

William T. Roddy

928.279.9947 | william.t.rodny@gmail.com | linkedin.com/in/williamtroddy

EDUCATION

University of Arizona

Bachelor of Science in Neuroscience and Cognitive Science (emphasis: Neurobiology)

Minors in Molecular and Cellular Biology, Ecology and Evolutionary Biology, and Science Education

COMPUTER and TECHNICAL SKILLS

Programming Languages: R, SQL, SAS, Python, Unix, VBA, Perl, MATLAB

Software: Microsoft Access, REDCap, Notepad++, PuTTY, WinSCP, Excel

EXPERIENCE

Henry M. Jackson Foundation for the Advancement of Military Medicine

December 2016 – Present

Under Contract: Uniformed Services University of the Health Sciences – Center for Rehabilitation Sciences Research

This position required obtaining and maintaining NACLC/ADP-II (Secret) Clearance

Data and Information Systems Manager

June 2018 – Present

- Coordinate and advise on all informatics requirements and needs for biomedical research and clinical trials
- Computer systems analyst leading the biomedical informatics development of computer system infrastructure for optimal computational analysis and data flow between computer processors, RAM, and LAN storage
- Primary lead for development of informatics infrastructure and study requirements for the interdisciplinary Service Academy Longitudinal mTBI Outcomes Study
- Lead identification, design, and implementation of appropriate electronic data capture systems and data collection forms for research protocols meeting privacy and cybersecurity requirements
- Produce data visualizations and analysis to communicate findings to policy makers and decision makers
- Leads in the development of standard operating procedures (SOPs) to provide guidelines for informatics and other staff on the design and processes inherent in the database schema and data dictionaries interoperability
- Maintain responsibilities from Data Manager

Data Manager

December 2016 – June 2018

- Develop Data Management Plans and Data Dictionaries
- Oversee full life cycle of data from planning through long term data storage
- Lead data management and data capture planning for Congressionally Funded (\$6,700,000) project: “Biopsychosocial Efficacy of the Service Dog Training Program on Post-Traumatic Stress Symptoms”
- Provide technical expertise for data flow, data collection, data processing, and database editing
- Manage data submissions to public repositories and informatics systems by using existing Common Data Elements and Form Structures or defining new Unique Data Elements and Form Structures
- Conduct data extraction, processing, cleaning, and analysis using a wide variety of programming languages
- Complete QA/QC processes and clean datasets
- Maintain extensive working knowledge of Military Health System data and extraction procedures
- Ensure regulatory compliance with data collection, analysis, storage, and transfer of data
- Write SQL syntax to troubleshoot problems concerning database records, optimize data quality and automate the process returning accurate query results
- Define and oversee execution of Data Share Agreements, System Security Verifications and documentation for regulatory and privacy policies
- Collaborate and assist in preparing manuscripts, progress reports, scientific communication
- Collaborate on grant writing and application preparation including leading development of methodology, experimental plan, data flow, and resource sharing plans
- Assisted in the grant development for the “Service Academy Longitudinal mTBI Outcomes Study (SALTOS)” that was successfully funded through the Defense Health Agency for \$13,000,000 and an additional gift of \$7,650,000 from the National Football League

Dr. Stephen Cowen Laboratory, Evelyn McKnight Brain Institute**August 2013 – May 2015****Research Assistant**

Funding was supported by two competitive programs (the Neuroscience and Cognitive Science Summer Research Program and the Undergraduate Biology Research Program at the University of Arizona)

- Conduct experiments using both chronic implant and acute study surgery techniques
- Assist with the implementation of new data collection systems including a combined dopamine-neural networks system and the Intan electrophysiology system
- Assemble hardware and write code for microcontrollers to support experiment control and synchronize metadata and data to ensure effective experimentation
- Collaborated with team members to complete data processing and analysis cluster cutting (using MClust), scripting, interpreting data, and data management

National Optical Astronomy Observatory**July 2012 – October 2016****Department of Education and Public Outreach****Special Projects Assistant III (Student Manager)****August 2014 – October 2016**

- Site project manager for NSF grant funded for \$1,500,000: “Collaborative Research: Project STEAM: Integrating Art with Science to Build Science Identities among Girls” (Colors of Nature)
- Manage and coordinate all logistics, products, materials, and detailed planning for 10-day summer academies
- Provided support for the materials management and liaison between Tucson, AZ. and Fairbanks, AK.
- Evaluate video footage of the research
- Organize Science Café series
- Write and edit lesson plans for the curriculum development and distribution
- Maintain responsibilities from Special Projects Assistant II

Special Projects Assistant II (Lead Student)**July 2013 – August 2014**

- Lead organizational efforts and management of department for 100+ outreach events
- Manage goals, deadlines, and projects in a timely and effective manner for 5-6 undergraduate students
- Provided STEM education opportunities to members of the Tohono O’odham (Native American) nation, high need communities, and other underrepresented groups
- Coordinated regularly with the Shipping and Receiving department to provide effective communication between departments ensuring proper shipment, receiving, and billing of all packages
- Coordinated directly with the Central Facilities Office to schedule repairs, maintenance requests, facilities concerns, and vehicle fleet management
- Served as departmental contact for interactions with the Cooper Center for Environmental Learning

