RANDALL DESOUZA ORDOVICH CLARKSON, MD

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EXECUTIVE SUMMARY

- Medical doctor and Professor of Biomedical Sciences at Grand Canyon University, specializing in instruction for pre-med and nursing undergraduates. Teaching focus includes neuroscience, anatomy & physiology, pathophysiology, and behavioral health.
- Research focus includes the following ongoing projects:
  1. **The Parkinson's Project:** Investigating potential prophylactic compounds (e.g., norpsilocin, metformin) for the treatment and prevention of Parkinson's disease using SH-SY5Y neuroblastoma cell models.
  2. **The Loyalty Project:** A social psychology initiative exploring the roots and expressions of loyalty and pro-social behavior through an interdisciplinary lens, drawing from evolutionary biology, sociology/psychology, and theology.
  3. **The Prosocial Animal Lab (PAL):** Investigating the neurobiological and behavioral mechanisms underlying empathy and helping behavior in rodent models, with implications for understanding prosociality in humans.

TERTIARY EDUCATION

ROSS UNIVERSITY SCHOOL OF MEDICINE (May 2011 to June 2015)

- Location of Pre-clinical semesters: Portsmouth, Dominica
- Location of Clinical Clerkships: NJ, NY, MD, London, England
- Degree & Graduation Date: Medical Degree (M.D.), July 30, 2016

SECONDARY EDUCATION

ARIZONA STATE UNIVERSITY (August 2004 to May 2009)

- Location: Tempe, AZ
- Degree Received: Bachelors in Conservation Biology
- Graduated with Magna Cum Laude honors

PROFESSIONAL POSITIONS

PROFESSOR OF BIOMEDICAL SCIENCES at GRAND CANYON UNIVERSITY

Location: 3300 W Camelback Rd, Phoenix, AZ 85017

Full-time Faculty Position from January 2023 – Present

Part-time Adjunct Position from September 2021 – December 2022

- Full-time faculty member in the College of Natural Sciences (CNS), teaching pre-nursing and pre-med undergraduate students.
- Instructional expertise spans neurobiology, pathophysiology, microbiology, anatomy & physiology, and vertebrate zoology. Courses taught include:
  - Neurobiology (BIO-343), Microbiology Lecture & Lab (BIO-205/BIO-215), Pathophysiology (BIO-322/BIO-483), Anatomy & Physiology Lecture & Lab (BIO-201/210 and BIO-202/211), Vertebrate Zoology Lab (BIO-415L), Medical Physiology Lab (BIO-360L), and General Biology (BIO-181)
- Active research involvement includes:
  1. **The Parkinson's Project**: Investigating neuroprotective agents in SH-SY5Y cells.
  2. **The Loyalty Project:** Exploring the biological and psychological underpinnings of loyalty and pro-social behavior.
  3. **The Prosocial Animal Lab (PAL):** Studying empathy and helping behavior in rodent models.

ADJUNCT PROFESSOR OF MICROBIOLOGY at ARIZONA COLLEGE OF NURSING
Location: 1620 W Fountainhead Pkwy Suite 110, Tempe, AZ 85282
Part-time Position from August 2022 – April 2023

- Taught Microbiology (BIO-205) lecture and lab to pre-nursing students, covering core topics such as microbial physiology, pathogenic mechanisms, immunology, and infection control.
- Designed and delivered didactic lectures and laboratory instruction using interactive and clinically relevant teaching methods.
- Utilized Blackboard learning management system to post course materials, manage assignments, monitor student performance, and maintain clear communication with students.

CO-FOUNDER & CHIEF MARKETING OFFICER at ABSINTHE MINDED™
Location: Tempe, AZ
Full-time Position from August 2017 – October 2025

- Co-founder of Absinthe Minded, Arizona's first high-quality producer of absinthe
- Coordinating and implementing brand and product development
- Assuring legal compliance in accordance to Federal Alcohol and Tobacco Tax and Trade Bureau (TTB) regulations
- Establishing partnerships with local businesses in the production and manufacturing of high-quality distilled products
- Assuring the consistency of marketing materials in accordance with the mission statement of Absinthe Minded™
- Implementation of sales strategy to deliver product to a highly competitive market
- Supervisor: Kanwar Singh, CEO

