[redacted]

AREAS OF INTEREST

The interaction of humans and the environment in urban and rural areas. Environmental conservation, protection, and management. The cycling of elements in the environment with emphasis on inorganic carbon; analytical chemistry, and mathematical modeling.

EDUCATION

Ph.D. in Marine and Atmospheric Chemistry, University of Miami 2010-2015
Rosenstiel School of Marine and Atmospheric Science (RSMAS)

B.A. in Geology, University of Pennsylvania 2002-2006
Academic Year Abroad, University of Western Australia 2005

PROFESSIONAL EXPERIENCE

Assistant Scientist, University of Miami, RSMAS Mar '18-May 2022
Research on inorganic carbon cycling in seawater to evaluate trends in the oceanic uptake. Lead measurements of pH and Total Alkalinity onboard repeat-hydrography research cruises lasting one to two months (NOAA/NSF). Coordinating international shipments, troubleshooting instruments, supervising and training lab (4 members). Research on CO_2 exchange across the air-sea interface in waters around the southeastern US and Caribbean. Managing underway pCO_2 system (GO/LICOR) installed onboard the University of Miami *R/V Walton Smith* and submitting data (SOCAT). Preparing grant proposals, work plans, budgets and acquisition processes. Supervisor: Dr. Frank Millero.

Visiting Postdoctoral Associate, Florida International University Nov '16-Feb 2018
Research in the Center for Aquatic Chemistry and the Environment. NELAC-certified chemical analysis and analytical development for nutrients (RFA), Total Carbon and Total Nitrogen. Curriculum development and co-teaching interdisciplinary aquatic science undergraduate course. Supervisors: Drs. Rita Teutonico and Piero Gardinali.

Graduate Research Assistant, University of Miami, RSMAS 2010-2015
Marine physical chemistry studies of aqueous solutions (density, sound-speed); inorganic carbon parameters of seawater (potentiometry, spectrophotometry); numerical modeling. Advisor: Dr. Frank J. Millero.

Senior-Level Staff Geologist 2007-2010
Conestoga-Rovers and Associates, Inc., Emeryville, CA
Worked as a field geologist at sites in the San Francisco Bay Area; prepared permits and oversaw contracts; prepared field work plans and site-safety plans; acted as site supervisor during drilling and sampling events; interpreted lithography (soil) and collected samples (soil, vapor, groundwater) for lab analysis. Reviewed results for EPA, state concentration limits.

SEA EXPERIENCE

National Science Foundation sponsored repeat-hydrography research cruises - US CLIVAR (Climate Variability and Predictability) and GO-SHIP (Global Ocean Ship-based Hydrographic Investigations Program). Lead four people in two labs to assess changes in the distribution of CO_2 parameters in the oceanic water column via total alkalinity and pH analyses. Typically 100 stations per cruise, 30 samples per station; data QC and reporting; training and troubleshooting; equipment preparation and shipment.

GO-SHIP A22 on *R/V Thomas G. Thompson*. Atlantic Ocean, 26 days, Apr-May 2021.
GO-SHIP A20 on *R/V Thomas G. Thompson*. Atlantic Ocean, 31 days, Mar-Apr 2021.
GO-SHIP A13.5 on *R/V Ronald H. Brown*. Atlantic Ocean, 27 days, Mar-Apr 2020.
GO-SHIP I07N on *R/V Ronald H. Brown*. Indian Ocean, 44 days, Mar-May 2018.
GO-SHIP I09N on *R/V Roger Revelle*. **Co-Chief Scientist.** Indian, 38 days, Mar-Apr 2016.
CLIVAR A16S on *R/V Ronald H. Brown*. Atlantic Ocean, 45 days, Dec-Feb 2014.
CLIVAR A16N on *R/V Ronald H. Brown*. Atlantic Ocean, 33 days, Sept-Oct 2013.
CLIVAR A22 on *R/V Atlantis*. Atlantic Ocean, 24 days, Mar-Apr 2012.
CLIVAR A10 on *R/V Ronald H. Brown*. Atlantic Ocean, 36 days, Sept-Oct 2011.

Univ. of Miami Undergraduate Student Cruise on *R/V F.G. Walton Smith.* Biscayne Bay, FL. Organized cruise for ~40 students; supervised 6 onboard chemical oceanography laboratory stations; coordinated ship operations. One day, 2011-2014

TEACHING EXPERIENCE

Co-instructor, *CAChE Discovery 1: Research in Aquatic Ecosystems* 2017-2018
Florida International University
Guide students in discovery-based course focused on aquatic chemistry (water quality and hydrology). Develop and teach lessons on scientific writing and presentations, data management and interpretation techniques (Excel). Mentor student research groups.

Instructor, *Chemical Oceanography Undergraduate Lab* Spring 2012-2013
University of Miami, RSMAS
Led students in weekly labs introducing general chemical oceanography measurements; graded lab reports, lecture exams, and quizzes; maintained equipment inventory.

Intern Mentor, Marine Physical Chemistry Lab Summer 2014
University of Miami, RSMAS
Supervised three undergraduate interns. Instructions on *Ocean Data View* software and computer modeling techniques, culminating in a peer-reviewed co-authored publication.

