

EMERSON L. GREY

emerson.laurelgrey@colorado.edu | (651)324-6939 | linkedin.com/in/emersongrey/

EDUCATION

Doctor of Philosophy – Chemical Engineering | In Progress

Master of Science – Chemical Engineering
University of Colorado at Boulder | Boulder, CO
GPA: 3.58/4.00 | Graduated Fall 2018

Bachelor of Bioproducts and Biosystems Engineering
University of Minnesota (UMN) | St. Paul/Mpls, MN
Emphasis: Bioproducts Engineering | Graduated Spring 2016
GPA: 3.67/4.00 | Dean's List Fall 2014 – Spring 2015

Bachelor of Science – Applied Physics
University of Wisconsin – River Falls (UWRF) | River Falls, WI
Minor: Chemistry | Graduated Spring 2016
GPA: 3.97/4.00 | Dean's List Fall 2011 – Spring 2014

RESEARCH & RELEVANT EMPLOYMENT EXPERIENCE

UNIVERSITY OF COLORADO BOULDER, Chemical & Biological Engineering Department Boulder, CO
Bryant Group Graduate Research Assistant May 2019 – Present
Thesis: Directing the Delivery of DNA to Pulmonary Macrophages via Tunable Polymeric Microparticles

UNIVERSITY OF COLORADO BOULDER, Chemical & Biological Engineering Department Boulder, CO
Nagpal Group Graduate Research Assistant January 2017 – April 2019
Masters Topic: High-Throughput DNA and RNA Optical Sequencing and Amino Acid Identification

3M COMPANY St. Paul, MN
Corporate Materials Laboratory Technical Aide January 2012 – August 2016
Assisted a chemist with research and development within the shape memory polymers program.

MARVIN WINDOWS AND DOORS Warroad, MN
Research and Development Materials Science Department Intern May 2015 – Aug 2015
Coordinated and executed materials research to complete five diverse projects within the set timeframe.

UNIVERSITY OF MINNESOTA TWIN CITIES, Bioproducts Engineering Department St. Paul, MN
Undergraduate Research Opportunities Program Student Researcher January 2015 – August 2015
Aimed to gain a better understanding of the polymerization of functionalized soybean oil with plant-based nanocellulose incorporated in it to create a more environmentally benign composite material.

NASA GLENN RESEARCH CENTER Cleveland, OH
Structures and Materials Division Intern June 2014 – August 2014
Synthesized and characterized polyimide aerogels for a broad variety of potential applications within aerospace and commercial industries.

UNIVERSITY OF WISCONSIN – RIVER FALLS, Department of Chemistry River Falls, WI
Student Researcher October 2013 – May 2014
Contributed to a computational chemistry project modeling the photochemical scission of the S-N bond of an aromatic sulfilimine, resulting in the formation of thiophene and a nitrene.

TEACHING & MENTORSHIP EXPERIENCE

UNIVERSITY OF COLORADO BOULDER, Chemical & Biological Engineering Department Boulder, CO
Mentorship Committee Chair, Graduate Leadership Counsel March 2019 – Present
Plan and implement onboarding activities for incoming first year ChBE graduate students.

UNIVERSITY OF COLORADO BOULDER, Chemical & Biological Engineering Department Boulder, CO
Advanced Graduate Teaching Assistant January 2019 – May 2019
Material & Energy Balances (CHEN 2120) under Professor Anushree Chatterjee
FCQ TA effectiveness score of 5.78 ±0.47 / 6.00

UNIVERSITY OF COLORADO BOULDER, Chemical & Biological Engineering Department Boulder, CO
Graduate Teaching Assistant January 2017 – May 2017

Process Control (CHEN 4570) under Professor David Clough

UW-RIVER FALLS ACADEMIC SUCCESS CENTER River Falls, WI
Physics Tutor September 2013 – May 2014

Tutored university students in general physics by emphasizing problem solving skills, critical thinking, computational accuracy, and self-sufficiency.

UW-RIVER FALLS, Physics Department River Falls, WI
Grader September 2013 – December 2013

Mechanics of Materials (PHYS 254) under Diane Bennett, Ph.D.

PUBLICATIONS

"Assessing Different Reactive Oxygen Species as Potential Antibiotics: Selectivity of Intracellular Superoxide Generation Using Quantum Dots."

Levy, Max et al | ACS Appl. Bio Mater. 2018, 1, 2, 529-537

"High-Throughput Block Optical DNA Sequence Identification."

Sagar, Dodderi M., et al. | Small, 2018, 14, 1703165

"Nanocellulose – Soybean Oil Composites via UV-Initiated Free Radical Polymerization."

Hanson, Katrina B. | UMN University Digital Conservancy, 2015, <http://hdl.handle.net/11299/173682>

"Polyimide Aerogels with Amide Cross-Links: A Low Cost Alternative for Mechanically Strong Polymer Aerogels."