Special Projects Assistant I**July 2012 – July 2013**

- Assisted in providing 100+ Education and Public Outreach Opportunities annually in Tucson, AZ. and nearby areas such as star parties, STEM nights, teacher workshops, and a variety of opportunities for STEM outreach
- Provided 20+ astronomy and dark skies evenings for the Cooper Center for Environmental Learning
- Coordinated After School programming at Indian Oasis Elementary School on the Tohono O’odham Nation
- Developed and refined additional science education activities and curriculum for teachers

Dr. Constance E. Walker, Photometric Calibration of Sky Quality Meters**January 2013 – May 2014****Research Assistant**

- Conducted extensive laboratory and field-testing of the “Sky Quality Meter” to characterize the photometric properties of the devices under a variety of variables and parameters to allow more precise error analysis
- Directed extensive testing revealed experimental design oversights that were corrected for by experiment control and design and through post-processing analysis of the data
- Developed an initial pipeline for data reduction and analysis
- Analyze test data to determine device deficiencies and error

PRESENTATIONS

"Service Academy Longitudinal TBI Outcome Study (SALTOS)"

Pasquina P., Jeffries J., **Roddy W.**, Mellinger M., McCrea M., Cameron K., Houston M., Peck K., Svoboda S., Jackson J., McGinty G., O'Donnell P., VanScoy R., Susmarksi A., French L., McAllister T. The Military Health System Research Symposium, Kissimmee FL, August 2018.

"Service Dog Training in the National Capital Region: A 5-Year Retrospective Review"

Roddy W., Taylor J., Nordstrom M., Olanrewaju C., Daugherty S., Hagen E., Isaacson B., Pasquina P., Pascale B. The Military Health System Research Symposium, Kissimmee FL, August 2018.

"Assessing the Feasibility of a Novel Non-Invasive Sensor for Guiding Wounded Warrior Rehabilitation"

Symsack S., Miller M., Bach K., Sharp W., **Roddy W.**, Isaacson B., Pasquina P. The Military Health System Research Symposium, Kissimmee FL, August 2018.

"Service Dog Training: An Experiential Learning Treatment Modality"

Nordstrom M., Hagen E., Brown A., Proctor A., **Roddy W.**, Pascale B., Olanrewaju C., De Almeida N., Isaacson, B. Pasquina P., American Occupational Therapy Association, Salt Lake City, April 2018.

"Service Dog Training at Walter Reed National Military Medical Center: a 5-Year Retrospective Review"

Nordstrom M., **Roddy W.**, Taylor J., Olanrewaju C., Daugherty S., Hagen E., Isaacson B., Pasquina P., Pascale B. 2018 National Capital Area TBI Research Symposium, Bethesda, MD, March 2018.

"Service Dog Training: An Experiential Learning Treatment Modality for Patients with Post Traumatic Stress"

Nordstrom M., Brown A., Proctor A., Hagen E., **Roddy W.**, Pascal B., Olanrewaju C., De Almeida N., Messinger S., Pasquina P., Isaacson B., Kissimmee FL, August 2017

"The Center for Rehabilitation Sciences Research: Increase Awareness of Military Medical Research."

Pasquina P, Isaacson B, Taso J, Miller M, Wolf E, Pruziner A, Hendershot B, Wilken J, Wyatt M, Cohen S, Messinger S, Esposito ER, Ortega G, Gover-Chamlou A, Murphy J, Sharp W, Yu K, Hawkins A, Bach K, Hagen EM, **Roddy W.** 5th Annual Aware For All, Bethesda, MD., May 2017

"Electrophysiological Recordings in the Anterior Cingulate Cortex and the Dorsal Striatum during Reward Discrimination"

Roddy W., Ye T., Cowen S., Undergraduate Biology Research Program, January 2014

"Anterior Cingulate Cortex Stimulation Modulates Dorsal Striatum Local Field Potentials"

Roddy W., Ye T., Cowen S., University of Arizona: Vision to Your Future, October 2014

"Anterior Cingulate Cortex Stimulation Modulates Dorsal Striatum Local Field Potentials"

Roddy W., Ye T., Cowen S., Neuroscience and Cognitive Science Summer Research Program, August 2014

"Tales from the Dark Side: Teacher Professional Development, Support, Activities, Student Research, and Presentations"

Walker CE., Dugan C., Newhouse M., **Roddy W.**, Pompea S., International Dark Skies Association, Annual General Meeting, December 2013

"Communicating Dark Skies and Energy Education with Middle School Teachers and Students"

Roddy W., Walker CE., Dugan C., Newhouse M., Pompea S., International Dark Skies Association, Annual General Meeting, December 2013

"Communicating Dark Skies and Energy Education with Middle School Teachers and Students"

Walker CE., **Roddy W.**, Dugan C., Newhouse M., Pompea S., Communicating Astronomy with the Public, October 2013

PUBLICATIONS

"Service Dog Training as an Adjunct Treatment for Service Members: A Retrospective Descriptive Analysis"

Nordstrom M., **Roddy W.**, Buccellato K., Taylor J., Olanrewaju C., Daugherty S., Hagen E., Isaacson B., Pasquina P., Pascale B. Manuscript in Preparation.