Tutor and Lesson Coordinator, Philadelphia, PA 2002-2004
America Reads/America Counts and Urban Nutrition Initiative
Tutored at-risk students (grades K-8) in math and reading; assisted in class lectures; developed and taught lessons on nutrition.

PUBLICATIONS

[redacted]., Huang, F., Millero, F.J. (2016): Corrigendum to "The Partial Molal Volume and Compressibility of Tris and Tris-HCl in Water and 0.725m NaCl as a Function of Temperature," [*Deep-Sea Research, Part I* 104, 41–51].*Deep-Sea Research, Part I* 114, 160–161.

[redacted] Huang, F., Millero, F.J. (2015): The Partial Molal Volume and Compressibility of Tris and Tris-HCl in Water and 0.725m NaCl as a Function of Temperature. *Deep Sea Research, Part I* 104, 41-51.

[redacted] Prugger, K., and Millero, F.J. (2013): Apparent Molal Volumes of Aqueous Rare Earth Salts Fit to the Pitzer Equation. *J. Chem. Eng.Data* 58, 1833-1838.

[redacted] and Millero, F.J. (2013): Modeling the Density and Isentropic Compressibility of Seawater. *J. Solution Chemistry* 42, 303–316.

[redacted] and Millero, F.J. (2013): Estimating the Density and Compressibility of Seawater to High Temperatures Using the Pitzer Equations. *Aquatic Geochemistry* 19, 115–133.

Millero, F.J., Sharp, J., Woosley, R.J., [redacted] Paine, J., Levy, J., Williamson, J., Burns, J. and Mastropole, K. Global Ocean Repeat Hydrography Study: pH and Total Alkalinity Measurements in the Atlantic Ocean A16 North and South Aug 2013 – Feb 2014. (Non-Peer Reviewed).

MEETINGS & PRESENTATIONS

Poster: [redacted] Millero, F.J., Anthropogenic CO_2 accumulation in the Indian Ocean (1995 to 2018). Results from the GO-SHIP I07N repeat-hydrography transect. Ocean Sciences Meeting, San Diego, California. February 2020.

Poster: [redacted] Millero, F.J., Rising Anthropogenic CO_2 in the western Indian Ocean. Gordon Research Conference, Chemical Oceanography, Holderness, New Hampshire. July 2019.

Poster: [redacted]. et al., Estimating the Effect of Pressure on the TRIS Buffer System. Gordon Research Conference, Chemical Oceanography, Holderness, New Hampshire. July 2015.

Poster: [redacted] et al., Estimating the Effect of Pressure on the TRIS Buffer System for In-Situ pH Measurements. Third International Conferenceon the Effects of Climate Change on the World's Oceans, Santos Brazil. March 2015.

Poster: [redacted] et al., Estimating the Effect of Pressure on the Equilibrium of the TRIS Buffer System. American Geophysical Union (AGU) Fall Meeting, San Francisco, California. December 2014.

Panelist: Building Communities to Build Careers – Lessons from the Earth Science Women's Network. Weston Roundtable public seminar, University of Wisconsin, Nelson Institute, Madison, WI. November 2014.

Panelist: Getting out in the Field: How to Create a Positive Field Experience with a Diverse Team. Hosted by Earth Science Women's Network, University of Wisconsin Dept. of Geography and Women in Geography, Madison, WI. November 2014.

SERVICE & OUTREACH

Mentor, Empower Me First (EMF) 2020 -2022
University of Miami Empower Me First program matches first-generation undergraduates with first-generation faculty and staff mentors for an academic year.

Leadership Board Member, Earth Science Women's Network 2012-2016
Served as an elected, voluntary board member for peer-mentoring non-profit. Organized volunteers, workshops, and events; developed resources and publications; fundraised. http://eswnonline.org.

Presenter, *Introduction to Oceanography* seminar, Richmond, CA Dec 2014
Presented introductory seminar to 6th grade students, emphasizing chemical oceanography and research at sea.
Student guide, Exploring Marine Science Day, Miami, FL Oct 2014
Served as a graduate student guide for 6th-7th grade girls throughout the day.

Lab guide, Ocean Kids 2014: H2O Flow, Miami, FL Apr 2014
Led laboratory experiment on ocean density to expose elementary students to oceanography.

AWARDS

Mary Roche Fellowship 2014
In recognition of outstanding research at sea and academic excellence ($12,000 and a plaque).

Graduate Research Fellowship 2010-2015
Rosenstiel School of Marine and Atmospheric Science, University of Miami.