Meador, Mary Ann B., et al. | ACS Appl. Mater. Interfaces, 2015, 7(2), pp. 1240 – 1249

"Chandeliers and Space Gas."

Hanson, Katrina B. & McDonough, Theodore | The SPS Observer, Fall 2012, p. 11

PRESENTATIONS

Colorado Immunology Conference | August 2019

Poster Presenter | *Directing the Delivery of DNA to Pulmonary Macrophages via Tunable Polymeric Microparticles*

Marvin Windows and Doors | June, July, August 2015

Oral Presenter | *Internship Project Presentations*

Northeast Ohio Undergraduate Research Symposium | July 2014

Oral Presenter and Poster Presenter | *Polyimide Aerogels for Aerospace Applications*

UWRF Undergraduate Research, Scholarly, and Creative Activity Day | April 2014

Poster Presenter | *Modeling of S-N Bond Breaking in an Aromatic Sulfilimine*

Midwestern Undergraduate Computational Chemistry Conference | February 2014

Poster Presenter | *Modeling of S-N Bond Breaking in an Aromatic Sulfilimine*

LEADERSHIP, AWARDS, & INVOLVEMENT

Attendee | Rocky Mountain West Science Communication Conference | October 2019

Member | Society of Women Engineers University of Minnesota Chapter | September 2014 – May 2016

President | The Society of Physics Students UW River Falls Chapter | September 2012 – June 2014

Event Supervisor | Science Olympiad Invitational, Regional, and WI State Tournament | 2011 – 2015

Vice President | The Society of Physics Students UW River Falls Chapter | January 2012 – September 2012

Member | The Society of Physics Students UW River Falls Chapter | September 2011 – May 2014

Awards: Recognition of Graduate Student Service to the Dept, for Improving the Department Community | 2019
National Science Foundation Graduate Research Fellowship | *Merit-based* | 2018 – Present
Minnesota High Tech Association Foundation Scholarship | *Merit-based* | 2015
Society of Women Engineers MN Section Scholarship | *Merit-based* | 2015
Marvin Windows and Doors Paper Science Scholarship | *Merit-based* | 2015
U Promise Scholarship | *Need-based* | 2014, 2015
UWRF Chancellor's Award for Service and Leadership to the University | *Merit-based* | 2014
UMN BBE Academic Leadership Scholarship | *Merit-based* | 2014
National Society of Physics Students Outstanding Leadership Scholarship | *Merit-based* | 2013
National Society of Physics Students Herbert Levy Memorial Scholarship | *Merit & Need-based* | 2012
Dr. Henry Tranmal Scholarship | *Merit-based* | 2012, 2013

Inductee: Tau Beta Pi Engineering Honor Society | 2015
Phi Kappa Phi National Honor Society | 2014
Sigma Pi Sigma National Physics Honor Society | 2013

Volunteer: Judge | STEM Fair | High Peaks Elementary | November 2019
Event Coordinator | ChBE Speed Dating Lunch | September 2019
Event Coordinator | Incoming Graduate Student Welcome Picnic | August 2019
Judge | New Vista High School Senior Research Symposium | April 2019
Graduate Recruiter | University of Colorado at Boulder ChBE Dept | February – April 2019
Judge | Colorado Regional Science Fair Judge | Corden Pharma | February 2019
Student Volunteer | Junior Achievement USA | Douglass Elementary School | October 2018
Peer Mentor | University of Colorado at Boulder ChBE Dept | August – December 2018
Graduate Recruiter | University of Colorado at Boulder ChBE Dept | February – April 2018
Graduate Recruiter | University of Colorado at Boulder ChBE Dept | February – April 2017
Event Volunteer | Technology Career Academy | Normandale Community College | April 2015
Event Volunteer | Wow! That's Engineering! | Normandale Community College | April 2015
Event Volunteer | Society of Women Engineers Spring Seminar | March 2015
Event Volunteer | Spark, Slime, and Speed | Science Museum of Minnesota | February 2015
Event Volunteer | Girls and Science | Science Museum of Minnesota | November 2014
Event Volunteer | Society of Women Engineers Chocolate Soiree | UMN | November 2014
Event Volunteer | Girl Scouts Patch Day | Boston Scientific | October 2014
Event Supervisor | Science Olympiad | September 2011 – December 2014
Event Volunteer | Women in STEM+ Night at Hudson Middle School | January 2014
Event Volunteer | Haunted Lab | University of Wisconsin River Falls | October 2013
Event Volunteer | Super Science Saturday | 3M Company | October 2013
Event Volunteer | Phantastic Physics Day | Girl Scouts of the USA | April 2013
Event Volunteer | Women in STEM+ Night at Hudson Middle School | February 2013
Event Volunteer | Haunted Lab | University of Wisconsin River Falls | October 2012
Event Volunteer | Family Day | University of Wisconsin River Falls | September 2012
Event Volunteer | 4-H Camp Demo Day | June 2012