

Michal T. Ruprecht

me@michalruprecht.com
social.michalruprecht.com

NATIONALITY

Polish and U.S. dual citizen.

EDUCATION

Bachelor of Science in neuroscience with honors (candidate)

SEPTEMBER 2018 - APRIL 2022

University of Michigan, Ann Arbor, MI. Thesis adviser: Randy Stockbridge.

RESEARCH EXPERIENCE AND FELLOWSHIPS

Randy Stockbridge Lab, MCDB Dept., University of Michigan

JANUARY 2020 - APRIL 2022

Identified selectivity features and solved X-ray crystallography structure of the *E. coli* Fluc channel homolog, a prokaryotic membrane protein that exports fluoride ions. Planar lipid bilayer electrophysiology, protein purification and X-ray crystallography, microbial growth.

Robert Denver Lab, MCDB Dept., University of Michigan

JANUARY 2019 - 2020

Studied the mechanism of cAMP pathway repression by krüppel-like factors, a family of eukaryotic zinc finger transcription factors, and their effects on the regeneration of mouse hippocampal neurons. In-vivo and in-vitro mouse model, transfection reporter assays.

Ascension St. John Hospital, Detroit, MI

JUNE - AUGUST 2019

Determined the accuracy of a new technology to identify sepsis-causing bacteria directly from patient blood samples without the wait for blood cultures. Clinical trial design, informed consent.

Ralph Imondi and Linda Santschi Lab, NeuroLab, Coastal Marine Biolabs, Ventura, CA

JULY 2018

Controlled gene expression of an evolutionarily conserved region in the neural tube of chick embryos. In-vivo chick embryo model, microinjection, electroporation.

Mark Benvenuto Lab, Chemistry Dept., University of Detroit Mercy, Detroit

OCTOBER 2016 - JUNE 2018

Synthesized ligand that could pull metal ions out of aqueous solution. Ligand synthesis, NMR.

Shunbin Xu Lab, Ophthalmology Dept., Wayne State University School of Medicine, Detroit

JULY - AUGUST 2017

Studied the mechanism of microRNA-mediated gene regulation in *P. aeruginosa*-induced keratitis mouse model.

PUBLICATIONS: ARTICLES IN SCHOLARLY JOURNALS

1. McIlwain, B. C., **Ruprecht, M. T.**, & Stockbridge, R. B. (2021). Membrane Exporters of Fluoride Ion. *Annual Review of Biochemistry*, 90. doi: [10.1146/annurev-biochem-071520-112507](https://doi.org/10.1146/annurev-biochem-071520-112507).
2. Pothoof, J., **Ruprecht, M. T.**, Sliwinski, B. D., Sosnowski, B. M., Fitzgerald, P. R., Kosmas, S., & Benvenuto, M. A. (2018). Synthesis of “three-legged” tri-dentate podand ligands incorporating long-chain aliphatic moieties, for water remediators, and for isolating metal ions in non-aqueous solution. *Physical*

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Sciences Reviews, 3(11). doi: [10.1515/psr-2018-0076](https://doi.org/10.1515/psr-2018-0076).

PUBLICATIONS: BOOK CHAPTERS

1. Submitted: Benvenuto, M. A. (2022). n.a.
2. Benvenuto, M. A., & Kolopajlo, L. H. (2019). *Green chemistry education: Recent developments*. Berlin: De Gruyter. doi:10.1515/9783110566499

ABSTRACTS

1. **Ruprecht, M. T.**, McIlwain, B. C., & Stockbridge, R. B. (2022, April). X-ray crystal structure and anion selectivity features of the *E. Coli* Fluoride (Fluc) channel. University of Michigan Neuroscience & Biological Sciences Undergraduate Poster Session, Ann Arbor, MI.
2. Kosmas, S., **Ruprecht, M. T.**, & Anderson, K. (2019, August). Using green chemistry to remedy environmental problems. 258th American Chemical Society National Meeting, Chemistry Teacher's Day program, San Diego, CA.
3. **Ruprecht, M. T.**, Sliwinski, B., Sosnowski, B., Fitzgerald, P., Pothoof, J., Benvenuto, M., & Kosmas, S. (2018, August). Production of a series of multi-dentate ligands with potential to act as water remediators. 256th American Chemical Society National Meeting, Sci-Mix poster session, Boston, MA.
4. **Ruprecht, M. T.**, Sliwinski, B., Sosnowski, B., Fitzgerald, P., Pothoof, J., Benvenuto, M., & Kosmas, S. (2018, August). Production of a series of multi-dentate ligands with potential to act as water remediators. 256th American Chemical Society National Meeting, Water Reuse & Recycling poster session, Boston, MA.
5. Pothoof, J., **Ruprecht, M. T.**, Sliwinski, B. D., Sosnowski, B. M., Fitzgerald, P. R., Kosmas, S., & Benvenuto, M. A. (2017, June). Production of a series of multi-dentate ligands with potential to act as water remediators. 48th American Chemical Society Central Region Conference, Dearborn, MI.

JOURNALISM EXPERIENCE

Editorial Intern — *The Nation's Health*, American Public Health Association, remote
FEBRUARY - MAY 2022

Assistant News Editor and Beat Reporter — *The Michigan Daily*, University of Michigan
JANUARY 2019 - FEBRUARY 2022
Beats: science/health, business.

Editor-at-Large — *North Pointe*, Grosse Pointe North High School, Grosse Pointe, MI
MARCH 2015 - JUNE 2018

HONORS AND AWARDS

- University of Michigan Rev. Dr. Martin Luther King Jr. Spirit Award Nominee. January 2022.
- Ronald Lai Memorial Scholarship. December 2020.
- Riley's Way Foundation Grant. May 2020.
- Michigan Community Scholars Program Innovation Grant. October 2018 and 2019.
- Department of Molecular, Cellular and Developmental Biology Research Scholarship. May 2019.
- American Chemical Society Ciba Travel Grant in Green Chemistry. November 2017.
- American Chemical Society Division of Environmental Chemistry Certificate of Merit. August 2018.
- Michigan Youth Appreciation Foundation Scholarship. June 2018.
- Engineering Society of Detroit Outstanding High School Student of the Year. June 2018.
- G. John and Elizabeth Stevens Student Volunteer Scholarship. June 2018.
- Lusk Albertson Law Firm LAUNCH Scholarship. June 2018.

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- American Chemical Society Detroit Rubber Group Scholarship. June 2018.
- Individual Michigan Interscholastic Press Association awards for news and feature writing. June 2018.
- National Scholastic Press Association Honor Roll of Student Journalists. June 2018.

TALKS AND PANELS

1. Panelist at the 4th Youth Leadership Retreat, Riley's Way Foundation, remote. January 2022.

COMMITTEES

1. Member of the Call for Kindness Fellowship Selection Committee, Riley's Way Foundation. April 2022.
2. Member of the Student Engagement Mental Health Implementation Work Team, University of Michigan. January - April 2022.
3. Member of the 4th Youth Leadership Retreat Planning Committee, Riley's Way Foundation. November 2021 - January 2022.

PROFESSIONAL AFFILIATIONS

Member — *Society of Professional Journalists*

JANUARY 2022 -

Member — *SciCommers (science communication collective)*

JANUARY 2022 -

Member — *American Chemical Society*

JUNE 2018 - 2020

- Member of the American Chemical Society Division of Environmental Chemistry.

Member — *Engineering Society of Detroit*

JUNE 2018 - 2019

REFERENCES

Available upon request.

Last updated April 30, 2022.