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**Education: Arizona State University**, Tempe, AZ (Aug 2018 – present)

Ph.D. candidate in Chemistry

Advisor: Gary F. Moore

**The University of Tokyo**, Tokyo, Japan (Apr 2018 – Aug 2018)

Ph.D. candidate in Chemistry

Advisor: Hiroshi Nishihara

**The University of Tokyo**, Tokyo, Japan (2016 – 2018)

M.S. in Chemistry

Advisor: Hiroshi Nishihara

**The University of Tokyo**, Tokyo, Japan (2012 – 2016)

B.S. in Chemistry

Advisor: Hiroshi Nishihara

**Internships: United Nations Industrial Development Organization (UNIDO)**, Vienna, Austria (Apr 2018 – Aug 2018)

**Pennsylvania State University**, State College, PA (Sep 2015 – Oct 2015)

**Fellowships and Awards:**

(12) Biodesign Student Travel Grant (2023)

(11) Graduate College Completion Fellowship (2023 – 2024)

(10) Graduate College Q4 Travel Award (2023)

(9) Graduate and Professiona Student Association (GPSA) Travel Grant (2022 – 2023)

(8) Outstanding student recognized for leadership and accomplishments at the annual ceremony College Leaders ceremony (2022)

(7) Graduate College Q1 Travel Award (2022)

(6) Graduate College Q1 Online/Remote Travel Award (2021)

(5) Outstanding Graduate Research Assistant Award from Arizona State University (2020)

(4) Fellowship from Heiwa Nakajima Foundation (2018 – 2020)

(3) Tobitate! (Leap for Tomorrow) Study Abroad Program Scholarship from Japan’s Ministry of Education, Culture, Sport, Science, and Technology (Apr 2018 – Aug 2018)

(2) Study and Visit Abroad Program (SAVP) scholarship from the University of Tokyo (2015)

(1) Best Poster Presenter Award of “ICE (International Chemistry for English) Summer Seminar” from the University of Tokyo (2014)

**Journal Publications**

***At Arizona State University*:**

(14) Nishiori, D.‡; Hensleigh, L. K.‡; Nguyen, N. P.‡; Moore, G. F.\* **Shedding More Light on Solar Photochemistry: Wavelength-Resolving How Fluxes of Chemical Substrates, Electrons, and Photons Establish Photoelectrosynthetic Turnover Frequencies**. **2024** (submitted).

(13) Nishiori, D.; Menzel, J. P.; Armada, N.; Reyes Cruz, E. A.; Nannenga, B. L.; Batista, V. S.; Moore, G. F.\* **Breaking a Molecular Scaling Relationship using an Iron-Iron Fused Porphyrin Electrocatalyst for Oxygen Reduction**. **2024** (under revision).

(12) Nguyen, N. P.; Hensleigh, L. K.; Nishiori, D; Reyes Cruz, E. A.; Moore, G. F.\* [**Degrade-Repair Cycle of a Fuel-Forming Photoelectrode**](https://pubs.acs.org/doi/10.1021/acsaem.2c02367). *ACS Appl. Energy Mater.* **2022**, 5, 13128–13133 (Cover Article).

(11) Reyes Cruz, E. A.‡; Nishiori, D.‡; Wadsworth, B. L.‡; Nguyen, N. P.; Hensleigh, L. K.; Khusnutdinova, D.; Beiler, A. M.; Moore, G. F.\* [**Molecular-Modified Photocathodes for Applications in Artificial Photosynthesis and Solar-to-Fuel Technologies**](https://pubs.acs.org/doi/10.1021/acs.chemrev.2c00200). *Chem. Rev.* **2022**, *122*, 16051–16109 (Cover article).

(10) Nishiori, D.‡; Wadsworth, B. L.‡; Moore, G. F.\* [**Parallels Between Enzyme Catalysis, Electrocatalysis, and Photoelectrosynthesis**](https://www.cell.com/chem-catalysis/fulltext/S2667-1093(21)00230-X). *Chem Catalysis.* **2021**, *1*, 978-996.

(9) Reyes Cruz, E. A.; Nishiori, D.; Wadsworth, B. L.; Khusnutdinova, D.; Karcher, T.; Landrot, G.; Lasalle-Kaiser, B.\*; Moore, G. F.\* [**Six-Electron Chemistry of a Binuclear Fe(III) Fused Porphyrin**](https://chemistry-europe.onlinelibrary.wiley.com/doi/abs/10.1002/celc.202100550). *ChemElectroChem* **2021,** *8*, 3614-3620 (Invited article honoring Jean-Michel Savéant / Cover article).

