


ELLINGTON D. MCDANIELS

Contact

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Decatur, GA 30030 

Professional Summary

Ambitious scientific professional experienced in laboratory research and advanced data analysis. Skilled in quantitative research, driving project success through effective problem-solving, and robust statistical methods. Additionally competent at fostering collaborative relationships and articulating complex findings to advance scientific knowledge.

Skills

- Quantitative Research
- Data Analysis
- Written Communication
- Copyediting
- Problem-Solving
- Microsoft Office & Google Suite Proficiency

Experience

RESEARCH SPECIALIST

Jul 2023 - Present

TRAYNELIS-YUAN LAB — Atlanta, GA

- Collaborated with the Center for Functional Evaluation of Rare Variants (CFERV) to increase data collection efficiency and conduct functional analysis on human de novo mutations in NMDA receptor subunits.
- Executed a variety of molecular biology techniques including DNA retransformation, DNA extraction, RNA synthesis, and RNA isolation.
- Evaluated the potentiating and inhibiting effects of novel subunit-selective allosteric modulators on N-methyl-D-aspartate (NMDA) receptors.
- Researched best practices in the field of study through online resources or academic journals.
- Updated, organized, and reconfirmed databases containing large amounts of information for future reference from coworkers and collaborators.
- Analyzed data using advanced statistical techniques such as regression analysis, correlation, and hypothesis testing.
- Created visualizations of data sets to uncover patterns and relationships between variables.
- Assisted senior researchers in developing grant applications for funding opportunities.
- Utilized a variety of software programs including GraphPad Prism, Microsoft Office & Google Suite.
- Conducted literature reviews to identify relevant trends in the industry.
- Provided training and mentorship to undergraduate students, graduate students, and newly hired laboratory technicians on how to conduct multiple essential protocols.

TEMPORARY RESEARCH SPECIALIST

Jun 2023 - Jul 2023

TRAYNELIS-YUAN LAB — Atlanta, GA

UNDERGRADUATE RESEARCHER

Oct 2022 - May 2023

TRAYNELIS-YUAN LAB — Atlanta, GA

- Manipulated and microinjected NMDA receptor mRNA constructs into *Xenopus* oocytes to facilitate protein expression.
- Investigated mechanisms of activation of various synaptic glutamate receptors via electrophysiology tools (e.g. two-electrode voltage clamp, TEVC).
- Used electrophysiology tools to evaluate potency and efficacy of various pharmacological compounds on Wild-Type NMDA receptor current.
- Quantified results using Microsoft Excel.

SHADOWING EXPERIENCE

Feb 2024 - Feb 2024

DR. ALI JON ZARRABI, M.D. (PALLIATIVE ONCOLOGIST) - EMORY HOSPITAL — Atlanta, GA

- Gained an understanding of the role of various healthcare professionals including doctors, nurses and therapists.
- Utilized critical thinking skills to observe how healthcare professionals diagnose illnesses or injuries accurately.
- Continued developing interpersonal skills by interacting effectively with diverse groups of people.
- Learned about the importance of maintaining confidentiality when dealing with sensitive information related to patient care.
- Understood how different types of medications work together to treat various conditions.
- Complied with behavioral expectations, displaying values of kindness and respect.

SHADOWING EXPERIENCE

Jan 2024 - Jan 2024

DR. BRIAN DIXON, M.D. (PSYCHIATRIST) - MINDFUL — Fort Worth, TX

- Observed 14 patient sessions both in-person and online, including 2 intake sessions with new patients
- Learned nuances differentiating pediatric, adolescent, and adult psychiatric care strategies
- Gained insight into factors influencing the appropriateness of behavioral versus pharmacological treatment, as well as when a combination of both are appropriate.
- Learned about the importance of maintaining confidentiality when dealing with sensitive information related to patient care.

PROJECT MANAGER

Jul 2023

FITCHBURG STATE UNIVERSITY ANTI-RACISM PROJECT — Fitchburg, MA

- Wrote and edited narration script based on specifications provided
- Recorded & edited narration audio.
- Collaborated with cross-functional teams across multiple departments to achieve goals.
- Documented project requirements, processes, and procedures.