HONORS and AWARDS

National Optical Astronomy Observatory Project ASTRO Outstanding Partnership	Spring 2014
International Dark Skies Association Student Light Pollution Researcher Award	Fall 2013
Robert Noyce Teacher Scholarship Program	Spring 2013
Galileo Circle Scholar - Gilbert R. Escalante Memorial Scholarship	Spring 2013
Academic Year Academic Distinction	Fall 2012 – Spring 2013
Academic Honorable Mention	Spring 2012 & Fall 2012

NOTABLE COURSEWORK

University of Arizona:

MCB 416a: Statistical Bioinformatics & Genomic Analysis
ECOL 346: Bioinformatics
NROS 430: Neurogenetics
MCB 304: Molecular Genetics
MCB 492: Directed Research “Developmental Neuroscience and Biology”
ECOL 335: Evolutionary Biology
NROS 415b: Advanced Electrophysiology Laboratory
NSCS 315: Methods in Neuroscience and Cognitive Science

National Institutes of Health - Foundation for Advanced Education in the Sciences:

PBHL537: Health Policy Analysis Using SAS and STATA

CONFERENCES and PROFESSIONAL DEVELOPMENT

American Medical Informatics Association Annual Symposium	November 2018
Military Health System Research Symposium 2018	August 2018
Recent Advances for the Care of the Combat Amputee	May 2018
National Capital Area TBI Research Symposium 2018	March 2018
Structural Equation Modeling Workshop	January 2018
Research Data Management Implementation Workshop	September 2017
Military Health System Research Symposium 2017	August 2017
Virtual Reality Applications for Advancing Rehabilitation	April 2017
National Optical Astronomy Observatory Project ASTRO Workshop	Fall 2015
Society for Neuroscience Annual Meeting	Fall 2014
Arizona Science Teachers Association Annual Meeting	Fall 2014
Optical Society of America Science Educator's Day	Fall 2014
Undergraduate Biology Research Program Bioethics Retreat	Summer 2014
UA AAU Project Workshop Facilitating Active Learning in the Classroom	Spring 2014
National Optical Astronomy Observatory Project ASTRO Workshop	Fall 2013
International Dark Skies Association Annual General Meeting	Fall 2013

TEACHING EXPERIENCE

STCH 410 Teaching Practicum: Mansfeld Middle School (7th Grade Science)

Fall 2015

Completed teaching practicum of at least 50 observation and instruction hours in a middle school classroom. Required 10 days of complete planning and instruction within the classroom. Collaborated with partner teacher to conduct lessons, experiments, and assessments of student understanding. Required planning and developing materials for instruction in the science classroom.

Preceptor – NROS215: Introduction to Electrophysiology Laboratory

Spring 2014

Facilitated laboratory experience for undergraduates through leading discussions and weekly laboratory demonstrations. Assisted in instruction of electrophysiological techniques through demonstrations, guidance, and hands-on learning experiences for students. Maintained stock of *Sarcophaga bullata* for electrophysiology experiments. Graded reports and practical examinations. Hosted office hours as needed.

STCH 250 Classroom Field Placement: Tucson High School and Mansfeld Middle School

Spring 2013

Observed classroom interactions and student learning with guided direction from course material and mentor teacher. Planned and instructed hands-on laboratory experience regarding circuits for freshmen integrated science course and 7th grade science. Planned and instructed demonstration related to geological history and timeline to enhance student engagement through instruction. Generated assessments and evaluated student assessment and learning outcomes.

Volunteer – National Optical Astronomy Observatory: Project ASTRO Partner

Fall 2013 – Fall 2016

Partnerships: Kathy Roddy, Kingman Blended Learning Center and David Hansbrough, Mansfeld Middle School

Provide expert level astronomy resources to K-12 classroom teachers for hands on learning experiences. Assist in planning educational opportunities and activities for both informal and formal learning opportunities at the school. Plan school-wide STEM Night with hands-on activities and telescope observing. Plan school-wide Astronomy Day with a variety of optics activities, hands-on astronomy activities, and observing.

STCH 310 Classroom Field Placement: Amphitheater High School (Pre-AP Chemistry)

Fall 2013

Conducted student interviews to scaffold learning of stoichiometry and balancing chemical reactions. Planned assessment strategies to identify misconceptions regarding conservation of mass and conservation of energy. Lead instructional time posing an assessment and evaluating student outcomes.