

JULIA SANDKE

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EDUCATION

Queens College, City University of New York — Flushing, NY; June 2024

- Expected Bachelor of Science in Environmental Science (Current GPA 3.983/4.0)

The University of the Arts — Philadelphia, PA; 2018

- Bachelor of Fine Arts in Dance with Honors; Minor in Musical Theatre (GPA 3.96/4.0)

RESEARCH & FIELD EXPERIENCE

Undergraduate Research (Geochemistry), Queens College — Queens, NY; Jan. 2024 – Present

- Mentors: Dr. Jacquelyn Bracco (Queens College) and Dr. Sang Soo Lee (Argonne National Laboratory)
- Project: *Inhibition of Impurity Adsorption and Nucleation* (funded by the DOE; FAIR Initiative)
- Analyze mineral samples using ICP-OES (Inductively Coupled Plasma Optical Emission spectroscopy)
- Measure dissolution rates from AFM (atomic force microscopy) images

Undergraduate Research (Benthic Ecology/Object Detection), Queens College — Queens, NY; 2023 – Present

- Mentors: Dr. Dax Soule (Queens College) and Dr. Karen Bemis (Rutgers University)
- Project: *Building Training Datasets through the Documentation of Species Diversity and Abundance at ASHES vent field, Axial Seamount, for Future Machine Learning Applications*
- Annotate biological training datasets based on video data collected from CAMHD OOI (Ocean Observatories Initiative) at ASHES Vent Field, Axial Seamount

Super Steward with the NYC Department of Parks and Recreation — Richmond Hill, NY; 2020 – Present

- NAVigator & Care Captain: monitor newly planted trees, remove invasive species (Garlic mustard, bittersweet, wineberry,...) in Forest Park

VISIONS'23 Cruise to OOI Regional Cabled Array (RCA) — North Pacific Ocean; 2023

- Principal Investigator and Chief Scientist: Dr. Debbie Kelley (University of Washington School of Oceanography)
- 11-day cruise aboard R/V *Thomas G. Thompson* above the RCA with ROV *Jason*
- Logged ROV *Jason* deployments, instrument retrievals, and features of interest
- Assisted with water collection from CTD (conductivity, temperature, depth) rosette

Undergraduate Research (Geochemistry), Queens College — Queens, NY; 2023

- Mentor: Dr. Jacquelyn Bracco (Queens College)
- Project: *Impact of Incorporated Metals on the Dissolution Rates of Minerals*
- Analyze mineral samples using ICP-OES
- Geochemistry lab maintenance (making stock solutions, sample retrieval, cleaning glassware...)

Oceanographic Research Expedition to Axial Seamount, funded by NSF — North Pacific Ocean; 2022

- Six-day cruise aboard R/V *Marcus G. Langseth* above Axial Seamount, a submarine volcano
- Expanded OOI network by deploying 15 ocean-bottom seismometers (OBS)
- Logged OBS deployments, discharged an XBT (eXpendable BathyThermograph), observed and then undertook programming the OBS acoustic transponder during survey operations

Geology 102 Field Trip — NJ, NY, PA; 2022

- Studied rocks *in situ* around the tri-state area, ranging from Precambrian Era to Triassic/Jurassic Periods

Geology 101 Field Trip as a Peer Mentor — Bronx, NY; 2022

- Supported students and instructors at Orchard Beach by posing inquiries and identifying geologic features

WORK EXPERIENCE

Peer Advisor in the School of Earth and Environmental Science (SEES) — Queens College, NY; 2023 – Present

- Organize alumni events and panels to increase interactions with current students
- SEES *Government and Industry Career Panel* (Feb. 2024), attended by faculty and 75+ students
- Bridge gaps between the faculty/administration and the student body

Rapid Site Assessment Intern, Natural Areas Conservancy — New York City, NY; Summer 2023

- Monitored and assessed natural areas at specified sites with the NYC Parks Department
- Identified the genus and species of all plants within a 10-meter radius observation point
- Input data from the field into the NYC Parks database

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WORK EXPERIENCE (CONT.)

Peer Mentor in Geology/Environmental Science, Queens College — Queens, NY; 2022 – 2023

- Collaborated with the course instructor to identify problem areas for students
- Monitored and answered student questions during lecture and/or lab
- Met with students during office hours to review flash cards, lab reports, and Google and Microsoft Suites
- Coordinated and held exam review sessions for students

Artistic Assistant, The School of American Ballet — New York, NY; 2018 – 2023

- Facilitated meetings between faculty and parents
- Acted as backstage management for various performance venues at Lincoln Center
- Organized payroll for Teaching Assistants and Teaching Fellows
- Managed *Little Dancers*, SAB's new program for children ages 4-5, for four years

Head Counselor, American Ballet Theatre's Inaugural Tampa Summer Intensive — Tampa, FL; 2018

- Oversaw 150+ students; 105 students in the dormitory
- Trained and supervised nine counselors; mediated conflicts among students and staff

Writing Fellow/Peer Tutor, The University of the Arts; 2015 – 2018

- Tutored *Writing and Conversation*; helped students edit and revise papers
- Worked with foreign language students in English conversation techniques

POSTERS & PRESENTATIONS

Ocean Sciences Meeting 2024, Oral Presentation — New Orleans, LA; 2024

- Abstract Title: *Building Training Datasets through the Documentation of Species Diversity and Abundance at ASHES vent field, Axial Seamount, for Future Machine Learning Applications*
- Oral Session Title: Application of Deep Learning for Ocean Data Science: Modeling, Prediction, Data Analysis, Signal, and Image Processing III Oral

Peer Mentor Final Presentation at the SEES Colloquium, Queens College; 2023 & 2022

- Recapped peer mentor accomplishments during the Fall and Spring semesters to faculty and students

Geology of the Tri-State Area: Geology 102 Poster Session; Queens College; 2022

- Designed and presented two posters: *Martinsburg Formation* and *Taconic Orogeny* (~450-440 Ma)

AWARDS & SCHOLARSHIPS

Dean's List for Spring 2023 Semester, Queens College; 2023

Dean's List for Fall 2022 Semester, Queens College; 2022

Dean's List for Spring 2022 Semester, Queens College; 2022

ConEd Undergraduate Scholarship for Earth and Environmental Sciences (\$5,000), Queens College; 2022

TECHNICAL SKILLS

Computing:

- (Advanced) Adobe Suite, Google Suite, Microsoft Suite
- (Intermediate) ArcGIS Pro
- (Basic) Python, Pandas

Laboratory:

- ICP-OES (Inductively Coupled Plasma Optical Emission spectroscopy)
- Optical Microscope
- Geochemistry sample preparation