

KIANI J.C. JACOBS

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EDUCATION

University of South Carolina, Columbia, SC May 2028
Doctor of Philosophy: Exercise Science
PI & Advisor: Dr. Mark Sarzynski

Simmons University, Boston, MA May 2023
Bachelor of Science (*summa cum laude*): Major in Exercise Science, Minor in Healthcare Management
Thesis: “Influence of Neuromuscular Electrical Stimulation during Physical Therapy Rehabilitation on Recovery after Medial Patellofemoral Ligament Reconstruction”
Advisor: Dr. Michael Welch

Bunker Hill Community College, Boston, MA May 2021
Associate in Science (*high honors*): Major in Biological Sciences: Medical Professions Option
Honors Project: Review Paper on Breast Cancer and the BRCA Gene
Advisor: Professor Jennifer O’Donnell

RESEARCH EXPERIENCES

University of South Carolina, Columbia, SC August 2024 – Current
Graduate Research Assistant, Behavioral-Biomedical Interface Program (BBIP)
PI & Advisor: Dr. Mark Sarzynski

- Investigated the influence of exercise training on healthy and diseased populations
- Verified the accuracy of the atherosclerotic cardiovascular disease risk estimator using SAS code
- Ran statistical analyses on the Heritage Family Study data
- Maintained lab safety protocols and practiced ethical conduct

Lawrence Berkeley National Laboratory, Berkeley, CA August 2023 – June 2024
Research Scholar, University of California Berkeley Research and Mentoring for Post-Baccalaureates (RaMP) Program
PI: Dr. Adam Deutschbauer
Advisor: Dr. Valentine Trotter

- Investigated the fitness of radioresistant and antibiotic-resistant human skin microbes (*Acinetobacter radioresistens* and *Deinococcus grandis*) by sequencing bar-coded transposons
- Executed fitness assays on microbes to determine optimal growth conditions (salinity, temperature, humidity, etc.)
- Performed gDNA extractions and PCR on microbes and analyzed sequences using ApE, BLAST, and KBase software
- Generated a library of mutant microbes via bacterial conjugation using transposon vectors

Harvard Medical School, Boston, MA October 2021 – June 2023
Undergraduate Research Assistant
PI: Dr. David Ginty
Advisor: Dr. Charalampia Koutsidoumpa

- Investigated the morphological and molecular changes of mechanosensory neurons during murine skin maturation in glabrous and hairy skin under the direction of a PhD candidate
- Visualized neurons using ZEN software, cryosectioning, immunolabeling, microscopy, and histology techniques
- Managed genetically diverse mouse colonies and genotyped them using PCR techniques
- Analyzed and quantified the morphological features of sensory neurons using Fiji software

- Co-authored a peer-reviewed article presenting our findings

Harvard Institutes of Medicine, Boston, MA

June 2021 – August 2021

Student Intern, Dana Farber/Harvard Cancer Center Summer Program to Advance Research Careers (SPARC)

PI: Dr. Sandra McAllister

Advisor: Dr. Milos Spasic

- Investigated the immunological response and structural development of aged and young murine triple-negative breast cancer tumors before and after chemotherapy treatment
- Analyzed cell-specific (CD8+ T-cells and α SMA) characteristics using microscopy and Fiji software under the supervision of a postdoctoral researcher
- Attended biomedical seminars and workshops about health concerns and ongoing cancer research
- Read and presented published cancer research papers and review articles at journal clubs

University of Massachusetts Boston, Boston, MA

March 2021 – May 2021

Student Intern, Bridges to Baccalaureate Research Training Program

PI & Advisor: Dr. Alexia Pollack

- Designed and executed an independent reaction time experiment and presented experimental findings to peers
- Interpreted scientific literature on biological topics and demonstrated an understanding of scientific topics
- Attended scientific workshops, debates, and webinars virtually

OTHER EXPERIENCE

Bay State Physical Therapy, Cambridge, MA

September 2022 – June 2023

Rehabilitation Aide

- Assisted Physical Therapists by designing and implementing rehabilitation training interventions for patients
- Maintained a high level of customer service while helping patients follow therapeutic exercise sequencing and providing exercise cues for form when needed
- Helped patients with healthcare logistics for prescribed plan of care through patient account management

PEER-REVIEWED PUBLICATION

Koutsoumpa, C., Santiago, C., **Jacobs, K.**, Lehnert, B. P., Barrera, V., Hutchinson, J. N., Schmelyun, D., Lehoczy, J. A., Paul, D. L., & Ginty, D. D. (2023). Skin-type-dependent development of murine mechanosensory neurons. *Developmental cell*, S1534-5807(23)00367-2. Advance online publication. <https://doi.org/10.1016/j.devcel.2023.07.020>