(8) Nishiori, D.; Wadsworth, B. L.; Reyes Cruz, E. a.; Nguyen, N. P., Hensleigh, L. H.; Karcher, T.; Moore, G. F.\* [**Photoelectrochemistry of metalloporphyrin-modified GaP semiconductors**](https://link.springer.com/article/10.1007/s11120-021-00834-2). *Photosynth. Res.* **2022***, 151*, 1–10 (Invited contribution for a special issue co-edited by Elizabeth Young and Gary F. Moore on *“Photochemistry and Electrochemistry of Natural and Artificial Photosynthesis”*).

(7) Nguyen, N. P.; Wadsworth, B. L.; Nishiori, D.; Reyes Cruz, E. A.; Moore, G. F.\* [**Understanding and Controlling the Performance-Limiting Steps of Catalyst-Modified Semiconductors**](https://pubs.acs.org/doi/10.1021/acs.jpclett.0c02386). *J. Phys. Chem. Lett.* **2021**, *12*, 199–203.

(6) Wadsworth, B. L.; Nishiori, D.; Nguyen, N. P.; Reyes Cruz, E. A.; Moore, G. F.\* [**Electrochemistry of Polymeric Cobaloxime-Containing Assemblies in Organic and Aqueous Solvents**](https://iopscience.iop.org/article/10.1149/2162-8777/aba1ff). *ECS J. Solid State Sci. Technol.* **2020**, *9*, 061018 (Invited contribution for a special issue in honor of Karl M. Kadish).

(5) Wadsworth, B. L.; Nguyen, N. P.; Nishiori, D.; Beiler, A. M.; Moore, G. F.\* [**Addressing the Origin of Photocurrents and Fuel Production Activities in Catalyst-Modified Semiconductor Electrodes**](https://pubs.acs.org/doi/10.1021/acsaem.0c00919). *ACS Appl. Energy Mater.* **2020**, *3*, 7512–7519 (Cover article).

***At the University of Tokyo*:**

(4) Nishiori, D.; Zhu, W.; Salles, R.; Miyachi, M.\*; Yamanoi, Y.\*; Ikuta, T.; Maehashi, K.; Tomo, T.; Nishihara, H.\* [**Photosensing System Using Photosystem I and Gold Nanoparticle on Graphene Field-Effect Transistor**](https://pubs.acs.org/doi/10.1021/acsami.9b14771). *ACS Appl. Mater. Interfaces* **2019**, *11*, 42773–42779.

(3) Henriksson, A.; Nishiori, D.; Maeda, H.; Miyachi, M.; Yamanoi, Y.\*; Nishihara, H.\* [**Attachment Chemistry of Aromatic Compounds on a Silicon(100)**](https://www.sciencedirect.com/science/article/pii/S0039602817306143). Surface. *Surf. Sci.* **2018**, *669*, 140–144.

(2) Miyachi, M.; Okuzono, K.; Nishiori, D.; Ikehira, S.; Tomo, T.; Allakhverdiev, S. I.; Yamanoi, Y.\*; Nishihara, H.\* [**Photochemical hydrogen evolution by combining cyanobacterial photosystem I and a platinum nanoparticle-terminated molecular wire**](https://www.journal.csj.jp/doi/abs/10.1246/cl.170576?journalCode=cl). *Chem. Lett.* **2017**, *46*, 1479–1481.

(1) Miyachi, M.; Ikehira, S.; Nishiori, D.; Yamanoi, Y.\*; Yamada, M.; Iwai, M.; Tomo, T.; Allakhverdiev, S. I.; Nishihara, H.\* [**Photocurrent Generation of Reconstituted Photosystem II on Self-Assembled Gold Film**](https://pubs.acs.org/doi/10.1021/acs.langmuir.6b03499). *Langmuir* **2017**, *33*, 1351–1358.

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**Conference Presentations**

(13) Nishiori, D.; Menzel, J. P.; Armada, N.; Reyes Cruz, E. A.; Nannenga, B. L.; Batista, V. S.; Moore, G. F. Breaking a Molecular Scaling Relationship using an Iron-Iron Fused Porphyrin Electrocatalyst for Oxygen Reduction. **Renewable Energy: Solar Fuels Gordon Research Conference**, February 2024 (Poster Presentation).

(13) Nishiori, D.; Menzel, J. P.; Armada, N.; Reyes Cruz, E. A.; Nannenga, B. L.; Batista, V. S.; Moore, G. F. Breaking a Molecular Scaling Relationship using an Iron-Iron Fused Porphyrin Electrocatalyst for Oxygen Reduction. **Renewable Energy: Solar Fuels Gordon Research Seminar**, February 2024 (Poster Presentation).