PROFESSIONAL AFFILIATIONS & NETWORKS

American Chemical Society (ACS)
American Geophysical Union (AGU)
Association for the Sciences of Limnology and Oceanography (ASLO)
Earth Science Women's Network (ESWN)

[redacted]

Citizenship: United States of America

EDUCATION:

Master of Science in Soil and Land Resources – Graduation Date: May 2017
University of Idaho, Moscow, ID

Bachelor of Science in Earth Sciences; Soil Science Minor – Graduation Date: June 2014
California Polytechnic State University, San Luis Obispo, CA

EXPERIENCE:

SOIL SCIENTIST – SOIL SURVEY PROJECT LEADER (GS-0470-11)
USDA NATURAL RESOURCES CONSERVATION SERVICE; OLYMPIA, WA SOIL SURVEY OFFICE
SEPTEMBER 2016 – PRESENT (40 HOURS/WEEK)
SUPERVISOR: ERIK DAHLKE (OLYMPIA, WA SOIL SURVEY OFFICE LEADER); 360.704.7755; ERIK.DAHLKE@USDA.GOV

POSITION DUTIES

- Obtain and process spatial data such as Light Detection and Ranging (LiDAR) imagery, orthoimagery, contour maps, slope maps and other data layers for use in field mapping and landscape analysis.
- Progressively develop the Initial Soil Survey of Olympic National Park and Major Land Resource Area (MLRA) Soil Survey Update of the South Chehalis River Floodplain in Lewis County, WA.
- Describe, sample, classify, and correlate soils in the field.
- Provide technical guidance for soil-related resource concerns in the application of Farm Bill programs.
- Provide on-site technical assistance to NRCS personnel, partner organizations, and the public on the interpretation and application of soil survey information.
- Develop, organize, and deliver training to NRCS personnel, educational institutions, partner organizations, and the public on topics covering general soil science and use of soil survey data.
- Conduct on-site soil investigations including wetland determinations, confirmation of soil survey mapping, and assessing soil and site suitability for management practices.

ACCOMPLISHMENTS: TECHNICAL SOIL SERVICES PROVIDED TO NRCS FIELD AND AREA STAFF

- Provided over 500 hours of technical soil services in between FY18 and FY22 to NRCS staff, conservation districts, state and federal agencies, and multiple educational institutions.
- Regularly discuss soil mapping and soil properties with NRCS staff and advise soil/site suitability for land uses including high tunnel placement, waste storage, and species selection for forestry and riparian planning.

ACCOMPLISHMENTS: SPECIAL PROJECTS AND ON-SITE SOIL INVESTIGATIONS

- Assisted the State Soil Scientist and State Wetland Specialist with over 30 Food Security Act (FSA) wetland determinations by providing on-site hydric soil and wetland hydrology technical expertise.
- Described, sampled, and classified soils for a NEON (National Ecological Observatory Network) study site in Alaska, and two NEON sites in Washington State.
- Conducted on-site investigations to determine soil and site suitability for pond and drainageway construction for USFWS waterfowl nesting habitat project.

[redacted]

- Assisted King County, WA wetland ecologist with the design and implementation of a wetland delineation project involving the use of Indicator of Reduction in Soils (IRIS) tubes to identify problematic hydric soils.
- Confirmed and/or clarified soil mapping for numerous properties associated with NRCS Farm Bill programs. Discussed the relationships between soil mapping, observed soil properties, and proposed management decisions with both NRCS staff and landowners.
- Conducted on-site soil investigations to determine soil and site suitability for a Center for Natural Land Management prairie restoration project.
- Inventoried soil at 6 locations used for a Washington State University (WSU) research study investigating the relationships between grazing intensity, soil health, and endangered Mazama Pocket Gopher habitat.

ACCOMPLISHMENTS: TRAINING PROVIDED AND OUTREACH ACTIVITIES

- Established strong professional relationships with employees of Washington State University (WSU) Extension, Grays Harbor College, Evergreen State College, WA Department of Ecology, US Army Corps of Engineers, and local conservation districts.
- Created and provide regular and recurring presentations and trainings for the organizations listed above on topics including general soils, use of web soil survey, forest soils, soil health, and hydric soils.
- Deliver quarterly “Soil Health”, “Introductory Soils”, and “Utilizing Web Soil Survey” guest lectures to students in the Evergreen State College Sustainable Agriculture program.
- Developed “Soil Health” and “Managing for Soil Health” educational materials and provided presentations as part of WSU Extension “Cultivating Success” and “Living on the Land” series.
- Developed and successfully submitted for NRCS Scientific Review numerous presentations and reference materials pertaining to forest soil properties, forest soil management, and soil-vegetation relationships.
- Represented NRCS Soil Survey at the 2019 WSU Extension “Forest Stewardship Field Day” and 2020 “Winter School” events. Instructor for “Determining Soil Types and their Impact on Management” at the events.

ACCOMPLISHMENTS: SOIL SURVEY PROJECT EXPERIENCE – INITIAL SOIL SURVEY OF OLYMPIC NATIONAL PARK

- Selected as Olympic National Park soil survey project leader in March 2020.
- Oversaw project progress, delegated workload, and coordinated project developments with interdisciplinary team of soil scientists, ecologists, and other USDA and NPS staff.
- Utilized LiDAR, LiDAR derivatives, climate data, NPS landform mapping, and knowledge of soil-landscape relationships to develop a predictive soil model.
- Coordinated logistics for and led field crew on over 25 sampling trips in Olympic National Park.
- Developed, maintain, and progressively update project legends and spatial data.
- Presented project progress and highlights to NRCS national leadership, as part of SPSD Field Notes Webinar Series, and at the Olympic Science Days virtual conference.

