PRISCILLA LOUIS

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EDUCATION

University of Central Florida Orlando, FL
2017-2021

Bachelor of Science in Biomedical Sciences

Burnett School of Biomedical Sciences, 3.3 GPA

Bachelor of Science in Psychology – Neuroscience Track

College of Sciences, 3.8 GPA

RESEARCH EXPERIENCE

BRaIN Lab Jul. 2021 - present

UCF, Biomechanics, Rehabilitation, & Interdisciplinary Neuroscience, Dr. Helen Huang

- Analyze data using MatLab and Python from participant EEG and treadmill signals
- Conducted human experiments through a dual-layer 256 electrode EEG and treadmill process toward the understanding and improvement of participants suffering with incomplete spinal cord injury
- Incorporated research publications, abstract drafts, research topics, and literature reviews toward IRB approval and current lab publication
- Headed the transcription of lab procedures and protocols

Dr. Jill Viglione's Criminal Justice Lab Group Aug. 2020 – May 2021

UCF, Criminal Justice, Dr. Jill Viglione

- Converted survey results of community supervision agencies into condensed, statistical data toward data analysis using IBM SPSS Statistics
- Analyzed data in conjunction with COVID-19 mitigation techniques to identify policy alterations within the U.S. corrections agencies that aid or decline the efficiency of systems during a global pandemic
- Expanded the network of participants within the pool of criminal justice supervisors toward the advancement of the *Implementation Mechanisms of Stepping Up*, whose initiative is to identify strategies that improve mental health and reduce incarceration
- Awarded first place for research proposal, *Exploring the Variation in COVID-19 Response Strategies in Community Corrections Agencies Across the United States*

Leadership Alliance at Brown University Jun. 2020 – Aug. 2020

Brown University, Dr. Christopher Moore

- Engineered a NeuroNex Database of Bioluminescent Molecules that provide the differentiating properties of different types of luciferases and luciferin in a simplified construct
- Initiated a historical analysis of the publications used within the NeuroNex Database to determine the future steps of bioluminescence in neuroscience
- Headed multiple oral and poster presentations under the project, *A Historical Analysis of the Searchable NeuroNex Database of Bioluminescent Molecules*
- Expanded on knowledge and skill in molecular terminology and concepts, such as optogenetics, chemogenetics, and bioluminescence
- Attended research techniques, journal analysis, and professional development workshops

Laboratory for Autonomous-Brain Exchange (LabX) Aug. 2019 – May 2020

University of Central Florida, Dr. Ben Sawyer

- Programmed research simulation toward attention studies using PsychoPy
- Mastered eye tracker and EEG devices toward the succession of driving simulations
- Managed lab affairs, equipment, protocols, tasks, and meetings
- Accelerated the progression of data collection through participant marketing and task delegation

Neuroscience Undergraduate Research Opportunity (NURO) Jun. 2019 - Aug. 2019

University of Michigan, Dr. Giancarlo Vanini

- Preformed histological analysis, retrograde labeling, and behavioral studies using mice and rat models
- Analyzed EEG sleep scores toward the development of nociception studies
- Defended research project, *Neural basis of sleep-pain interactions: A preliminary study*
- Certificated in Animal Room Procedures for Rodents, Rodent Surgery, Post-Operative Recording, and other required trainings for animal lab experimentation
- Obtained applied knowledge in neuroscience methodologies, current research in neuroscience, graduate school preparations, and literature analysis/discussion
- Attained high ratings in NURO symposium presentation

Dr. Santra's Nanoscience Research Group Jan. 2018 – May 2019

University of Central Florida, Dr. Swadeshmukul Santra

- Formed and characterized a zinc oxide and streptomycin combination toward the development of a non-toxic and antibiotic delivery system for Florida oranges affected with huanglongbing disease (HLB)
- Proposed a function between antimicrobial zinc oxide and plant-based protein as a biodegradable solution to huanglongbing disease (HLB)

- Developed an in-depth understanding of the nanoscience methodologies under the chemistry department
- Presented two posters: C*arboxyl Modified ZnO Nanoparticles for Delivery of Streptomycin Antibiotic* and *Development of a zinc oxide (ZnO) and streptomycin composite to combat against Citrus Greening Disease (HLB)* at the Showcase of Undergraduate Research Fellowship (SURF), Showcase of Undergraduate Research Excellence (SURE), and the FLAVS Annual Symposium