ADJUNCT RESEARCH ASSOCIATE at MARICOPA INTEGRATED HEALTH SYSTEM
Location: Mesa, AZ
Part-time from August 2017 - December 2017

- Collecting and assessing data from clinical records and other recorded information
- Conducting literary research in respective disciplines of medicine
- Assisting in the authoring, peer-review, and publishing process

ASSISTANT MEDICAL DIRECTOR at ADAM & EVE MEDICAL
Location: Scottsdale, AZ
Full-time Position from January 2017 – August 2017

- Ensure compliance with rules and regulations set forth by the Arizona Radiation Regulatory Agency (ARRA)
- Assisting with patient intake, evaluations, examinations, & scheduling
- Maintaining patient database and patient information via Electronic Medical Record software (Orchid)
- Ensure adherence to departmental policies and procedures
- Supervisor: Barbara Slusher, Clinic Manager

MARKETING ASSISTANT at ADAM & EVE MEDICAL
Location: Scottsdale, AZ
Full-time Position from November 2015 – January 2017

- Assist in developing marketing content for social media and print campaigns
- Administrator for social media accounts

ADJUNCT CLINICAL EDUCATOR at ROSS UNIVERSITY
Location: Multiple Clinical Sites
Part-time from September 2013 to October 2015

- Leading bi-weekly educational seminars for medical students as required in 3rd and 4th years of medical school
- Developing lectures for pathology and case-presentations on specific examples of disease treated in a clinical setting
- Lectures focused on disease etiology, workup diagnosis, standard of care, and different pharmacological approaches
- Areas of study: pathology, neurology, cardiology, microbiology, and psychiatry

SCIENCE & ENGLISH TEACHER at WYZANT
Location: Brooklyn, NY
March 2013 to October 2015

- Independently contracted teacher for AP High school and College-level students
- Science tutoring specializing in Biology, Ecology, Human Anatomy/Physiology, & Pharmacology
- English and Literature studies with focus on grammar, reading comprehension, creative and persuasive writing
- Experience teaching for SAT I/II, ACT, & NYC Regents Examinations

PRINCESS MARGARET HOSPITAL, EMERGENCY DEPARTMENT
Location: Roseau, Dominica
September 2012 to November 2012

- Volunteer medical practitioner in Emergency Room
- Perform physical health examinations on patients in triage
- Contribute written reports of exam findings in patient's medical records
- Perform minor medical procedures under direct supervision of emergency room physician & nursing staff, including but not limited to obtaining IV access, performing routine bloodwork, wound care and suturing for minor skin lacerations

METRO CARE BEHAVIORAL HEALTH SERVICES
Location: Scottsdale, Arizona
April 2006 to October 2007

- Respite subcontractor for mute, 18-year-old patient with Autistic Spectrum Disorder
- Development of daily lesson-plans in accordance with special education curriculum
- Behavior management and redirection
- Ensure the safety and well-being of the patient
- Maintain the usual routine of the patient
- Following medication support plans set forth by the patient's medical team

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PROFESSIONAL CERTIFICATIONS

DOCTOR OF MEDICINE

- Medical Degree Obtained from Ross University School of Medicine, July 2016
- ECFMG Certification issued October 16, 2016

TECHNICAL SKILLS

- Expert proficiency at Electronic Medical Record software including Cerner, Epic, and Allscripts
- Expert proficiency at Microsoft Office (Excel, Word, Powerpoint), Adobe Illustrator CC, InDesign CC, Photoshop CS6
- Expert proficiency at PPT Presentations for academic and technical subjects
- Accounting via Quick Books & Customer Relationship Management (CRM) via Sales Force & Constant Contact
- Working proficiency in research and peer-review publishing
- Over 5 years of experience teaching college level STEM subjects (Biology, Anatomy & Physiology, Psychology, Pharmacology)

LANGUAGES

- Portuguese (advanced verbal fluency, moderate reading and writing)
- French (moderate verbal fluency, moderate reading and writing)
- Spanish (moderate verbal fluency, minimal reading and writing)

PROFESSIONAL SOCIETIES

- American Counseling Association, since 2022
- American College of Physicians, since 2013
- American Psychiatric Association, since 2016
- Explorer's Club, NYC Chapter, since 2015

