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Melissa Lynne Caras

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Current Position

- Doctoral Candidate, Neurobiology and Behavior PhD Program, University of Washington, labs of Drs. Eliot Brenowitz and Edwin Rubel
Dissertation work investigates the effect of seasons and hormones on auditory processing in a wild songbird, Gambel's white-crowned sparrow. Techniques used include auditory brainstem response recording, otoacoustic emission recording, Immunohistochemistry, ELISA and in vivo extracellular single-unit recording.

Education

- Brandeis University, 2007, Summa Cum Laude
 - B.S. Neuroscience with Highest Honors
 - B.S. Biology

Previous Research Experience

- Lab of Dr. Joe Sisneros, UW (April 2008 – June 2008)
*Ten week rotation project investigating the effect of efferent innervation on seasonal changes in auditory frequency tuning in the female midshipman fish (*Porichthys notatus*). Techniques used included live surgery and extracellular recording from the midshipman hearing end organ, the saccule.*
- Lab of Dr. Katie Peichel, UW (January 2008- March 2008)
Ten week rotation project investigating feeding behavior in divergent populations of three-spined stickleback fish. Techniques used included video capture and offline quantification.
- Lab of Dr. Eliot Brenowitz, UW (August 2007-December 2007)
Ten week rotation project investigating the whether the integrity of the robust nucleus of the arcopallium (RA), is necessary for neuronal recruitment into the song nucleus HVC. Techniques used included RA lesion survival surgeries, histology, immunofluorescence, stereological cell counts, morphological analysis, and behavioral quantification.
- Lab of Dr. Donald B. Katz, Brandeis University (May 2004 - August 2007)
Independent undergraduate thesis project investigating the role of 5-HT_{1A} receptors on salt intake and palatability in rats. Techniques used included intraoral cannulae implantation surgeries, daily drug injections, behavioral analysis and video capture.

Academic Honors and Awards

- International Society for Neuroethology Student Travel Award (2010)
- NIH NRSA F31 Predoctoral Training Grant (2010-2013)
- Association for Research in Otolaryngology Travel Award (2010)
- NSF Graduate Research Honorable Mention (2009)
- Speech and Hearing Sciences Predoctoral Training Grant (2008-2010)
- Achievement Reward for College Scientists (ARCS) (2007-2009)
- Doris Brewer Cohen Endowment Award (2007)
- Nathan and Bertha Richter Scholarship (2006)
- Brandeis University Dean's List (2003-2007)

- Stephen Phillips Memorial Scholarship (2003-2007)
- Who's Who of American High School Students (2000-2003)
- Harvard Book Award (2003)
- Harvard Vanguard Medical Associates Scholarship (2003)
- Barbara Rich Memorial Scholarship (2003)
- Peabody Rotary Club Scholarship (2003)
- Phillip Tanzer Memorial Scholarship (2003)

Teaching Experience

- Lecture and laboratory teaching assistant for undergraduate introductory neurobiology course at UW (January 2008 – March 2008)

Publications

Caras, M.L., Brenowitz, E. and Rubel, E.W. (2010) Peripheral auditory processing changes seasonally in Gambel's white-crowned sparrows. *Journal of Comparative Physiology A*. *In press*.

Caras, M.L., MacKenzie, K., Rodwin B., and Katz, D.B. (2008) Investigating the motivational mechanism of altered saline consumption following 5-HT_{1A} manipulation. *Behavioral Neuroscience*. 122(2): 407-415.

Presentations

Caras, M.L., Brenowitz, E. and Rubel, E.W. (2010) Peripheral auditory processing changes seasonally in Gambel's white-crowned sparrows. *Association for Research in Otolaryngology Midwinter Meeting*. Abstract 247

Georgi, S., Harris, R., Watari, H., White, B., **Caras, M.L.**, Smarr, B., Chudler, E. (2008) Expanding our reach: Ideas and resources for neuroscience outreach. *Society for Neuroscience Annual Meeting*

Caras, M.L., MacKenzie, K., Rodwin B., and Katz, D.B. (2007) Investigating the motivational mechanism of altered saline consumption following 5-HT_{1A} manipulation. *Society for Neuroscience Annual Meeting*

Scientific Outreach and Advocacy

- Northwest Association for Biomedical Research mentor (2010)
- UW Neurobiology and Behavior Outreach Officer (2007 – present)
- American Society for Biochemistry and Molecular Biology UW representative for Capitol Hill Lobbying Day, Washington, D.C. (2009)
- Research mentor to two undergraduate researchers in Katz Lab (2007)
- Mentor to high school science student volunteer in Katz Lab (2007)