Summer Undergraduate Research Fellowship (SURF) May 2018 – Jul. 2018

Summer Research Program funded by NSF, Dr. Swadeshmukul Santra

- Conducted the methodology, characterization, and analysis of fabricated zinc oxide nanoparticles in antibiotic solutions against various bacteria
- Designed, organized, and defended research poster at a summer research showcase
- Attended professional development workshops, poster critiques, and collaborative events

Learning Environment & Academic Research Network Aug. 2017 – Apr. 2018

L.E.A.R.N. Program, Dr. Swadeshmukul Santra

- Proposed a function between antimicrobial zinc oxide and plant-based protein toward the progressive decay of Citrus Greening Disease (HLB) in Florida
- Coordinated mock poster presentation whose results were used toward the Summer Undergraduate Research Fellowship
- Attended informational sessions discussing research, posters, and publications while attending STEM-related events and conferences
- Excelled at two foundational courses, Research I & II

ACADEMIC EXPERIENCE

Ronald E. McNair Scholars Program Aug. 2019 - present

National Graduate School Prep Program

- Collaborates with a community of low-income, underrepresented, and first-generation scholars aspiring for graduate-level degrees
- Receives coaching and advising regarding the graduate school application process

Psi Chi Honors Society Nov. 2019 - present

ACHS Accredited, International Honors Society

- Awarded high honors in the Psychology Major at the University of Central Florida
- Presented and advocated for graduate school options to Psi Chi Psychology students in classes and local events
- Attended psychology research conferences, graduate school fairs, and local Psi Chi networking events to increase minority community interaction

M.I.T.'s Quantitative Biology Workshop Jan. 2019

Massachusetts Institute of Technology (MIT)

- Participated in a seven-day, invitation-only intensive course that introduced undergraduate students to neurocomputation in current neuroscience research topics
- Attained higher understanding in MatLab and other programming languages used to analyze experimental data, like quantifying neuron firing

Society for Advancement of Chicanos & Native Americans Science Jan. 2019-2020

SACNAS Club Co-President

- Supervises all paper traces, communications, presentations, and events
- Advocates for minority students in STEM through outreach, pre-graduate school advising, graduate school presentations, and professional development workshops
- Presents at the largest National Diversity in STEM Conference, the Society for Advancement of Chicanos & Native Americans Science

STEM Ambassador Aug. 2018 – May 2019

iSTEM

- Executed independent educational and inspirational presentations to mass student audiences at local schools and universities
- Devised STEM-related lessons and science experiments for K-12 classes to encourage STEM curiosity and retention
- Promoted a career in neuroscience at local and national events like the Brain Bee Competition, STEM Day, and SECME

AutoCAD Instructor Assistant May 2017 – Jul. 2017

Miami PREP Summer STEM Program

- Guided K-12 students through the process of learning AutoCAD skills from introductory levels to intermediate levels depending on the age group
- Develop and executed daily lesson plans for K-12 students while adjusting tasks toward appropriate skill level
- Developed an in-depth understanding of the AutoCAD Software in developing draft devices
- Awarded Certificate of Excellence from AutoCAD

MENTORING & WORK EXPERIENCE

Graduate School Prep Advisor and Peer Initiatives Lead Jan. 2019 - present

Academic Advancement Programs (AAP)

- Cofounded the Pre-Grad Knights Program at UCF, where UCF students receive guided online assistance and assignments to progress their journey to graduate school

- Cofounded the Guide to Graduate School, an open-access online resource for national students to obtain information and resources about graduate school
- Advises undergrad student about the graduate school process while tailoring each appointment to student standing - personal, professional, and academic
- Awarded "Most Requested Advisor" in 2019, 2020, and 2021
- Represented AAP in recorded interviews, panels, YouTube videos, and podcasts to encourage disadvantages college students to apply to graduate school
- Implemented and engineered multiple advising activities that continue to be used during advising appointments to maximize student understanding while developing realistic and achievable goals

L.E.A.R.N. Peer Mentor Aug. 2019 – May 2020

Office of Undergraduate Research

- Engineered a discussion program for mentor-mentee interactions ranging from applying to graduate school, summer research programs, and finding research experience on-campus
- Accelerated the number of students applying to summer research programs through one-on-one mentorship
- Influenced STEM retention of freshmen STEM majors through progressive planning, goal setting, and reliable guidance