HONORS & AWARDS

- Arizona State University Dean's List between Spring 2005 to Fall 2008
- Graduated ASU with Magna Cum Laude Honors
- Phoenix New Times "Best of Phoenix 2020": www.phoenixnewtimes.com/best-of/2020/food-and-drink/best-green-fairy-11497071

LEADERSHIP (RESEARCH & CLUB ACTIVITY)

PARKINSON'S PROJECT

Location: Grand Canyon University

December 2022 to Present

Primary Investigators: Dr. O. Clarkson, MD & Dr. Maurice Jabbour, PhD

- This ongoing research project investigates the prophylactic potential of various compounds in mitigating the progression of Parkinson's disease.
- Using in vitro models with SH-SY5Y neuroblastoma cells, the study evaluates neuroprotective efficacy through biochemical and imaging-based assays.
- Techniques employed include cell culturing, MTT viability assays, Western blot analysis, and alpha-synuclein overexpression via plasmid transfection.
- Findings aim to inform future in vivo studies and contribute to the development of early-stage interventions for neurodegenerative diseases.

LOYALTY PROJECT

Location: Grand Canyon University

September 2022 to Present

Primary Investigators: Dr. O. Clarkson, MD & Dr. Magen Branham, PhD

- The Loyalty Project's ongoing investigations seek to better determine the biopsychosocial underpinnings to interpersonal and intrapersonal cohesiveness. Findings will help to understand how factors such as evolutionary biology, psychology/sociology, economics, philosophy, and theology impact loyalty and pro-social behaviors.
- Research methods include systematic review analysis, survey and data analysis, mixed method quantitative and qualitative analysis.

PROSOCIAL ANIMAL LAB (PAL)

Location: Grand Canyon University

Janaury 2025 to Present

Primary Investigators: Dr. Magen Branham, PhD, Dr. O. Clarkson, MD, & Dr. Maurice Jabbour, PhD

- Co-founded and co-direct the Prosocial Animal Lab, an interdisciplinary behavioral neuroscience research group examining the biological foundations of empathy, altruism, and helping behavior in rodents.
- In collaboration with Dr. Peggy Mason (University of Chicago), the lab employs the escape paradigm model to investigate cost-based prosocial decision-making, using a modified "heated bridge" apparatus to quantify motivational thresholds for helping under graded aversive conditions. The program integrates behavioral scoring, affective state assessment, and cross-disciplinary perspectives from psychology, biology, and ethics to advance understanding of prosocial motivation and affective empathy in mammals.

HENRY VANDYKE CARTER CLUB (ANATOMY ART CLUB)
Location: Grand Canyon University
September 2024 to Present
Faculty Advisor & Founder

- Club founded in homage to Dr. Henry Vandyke Carter, the original illustrator of the medical textbook Gray's Anatomy
- Organize bi-weekly anatomy art sessions in the cadaver lab at GCU for students interested in anatomy & artistic expression

SAILOR'S & MOUNTAINEER'S CLUB
Location: Portsmouth, Dominica
September 2011 to May 2012
President and Leader of Expeditions

- Organize bi-weekly hikes and sailing expeditions to various volcanic mountains on the island of Dominica
- Expeditions: summited Morne Diablotin, Morne Trois Pitons, Moune Aux Diables, Boli Falls, and lead 3 expeditions to the Boiling Lake and Valley of Desolation

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PEER-REVIEWED JOURNAL PUBLICATIONS

1. Ordovich-Clarkson, R., Lara, D., & Trapani, S. (2026). Hypovitaminosis D and Depression: A Systematic Review of Randomized Controlled Trials: Hypovitaminosis D And Depression, A Systematic Review. *Galician Medical Journal*, 33(2), e-GMJ2026-A12. https://doi.org/10.21802/e-GMJ2026-A12
2. Ordovich-Clarkson, R. D., Jabbour, M., Pelayo, D. A., Lara, D., Croix, L., Mumman, M., Stukas, S., Anderson, R., Meraz, D., Bangura, A., Anderson, B., Bamrud, L., & Blake, C. (2024). Comparing psilocybin to metformin as neuroprotective agents against Parkinson's dementia: A systematic review of evidence and efficacy. *Progress in NeuroPsychopharmacology and Biological Psychiatry*, 111155. https://doi.org/10.1016/j.pnpbp.2024.111155
3. Lahti, J., Akkihal, K., Ordovich-Clarkson, R., Kosako Yost, K., & Varkey, T. (2023). Virtual reality experiences in medical education: A systematic literature review. *Yemen Journal of Medicine*, 2(2), 68–74. https://doi.org/10.32677/yjm.v2i2.4070
4. Ordovich-Clarkson, R. D. (2008). The Economic & Biological Facets of Mammalian Predator Control. *The Science in Society Review*, 4(2), 19–21. http://dx.doi.org/10.13140/RG.2.2.25257.92004

