

ERIN M. DUFFY

516 High St – MS 9150, Bellingham, WA 98225 | duffye@wwu.edu

APPOINTMENTS

Assistant Professor August 2019—Present	Western Washington University Department of Chemistry & Science, Mathematics, and Technology Education (SMATE)
Postdoctoral Researcher July 2017—July 2019	Michigan State University Advisor: <u>Melanie M. Cooper</u>

EDUCATION

Ph.D. 2017	University of Wisconsin—Madison Chemistry Advisor: <u>Etienne Garand</u> Thesis: <i>A Ruthenium Water Oxidation Catalyst and Intermediates: Vibrational Characterization of Isolated and Solvated Cryogenic Ions</i>
B.S. 2012	Syracuse University Chemistry Minor: Mathematics

PUBLICATIONS

7. Duffy, E.M.; Cooper, M.M. "Assessing TA buy-in to expectations and alignment of actual teaching practices in a transformed general chemistry laboratory course." **2019**, *submitted*.
6. Duffy, E.M.; Voss, J.M.; Garand, E. "Vibrational Characterization of Microsolvated Electrocatalytic Water Oxidation Intermediate: $[\text{Ru}(\text{tpy})(\text{bpy})(\text{OH})]^{2+}(\text{H}_2\text{O})_{0-4}$." *Journal of Physical Chemistry A*, **2017**, 121, 5468—5474.
5. Voss, J.M.; Duffy, E.M.; Marsh, B.M.; Garand, E. "Mass spectrometric isolation and vibrational characterization of intermediates in $[\text{Ru}(\text{bpy})(\text{tpy})(\text{H}_2\text{O})]^{2+}$ catalyzed water oxidation." *ChemPlusChem*, **2017**, 82, 691-694.
4. Duffy, E.M.; Marsh, B.M.; Voss, J.M.; Garand, E. "Characterizing the O₂ Binding Motif in a Ruthenium Water Oxidation Catalyst by Vibrational Spectroscopy." *Angewandte Chemie International Edition*, **2016**, 55, 4079-4082.
3. Xu, Q.; Malecka, K.L.; Fink, L.; Jordan, E.J.; Duffy, E.; Kolander, S.; Peterson, J.; Dunbrack, R.L. "Identifying three-dimensional structures of autophosphorylation complexes in crystals of protein kinases." *Science Signaling*, **2015**, 8 (405), rs13.

2. Duffy, E.M.; Marsh, B.M.; Garand, E. "Probing the hydrogen-bonded water network at the active site of a water oxidation catalyst: $[\text{Ru}(\text{bpy})(\text{tpy})(\text{H}_2\text{O})]^{2+} \cdot (\text{H}_2\text{O})_{0-4}$." *Journal of Physical Chemistry A*, **2015**, 119, 6326—6332.
1. Marsh, B.M.; Duffy, E.M.; Soukup, M.T.; Zhou, J.; Garand, E. "Intramolecular Hydrogen Bonding Motifs in Deprotonated Glycine Peptides by Cryogenic Ion Infrared Spectroscopy." *Journal of Physical Chemistry A*, **2014**, 118, 3906-3912.

TEACHING

Fall 2019 CHEM 161: **General Chemistry I**

AWARDS & HONORS

- | | |
|------|---|
| 2018 | Finalist, Justin Jankunas Doctoral Dissertation Award
Division of Chemical Physics American Physical Society |
| 2012 | Overall Excellence in Chemistry
Department of Chemistry Syracuse University |
| 2011 | International Research Experience for Undergraduates
NSF-iREU Syracuse University & Graz University of Technology |
| 2011 | Phi Beta Kappa, Liberal Arts & Sciences Honor Society
Syracuse University |
| 2011 | Exceptional Performance in Inorganic Chemistry
Department of Chemistry Syracuse University |
| 2010 | Undergraduate Summer Research Fellowship
Fox Chase Cancer Center |

PRESENTATIONS

14. Duffy, E.M.; Bain, K.R.; Bender, L.; Caballero, M.D.; Lavery, J.T.; Tessmer, S.H.; Cooper, M.M. "Measuring Engagement with Scientific Practices, Core Ideas, and Crosscutting Concepts in Physics Courses: Development of the 3-Dimensional Learning Observation Protocol" (**Contributed Talk**). American Physical Society March Meeting, Boston, MA, 5 March **2019**.
13. Duffy, E.M.; Cooper, M.M. "Reformed training for a reformed laboratory: Early adventures in preparing and supporting TAs in a project-based general chemistry course" (**Contributed Talk**). *25th Biennial Conference on Chemical Education*, University of Notre Dame, South Bend, IN, 30 July **2018**.
12. Duffy, E.M.; Voss, J.M.; Marsh, B.M.; Garand, E. "Vibrational Characterization of a Ruthenium Water Oxidation Catalyst and Intermediates" (**Invited Talk**). Division of