ACCOMPLISHMENTS: SOIL SURVEY PROJECT EXPERIENCE – MLRA UPDATE OF SOUTH CHEHALIS RIVER FLOODPLAIN

- Coordinated with local landowners and secured permission to access 1000’s of acres of land for soil survey update purposes.
- Described, sampled, classified, and correlated soils in the field at over 400 sample locations.
- Regularly conducted quality control reviews of point observation data and map unit delineations, ensuring consistent and accurate application of the soil-landscape model and map unit concepts.
- Completed project on schedule, modernizing the soil survey for 50,000 acres of agricultural land.

RELEVANT TRAINING

- Basic Soil Survey: Field and Lab
- Wetland ID for FSA Purposes
- Image interpretation and Remote Sensing
- Nitrogen Management and Concerns
- Phosphorous Management and Concerns
- Statistics for Soil Survey
- Riparian Planning
- Soil Survey Data Editing and Management
- Soil Health and Sustainibility
- Spatial Analysis and Remote Sensing

[redacted]

RESEARCH AND TEACHING ASSISTANT
UNIVERSITY OF IDAHO; MOSCOW, ID
JUNE 2014 – SEPTEMBER 2016 (40 HOURS/WEEK)
SUPERVISOR: PAUL MCDANIEL (ADVISING PROFESSOR AND DEPARTMENT HEAD, RETIRED); 208.596.2660

RESEARCH AND PROJECT DEVELOPMENT

- Reviewed literature and developed a research project addressing the implications of a recently developed soil-landscape model in the Idaho Panhandle National Forest.
- Developed sampling strategy and coordinated travel and field work related logistics for accessing 49 sites in Idaho's Northern Rocky Mountains.
- Described soils and conducted field sampling of soil, vegetation, and organic matter, and performed FIA style forest vegetation analysis at 49 sites in Idaho's Northern Rocky Mountains.
- Performed laboratory work pertaining to spodic and andic soil properties and applied various methods of statistical analysis to investigate patterns and relationships among the resulting data.
- Ultimately determined, with statistical significance, positive correlations between soil morphological and chemical properties, geographic site conditions, and forest habitat types.
- Research findings accepted for publication in the Soil Science Society of America Journal.

TEACHING

- Independently developed curriculum for and taught multiple sections of "Soil Ecosystem" Laboratory.
- Coordinated with university officials and local landowners to open soil pits and tour properties for educational purposes.
- Organized field trips to observe and assess the effectiveness of various erosion control methods implemented on the Palouse.
- Developed laboratory exercises emphasizing the relationships between soil chemical, morphological, and physical properties and various land use and management practices.
- Assisted with the teaching and logistical aspects of SOILS 454: Pedology, and SOILS 456: North Idaho Field Trip.

EXTRACURRICULAR INVOLVEMENT:

- Cal Poly Soil Judging Team member
- Cal Poly Earth, Soil, and Water Conservation Club member
- Phi Sigma Kappa Fraternity: Treasurer (2013); House Manager (2012)
- City of McCleary; elected city council member (2021)

RELEVANT COURSEWORK AND SKILLS:

- Applications in GIS (ArcGIS)
- Public Speaking
- Applications in Remote Sensing
- Soil Morphology
- Forest Soils
- Soil Physical Chemistry
- Fertilizers and Plant Nutrition
- Wetlands
- Meteorology and Climatology
- Geomorphology
- Soil Erosion and Water Conservation
- Plant Ecology
- Physical Geography
- Soil Physics
- General Botany
- Pesticides in the Environment
- Soil Microbial Ecology
- Watershed Science and Management
- Soil Erosion Control
- Statistical Analysis
- Forest Ecosystem Analysis
- Microsoft Office Suites

[redacted]

Citizen: YES **Federal experience:** NO **Military Service:** NO
OBJECTIVE: To serve the public through federal agency with agricultural and environmental expertise.

SKILLS SUMMARY:

Highly a focused and motivated biological researcher and a regulatory environmental professional with 8+ years of extensive experience in coal mine reclamation, acid mine drainage and plant response to organic and inorganic pollutants. Additionally, permit writing and reviewing environmental remediation work and environmental assessment reports. Lead technical matter specialist for the groundwater team in WVDEP. I'm an innovative independent worker, an energetic team player, a relationship builder, and a highly effective communicator. As an environmental researcher, I worked in air (carbon dioxide), land (coal mine reclamation), and water (mine water and groundwater remediation) and published 5 research articles. As a team worker, I co-mentored students (15), research assistants (7), environmental resource specialists (4), and geologists (1) to perform research and environmental compliance. Served as co-principal investigator in Federal and State research grants. Accomplished quality control audits during environmental sampling and research experiments to assure compliance. My knowledge, skills and abilities in this field puts me as a competent applicant over others.

