William A Liberti III

| CONTACT INFORMATION | 627-629 Commonwealth Avenue
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| RESEARCH INTERESTS | Tool development, Systems and Computational Neuroscience, Motor Sequencing & Learning, Electrophysiology, Neurophotonics, Calcium Imaging, Nonlinear Optics and Microscopy. |

EDUCATION

Boston University Graduate Medical School, Boston, MA

Ph.D., Neuroscience, *Expected:* July 2017
- Advisor: Timothy Gardner, Ph.D

Boston University, Boston, MA

B.S., Biochemistry & Molecular Biology *With Distinction* , May 2012

RESEARCH EXPERIENCE

Graduate Research Assistant   May 2013 to present
Graduate Program in Neuroscience
Research Summary: Design and implementation of tools for Electrophysiology and Calcium imaging in awake behaving Zebra Finches to study motor learning and stable motor sequencing.

REFEREED JOURNAL PUBLICATIONS

1. Moorman S*, **Liberti WA***, Perkins LN, Markowitz JE, Gardner TJ "Noisy and synchronous neural activity during sleep in a premotor brain region in songbirds" *In Preparation*

2. **Liberti WA**, Perkins LN, Leman DP, Gardner TJ "An open source, wireless capable miniature microscope system" *Journal of Neural Engineering (in press)*

3. **Liberti WA***, Markowitz JE*, Perkins LN, Leman DP, Liberti DC, Guitchounts G, Velho T, Lois C, Kotton DN, Gardner TJ "Unstable neurons underlie a stable learned behavior" *Nature Neuroscience* 19.12 (2016): 1665-1671.

4. Markowitz JE*, **Liberti, WA***, Guitchounts G, Velho T, Lois C, Gardner, TJ "Mesoscopic patterns of neural activity support songbird cortical sequences" *PLoS Biology*, 13.6 (2015): e1002158.

5. Guitchounts G,*, Markowitz JE,*, **Liberti WA***, Gardner TJ "A carbon-fiber electrode array for long-term neural recording." *Journal of Neural Engineering*, 10, 046016 (2013).

* indicates co-authorship

PATENTS

Minimally invasive splaying microfiber electrode array and methods of fabricating and implanting the same. U.S. Patent Application 14/902,734, 2014

AWARDS

Student Awards — Boston University, Graduate School
- GPN 1st place poster prize   2017
- BioWeek 1st place poster prize   2015
- Department of Chemistry Teaching Fellowship   2011–2012
- Boston University Computational Neuroscience Fellowship   2011–2012
- Department of Biology Teaching Fellowship   2011–2015

PRESENTATIONS

First Author Abstracts
- "Rules for motor planning and order in the songbird HVC"   San Diego, 2016
- "Sleep promote maintenance of stable motor performance in songbirds"   San Diego, 2016
- "Unstable neurons underlie a stable learned behavior"   Salt Lake City, 2016
- "Stability and drift in songbird cortical sequencing"   Chicago, 2015
- "Mesoscopic patterns of neural activity support songbird cortical sequences" Washington DC, 2014
- "A carbon-fiber electrode array for long-term neural recording."   New Orleans, 2012

Invited Talks
- UC Berkeley, invited talk   February 2017
- Boston U. NSF Neurophotonics Spotlight invited talk   September 2016
- Computational and Systems Neuroscience (COSYNE) invited talk   February 2016
- Boston College Neuroscience Seminar Guest Speaker   January 2016
- Boston U. Neuroscience Seminar Series   May 2015
- Boston U. Biology Seminar Series   March 2015
- Boston U. Graduate Program in Neuroscience Retreat   June 2015

TEACHING
EXPERIENCE

CHEMISTRY Boston University
    CH203 - Organic Chemistry   2011–2012
    CH131- Inorganic Chemistry for Engineers   2011–2012

NEUROSCIENCE/BIOLOGY Boston University
    BI315 - Systems Physiology   2012–2013
    BI644/NE644 - Neuroscience Design Lab   2013–2015

SERVICE

CELSET Electronics & Experimental Design Course   2013–2015
Course Overview: Through NSF initiative CELEST: (Center of Excellence for Learning in Education, Science and Technology). Taught students from traditionally underrepresented backgrounds in science to program in C, and design simple circuits.

Graduate Resident Assistant   2011–2017
Overview: Support diverse student populations in living/learning communities on Boston University's campus.

Ad Hoc Referee: *PLoS ONE*   2016

SKILLS

Programming:
- MATLAB, Python, R, Processing. *Familiar with:* C, C++, LabView, Swift2, HTML, CSS, Javascript.

Molecular Biology, Biochemistry, & Neurophysiology:
- Gel electrophoresis, PCR, ELISA, Immunohistochemistry, *in-vivo* Electrophysiology(Extracellular multi-electrode, Intracellular), *in-vivo* Microscopy(Multi-Photon, and Single-photon fluorescence.)

Misc:
- Arduino, Processing, LaTeX, Eagle PCB, Fritzing, Git, SolidWorks, SketchUp, TDT DSP, AutoCAD, ZEMAX, Illustrator.

Public
- www.github.com/WALIII