Joseph James Radler

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LINKS

Github:// **jjradler**
LinkedIn:// **jjradler**
Webpage:// **jjradler.github.io**

EDUCATION

UNIV. OF WASHINGTON
Master of Science (MS)
June 2018 | Seattle, WA
Conc. in **Computational & Theoretical Quantum Chemistry**

PURDUE UNIVERSITY
Bachelor of Science (BS)
May 2012 | West Lafayette, IN
Major in **Chemistry**
Minor in **Japanese Language**

IVY TECH COMM. COLL.
Associate of Applied Science (AAS)
Dec. 2010 | Lafayette, IN
Major in **Chemical Technology**

SKILLS

COMMUNICATION
Technical Writing • Editing
Visualizations • Developing Tutorials
Publishing • Website Construction
Lecturing • Mentoring • Training
Poster & Oral Presentation

COMPUTING
Automation • Development
Distributed & High-Performance
Computing • Package Managers
Scientific Computing • Scripting

PROGRAMMING
Proficient: Bash • MATLAB • LaTeX
Markdown • Python 2.7 & 3.x
Familiar: C/C++ • HTML

SOFTWARE TOOLS:
Packages: MATLAB• Git • Mathematica
Workload Schedulers: PBS • Slurm
IDEs: IntelliJ • PyCharm • Vim

NATURAL LANGUAGES
Native or Fluent: English•Japanese
Proficient: French•German•Portuguese
Russian•Spanish
Limited: Korean•Mandarin

WORK & RESEARCH EXPERIENCE

UNIVERSITY OF WASHINGTON | SEATTLE, WA
Graduate Teaching Assistant / Associate | General Chemistry
Department of Chemistry
Sept. 2015 - Mar. 2019

- Trained undergraduate students with no prior chemistry background in laboratory safety and procedures, as well as theoretical and technical aspects of chemistry.
- Conveyed abstract concepts from physics in the context of introductory-level chemistry courses.
- Drafted and published examination and study questions.
- Led and advised other Graduate Teaching Assistants as a Mentor Teaching Assistant.
- Served as instructor for a First Year Graduate student Teaching Assistant Orientation seminar.

Research Assistant | Xiaosong Li Group
Department of Chemistry
Jan 2016 - Sept. 2018

- Collaborated with several research groups from various experimental disciplines.
- Developed strategies, calculation pipelines, data analysis tools, and simulation software modules.
- Wrote, edited, and created visualizations for a national research center grant application
- Troubleshot complicated, interlocked assemblies of software, theoretical models, and data analysis techniques.
- Built automation pipelines for simulations, analysis, and data management.
- Analyzed large, complex data sets generated from complex simulations.
- Reported data as tables and visualizations.
- Presented proposals, methods, analyses, and conclusions in both small-group settings and public seminars.
- Wrote and published collaborative articles in peer-reviewed journals.

PURDUE RARE ISOTOPE MEASUREMENT (PRIME) LABORATORY
Chemist | Geological Sample Processing Chemistry Operations
May 2012 - Aug 2015 | West Lafayette, IN

- Processed soil, rock, and water samples for ^{36}Cl analysis by Accelerator Mass Spectrometry.
- Optimized sample processing, tripling sample throughput.
- Re-engineered document workflows and maintained records for the database.
- Revised safety protocols for the handling of hydrofluoric acid (HF) and other hazardous reagents.
- Wrote and revised sample processing documentation and procedures.
- Brought hazardous waste handling and disposal into compliance.
- Instructed visiting scholars from around the globe in processing techniques
- Collaborated remotely with researchers to advise them with their own processing facilities.
- Trained undergraduate and graduate students in laboratory techniques and safety.