SHADOWING EXPERIENCE

Aug 2021 - Aug 2021

DR. STEVE CITRON, M.D. (INTERVENTIONAL RADIOLOGIST) - PIEDMONT HOSPITAL
— Atlanta, GA

- Observed Dr. Citron perform multiple procedures, including radioembolization planning, CT-guided bone cryoablation + cementoplasty, and percutaneous endoscopic gastrostomy.
- Adhered to safety protocols while observing procedures such as sterilization techniques.
- Demonstrated knowledge of medical terminology and anatomy through shadowing a variety of healthcare professionals.

SHADOWING EXPERIENCE

Aug 2021 - Aug 2021

DR. NATHAN BALDWIN, M.D. (ANESTHESIOLOGIST) - PIEDMONT HOSPITAL — Atlanta, GA

- Received detailed conceptual education regarding the properties and administration of the various substances with which anesthesiologists work.
- Observed Dr. Kevin McGill perform a robotic gastric bypass/sleeve procedure
- Observed Dr. Charles Ross perform an endarterectomy procedure.

SHADOWING EXPERIENCE

Aug 2021 - Aug 2021

DR. DREW KLEIN, M.D. (INTERVENTIONAL CARDIOLOGIST) - PIEDMONT HOSPITAL

— Atlanta, GA

- Accompanied through morning patient rounds.
- Observed Dr. Klein perform 2 left-heart catheterization procedures, one of which involved a fractional flow reserve.
- Accompanied through afternoon patient rounds.
- Understood how different types of medications work together to treat various conditions.
- Adapted quickly to changing environments while working in different departments throughout the hospital.

SHADOWING EXPERIENCE

Aug 2021 - Aug 2021

DR. EMMANUEL MINJA, M.D. (TRANSPLANT SURGEON) - PIEDMONT HOSPITAL — Atlanta, GA

- Accompanied through morning patient rounds
- Sat in on daily, interdisciplinary 'sit-down rounds' meeting where patient health was discussed
- Observed Dr. Minja perform a kidney transplant procedure.

SHADOWING EXPERIENCE

Aug 2021 - Aug 2021

DR. KEN TAYLOR, M.D. (CARDIOLOGIST) - PIEDMONT HEART INSTITUTE — Atlanta, GA

- Accompanied during clinical work as patients with appointments visited.

SHADOWING EXPERIENCE

Aug 2021 - Aug 2021

DR. ARAVIND AREPALLY, M.D. (INTERVENTIONAL RADIOLOGIST) - PIEDMONT HOSPITAL

— Atlanta, GA

- Learned basics of reading CT scans.
- Observed Dr. Arepally perform a bone marrow biopsy, as well as a gallstone removal procedure.
- Observed Dr. David Caldwell perform a vertebroplasty.

SHADOWING EXPERIENCE

Jul 2021 - Jul 2021

DR. JONATHAN HUNDLEY, M.D. (SURGICAL DIRECTOR OF KIDNEY & PANCREAS

TRANSPLANTATION) PIEDMONT HOSPITAL — Atlanta, GA

- Accompanied through morning patient rounds.
- Exhibited strong communication skills when interacting with staff members, patients and families.
- Gained an understanding of the role of various healthcare professionals including doctors, nurses and therapists.
- Recognized the importance of following physician instructions precisely when preparing medications for administration.

SHADOWING EXPERIENCE

Jul 2021 - Jul 2021

DR. RAHUL MAHESHWARI, M.D. (GASTROENTEROLOGIST) - PIEDMONT HOSPITAL
— Atlanta, GA

- Accompanied during clinic work as patients with appointments visited
- Sat in on a weekly interdisciplinary meeting regarding patients prioritized for liver transplants.
- Gained an understanding of the role of various healthcare professionals including doctors, nurses and therapists.

SHADOWING EXPERIENCE

Jul 2021 - Jul 2021

DR. ALEX GLUZMAN, M.D. (PULMONOLOGIST) - PIEDMONT HOSPITAL — Atlanta, GA

- Accompanied through morning and afternoon rounds, visiting hospitalized patients (including those w/ COVID) in normal floors as well as in the Intensive Care Unit.
- Adhered to safety protocols while observing procedures such as sterilization techniques.
- Observed Dr. Gluzman perform patient bronchoscopies several times.

