

Yasmine Ackall

Chapel Hill, NC | ypackall@unc.edu | (575) 214-9448 | www.linkedin.com/in/yasmine-ackall

EDUCATION

University of North Carolina at Chapel Hill | Chapel Hill, NC

Expected May 2027

Chemistry (B.S.)- Biochemistry track

Major GPA 3.92 | Overall GPA 3.88

HONORS AND AWARDS

Honors Carolina—Highly competitive four-year academic program for top 10% of UNC students, providing enrollment in advanced courses, dedicated advisors, personalized coaching, community events, and designated housing

Carolina Scholar—\$10,000 four-year merit-based scholarship awarded to highly motivated students, providing faculty mentorship, professional guidance, and monthly community building events

Accelerated Research Program—Selective program awarded to students passionate about research, providing access to mentorship, enrollment in research-focused courses, and career development

Dean's List—Fall 2023, Spring 2024, Fall 2024

RESEARCH INTERESTS

Gene expression | Gene editing | Cell signaling | Metabolism | Lipid homeostasis | Genetic sequencing | Developmental biology | Herpes Simplex Virus-1 (HSV-1) | Protein interactions | Peptide-protein binding | Virus inhibition

RELEVANT COURSEWORK

Organic Chemistry I/II | Organic Chemistry Lab | Introductory Calculus-based Mechanics and Relativity | Honors Analytical Chemistry | Analytical Chemistry Lab | General Descriptive Chemistry I/II | General Descriptive Chemistry Lab | How Cells Function | Multivariable Calculus | Calculus I/II

RESEARCH EXPERIENCE

University of North Carolina at Chapel Hill – Chapel Hill, NC

June 2023 - Present

Rob Downen Lab | Department of Cell Biology and Physiology | School of Medicine

Research Intern

- Lead independent project investigating the genetic basis of lipid metabolism using *C. elegans* as a model organism.
- Conduct genetic experiments including CRISPR/Cas9 microinjections, genotyping, RNA interference, imaging of transcriptional reporters, body size and growth rate assays, and Nile Red staining
- Manage daily lab operations, including animal husbandry, preparation of media, autoclave sterilization, maintaining emergency station, restocking supplies, and taking inventory
- Utilize Image J (Fiji) and Graphpad Prism 9 to quantify data, perform statistical analyses, and generate figures
- Regularly present research findings and project updates at weekly lab meetings to communicate progress and gather feedback

Emory University – Atlanta, GA

May 2024 - August 2024

Elizabeth Draganova Lab | Department of Biochemistry | School of Medicine

Laney Graduate School Summer Opportunity for Academic Research (LGS-SOAR)

Research Intern

- Investigated peptide inhibition of a protein complex in Herpes Simplex Virus-1 as a target for antiviral treatment
- Conducted biochemical and biophysical experiments including protein expression and purification, Bio-Layer Interferometry, microfluidizer cell lysis, Fast Protein Liquid Chromatography, ion exchange chromatography, size exclusion chromatography, and SDS-PAGEs
- Participated in weekly Responsible Conduct of Research and Professional Development classes

Appalachian State University – Boone, NC

June 2021 – August 2021

Shea Tuberty Lab | Aquatic Ecology and Climate Change

Summer Ventures in Science and Math | North Carolina School of Science and Math

Research Intern

- Executed hypothesis-driven research in an independent project which explores the effects of urbanization on the water quality of a local creek in Chapel Hill and Carrboro, North Carolina
- Conducted water quality experiments including collecting benthic macroinvertebrates (BMI), water turbidity, *E. coli* presence, oxygen concentration, and bank erosion hazard index (BEHI)
- Wrote and published an academic paper communicating project results titled, “Effects of Urbanization on a North Carolina Piedmont Stream” in the International Journal of High School Research

LEADERSHIP AND COMMUNITY INVOLVEMENT

American Chemical Society at Chapel Hill– Chapel Hill, NC

October 2024 – Present

- Serve as a panelist to guide students about navigating undergraduate research, time management, presenting research, and establishing meaningful relationships with mentors
- Contribute to community engagement by volunteering at educational events, such as a hands-on chemistry showcase for children

