William A Liberti III

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RESEARCH INTERESTS	Tool development, Systems and Computational Neuroscience, Chronic Electrophysiology, Calcium Imaging, Neural basis of motor sequencing and motor learning, Nonlinear Optics and Microscopy

EDUCATION	**Boston University Graduate Medical School**, Boston, MA

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

Boston University, Boston, MA

B.S., Cell Biology, Molecular Biology, and Genetics *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 motor sequencing.

REFEREED JOURNAL PUBLICATIONS

1. **Liberti, W.A.***, Markowitz, J.E.*, Perkins, L.N., Leman, D.P., Liberti, D.C., Guitchounts, G. Velho, T. Lois, C. Kotton, D.N. Gardner, T.J. "Stability and drift in songbird cortical sequencing" *Submitted*

2. Markowitz, J.E.* **Liberti, W.A.***, Guitchounts, G. Velho, T. Lois, C. Gardner, T.J. "Mesoscopic patterns of neural activity support songbird cortical sequences" *PLoS Biology*, 13.6 (2015): e1002158.

3. Guitchounts, G.*, Markowitz, J. E.*, **Liberti,W.A.***, Gardner, T.J. "A carbon-fiber electrode array for long-term neural recording." *Journal of Neural Engineering*, 10, 046016 (2013).

* indicates co-authorship

PATENTS	Splayable microfiber electrode arrays, U.S. Provisional Patent Application No. 61/843,124. June , 2013

AWARDS

Student Awards — Boston University, Graduate School
- Department of Chemistry Teaching Fellowship — 2011–2012
- BU Computational Neuroscience Fellowship — 2011–2012
- Department of Biology Teaching Fellowship — 2011–2015

PRESENTATIONS

First Author Abstracts
- "Stability and drift in songbird cortical sequencing" — 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
- Boston College Neuroethology Speaker — January 2016
- BU Neuroscience seminar Series — May 2015
- BU Biology Seminar Series — March 2015
- BU 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 Experimental Design Course   2013–2016
             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   2011–2016
             Overview: Support diverse student populations in living/learning communities on Boston University's
             campus.

SKILLS   Programming:
             - MATLAB, Python, R, Processing. *Familiar with:* C, C++, LabView.

             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, LaTeX, Eagle PCB, Fritzing, Git, SolidWorks, SketchUp, TDT DSP.

             Public
             - www.github.com/WALIII