CONFERENCE POSTERS

1. Aguillares, A., Barnes, N., Fuchsberger, L., Perez, E. L., Millett, A., Phillips, I., Splittorff, M., Ordovich-Clarkson, R. D., & Jabbour, M. (2026). *Norpsilocin Alters Apoptotic Signaling in Parkinson's Disease: Insights from Gene Expression Analysis Introduction and Background* [Poster Presentation]. Canyon Undergraduate Research Conference, Spring 2026, GCU. https://doi.org/10.13140/RG.2.2.11745.06246
2. Winslow, E., Swanson, O., Ingalls, H., Kindelberger, L., Lanning, C., O'Reilly, C., Migura, C., & Ordovich-Clarkson, R. D. (2026). *Loyalty Dynamics Theory: The Biological Domain.* Canyon Undergraduate Research Conference (CURC), Grand Canyon University, Spring 2026. https://doi.org/10.13140/RG.2.2.35914.73923
3. Phillips, I., Fuchsberger, L., Barnes, N., Goroski, M., Basilio, P., Jabbour, M., & Ordovich-Clarkson, R. D. (2025, October 17). *Prophylactic Neuroprotection by Norpsilocin and an In Vitro Model of Parkinson's Disease [Poster Presentation]*. Arizona Physiological Society, 18th Annual Meeting, University of Arizona, Phoenix. ResearchGate. https://doi.org/10.13140/RG.2.2.27804.76165
4. Phillips, I., Barnes, N., Millet, A., Jabbour, M., & Ordovich-Clarkson, R. D. (2025). *In Vitro Modeling of Parkinson's Disease: From Oxidative Injury to Alpha-Synuclein Overexpression in SH-SY5Y Cells [Poster Presentation]*. Arizona-Nevada Academy of Science 2025 Annual Meeting, Arizona State University West Valley Campus, Phoenix, AZ. http://dx.doi.org/10.13140/RG.2.2.11101.32485

5. Phillips, I., Barnes, N., Millet, A., Jabbour, M., & Ordovich-Clarkson, R. D. (2025). *Overexpression of Alpha Synuclein Gene in Neuroblastoma (SH-SY5Y) Cells to Model Parkinson's [Poster Presentation]*. Canyon Undergraduate Research Conference (CURC), Grand Canyon University, Spring 2025. http://dx.doi.org/10.13140/RG.2.2.33058.54729
6. Goroski, M., Basilio, P., Macias, J., Fuchsberger, L., Yilma, E., Jabbour, M., & Ordovich-Clarkson, R. D. (2025). *Protective Effects of Norpsilocin Against Apoptosis in Neuroblastoma Cells: A Western Blot Analysis [Poster Presentation]*. Canyon Undergraduate Research Conference (CURC), Grand Canyon University, Spring 2025. http://dx.doi.org/10.13140/RG.2.2.22992.21766
7. Hinton, W., McKim, H., & Ordovich-Clarkson, R. D. (2025). *Loyalty and Pro-Social Behavior from a Multidisciplinary Perspective: A Qualitative Systematic Literature Review [Poster Presentation]*. Canyon Undergraduate Research Conference (CURC), Grand Canyon University, Spring 2025. http://dx.doi.org/10.13140/RG.2.2.24250.50882
8. Bamrud, L., Lara, D., Anderson, R., Stukas, S., Bangura, A., Macias, J., Phan, M., Ordovich-Clarkson, R. D., & Jabbour, M. (2024). *Comparing Norpsilocin and Metformin for Neuroprotective Effects on Neuronal SH-SY5Y Cells [Poster Presentation]*. Grand Canyon University's Spring Symposium, Phoenix, AZ. https://doi.org/10.13140/RG.2.2.15276.27529
9. Ordovich-Clarkson, R. D., Jabbour, M., Pelayo, D. A., Lara, D., LaCroix, S., Mumman, M., Stukas, S., Anderson, R., Meraz, D., Anderson, B., Bamrud, L., & Blake, C. (2023). *Comparing Psilocybin to Metformin as Neuroprotective Agents Against Parkinson's Dementia: A Systematic Review of Evidence and Efficacy [Poster Presentation]*. The Arizona Physiological Society, 16th Annual Meeting October 27-28, 2023, Midwestern University, Glendale, Arizona. http://dx.doi.org/10.13140/RG.2.2.16822.92484