EMPLOYMENT HISTORY:

West Virginia Department of Environmental Protection
Environmental Resource Analyst
Hours: 40 hrs/week (full-time); Period: February 2018 - present
Duties and Accomplishments:

- **Permit writer:** Review, write and issue underground injection control (UIC) permits, national pollutant discharge elimination system (NPDES) with no exposure registration. Approve >200 groundwater protection plans (GPPs), stormwater pollution prevention plan (SWPPP) and spill prevention, control, and countermeasure (SPCC) for UIC, NPDES, air national guard and CWA Section 401 Certification), and for small industries at State level.
- **Reviewer:** Review and recommend remediation plans for soil and groundwater contamination for multiple industries and steam generating coal power plants. Review and recommend changes in the WV State regulations to WV State legislature, and making EPA State's Primacy application for UIC wells. Review groundwater monitoring statistical reports from WV State's landfill facilities, and electronic digital monitoring reports (eDMR). Serve as point of contact (POC) for WV State with Interstate Technology & Regulatory Council (ITRC) for reviewing documents related to PFAS, 1,4-Dioxane, microplastics, remediation, etc. Have knowledge on West Virginia Code 22-11 (Water Pollution Control Act) and 22-12 (Groundwater Protection Act).
- **Team leader:** Serve as technical lead and coordinate the team to create an on-line portal for groundwater subprograms of WVDEP towards the Go-Green project which will reduce paper copies and increase the work efficiency of the agency by 200%.
- **Speaker:** Present groundwater protection and types of UIC wells to WV county health departments, and to university students.

- **Researcher:** Co-Investigator for research on phytoremediation of BTEX with WVSU to study how plants accumulate and degrade, and manage and allocate the research fund. Quality control audits in environmental sampling for data analysis and compliance.
- **Field trips and sampling:** Visit different industries to check compliance with state and federal regulations, maximum contaminant levels with groundwater standards, and advise the responsible parties. Sample groundwater from different industries/spills for organic and inorganic pollutants, send to analysis, and review. Also, reviewing pesticide analytical results of groundwater from WV Department of Agriculture.

West Virginia State University
Associate Faculty Member/Postdoctoral Research Associate
Hours: 40 hrs/week (full-time); Duration: May 2013 - February 2018
Duties and Accomplishments:

- **Researcher:** Did planning, executing and publishing the coal mine reclamation research work using plant systems and molecular biology tools with USDA funds. Employed genome wide association (GWAS) study of Arabidopsis to study the response of coal mine water (acid mine drainage - AMD) quality from Appalachian Mountains, arsenic tolerance. Performed research on gene and transcriptome analysis during elevated CO_2 and drought stress in sweet potato, and effect of winter and spring seasons on empress tree. Performed quality control audits in laboratory and field research experiments to keep high quality research output.
- **Writer and Reviewer:** Wrote USDA-NIFA and served as Co-Principal Investigator and author of scientific manuscripts (5) for environmental projects.
- **Presenter:** Presented the research work in international conferences, reviewed international theses (20) and research articles (>20).
- **Management:** Mentored students and research assistants for the scientific experiments, coordinated national and international research teams. Organized workshop on "plant breeding, phenomics and functional genomics" in the department of biology at West Virginia State University.
- **Teacher:** Taught bio-techniques and genomics courses to undergraduate and graduate students as co-instructor for Genetics (Biol 270), Biotechniques (BT 571), Crop genomics and Evolution, and Eukaryotic Molecular Genetics (Biol 373).

Academia Sinica, Taiwan
Postdoctoral Research Fellow
Hours: 40 hrs/week (full-time); Period: March 2011 - April 2013
Duties and Accomplishments:

- Studied the gene functions by employing chemical, biological, radiological (p32) and molecular tools in rice.
- Managed a small research group of students and research assistants towards research accomplishments.
- Wrote research grants to the national science council of Taiwan and research articles, and to present research data at national and international level.
- Participated in national and international meetings/symposiums to present research work and got travel grants and best presentation awards.
- Manage and distribution of funding for research work.

COMPUTER and STATISTICAL KNOWLEDGE:

Diploma in Computer Applications (from IFG-ACE) – basics of computer applications (May 2000)
Expertise in applications of MS Office programs (Word, Excel, and PowerPoint)
Used multiple statistical programs for groundwater analyses, and biological experiments

TRAININGS:

- Certification on Academic Writing (from LTTC-LI) – January 2010
- Professional development hours (PDH) / continuing education units (CEU): Earned 46 professional development hours (PDH) or 4.6 continuing education units (CEU) by attending different environmental aspects such as groundwater/soil contamination, protection and remediation, wastewater treatment, stormwater calculations, UIC regulations, etc.
- Collaborative Institutional Training Initiative (CITI) for Biosafety/Biosecurity (expired in 2017), Data or Specimens Only Research (in 2016), Responsible Conduct of Research (expired in 2017).
- Underground Injection Control (UIC) 40-hour training by EPA to study Class I through Class VI wells, Tampa, Florida, July 2019.
- HAZWOPER - Hazardous Waste Operations and Emergency Response 40-hour training by OSHA, Mineral Wells, WV February 2021.
- Monitoring Well Drillers Certification, DHHR, West Virginia, May 2020.
- Groundwater Summit / Groundwater Week 2020 by National Groundwater Association (NGWA), virtual conference December 8-11, 2020.
- PFAS Transport, Fate, and Remediation: Understanding and Managing Per- and Polyfluoroalkyl Substances, Virtual, July 14-15, 2020.