(12) Nishiori, D.; Reyes Cruz, E. A.; Nguyen, N. P.; Hensleigh, L. K.; Moore, G. F. Breaking an Iron Law in Electrocatalysis. **Biodesign Institute Fusion 2023**, April 2023 (Poster Presentation).

(11) Nishiori, D.; Wadsworth. B. L; Moore, G. F. Parallels between enzymatic catalysis, electrocatalysis, and semiconductor photoelectrosynthesis. **2023 I-APS Meeting**, January 2023 (Poster Presentation).

(10) Nishiori, D; Reyes Cruz, E. A.; Nguyen, N. P.; Hensleigh, L. K.; Moore, G. F. Strategies for Breaking Molecular Scaling Relationships in Electrocatalysis. **2nd Workshop on Artificial Photosynthesis**, November 2022 (Poster Presentation– Virtual).

(9) Nishiori, D; Reyes Cruz, E. A.; Nguyen, N. P.; Hensleigh, L. K.; Moore, G. F. Strategies for Breaking Molecular Scaling Relationships in Electrocatalysis. **Electron Donor-Acceptor Interactions Gordon Research Conference**, August 2022 (Poster Presentation).

(8) Nishiori, D.; Wadsworth. B. L; Moore, G. F. Parallels between enzymatic catalysis, electrocatalysis, and semiconductor photoelectrosynthesis. **Winter Poster Session 2021 on Artificial Photosynthesis**, December 2021 (Poster Presentation – Virtual).

(7) Nishiori, D.; Wadsworth, B. L.; Reyes Cruz, E. a.; Nguyen, N. P., Hensleigh, L. H.; Karcher, T.; Moore, G. F. Photoelectrochemistry of metalloporphyrin-modified GaP semiconductors. **ENFL Student Presentation Award Competition in 2021 ACS Fall 2021 Meeting**, Virtual Meeting, August 2021 (Oral Presentation – Virtual).

(6) Nishiori, D.; Wadsworth, B. L.; Reyes Cruz, E. a.; Nguyen, N. P., Hensleigh, L. H.; Karcher, T.; Moore, G. F. Photoelectrochemistry of metalloporphyrin-modified GaP semiconductors. **ACS Fall 2021 National Meeting & Exposition**, Virtual Meeting, August 2021 (Poster Presentation – Virtual).

(5) Nishiori, D.; Wadsworth, B. L.; Reyes Cruz, E. A.; Nguyen, N. P.; Moore, G. F. Photoelectrochemistry of Metalloporphyrin-Modified Gallium Phosphide Surfaces, **Materials Research Society Spring Meeting and Exhibit**, Virtual Meeting, November 2020 (Poster Presentation – Virtual).

(4) Nishiori, D.; Ikuta, T.; Miyachi, M.; Maehashi, K.; Tomo, T.; Yamanoi, Y.; Nishihara, H. A Light Sensor Based on Photosystem I and Graphene FET, **8th Meeting of Molecular Architectonics**, December 2017 (Poster Presentation).

(3) Nishiori, D.; Miyachi, M.; Okuzono, K.; Yamanoi, Y.; Tomo, T.; Iwai, M.; Allakhverdiev, S. I.; Nishihara, H. Photochemical Hydrogen Evolution with Cyanobacterial Photosystem I - Platinum nanoparticle Hybrid Systems, **The 5th Ito International Research Conferences**, November 2017 (Poster Presentation).

(2) Nishiori, D.; Miyachi, M. Okuzono, K.; Yamanoi, Y.; Tomo, T.; Iwai, M.; Allakhverdiev, S. I.; Nishihara, H. Photochemical hydrogen evolution with cyanobacterial photosystem I–platinum nanoparticle hybrid systems, **8th International Conference “Photosynthesis and Hydrogen Energy Research for Sustainability-2017”**, October 2017 (Poster Presentation).

(1) Nishiori, D.; Miyachi, M.; Ikehira, S.; Liu, W.; Yamanoi, Y.; Yamada, M.; Iwai, M.; Tomo, T.; Allakhverdiev, S. I.; Nishihara, H. Construction and electrochemical analysis of Photosystem II – Platinum nanoparticle complex linked by a molecular wire, **19th Annual meeting of The Photobiology Association of Japan**, September 2016 (Poster Presentation).

**Teaching Experience**

1. Arizona State University, Tempe, Arizona (2018–2020)

Graduate Teaching Assistant

1. CHM 114 General Chemistry Laboratory
2. CHM 116 General Chemistry Laboratory

**Outreach Activities**

(3) Arizona State University’s Open Door Event volunteer, Tempe, AZ (2023)

(2) 2019 MRS Spring Meeting & Exhibit Symposium Assistant, Phoenix, AZ (2019)

(1) NPO Matching Hongo, Tokyo, Japan (2018)