INVITED PRESENTATIONS

1. Ordovich-Clarkson, R. D., & Jabbour, M. (2026). *Can Serotonergic Compounds Prevent Parkinson's Disease? Exploring Norpsilocin in Cell Models [Conference presentation]*. 9th Annual Kevin McClean Colloquium, Phoenix, AZ, United States. https://doi.org/10.13140/RG.2.2.22047.01442
2. Ordovich-Clarkson, R. D. (2025, April 3). *A Brief History of Art, Science, & Medicine [Conference presentation]*. Exploring the Intersection of Science and Creativity, Grand Canyon University, Phoenix, AZ. http://dx.doi.org/10.13140/RG.2.2.11631.55202
3. Ordovich-Clarkson, R. D., Esprit, C., & Branham, M. (2025, March 3). *Loyalty Dynamics Theory (LDT): A Multidisciplinary Approach to Understanding Loyalty and Pro-Social Behaviors [Conference presentation]*. 8th Annual Kevin McClean Colloquium, Phoenix, AZ, United States. https://doi.org/10.13140/RG.2.2.24970.58560
4. Ordovich-Clarkson, R. D. (December 19, 2024). *AI Use in Pedagogy [Oral Presentation]*. CNS AI Colloquium, Grand Canyon University. http://dx.doi.org/10.13140/RG.2.2.17341.78564
5. Ordovich-Clarkson, R. D. (December 4, 2023). *Fungi in Behavioral Health and Neuroscience Part 2 [Oral Presentation].* Microbiology Speaker Series, American Society of Microbiology (ASM) Student Chapter at GCU. http://dx.doi.org/10.13140/RG.2.2.35796.72322
6. Ordovich-Clarkson, R. D. (February 27, 2023). *Fungi in Behavioral Health and Neuroscience Part 1 [Oral Presentation]*. Microbiology Speaker Series, American Society of Microbiology (ASM) Student Chapter at GCU.

SCIENTIFIC BLOG POSTS (Select Works)

1. Ordovich-Clarkson, R. D. (2026, January 14). *Understanding L'Appel du Vide: The Psychology Behind Deadly Urges*. Art, Psychology, & Medicine. https://www.droclarkson.com/post/understanding-l-appel-du-vide-the-psychology-behind-deadly-urges
2. Ordovich-Clarkson, R. D. (2026, January 13). *Ask Me About My Lobotomy! The Illusion of Cure*. Art, Psychology, & Medicine. https://www.droclarkson.com/post/ask-me-about-my-lobotomy-the-illusion-of-cure
3. Ordovich-Clarkson, R. D. (2025, December 14). *Understanding Borderline Personality Disorder: Clinical Insights and Everyday Applications*. Art, Psychology, & Medicine. https://www.droclarkson.com/post/understanding-borderline-personality-disorder-clinical-insights-and-everyday-applications