SKILLS

QUANTITATIVE

Data:
Analysis • Experiment Design
Data Management • Statistics
Time-Frequency Analysis • Visualization

Mathematics:
Discrete Mathematics
Group Theory • Linear Algebra
Numerical Analysis • Vector Calculus

COLLABORATION

Intellectually Curious • Adaptable
Self-Motivated • Fast Learner
Flexible • Diplomatic • Articulate

OPERATING SYSTEMS

Proficient: Windows • MacOS
Familiar: Linux (Fedora & Ubuntu)

RELEVANT COURSES

WRITING AND LANGUAGE

- Grant and Proposal Writing
- Technical Writing and Editing
- English Composition
- Japanese Language & Literature

COMPUTER PROGRAMMING

- High-Performance Computing
- C Programming
- Intro Engineering with MATLAB
- Developing Quantum Models

MATHEMATICS

- Numerical Linear Algebra
- Computational Data Analysis
- Ordinary Differential Equations
- Multivariable & Vector Calculus

CHEMISTRY

- Advanced Inorganic Chemistry
- Computational Chemistry
- Intro. Quantum Chemistry
- Quantum Chemistry

PUBLICATIONS

- **Radler, J. J.**; Lingerfelt, D. B.; Castellano, F. N.; Chen, L. X.; Li, X.; *Role of Vibrational Dynamics on Excited-State Electronic Coherence in a Binuclear Platinum Complex* (Featured Cover Article) J. Phys. Chem. A, **2018**. *DOI:* 10.1021/acs.jpca.8b01352

- Lingerfelt, D. B.; Lestrange, P. J.; **Radler, J. J.**; Brown-Xu, S. E.; Kim, P.; Castellano, F. N.; Chen, L. X.; Li, X.; *Can Excited State Electronic Coherence Be Tuned via Molecular Structural Modification? A First-Principles Quantum Electronic Dynamics Study of Pyrazolate-Bridged Pt(II) Dimers.* J. Phys. Chem. A., **2017**. *DOI:* 10.1021/acs.jpca.6b12099

POSTER PRESENTATIONS

- **Radler, J. J.**; Lingerfelt, D. B.; Li, X.; *Cascading into Coherence – Theoretical Investigations of Long-Lived Excited State Coherences in Bimetallic Pt(II) Complexes.* Conference on Excited State Processes (ESP 2018); *06/2018*.

- **Radler, J. J.**; Lingerfelt, D. B.; Li, X.; *Exploring the Role of Nuclear Motion on Excited State Coherences in Binuclear Pyrazolate-Bridged Platinum Complexes.* 1st Northwest Theoretical and Computational Chemistry Conference; *10/2017*.

- Houferak, C.; Kasper, J.; **Radler, J. J.**; Sun, S.; *Applications of Compressive Sensing to Simulated Chemical Spectra.* University of Washington Engineering in Data Science Symposium; *03/2016*

- **Radler, J. J.**; Jackson, G. S.; Koopman, H.; Westgate, A.; *Determination of ^{14}C Pelagic Ocean Values through Atomic Bomb Radiocarbon Dating of Dolphin Teeth.* 13th Accelerator Mass Spectrometry Conference; *08/2014*.

- **Radler, J. J.**; Schauer, D. J.; *Probing the Nature of Metal-Phosphonate Interactions by FTIR Spectroscopy*, Central Regional Meeting of the ACS; *06/2010*.

CERTIFICATIONS

IBM Data Science Professional Certificate Issued by Coursera
- **Apr. 2019:** *Databases and SQL for Data Science*
- **Apr. 2019:** *Python for Data Science*
- **Mar. 2019:** *Data Science Methodology*
- **Feb. 2019:** *Open Source Tools for Data Science*
- **Feb. 2019:** *What is Data Science?*

AWARDS

- **2017** J. Phys. Chem. A Award for Best Original Research Poster (1st NWTCC)
- **2012** Dean's List, Purdue University
- **2010** Dean's List, Graduated with Honors, Ivy Tech Community College

SOCIETIES

- **2017** University of Washington Chemistry Graduate Student Mentor Network
- **2016** Society of Industrial and Applied Mathematicians (SIAM)
- **2016** UW High-Performance Computing Club (UW-HPCC)
- **2015** American Chemical Society (ACS)
- **2006** Alpha Chi Sigma Beta Nu Chapter