- Chemical Physics Prize Session, *American Physical Society March Meeting*, Los Angeles, CA, 6 March **2018**.
11. Duffy, E.M.; Voss, J.M.; Garand, E. "Vibrational Characterization of the Hydrogen Bonding Network of a Microsolvated Ruthenium Polypyridyl Electrocatalytic Water Oxidation Intermediate" (**Contributed Talk**). *American Physical Society March Meeting*, New Orleans, LA, 14 March **2017**.
 10. Duffy, E.M.; Voss, J.M.; Marsh, B.M.; Garand, E. "Vibrational Spectroscopy of a Ruthenium Water Oxidation Catalyst and Intermediates" (**Poster**). *Gordon Research Seminar and Conference - Vibrational Spectroscopy*, University of New England, Biddeford, ME, 16-19 July **2016**.
 9. Duffy, E.M.; Voss, J.M.; Marsh, B.M.; Garand, E. "Vibrational Spectroscopy of a Ruthenium Water Oxidation Catalyst and Intermediates" (**Invited Talk**). *Gordon Research Seminar - Vibrational Spectroscopy*, University of New England, Biddeford, ME, 16 July **2016**.
 8. Duffy, E.M.; Voss, J.M.; Marsh, B.M.; Garand, E. "Vibrational Characterization of Catalytic Intermediates in a Dual Cryogenic Ion Trap Spectrometer" (**Contributed Talk**). *71st International Symposium on Molecular Spectroscopy*, University of Illinois, Urbana, IL, 22 June **2016**.
 7. Duffy, E.M.; Voss, J.M.; Marsh, B.M.; Garand, E. "Characterization of a Ruthenium Water Oxidation Catalyst and Intermediates by Cryogenic Ion Vibrational Spectroscopy" (**Poster**). *Graduate Student-Faculty Liaison Committee Poster Session*, University of Wisconsin, Madison, WI, 16 May **2016**.
 6. Duffy, E.M.; Marsh, B.M.; Garand, E. "Spectroscopic Investigation of Proton-Coupled Electron Transfer (PCET) in Water Oxidation Catalyzed by a Ruthenium Complex, $[\text{Ru}(\text{tpy})(\text{bpy})(\text{OH}_2)]^{2+}$ " (**Contributed Talk**). *70th International Symposium on Molecular Spectroscopy*, University of Illinois, Urbana, IL, 22 June **2015**.
 5. Duffy, E.M. "Adventures in Physical Chemistry" (**Invited Talk**). *2nd Annual Science Careers Symposium*, Washington Township High School, Sewell, NJ, 28 May **2015**.
 4. Duffy, E.M.; Marsh, B.M.; Garand, E. "Cryogenic Ion Infrared Predissociation Spectroscopy of a Water Oxidation Catalyst, $[\text{Ru}(\text{tpy})(\text{bpy})(\text{OH}_2)]^{2+}$ " (**Poster**). *Graduate Student-Faculty Liaison Committee Poster Session*, University of Wisconsin, Madison, WI, 29 April **2015**.
 3. Duffy, E.M.; Marsh, B.M.; Voss, J.M.; Garand, E. "Solvation of a Ruthenium Water Oxidation Catalyst, $[\text{Ru}(\text{tpy})(\text{bpy})(\text{H}_2\text{O})]^{2+}$ " (**Contributed Talk**). *American Physical Society March Meeting*, San Antonio, TX, 5 March **2015**.
 2. Marsh, B.M.; Duffy, E.M.; Soukup, M.T.; Zhou, J.; Garand, E. "Intramolecular Hydrogen Bonding Motifs in Deprotonated Glycine Peptides Revealed by Cryogenic Ion Vibrational Spectroscopy" (**Contributed Talk**). *69th International Symposium on Molecular Spectroscopy*, University of Illinois, Urbana, IL, 17 June **2014**.
 1. Duffy, E.M.; Zalibera, M.; Neschadin, D.; Kuschel, A.; Grutzmacher, H.; Gescheidt, G. "Structure-Activity Relationships of a Novel Photoinitiating System: Investigations by

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Magnetic Resonance Methodology” (**Poster**). *International Summer Program Poster Session*, Graz University of Technology, Graz, Austria, 5 August **2011**.