EDUCATION:

2011 PhD (Biotechnology), Academia Sinica, Taipei, Taiwan, R.O.C. (Grade: 91.0%)
2000 MSc (Agriculture; Plant Breeding and Genetics), TNAU, India (GPA: 9.34/10.00)
1996 BSc (Agriculture), Tamil Nadu Agricultural University, India (GPA: 8.20/10.00)

ENVIRONMENTAL RELATED COURSES:

Environmental related courses: - Agricultural meteorology - Bio-energy - Irrigation management - Fundamentals of soil science - Soil survey and land use planning - Soil conservation and irrigation engineering - Soil fertility and fertilizer use - Soil management and crop production - Agricultural chemicals and soil pollutants - Environmental sciences

SPECIAL COURSES and CERTIFICATIONS:

Overview of FEMA Environmental and Historic Preservation – from FEMA – January 19, 2022.
GIS Basics – web course offered by ESRI – January 7, 2022.
National Environmental Policy Act (NEPA) 101 Online Course – Rutgers University – January 22, 2022.

PUBLICATIONS:

Published 23 research articles, 1 proceeding, 3 book chapters, and >20 presentations: **Citations 556**
Key publications related to the environmental issues are as follows

Pacheco-Valenciana, A., Lopez-Ortiz, C., Natarajan, P., [redacted] Nimmakayala, P., Reddy, U.K., 2022. Stress responses and comparative transcriptome analysis of *Arabidopsis thaliana* ecotypes exposed to BTEX compounds. *Environmental and Experimental Botany*, Volume 201. https://doi.org/10.1016/j.envexpbot.2022.104953.

Perry, Z. D., [redacted] et al. (2021). Transcriptome Analysis of Cambium Tissue of *Paulownia* Collected during Winter and Spring. *Diversity*, 13(9), 423. https://doi.org/10.3390/d13090423.

Bandana Ghimire, [redacted], et al. 2021. Genome-Wide Association Study of Natural Variation in Arabidopsis Exposed to Acid Mine Drainage Toxicity and Validation of Associated Genes with Reverse Genetics. *Plants*, 10(2), 191. https://doi.org/10.3390/plants10020191.

Peña-Garcia, Y., Shinde, S., Natarajan, P., Lopez-Ortiz, C., Balagurusamy, N., Chavez, A.C.D., [redacted], [redacted]**.,** et al. **2020**. *Arsenic Stress-Related F-Box* (*ASRF*) Gene Regulates Arsenic Stress Tolerance in *Arabidopsis thaliana*. *Journal of Hazardous Materials,* p.124831, https://doi.org/10.1016/j.jhazmat.2020.124831.

[redacted] et al. **2019**. Elevated carbon dioxide and drought modulate physiology and storage-root development in sweet potato by regulating microRNAs. *Functional & integrative genomics*, 19(1), pp.171-190.

[redacted] et al. (**2015**) Transcriptome analysis of invasive plants in response to mineral toxicity of reclaimed coal-mine soil in the Appalachian region. *Environmental Science & Technology* **49**, 10320-10329.

HONORS AND AWARDS:

- 2015 ASPB travel grant award: Minneapolis, USA in July 2015
- 2011 Best poster presentation: ISPB conference 2011, India
- 2011 Winner of Crop Yield Idea Jam: IdeaConnection Limited
- 2010 Best Poster Award: IPMB, Academia Sinica, Taiwan.
- 2010 Popular Poster Award: IPMB, Academia Sinica, Taiwan.
- 2010 Best Performance Award: Oral presentation, Academia Sinica, Taiwan.
- 2008 Young scientist travel grant award: Academia Sinica, Taiwan.
- 2004 Max Planck travel grant award: To attend LINK2PALM at Manila, Philippines.

VOLUNTEER WORK & COMMUNITY INVOLVEMENT:

- WVDEP Adopt a Highway Cleanup: Trash cleanup from highway – April 2019
- WVSU Cares Day: Helped Girl Scouts of Black Diamond Council, Charleston, WV – 2017
- Community Service: 3 years as Secretary of India Center Board_multi-religious community center, Charleston, WV – January 2016 to December 2018.
- WVSU Cares Day: Mine Site Reforestation & Restoration Project, Charleston, WV – 2015

PROFESSIONAL ASSOCIATIONS:

- American Academy of Environmental Engineers and Scientists (AAEES) –January 2018.
- National Ground Water Association (NGWA) – since November 2020.
- American Association for the Advancement of Science (AAAS) – March 2021.
- American Society of Plant Biologists (ASPB) – September 2014 – January 2018.
- The Biotech Research Society of India (BRSI) – Since 2011 (life membership).

EDITORIAL SERVICES TO PROFESSIONAL SOCIETIES:

Serving as reviewer for the following 12 journals; Scientific Reports (Nature), BMC Genetics (BioMed Central), BMC Plant Biology (BioMed Central), Frontiers in Plant Science (Frontiers), Horticulture Research (Nature), Genomics (Elsevier), Bio-protocol online, Botanical Studies (Springer Open), Rice Journal (Springer Open), Ecological Engineering, International Journal of Molecular Sciences, and Land (MDPI).

