Joshua Morimoto

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EDUCATION

TUFTS UNIVERSITY
PhD in Chemistry
Feb 2020 | Medford, MA
MSc in Chemistry
May 2018 | Medford, MA

UNIVERSITY OF RHODE ISLAND
BSc in Chemistry and Forensic Chemistry
May 2015 | Kingston, RI

LINKS

Github::// **jmorim**
ResearchGate::// **Josh_Morimoto**

COURSEWORK

GRADUATE
Separation Science
Spectroscopic Methods of Analysis
Instrumental Analysis
Organic Spectroscopy
Physical Methods in Inorganic Chemistry
Physical Organic Chemistry
Quantum Mechanics
Professional Skills in Chemical Research

UNDERGRADUATE
Instrumental Methods of Analysis
Intermediate Organic Chemistry
Advanced Organic Laboratory
Chemistry of Biological Systems
Physical Chemistry
Object-Oriented Programming

SKILLS

INSTRUMENTATION
LC/MS • GC/MS • MS^2
Multidimensional Chromatography
NMR Spectroscopy
IR Spectroscopy
Fluorimetry
ICP-OES • Flame AAS

PROGRAMMING
R • Python • Java • LaTeX

RESEARCH

TUFTS UNIVERSITY | Graduate Researcher
Robbat Laboratory
Sep 2015 – Present | Medford, MA

- Studied plant metabolomics as a function of environmental conditions using comprehensive 2D LC and GC/MS
- Developed gradient and multidimensional chromatographic methods
- Wrote software packages and scripts for data analyses

UNIVERSITY OF RHODE ISLAND | Undergraduate Researcher
Levine Laboratory
Sep 2013 – May 2015 | Kingston, RI

- Synthesized fluorescent conjugated polymers and fabricated nanoparticles for enhanced pesticide detection via fluorescence spectroscopy
- Synthesized metallo-macrocycles for enhanced detection of polycyclic aromatic hydrocarbon contaminants via fluorescence

Dwyer Laboratory
Jan 2013 – May 2013 | Kingston, RI

- Developed an application to measure pH based on colorimetric analysis of pH indicator strips for visually-impaired users

EXPERIENCE

TUFTS UNIVERSITY SENSORY AND SCIENCE CENTER | Research Assistant
Jan 2017 – Sep 2019 | Medford, MA

- Conducted and participated in sensory analysis panels
- Developed and ran methods for quantitative analyses with LC/MS/UV and GC/MS
- Assisted in drafting research proposals

MATTERWORKS, INC. | Consultant
May 2019 – Oct 2019 | Cambridge, MA

- Consulted on metabolomics procedures from sample preparation to quantitative analysis

TUFTS UNIVERSITY | Teaching Assistant
Sep 2015 – Dec 2016, Sep 2019 – Present | Medford, MA

- Instrumentation Specialist
  - Maintained, repaired, and trained others on departmental instruments, including a GC/MS, HPLC, ICP-OES, and Flame AAS
  - Wrote standard operating procedures for instruments
- Bioanalytical Chemistry Laboratory
  - Recorded and edited remote laboratory classes during COVID
- Organic Chemistry Laboratory
- Instrumental Analysis Laboratory (Graduate Level)
- Quantitative Analysis Laboratory

PFIZER | Analytical Research and Development Intern
May 2015 – Aug 2015 | Groton, CT

- Developed a biphasic dissolution testing system for drug performance evaluation

CALISTA THERAPEUTICS, INC. | Student Intern
May 2015 – Sep 2015 | Lincoln, RI

- Compiled physical properties for compounds screened for drug use to assess patterns in blood-brain-barrier permeability

UNIVERSITY OF RHODE ISLAND ENROLLMENT SERVICES | Lead Student Technician

Feb 2012 – May 2015 | Kingston, RI

- Provided technical assistance to staff
- Implemented an automated inventory management and deployment system
- Trained other student technicians and authored the procedures they used
- Maintained and updated the Enrollment Services website

AWARDS

2015 ACS Analytical Chemistry Undergraduate Award

PRESENTATIONS

2018 Gustavus Adolphus College St. Peter, MN
Multidimensional Chromatography/Mass Spectrometry for Studying Plant-Climate Interactions

ACTIVITIES

ALPHA CHI SIGMA Dec 2012 – May 2015 | Delta Alpha Chapter

- Vice President, 2014 – 2015
- Reporter, 2013 – 2014

URI CHEMISTRY CAMP 2014, 2015 | Kingston, RI

- Organized experiments to foster middle school-aged girls' interest in science
- Chaperoned attendees on field trips

RI SCIENCE FAIR 2013, 2014 | CCRI, Warwick, RI

- Judged middle and high schooler science projects

PUBLICATIONS

[1] J. Morimoto, M. C. Rosso, N. Kfoury, C. Bicchi, C. Cordero, and A. Robbat, "Untargeted/targeted 2d gas chromatography/mass spectrometry detection of the total volatile tea metabolome," *Molecules*, vol. 24, p. 3757, Oct 2019.

[2] E. R. Scott, X. Li, J.-P. Wei, N. Kfoury, J. Morimoto, M.-M. Guo, A. Agyei, A. Robbat, S. Ahmed, S. B. Cash, T. S. Griffin, J. R. Stepp, W.-Y. Han, and C. M. Orians, "Changes in tea plant secondary metabolite profiles as a function of leafhopper density and damage," *Frontiers in Plant Science*, vol. 11, p. 636, 2020.

[3] F. Stilo, G. Tredici, C. Bicchi, A. Robbat, J. Morimoto, and C. Cordero, "Climate and processing effects on tea (camellia sinensis l. kuntze) metabolome: Accurate profiling and fingerprinting by comprehensive two-dimensional gas chromatography/time-of-flight mass spectrometry," *Molecules*, vol. 25, p. 2447, May 2020.

[4] E. R. Scott, X. Li, N. Kfoury, J. Morimoto, W.-Y. Han, S. Ahmed, S. B. Cash, T. S. Griffin, J. R. Stepp, A. Robbat, and C. M. Orians, "Interactive effects of drought severity and simulated herbivory on tea (camellia sinensis) volatile and non-volatile metabolites," *Environmental and Experimental Botany*, vol. 157, pp. 283 – 292, 2019.

[5] N. Kamelamela, M. Zalesne, J. Morimoto, A. Robbat, and B. E. Wolfe, "Indigo- and indirubin-producing strains of proteus and psychrobacter are associated with purple rind defect in a surface-ripened cheese," *Food Microbiology*, vol. 76, pp. 543 – 552, 2018.

[6] N. Kfoury, J. Morimoto, A. Kern, E. R. Scott, C. M. Orians, S. Ahmed, T. Griffin, S. B. Cash, J. R. Stepp, D. Xue, C. Long, and A. Robbat, "Striking changes in tea metabolites due to elevational effects," *Food Chemistry*, vol. 264, pp. 334 – 341, 2018.

[7] W. Talbert, D. Jones, J. Morimoto, and M. Levine, "Turn-on detection of pesticides via reversible fluorescence enhancement of conjugated polymer nanoparticles and thin films," *New J. Chem.*, vol. 40, pp. 7273–7277, 2016.