and how they can contribute to your training for a
career in chemosensory research. In addition to contacting potential mentors, please send a CV,
three letters of reference and a statement of career research interests, emphasizing chemosensory
research, to Michael Meredith, CTP Director, Program in Neuroscience, KIN 3011, Florida State
University, Tallahassee FL 32306-4295. Letters of reference must be sent directly by the writer
not the candidate and must provide e-mail or telephone contact information. All materials may
be sent electronically to mmered@neuro.fsu.edu. We encourage women and members of
underrepresented minority groups to apply. The Florida State University is an equal employment
opportunity employer.