UNC JOURney – Chapel Hill, NC

October 2023 - Present

Natural Sciences Editor

- Edit submissions for annual publication of natural science articles in student-run undergraduate research journal
- Collaborate with authors and editorial board to ensure writing quality and manage publication schedules
- Develop and host workshops for undergraduate students on topics such as navigating and conducting literature searches

Carolina Scientific – Chapel Hill, NC

October 2023 – Present

Copy Editor

- Edit and proofread 3-4 scientific student-written articles each semester about local faculty-led research for publication
- Collaborate with authors and editors to ensure writing quality and manage publication schedules

UNC Women’s Club Squash– Chapel Hill, NC

August 2023 – Present

Club Player

- Attend weekly team practices
- Compete and travel for national tournaments

PUBLICATIONS AND PRESENTATIONS

Publications

Ackall, Y., Lopez, K., Onuoha, P., van Praag, M. Effects of Urbanization on a North Carolina Piedmont Stream. International Journal of High School Research 2022, 4 (5), 126–136. DOI:10.36838/v4i5.22.

Poster Presentations

American Chemical Society at Chapel Hill Poster Session | Fall 2024

Emory University Summer Undergraduate Research Symposium | Summer 2024

Ackall, Y., Muhammad M., Draganova E.

“Investigating peptide inhibition of the Nuclear Egress Complex in Herpes Simplex Virus-1 through Bio-Layer Interferometry based screening”

University of North Carolina Celebration of Undergraduate Research | Spring 2024

Ackall Y., Torzone S., Downen R.

“Characterization of a gain-of-function mutation that suppresses defects in MAP Kinase signaling in *C. elegans*”

Oral Presentations

North Carolina Undergraduate Research and Creativity Symposium | Fall 2021

Ackall, Y., Lopez, K., Onuoha, P., van Praag, M., Tuberty S.

“An Assessment of the Biogeophysical Effects of Urbanization on a North Carolina Piedmont Stream”

North Carolina Undergraduate Research and Creativity Symposium | Fall 2024

Ackall Y., Torzone S., Downen R.

“Characterization of a gain-of-function mutation that suppresses defects in MAP Kinase signaling in *C. elegans*”

ADDITIONAL INFORMATION

Languages

English- native proficiency

Portuguese- bilingual proficiency

Spanish- beginner proficiency

Skills

Academic writing

Copy editing

Communication

Time management

Fiji Image J (image analysis software)- beginner level

GraphPad Prism (data analysis)- beginner level

PyMOL 3D modeling software- beginner level

Microsoft Office Suite (Word, Excel, PowerPoint, Outlook, Teams, OneNote)

Lab Skills

Micropipetting

CRISPR/Cas9 microinjections

Genotyping

Polymerase Chain Reaction (PCR)

RNA interference

Transcriptional reporter imaging

Primer design

DNA extraction

Nile Red staining

Protein expression and purification

Bio-Layer Interferometry

Microfluidizer cell lysis

Fast Protein Liquid Chromatography

Ion exchange chromatography

Size exclusion chromatography

SDS-PAGE

Gel electrophoresis

Buffer preparation

Suction filtration

Gas chromatography
Solvent-Solvent extraction

Awards and Certifications

Advanced Placement Scholar with Distinction Award (July 2023)
National Career Readiness Certificate – Platinum (March 2023)
Hispanic Scholarship Fund Certificate of Recognition (December 2023)
CollegeBoard National Hispanic Recognition Program (2022-2023)
Scripps Digital Trials Center Certificate Program (June 2022)
Advanced Placement Scholar with Honor Award (July 2022)

REFERENCES

Dr. Rob Downen, PhD
Assistant Professor
Department of Cell Biology and Physiology
UNC School of Medicine
University of North Carolina at Chapel Hill
321 Fordham Hall
133 Medical Dr
Chapel Hill, NC 27514
downen@email.unc.edu
919-962-4459

Dr. Elizabeth Draganova, PhD
Assistant Professor
Department of Biochemistry
Emory University School of Medicine
RRC 4120
1510 Clifton Road
Atlanta, GA 30322
elizabeth.draganova@emory.edu

Dr. Shea Tuberty, PhD
Professor
Department of Biology
Invertebrate Physiology and Aquatic Ecotoxicology
Appalachian State University
Rankin Science West 169
572 Rivers St
Boone, NC 28608
tubertysr@appstate.edu
828-262-6857