ABSTRACTS

- **Jacobs, K.**, Trotter, V., & Deutschbauer, A. (2024, May). Genetic Characterization of *Acinetobacter radioresistens* and *Deinococcus grandis* in the Context of the Skin Microbiome. Program Planner. <https://www.abstractsonline.com/pp8/#!/20188/presentation/4777>
- Koutsoumpa, C., Santiago, C., **Jacobs, K.**, & Ginty, D. (2024). BMP Signaling Differentially Influences Glabrous Ending Morphogenesis (P1-11.008). *Neurology*. 102. <https://doi.org/10.1212/WNL.0000000000205522>
- **Jacobs, K.** (2021, August). Age as a Factor in the Development and Progression of Breast Cancer in Women. In SPARC & U54 REC Virtual Scientific Presentations (p. 10). Dana Farber Harvard Cancer Center. https://www.dfhcc.harvard.edu/fileadmin/media/documents/disparities/SPARC/2021_SPARC_Book_finaldraft.pdf

OTHER PUBLICATIONS

- Libby, A. (2024, May 9). Finding Community at Simmons as a Transfer Commuter Student. Finding Community at Simmons as a Transfer Commuter Student | Simmons University. <https://www.simmons.edu/news/finding-community-simmons-transfer-commuter-student>
- Undergraduate Recipients of 2023 Senior Scholar Award | Simmons University. (2023, April 14). <https://www.simmons.edu/news/undergraduate-recipients-2023-senior-scholar-award>

PRESENTATIONS

- American Society for Microbiology Microbe, “Genetic Characterization of *Acinetobacter radioresistens* and *Deinococcus sp. - SK125* in the Context of the Skin Microbiome,” June 2024
- RaMP Symposium, “Genetic Characterization of *Acinetobacter radioresistens* and *Deinococcus sp. - SK125* in the Context of the Skin Microbiome,” June 2024
- Simmons University STEM Symposium, “Influence of Neuromuscular Electrical Stimulation during Physical Therapy Rehabilitation on Recovery after Medial Patellofemoral Ligament Reconstruction,” April 2023
- Simmons University Senior Scholar Award Showcase, “Development of Glabrous and Hairy Skin Neurons,” April 2023
- Ginty Lab Research Assistant Symposium, “Development of Glabrous and Hairy Skin Neurons,” August 2022
- SPARC Alumni Panel, Invited Panelist, June 2022
- SPARC and U54 REC Virtual Scientific Presentations, “Age as a Factor in the Development and Progression of Breast Cancer in Women,” August 2021

ACHIEVEMENTS AND RECOGNITIONS

- University of South Carolina Presidential Fellowship - \$10,000/yr (2024-2028)
- National Institutes of Health (NIH) T32 BBIP - \$40,000+/yr (2024-2026)
- National Science Foundation (NSF) RaMP Scholar Award - \$58,000 (2023 - 2024)
- U.S. Fulbright Program Open Study/Research Award Semi-Finalist (2023)
- Simmons University Senior Scholar Award Nominee & Recipient (2023)
- National Society of Leadership and Success Nominee & Member (2022 - 2023)
- Simmons University Alumnae Award for Academic Achievement Nominee (2022)
- Simmons University Leadership in Community-Based Learning Award (2022)
- Simmons University Dean’s List (2022)
- Simmons University Award for Excellence: Exercise Physiology Journal Article (2022)
- Simmons University SUCCESS Scholarship - \$40,000 (2021 - 2023)
- Phi Theta Kappa Scholarship - \$4,000 (2021 – 2023)
- Caribbean Secondary Education Certificate Gold Awardee (2020)
- Level 1 Scholar of NSF Louis Stokes Alliances for Minority Participation Program (2020)
- Phi Theta Kappa Honors Society Member (2020 - 2023)
- Bunker Hill Community College Commonwealth Honors Program Member (2020 - 2021)
- Bunker Hill Community College Merit & Dean’s List (2019 – 2021)
- Rotary Club of Antigua Sundown Interactor of the Year Award (2019)

VOLUNTEER WORK

- Fenway High School, Boston, MA (2023), Undergraduate Mentor
- Rogerson House, Boston, MA (2022), Communications Manager & Engagement Team Member
- Five Fifths, Boston, MA (2020-2021), Social Media Manager
- Mount St John Medical Center, Antigua (2018), Physiotherapy Assistant
- St John Hospice, Antigua (2018), Hospice Support

EXTRACURRICULAR ACTIVITIES

Panache Steel Orchestra Steel Pan Player (2023-2024)

Simmons University African Caribbean Student Union SGA Representative (2022-2023)

Simmons University Exercise Science Liaison Co-Secretary (2022-2023)

Branches Steel Orchestra Steel Pan Player (2021-2023)

Bunker Hill Community College Volleyball Team Member (2020-2021)

Antigua Girls' High School Interact Club Member & President (2016-2019)

OTHER AREAS OF EXPERTISE

Basic Life Support & First Aid

Operating Systems: Windows XP, 7-11; Mac OS/X, iOS

Microsoft Office: Excel, Word, PowerPoint, Outlook, Access

Carl ZIESS Microscopy

Flow Cytometry

R & SAS Programming Languages (basic proficiency)