REFERENCES:

Ms. Connie J. Anderson, Manager, DWWM, WVDEP, Charleston, WV 25304. Phone: +1 304 926 0499, email: Connie.J.Anderson@wv.gov
Dr. Jauh, Guang-Yuh – Research Fellow, IPMB, Academia Sinica, Taipei 11529 Taiwan, R.O.C. Phone: +886-2-2787-1156, email: jauh@gate.sinica.edu.tw
Dr. Prakash Kumar – Professor, Department of Biological Science, National University of Singapore, Singapore 117543. Phone: +65 6516 2859, email: dbskumar@nus.edu.sg
Dr. Umesh K. Reddy – Professor, Department of Biology, West Virginia State University, Institute, WV 25112, USA. Phone: +1 304 766 3066, email: ureddy@wvstateu.edu

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Stream ecologist with over 19 years of experience specializing in stream analysis and project management for government agencies and private companies. I serve as a programmatic and technical expert to efficiently plan and prepare reports of findings for complex biological and ecological studies at local and state-wide levels that summarize the results of investigations. These investigations are conducted in order to adhere to environmental technical standards, guidelines, policies and formal regulations coordinating with partner staff within and external to the Idaho Department of Environmental Quality. I perform technical reviews of reports and quality assurance documents to assess project impacts for involved subbasins within the bounds of shifting climatic conditions. Within the Idaho Department of Environmental Quality's Technical Services Division I prepare cooperative agreements between IDEQ's regional offices and the Technical Services Division; this is in addition to my experience in a previous position to serve as a Contract Officer Representative which entailed signing contracts, tracking expenditures, and allocating funds to pay contract invoices. My greatest strength is project management, which allows me to effectively plan and produce accessible, high-quality reports and plans. I look forward to leveraging my project management and technical skills for the Environmental Protection Agency.

EXPERIENCE

Senior Water Quality Scientist - *Idaho Department of Environmental Quality*

February 2016 to Present

Supervisor: G. Michael Brown, (208) 373-0232 - Salary: $74,000; 40 hours/week

- Maintain an expert level of understanding of state TMDLs, advanced scientific theories and principles for analyzing surface water quality data, subbasin hydrology, and applications of Idaho water quality standards developed under the Clean Water Act.
- Research, analyze, develop, and review technical scientific investigations involving complex total maximum daily load (TMDL) listing and recovery actions using sophisticated problem solving, data analysis, and creative modeling techniques to ensure that agency policy and compliance requirements are met.
- Collaborate with and provide specialized technical skills to partnering IDEQ Regional Office staff through the use of cooperative service agreements during the development and completion of TMDL-related work while fostering interpersonal relationships to influence positive project outcomes.

- Communicate technical findings and policy issues related to the Clean Water Act to both technical and non-technical members of the public through oral and written communication.
- Review and interpret project descriptions and applications to verify or calculate the amount of predicted pollutant load reduction as part of the data entry process to evaluate and assess the impacts to water quality limited waters through the state's 319 grant program.
- Analyze and establish water quality-based effluent limits on point source discharges referencing or incorporating information from National Pollution Discharge Elimination System permits issued for activities that may have impacts to endangered, threatened, proposed, and candidate species and their habitats.
- Evaluate biological and environmental data to determine the effects of water quality projects on fish and wildlife species and their habitats through water quality certifications administered through the Section 401 certification permit application process.

Project Aquatic Ecologist - *Tetra Tech*
October 2003 to February 2016
Supervisor: Walt Vering, (208) 389-1030 - Salary: $65,000, 40 hours/week

- Evaluated complex biological and ecological data to assess potential impacts of proposed Federal actions on threatened and endangered fish and wildlife species and designated critical habitats protected under the Endangered Species Act (ESA).
- Prepared biological assessments in accordance with federal regulations and guidance prepared by the US Fish and Wildlife Service and National Marine Fisheries Service to fulfill ESA Section 7 consultation requirements.
- Gathered data, analyzed effects, and wrote documents to support the National Environmental Policy Act (NEPA) process by reviewing and preparing biological portions of environment impact statements to evaluate the environmental consequences of proposed actions on Federal fish and wildlife resources of concern involving consideration of various environmental regulations such as the Clean Water Act, Clean Air Act, and the Endangered Species Act.
- Defined project scope, developed project budget, identified project timelines, allocated resources and personnel from multiple disciplines, maintained net positive budgets, scheduled field reconnaissance, prepared reports, and communicated regularly with clients.
- Communicated study plans, proposed alternatives, and project findings to clients, upper levels of management, government agencies, non-government organizations, and interested publics.

EDUCATION

Oregon State University, Corvallis, OR — *Graduate Certificate; Fisheries Management*
March 2014 - March 2016

Boise State University, Boise, ID — *Bachelor of Science; Biology/Secondary Education*
August 1997 - December 2002

SKILLS

Project Management - proven track record of managing complex, data driven projects

Project Scheduling - excellent history of completing projects on time and under budget

Collaboration - exceptional skill in team dynamics and cooperative work environments

SOFTWARE and APPLICATIONS

Microsoft Office Suite	■■■■■
ArcGIS	■■■■□
Database Management	■■■□□
RStats	■■□□□

[redacted]

Summary
Sixteen years of experience with the Safe Drinking Water Act (40 CFR Part 141) in conjunction with Kansas drinking water regulations and data quality control and assurance for the Safe Drinking Water Information System (SDWIS).

