

ALEXANDRA C. NOWLAN

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EDUCATION

Watson School of Biological Sciences, Cold Spring Harbor Laboratory

Ph.D. Candidate in Biology (Neuroscience) 2015 – present

Areas of Concentration: Social Communication, Experience Dependent Plasticity

University of Massachusetts Amherst Commonwealth Honors College

B.S in Biology, GPA 3.75 2007 – 2011

Areas of Concentration: Molecular Biology, Behavioral Neuroscience

Honors Thesis: “Techno trousers Mutants May Exhibit increased Programmed Cell Death in Motor Neurons Due to Mutation of *slc1a2/EAAT2*, a Glutamate Transporter”

AWARDS

Watson School of Biological Sciences, Cold Spring Harbor, NY 2015 – present

George A. & Marjorie H. Anderson Fellowship 2016 – present

University of Massachusetts, Amherst, MA 2007 – 2011

Magna Cum Laude 2011

Commonwealth College Honors Program 2007 – 2011

Junior Fellows in the Life Sciences 2010 – 2011

Commonwealth College Research Assistant Fellowship 2010 – 2011

Williamstown Community Scholarship 2009 – 2010

John and Abigail Adams Scholarship 2007 – 2011

Biology Talent Advancement Program 2007 – 2008

Williams College, Williamstown, MA

HHMI Summer Fellowship in Biomedical Research at Williams College 2006

RESEARCH EXPERIENCE

Harvard Medical School, Boston, MA

Laboratory Manager, Dr. Sandeep R. Datta August 2013 – August 2015

- Organized lab meetings, events, and Dr. Datta’s travel arrangements to attend conferences and seminars.
- Coordinated hiring, orientation and training for all new members of the lab.
- Maintained compliance with regulatory agencies including EH&S, IACUC, Fire Marshall, DEA, etc.
- Responsible for weekly ordering of reagents, services, and equipment, record keeping and allocation of grant funds.
- Collaborated with the Genome Engineering Production Group to establish the use of CRISPR technology in our lab.
 - Generated a cluster knockout mouse by removing a gene family encoding a novel class of chemoreceptors.

Research Assistant I, Dr. Sandeep R. Datta November 2011 – August 2013

- Managed a 500-cage mouse colony, which included tasks such as ear tag identification, DNA purification from tail biopsy and subsequent genotyping of over 50 different transgenic lines of mice.
- Initiated a screen of codon-optimized variants of the photoactivatable green fluorescent protein (PA-GFP).

Marine Biological Laboratory, Woods Hole, MA

Course Assistant, Neural Systems & Behavior Course June 2011 – August 2011

- Ordered and kept inventory of laboratory supplies, chemicals and equipment, assisted with each lab cycle organization, rig assembly and break down, and prepared common lab solutions for instructors and students daily.

University of Massachusetts, Amherst, MA

Undergraduate Research Assistant, Dr. Gerald Downes September 2009 – May 2011

- Conducted experiments aimed at measuring levels of apoptosis in the *techno-trouser (tnt)* zebrafish mutant to investigate whether this specific mutant could be used as a model for studying Amyotrophic Lateral Sclerosis.

RESEARCH EXPERIENCE (CONT.)

University of Massachusetts, Amherst, MA

Undergraduate Research Assistant, Dr. Cheryl Howe

September 2008 - May 2009

- Initialized and ran the Oxycon mobile device and accelerometers for the AKIDS: Activity Kcal Intervention Daily Study to compare metabolic expenditure during organized versus free play in elementary school children.

Williams College, Williamstown, MA

High School Summer Research Assistant, Dr. Steven Swoap

June 2007 - August 2007

- Constructed and maintained a metabolic cage system for mice on a daily basis, while fasting and collecting metabolic data to reveal a discrete function of norepinephrine in torpor initiation and recovery.

PUBLICATIONS

Greer PL, Bear DM, Lassance JM, Bloom ML, Tsukahara T, Pashkovski SL, Masuda FK, [Nowlan AC](#), Kirchner R, Hoekstra HE, Datta SR. (2016). A Family of non-GPCR Chemosensors Defines an Alternative Logic for Mammalian Olfaction. Cell 165(7): 1734-48.

TEACHING EXPERIENCE

DNA Learning Center, Cold Spring Harbor, NY

Instructor for Laboratory Field Trips

January 2016 - May 2016

- Taught fundamental topics and techniques in biological research to middle and high school classes.

Harvard Medical School, Boston, MA

Mentor for Summer Research Volunteers

June 2012 - August 2014

- Developed and supervised numerous summer research projects designed for visiting researchers and high school volunteers.

University of Massachusetts, Amherst, MA

Teaching Assistant for Histology

January 2011- May 2011

- Assisted students during the laboratory component of the course, specifically through individual instruction of how to use the cryostat to collect sections from various rodent tissues.

Tutor for Student Athletes

September 2008 - May 2011

- Provided tutoring services in general chemistry, statistics, kinesiology, physics and Italian.

LEADERSHIP/VOLUNTEERISM

iCouldbe, New York City, NY

e-Mentor

January 2017 - present

- Encouraging at-risk middle and high school students to stay in school and plan for their future careers.

University of Massachusetts, Amherst, MA

UMass Women's Rugby Football Club

February 2008 - May 2011

- 10-15 hours per week devoted to practice and competition against Division I women's collegiate teams in the New England Rugby Football Union. Competed at the US Division I Collegiate Nationals Championship in 2010.
- Most Improved Player (2009), Unsung Hero (2010), MVP Back (2011), Back's Captain (2010-2011).

Note-taking Volunteer for Disability Services

February 2009 - May 2010

- Attended classes and took detailed notes for students with disabilities.

North Adams Regional Hospital, North Adams, MA

Northern Berkshire Healthcare at Your Service Volunteer

June 2008 - January 2010

- Discharged patients, delivered medical records and lab specimens.