Curriculum Vitae of Naomi Ross

Contact Information

Email: naomi.o.ross@gmail.com
Phone: (720) 233-4985
LinkedIn: Naomi Ross https://www.linkedin.com/in/naomi-ross-8637881a6/

Education

B.S in biophysics, minor in chemistry from Temple University — Graduated May 2023
Notre Dame Biophysics PhD Program — (starting Fall 2024)

Awards

2019-2020
Second Team All Region
Second Team All American
Athletic Director's Honor Roll
NCAA Qualifier

2021-2022
All Region Fencing Team
Athletic Director's Honor Roll
Finished 19th at NCAAs
USFCA Female Epeeist of the Year Finalist

2022-2023
ABRCMS 2022 Presentation Awardee (Chemistry)
All Region Fencing Team

Publications

1. Ruiyu Wang, Yunqian Zou, Richard C. Remsing, Naomi O. Ross, Michael L. Klein, Vincenzo Carnevale, Eric Borguet. *Superhydrophilicity of α-Alumina Surfaces Results From Tight Binding of Interfacial Waters to Specific Aluminols*. Journal of Colloid and Interface Science, Volume 628, Part A, 2022, Pages 943-954, ISSN 0021-9797. https://doi.org/10.1016/.
    a. Contribution: Helped collect experimental data used to confirm accuracy of simulation created to replicate interactions between surface aluminols and interfacial water molecules.
2. Yunquian Zou, Naomi Ross, Eric Borguet. *Simplified Approach for Dynamic Contact Angle Measurements*.
    a. Paper in review

b. Contribution: Helped design and build modified dynamic setup and collect experimental data to test the setup. Assist in data analysis of contact angle measurements collected.

Presentations

1. Temple University Symposium for Undergraduate Research and Creativity (April 5, 2022)
    a. Poster title: Spreading of H_2O at Al_2O_3 (0001) and Al_2O_3 ($11\bar{2}0$) Surfaces
    b. Authors: Naomi Ross, Joy Zou, Ruiyu Wang, Eric Borguet* (Temple University)
2. City College of New York Research Experience for Undergraduates (REU) in Biochemistry, Biophysics, and Biodesign (B3) Symposium (August 11, 2022)
    a. Poster Title: *Using Multi Conformation Continuum Electrostatics to Simulate Titrations*
    b. Authors: Naomi Ross, Jose Ortiz-Soto, Gehan Ranepura, Marilyn Gunner* (City College of New York)
3. Temple University College of Science and Technology Undergraduate Symposium (September 23, 2022)
    a. Poster Title: *Using Multi Conformation Continuum Electrostatics to Simulate Titrations*
    b. Authors: Naomi Ross, Jose Ortiz-Soto, Gehan Ranepura, Marilyn Gunner* (City College of New York)
4. Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS) (November 7, 2022)
    a. Poster title: *Spreading of H_2O at Al_2O_3 (0001) and Al_2O_3 ($11\bar{2}0$) Surfaces*
    b. Authors: Naomi Ross, Joy Zou, Ruiyu Wang, Eric Borguet* (Temple University)
    c. Conference to promote undergraduate and graduate minoritized scientists in biomedically related fields
    d. Poster presentation and award in chemistry division

Research Experience

Borguet Lab at Temple University Summer 2021-May 2023

Physical chemistry lab focusing on nonlinear optical techniques to study interfacial interactions.

1. Sum frequency generation June-August 2021
    a. Beginning to learn the properties required to generate a sum frequency generation response from a solid-liquid interface.
    b. Helping position lenses and align beam of laser used in measurement
2. Contact angle measurement of alumina (Al_2O_3) August 2021 - May 2022
    a. Replicating a cost effective, modified set up to conduct contact angle measurements using sessile drop method.

b. Capturing the contact angle of Al_2O_3 (0001) and Al_2O_3 ($11\bar{2}0$) using water of pH 2, 7, and 10.
c. Comparing the effect of different cleaning methods of the alumina surfaces on the contact angle.
d. Using ImageJ to measure contact angle of interfacial images taken.

3. Developing a simplified setup of dynamic contact angle measurements

August 2022 - May 2023

a. Using easily accessible lab materials to design and build a setup dynamic for contact angle measurements that are comparable to goniometer measurements
b. Understand the different dynamic contact angle measurements methods used

Gunner Lab at City College of New York June - August 2022

Computational biophysics lab that uses their program, Multi Conformation Continuum Electrostatics (MCCE) to run titration simulations on proteins

1. Using MCCE to run titration simulations
    a. Became familiar with MCCE
    b. Learn basic linux/unix commands
    c. Altering protein files (pdb files) when needed to run properly with MCCE
2. Compare two different background files that could be used with MCCE and determine which gave more accurate pKa results for residues
    a. Developed linux script to automatically run simulation using both files
    b. Comparing the effect nearby charges have on a residue's pKa

Organization Involvement

Owls For Justice (OFJ)

- Organization developed and run by student athletes to use their platform to create social justice. There is a strong focus to fight racism and social injustice by providing resources to educate Temple's student-athletes and faculty
- Women's Fencing Team Representative
- Community Outreach Coordinator
    - Organized a food and clothing drive for student athletes to donate to the local community
- Administration coordinator
    - schedule/organize regular meetings, take notes, schedule future events

Athletic Career

Temple Women's Fencing Team (August 2019 - May 2023)

- Trained and competed full time as a Division 1 athlete for 4 academic years
- Qualified for NCAAs in the 2019-2020 season (canceled due to COVID)
- Qualified and competed at NCAAs for 2021-2022 season

- Elected Team Captain for 2021-2022 and 2022-2023 seasons

US Modern Pentathlon

- Member of the US Senior National Team for Modern Pentathlon 2021-2022
- Identified as an Elite Athlete by the US Olympic Committee 2019-2023
    - Classification given to athletes actively competing for both a collegiate NCAA program and a Senior National team