SHADOWING EXPERIENCE

May 2021 - May 2021

SU YUNG ANDERSON, P.A. (ANESTHESIOLOGIST'S ASSISTANT) - PIEDMONT EYE
AMBULATORY SURGERY CENTER — Atlanta, GA

- Accompanied through a workday at the clinic
- Observed several strabismus surgeries performed by Dr. Marc Greenberg
- Observed two phacoemulsification procedures
- Learned very basic operation of anesthesia workstation.

PROJECT ASSISTANT

Jul 2020 - Jul 2020

THE NEUROSCIENCE SCHOOL - GEORGIA STATE UNIVERSITY — Atlanta, GA

- Researched and contacted multiple organizations for literary materials and lab work supplies
- Budgeted project funds to maximize efficiency.
- Collaborated with project teams to ensure successful completion of projects within deadlines.

PARTICIPANT

Jul 2019 - Jul 2019

ADVANCED TOPICS IN NEUROSCIENCE - OPTOGENETICS LAB — Atlanta, GA

- Designed optogenetics experiment regarding cold nociception
- Sorted and plated *Drosophila m.* Larvae
- Performed physical, thermal, and chemical nociception tests on live samples, recorded & quantified

responses

- Compiled & analyzed data via Microsoft Excel.
- Utilized advanced scientific principles to interpret experimental results and draw conclusions.
- Prepared charts, photos and graphs for presentations.

Education

BACHELOR OF SCIENCE (B.S.) IN NEUROSCIENCE & BEHAVIORAL BIOLOGY GPA 3.62

May 2023 | EMORY UNIVERSITY — Atlanta, GA, US

- **Relevant Coursework**

- Foundations of Modern Biology (I & II)
- Organic Chemistry (I & II)
- Brain & Behavior
- Intro to Neuroethics
- Global Neuroethics
- Behavioral Neuroscience
- Clinical Study of Sleep
- General Chemistry (I & II)
- Animal Behavior
- Foundations of Behavior
- Advanced Neuroethics
- Introduction to Neurobiology
- Global Neuroscience & Behavior
- Introductory Physics (I & II)

- **Awards & Honors**

- Neuroscience National Honor Society (Nov. 2022 - Present)

HIGH SCHOOL DIPLOMA

May 2019 | DECATUR HIGH SCHOOL — Decatur, GA

- **Awards & Honors**

- International Baccalaureate (IB) Diploma
- National Honor Society (2018-2019)
- Academic Honor Roll (2015-2019)

References

References available upon request

Volunteer Experience

SENIOR VOLUNTEER TUTOR

Apr 2018 - Present

MIND BUBBLE — Atlanta, GA

- Communicated frequently with colleagues regarding best practices related to tutoring services provided.
- Demonstrated ability to effectively communicate complex concepts and ideas to students of all ages and backgrounds.
- Encouraged positive behavior among students by implementing reward systems for success in academics or other areas of interest.
- Utilized creative instructional methods to foster student engagement and enthusiasm for learning.

Publications

- Xu, Y., Song, R., Perszyk, R. E., Chen, W., Kim, S., Park, K., Allen, J. P., Nocilla, K. A., Zhang, J., XiangWei, W., Tankovic, A., McDaniels, E. D., Sheikh, R., Mizu, R. K., Karamchandani, M. M., Hu, C., Kusumoto, H., Pecha, J., Cappuccio, G., Gaitanis, J., Sullivan, J., Shashi, V., Petrovski, S., Jauss, R. T., Lee, H. K., Bozarth, X., Lynch, D. R., Helbig, I., Pierson, T. M., Boerkoel, C. F., Myers, S. J., Lemke, J. R., Benke, T. A., Yuan, H., Traynelis, S. F. (2024). De novo GRIN variants in M3 helix associated with neurological disorders control channel gating of NMDA receptor. *Cell. Mol. Life Sci.* 81, 153 (2024). <https://doi.org/10.1007/s00018-023-05069-z>