Student Assistant Oct. 2018 – May 2019

Academic Advancement Programs

- Capitalized on surveys, statistical charts, and mass emails to increase student participation in graduate school advising
- Updated and organized program details regarding AAP events, such as the Graduate Prep Academy, AAP workshops, and advising appointments
- Organized office meetings, trainings, and one-on-one discussions with student employees

Showcase of Undergraduate Research Assistant Feb. 2018 – Apr. 2018

Office of Undergraduate Research

- Facilitated the organizational structure of poster records
- Oversaw poster applications, documents, and letters
- Maximized marketing methods using qualitative and quantitative data from showcase surveys and applications

CONFERENCE PRESENTATIONS

1. **UCF Research Symposium.** Louis, P., Niego, N., Alward, L., Lockwood, A., Viglione, J. (April, 2021). Exploring the Variation in COVID-19 Response Strategies in Community Corrections Agencies Across the United States. 1st Place Poster Presentation.

2. **Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS).** Louis, P., Bartholomew, B., Maclntyre, C., van der Merwe, R., Roberts, M., Allen, J., Friedman, N., Moore ,C. (October, 2020). A Historical Analysis of the Searchable NeuroNex Database of Bioluminescent Molecules. Virtual Poster Presentation.
3. **Virtual Baylor University McNair Scholars Research Conference.** Louis, P., Bartholomew, B., Maclntyre, C., van der Merwe, R., Roberts, M., Allen, J., Friedman, N., Moore ,C. (October, 2020). A Historical Analysis of the Searchable NeuroNex Database of Bioluminescent Molecules. Virtual Poster Presentation.
4. **Virtual Leadership Alliance Research Conference.** Louis, P., Bartholomew, B., Maclntyre, C., van der Merwe, R., Roberts, M., Allen, J., Friedman, N., Moore ,C. (August, 2020). A Historical Analysis of the Searchable NeuroNex Database of Bioluminescent Molecules. Virtual Oral Presentation.
5. **Showcase of Undergraduate Research Excellence (SURE).** Louis, P., Hernandez, C., Rahill, K., Pham, M., Manriquez, L., Figueroa, A., Medina, B., Wolfe, B., Sawyer, B. (April, 2020). Prevalence effects are not driving hazard detection on the road. Accepted Poster Presentation. (Cancellation due to COVID-19).
6. **Florida Undergraduate Research Conference (FURC)** Louis, P., Hambrecht-Wiedbusch, V., Mast, M., Mondino, A., Dr. Vanini, G. (February, 2020). Neural basis of sleep-pain interactions: A preliminary study. Poster Presentation at Florida Gulf Coast University.
7. **Annual Biomedical Research Conference for Minority Students (ABRCMS)** Louis, P., Hambrecht-Wiedbusch, V., Mast, M., Mondino, A., Dr. Vanini, G. (August, 2019). Neural basis of sleep-pain interactions: A preliminary study. Oral Presentation at the University of Michigan in Ann Arbor, MI.
8. **Neuroscience Symposium** Louis, P., Hambrecht-Wiedbusch, V., Mast, M., Mondino, A., Dr. Vanini, G. (August, 2019). Neural basis of sleep-pain interactions: A preliminary study. Oral Presentation at the University of Michigan in Ann Arbor, MI.
9. **Showcase of Undergraduate Research Excellence (SURE).** Louis, P., Ozcan, A., Modha, N., & Dr. Santra, S. (July, 2019). Carboxyl Modified ZnO Nanoparticles for Delivery of Streptomycin Antibiotic. Poster Presentation in Orlando, FL.
10. **FLAVS Annual Symposium** Louis, P., Ozcan, A., Modha, N., & Dr. Santra, S. (May, 2019) Carboxyl Modified ZnO Nanoparticles for Delivery of Streptomycin Antibiotic. Poster Presentation in Orlando, FL.
11. **Summer Showcase of Undergraduate Research** Louis, P., Ozcan, A., Modha, N., & Dr. Santra, S. (April, 2018) Development of a zinc oxide (ZnO) and streptomycin composite to combat against Citrus Greening Disease (HLB). Poster presentation in Orlando, FL.

SCHOLARSHIPS, GRANTS, FELLOWSHIPS, & AWARDS

1. **Student Scholar Symposium Award & Scholarship**. Louis, P. & Niego, N. (April, 2021)
2. **Office of Undergraduate Research Travel Funding.** Louis, P. (February, 2020). Prevalence effects are not driving hazard detection on the road.
3. **Office of Undergraduate Research Grant.** Louis, P. (November, 2019). Neural basis of sleep-pain interactions: A preliminary study.