4. Ordovich-Clarkson, R. D. (2025, December 11). *Person-Centered Therapy: Applying Empathy, Genuineness, and Growth in Everyday Life*. Art, Psychology, & Medicine. https://www.droclarkson.com/post/person-centered-therapy-applying-empathy-genuineness-and-growth-in-everyday-life
5. Ordovich-Clarkson, R. D. (2025, April 21). *The Dark Yet Fascinating History of Art, Science, & Medicine.* Dr. O. Clarkson; Art, Psychology, & Medicine. https://www.droclarkson.com/post/the-dark-yet-fascinating-history-of-art-science-medicine
6. Ordovich-Clarkson, R. D. (2025, April 21). *Anatomy Meets Art: Showcasing the Creative Works of the Henry Vandyke Carter Club.* Dr. O. Clarkson; Art, Psychology, & Medicine . https://www.droclarkson.com/post/anatomy-meets-art-showcasing-the-creative-works-of-the-henry-vandyke-carter-club
7. Ordovich-Clarkson, R. D. (2025, April 14). *Sweet Dreams Are Made of Zzz's: Melatonin's Effects on the Brain.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/sweet-dreams-are-made-of-zzz-s-melatonin-s-effects-on-the-brain
8. Ordovich-Clarkson, R. D. (2025, March 11). *Exploring Loyalty Dynamics Theory at the 8th Annual Kevin McClean Colloquium.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/exploring-loyalty-dynamics-theory-at-the-8th-annual-kevin-mcclean-colloquium
9. Ordovich-Clarkson, R. D. (2024, November 10). *Exploring New Frontiers in Parkinson's Dementia Prevention: How Psilocybin and Metformin Could Change the Game.* Art, Psyschology, & Medicine Blog. https://www.droclarkson.com/post/exploring-new-frontiers-in-parkinson-s-dementia-treatment-how-psilocybin-and-metformin-could-change
10. Ordovich-Clarkson, R. D. (2022, December 17). *Substance Use Vs. Impulse Control Disorders: Key Clinical Considerations*. Art, Psyschology, & Medicine Blog. https://www.droclarkson.com/post/substance-use-vs-impulse-control-disorders-key-clinical-considerations
11. Ordovich-Clarkson, R. D. (2022, September 19). *Are Mental Health Diagnoses Too Stigmatizing?* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/are-mental-health-diagnoses-too-stigmatizing
12. Ordovich-Clarkson, R. D. (2022, August 21*). Treating Drug Abuse with Drugs.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/treating-drugs-with-drugs
13. Ordovich-Clarkson, R. D. (2022, August 13). *Freud's Psychoanalytic Theory in Practice.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/freud-s-psychoanalytic-theory-in-practice
14. Ordovich-Clarkson, R. D. (2022, May 15). *Jungian Psychoanalysis: A Brief Introduction.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/jungian-psychoanalysis-a-brief-introduction
15. Ordovich-Clarkson, R. D. (2022, May 7). *Rational Emotive Behavior Therapy in the Treatment of Adjustment Disorder and Social Isolation.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/rational-emotive-behavior-therapy-in-the-treatment-of-adjustment-disorder-and-social-isolation
16. Ordovich-Clarkson, R. D. (2022, May 6). *The Impact of Divorce on Adolescents.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/the-impact-of-divorce-on-adolescents
17. Ordovich-Clarkson, R. D. (2022, May 6). *Psilocybin: Psychedelics and Hallucinogens in Medical and Spiritual Practice.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/psilocybin-psychedelics-and-hallucinogens-in-medical-and-spiritual-practice
18. Ordovich-Clarkson, R. D. (2022, May 6). *Schizophrenia: Psychological Testing and Clinical Diagnosis.* Art, Psychology, & Medicine Blog. https://www.droclarkson.com/post/psychological-testing-and-clinical-diagnosis-in-schizophrenia

MENTORSHIP IN STUDENT PRESENTATIONS

1. Splittorff, M., Perez, E. L., Kamboj, S., Fuchsberger, L., Phillips, I., Barnes, N., Fitzpatrick, D., Millet, A., Aguillares, A., Ordovich-Clarkson, R. D., & Jabbour, M. (2026, April 18). *Effects of Norpsilocin on Apoptosis and Neurotransmitter-related Gene Expression in Cellular Model of Parkinson's Disease [Oral Presentation].* 67th Annual Arizona-Nevada Academy of Science (ANAS). https://doi.org/10.13140/RG.2.2.19523.36647

