

Elizabeth A. Caselle

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3310 Packers Ave, Apt 401, Madison, WI 53704

EDUCATION

Syracuse University, Syracuse, NY

Ph.D, Chemistry, **January 2016**

M.Phil., Chemistry, **August 2013**

Wells College, Aurora, NY

B.A., Biochemistry, **May 2011**

RESEARCH EXPERIENCE

Published Graduate Research

Coupled protein metal ion binding with catalysis to create catalytically amplified metal sensors; designed an allosterically regulated Kemp eliminase and an allosterically regulated retro-aldolase.

Unpublished Graduate Research

Investigated the antimicrobial potential of hemoglobin-derived peptides in the presence of bacterial endotoxins.

Investigated substrate specificity of designed Kemp eliminase

Design of an enzyme to catalyze oxidation reactions.

Undergraduate Research

Determined the preferred mechanism of action of an iron chelator drug (deferiprone) on transferrin.

PUBLICATIONS*

Raymond, E. A., Mack, K. L., Yoon, J. H., Moroz, O. V., Moroz, Y. S., Korendovych, I. V. Design of an Allosterically Regulated Retroaldolase. *Protein Science*, (2015), 24, 561-570.

Makhlynets, O. V., **Raymond, E. A.**, Korendovych, I.V. Design of allosterically regulated protein catalysts. *Biochemistry*, (2015), 54, 1444-1456.

Moroz, O. V., Moroz, Y. S., Wu, Y., Olsen, A. B., Cheng, H., Mack, K. L., McLaughlin, J. M., **Raymond, E. A.**, Zhezherya, K., Roder, H., Korendovych, I. V., A Single Mutation in a Regulatory Protein Produces Evolvable Allosterically Regulated Catalyst of Nonnatural Reaction. *Angewandte Chemie International Edition*, (2013), 52, 6246 –6249.

*Last named changed to Caselle from Raymond in 2015

PRESENTATIONS

S.U.N.Y. Buffalo State Seminar- Buffalo, NY (April 21, 2015).

“Design of Catalytic Function in Proteins”

Protein Engineering Canada Conference- Ottawa, ON (June 21, 2014).

“Introducing New Functions into Old Proteins”

Wells College Science Colloquium- Aurora, NY (March 9, 2011).

“Iron Release from Native and Affinity Labeled Ovotransferrin by the Chelator Deferiprone”

AWARDS

2nd Prize for Posters at Protein Engineering Canada Conference Competition (2014)

Wells College 21st Century Leadership Award

Wells College Women in Science Prize

TEACHING

Syracuse University, Syracuse, NY August 2011- Present

Teaching Assistant

General Chemistry Lab

General Chemistry Honors Lab

Preparation and Analysis of Proteins and Nucleic Acids Lab

Structural and Physical Biochemistry

Inorganic Laboratory Technique

Organic Chemistry Lab

Wells College, Aurora, NY – August 2010-May 2011

Teaching Assistant

Biology of Organisms

Ecology Lab