4. **ABRCMS Full Travel Scholarship.** Louis, P. (November, 2019). Neural basis of sleep-pain interactions: A preliminary study.
5. **S.U.R.F. Scholarship.** Louis, P. (November, 2018). Carboxyl Modified ZnO Nanoparticles for Delivery of Streptomycin Antibiotic.
6. **L.E.A.R.N. Scholarship.** Louis, P. (2017-2018). Carboxyl Modified ZnO Nanoparticles for Delivery of Streptomycin Antibiotic
7. **Bright Futures Scholarship.** Louis, P. (2017 - present).
8. **PT Scholarship**. Louis, P. (2017-2018).
9. **CAP Inc. Scholarship**. Louis, P. (2017-2018).

CERTIFICATES

1. **Python Data Structures**. Coursera. Issued May 2021. Credential ID 5NEKMCBKBL5D
2. **Programming for Everyone (Getting Started with Python).** Coursera. Issued May 2021. Credential ID 9B7JTGVYS5N6
3. **The Leadership Alliance Virtual Professional Development Series 2020.** The Leadership Alliance Consortium. Issued November 2020. Verify: https://www.credly.com/badges/f3956693-ec61-4766-ac09-ff8e3e41be8f?source=linked_in_profile
4. **Human Subjects Research – Biomedical Research Investigators and Key Personnel.** CITI Program. Issued October 2019. Credential ID 24678191
5. **Physical Science Responsible Conduct of Research.** CITI Program. Issued September 2012. Credential ID 24678192

INVITED TALKS

1. **UCF Foundation Inc.** Louis, P. (October, 2021). Panel of Student Leaders. District oral panel in Orlando, FL.
2. **Division of Teaching and Learning.** Louis, P. (September, 2021). Benefits of Peer Advising. Recorded interview in Orlando, FL.
3. **Academic Advancement Programs.** Louis, P. (January, 2021). Summer Research Panel. Oral panel in Orlando, FL.
4. **Academic Advancement Programs.** Louis, P. (January, 2020). Summer Research Panel. Oral panel in Orlando, FL.
5. **Academic Advancement Programs.** Louis, P. (January, 2020). How to Approach Graduate School Visitations. Oral panel in Orlando, FL.
6. **Hagerty High School**. Louis, P. (January, 2019). The Secret to College Success. Oral presentation in Orlando, FL.
7. **Orange Technical College Winter Park Campus**. Louis, P. (January, 2019). The Secret to College Success. Oral presentation in Orlando, FL.
8. **St. Luke's Lutheran School**. Louis, P. (December, 2018). Brain Basics. Oral presentation in Orlando, FL.

9. **Jackson Heights Middle School in Oviedo**. Louis, P. (December, 2018). The Secret to College Success. Oral presentation in Orlando, FL.
10. **Baker Elementary**. Louis, P. (December, 2018). NASA: A Journey to Space. Oral presentation in Atlanta, GA.
11. **Orlando Science High School.** Louis, P. (November, 2018). Brain Basics. Oral presentation in Orlando, FL.
12. **Orlando Science High School**. Louis, P. (November, 2018). Neurodegenerative Diseases. Oral presentation in Orlando, FL.
13. **Timber Creek**. Louis, P. (November, 2018). Neurodegenerative Diseases. Oral presentation in Orlando, FL.
14. **Hagerty High School**. Louis, P. (November, 2018). Brain Basics. Oral presentation in Orlando, FL.

VOLUNTEER EXPERIENCE

STEM Day, Annual Volunteer	2017 - present
Knights Give Back, Annual Volunteer	2017 - present
SECME, Annual Volunteer	2017 - present

SKILLS

Biological Research: Characterization of zinc oxide nanoparticles, minimum inhibitory concentration, protein and DNA purification, simple distillation, histological analysis, bioimaging techniques, and retrograde labeling

Psychology Research: Chi Square, Repeated Measures ANOVA, Two-Way ANOVA, Unequal-n ANOVA, sleep scoring, and behavioral studies using mice and rat models

Academic: Leadership, mentoring, tutoring, teamwork, project management, problem solving, adaptability, public speaking, delegation, priority and time management, and resourcefulness

Technical: MatLab, Python, AutoCAD, SPSS, PsychoPy, Microsoft Office, and Apple iWork