2. Phillips, I., Barnes, N., Kamboj, S., Fitzpatrick, D., Ordovich-Clarkson, R. D., & Jabbour, M. (2026, April 13). *Neurotransmitter-Related Gene Expression Following Norpsilocin Treatment in a Cellular Model of Parkinson's Disease* [oral presentation]. Canyon Undergraduate Research Symposium (CURC), Phoenix, AZ, United States. https://doi.org/10.13140/RG.2.2.26844.55688
3. Harmon, S., Nguyen, J., Kamboj, S., O'Reilly, C., Danico, D., Branham, M., & Ordovich-Clarkson, R. D. (2026, April 13). *The Heat of the Moment: The Cost of Altruism in Rats.* Canyon Undergraduate Research Symposium (CURC), Phoenix, AZ, United States. https://doi.org/10.13140/RG.2.2.25009.54885
4. O'Reilly, C., Kindelberger, L., Ingalls, H., Swanson, O., & Ordovich-Clarkson, R. D. (2026). *Loyalty or Victory? The Dynamics of Loyalty in a Group Performance Context*. Canyon Undergraduate Research Symposium (CURC), Phoenix, AZ, United States. https://doi.org/10.13140/RG.2.2.11587.77604
5. Swanson, O., Winslow, E., Ingalls, H., Kindelberger, L., Ordovich-Clarkson, R. D., & Branham, M. (2025). *Loyalty Dynamics Theory: Biological Domain* [oral presentation]. Canyon Undergraduate Research Symposium (CURC), Phoenix, AZ, United States. https://doi.org/10.13140/RG.2.2.31999.06568
6. Mckim, H. J., Hannay, M. L., O'Reilly, C., Alvarado, D., Davis, C., Kassim, O., Aigbokhan, E., Ordovich-Clarkson, R. D., & Branham, M. (2025, March 31). *It Takes Both Wings to Fly: Loyalty Behaviors Across Left-Wing and Right-Wing Politics [Conference Presentation].* Canyon Undergraduate Research Conference (CURC), Phoenix, AZ, United States. http://dx.doi.org/10.13140/RG.2.2.14302.14407
7. Hannay, M., Lara, D., Fuchsberger, L., Walker, J., Ordovich-Clarkson, R., & Jabbour, M. (2024). *The Neuroprotective Effects of Norpsilocin and Metformin: A Neuronal Cell Model [Conference presentation].* Canyon Undergraduate Research Symposium, Fall 2024, Grand Canyon University. http://dx.doi.org/10.13140/RG.2.2.30231.07848

PROFESSIONAL SERVICES: AD HOC JOURNAL REVIEWER

- Psychological Review
- United Scientific Group
- Canyon Journal of Undergraduate Research

COURSE & CURRICULUM DEVELOPMENT

NEUROBIOLOGY (BIO-343)

Location: Grand Canyon University, Phoenix, AZ

Course Developer and Course Lead from Fall 2023 - Present

- Co-Subject Matter Expert (SME) in the development of neurobiology curriculum during Fall of 2023
- Coordination and integration of content from Oxford's Neuroscience, 7th Edition by Perves et al.
- Lecture development and exam materials produced to meet learning objectives set forth by GCU's Pre-Dental Bachelors program

VERTEBRATE ZOOLOGY LAB (BIO-415L)

Location: Grand Canyon University, Phoenix, AZ

Course Developer and Course Lead From Fall 2021 - Present

- Development of vertebrate zoology course content for the Fall of 2021
- Coordination and integration of content based off The Dissection of Vertebrates - 3rd Edition 3 by Gerardo De Iuliis, PhD and Dino Pulerà, MScBMC, CMI

COURSE LEAD POSITIONS

- Vertebrate Zoology Lab (BIO-415L); 2021 to present.
- Medical Physiology Lab (BIO-360L); 2022 to present
- Neurobiology (BIO-343); 2023 to present

REFERENCES

Dr. David Jackson, MD

- Full-Time Faculty, College of Natural Sciences (CNS), Grand Canyon University
- Phone: (602) 803-6876 | Email: David.Jackson4@gcu.edu
- **Nature of relationship:** Colleague at GCU since 2021; frequent collaborator on curriculum development in Pathophysiology and Medical Physiology.

Dr. Maurice Jabbour, PhD

- Coordinator/Adjunct Faculty, Grand Canyon University
- Phone: (520) 437-8648 | Email: Maurice.Jabbour@gcu.edu
- **Nature of relationship:** Co-PI on the Parkinson's Project; collaborator in neuroprotective research and student mentorship since Fall 2023, with joint publications and conference presentations.

Dr. Thomas Varkey, MD

- Neurology Resident, Banner University Medical Center – Phoenix
- Phone: (623) 707-5338 | Email: Thomas.Varkey@bannerhealth.com
- **Nature of relationship:** Co-author on a published systematic review on virtual reality in medical education; mentor and collaborator in neurology-focused scholarly work.