Areas of Expertise
Determining compliance with, reviewing laboratory results reports for, training others on, writing guidance documents for, writing State monitoring and waiver plans for, developing and writing business practice standard operating procedures for, and making presentations on the following drinking water rules: Lead and Copper Rule, Surface Water Treatment Rule, Phase II/V Rules, Radionuclides Rule, Disinfection By-Products Rule, Total Coliform Rule, Groundwater Rule; and Public Notice Rule. SDWIS System Administrator which includes preparing and submitting quarterly Federal Reporting (FedRep) and performing quality control and quality assurance tasks.

Skills
Highly proficient in the use of Access, Excel, Word, Power Point, Adobe, and drinking water software programs from Kansas contract consultants such as Global Environmental Consulting, Inc. (GEC). Access skills include writing queries for data requests for data held in SDWIS. Daily communications via telephone, email, letters, and meetings with various stakeholders including Kansas citizens, counterparts from other states, contract consultants, and other State agency personnel that work with various water issues. Workgroup member for the development and Kansas implementation of the Compliance Monitoring Data Portal.

Employment History
2006 - Present
Kansas Department of Health and Environment, Bureau of Water, Public Water Supply Section
1000 SW Jackson, 4th Floor
Topeka, KS 66612
Position: Environmental Specialist, 40 hours/week, please see Areas of Expertise above

2002 - 2006
Kansas Health and Environmental Laboratories
6810 SE Dwight St
Topeka, KS 66620
Position: Laboratory Technician II, 40 hours/week, preparing drinking water samples for analysis in accordance with EPA approved methods.

Education
1992-1995
University of Kansas in Lawrence, KS: Bachelor of Arts, Environmental Studies

1988-1990
Eckerd College in St. Petersburg, FL

1986-1987
Johnson County Community College in Overland Park, KS: Associate of Arts

Summer of 1985
Washburn University in Topeka, KS

Education

New Jersey Institute of Technology
Newark, NJ
Master of Science in Chemical Engineering

Drexel University
Philadelphia, PA
Bachelor of Science in Chemical Engineering

Professional Experience

Philadelphia Water Department
Philadelphia, PA
Engineering Supervisor 1 March 2022 - Present

- PFAS - Conducted literature reviews on the fate and transport of PFAS, and various treatment options in drinking water, wastewater, and biosolids. Prepared summaries and led presentations for the Department on the topic. Actively involved in the Department's planning efforts for mitigating PFAS issues.
- Digester Mixing – Identified and evaluated various digester mixing technologies in the market. Coordinated site visits and peer utility discussions, and provided the required information that aids in decision-making to stakeholders.
- Air Permitting – Estimated the emissions from PWD's WPCPs using the Toxchem model and provided the information to Philadelphia Air Management Services. Reviewed and negotiated the requirements for the NEWPCP Title V permit.

Philadelphia Water Department
Philadelphia, PA
Engineering Specialist
February 2020 – March 2022

- Planned for the potential regulations from regulatory agencies for PFAS in drinking water, wastewater and biosolids by researching the treatment alternatives, reviewing the ongoing research, and engaging with internal stakeholders.
- Identified and evaluated the potential digester mixing technologies. As part of this project, coordinated with peer utilities to share their experience.
- Reviewed the potential revisions on the pre-draft biosolids general permits issued by PA DEP, and presented the information to the internal stakeholders.
- Estimated the VOC emissions from PWD's Title V and Synthetic Minor Operating Permit regulated facilities and submitted reports on time.
- Calculated the VOC, NO_x, SO_x, ammonia, CO, and miscellaneous emissions from boilers, internal combustion units, and flares at PWD's regulated facilities and submitted reports to the PA DEP.
- Ensured PWD's compliance with Title V and Synthetic Minor Operating Permits by monitoring and tracking air emissions, recordkeeping, and reporting submissions in a timely manner.
- Completed and submitted compliance certification forms to Philadelphia Air Management Services annually for PWD's regulated facilities.
- Reviewed draft Title V Permit for PWD's Northeast Water Pollution Control Plant and provided comments to Philadelphia Air Management Services.
- Coordinated and attended compliance monitoring strategy inspection to ensure compliance with the permit requirements.
- Reviewed and commented on the documents submitted by PWD consultants.
- Calculated potential emissions from the proposed preliminary treatment facility at PWD's Northeast Water Pollution Control Plant using Toxchem and AERSCREEN models.
- Researched alternative coagulants for PWD's drinking water treatment plants and developed a research plan for bench-scale testing for selected coagulants.
- Assisted the lead engineer at the Belmont pilot plant in evaluating the high rate of filtration and chlorine dioxide preoxidation.
- Performed research inventory to identify and document the projects done in collaboration with

academic institutions and professional organizations.
- Set up and attended webinars and worked with professional organizations to gain access to webinars for interested employees working from home.

Philadelphia Water Department
Philadelphia, PA *Environmental Engineer II*
December 2017 – February 2020
- Estimated the VOC emissions from PWD's Title V and Synthetic Minor Operating Permit regulated facilities and submitted reports on time.
- Calculated the VOC, NO_x, SO_x, ammonia, CO, and miscellaneous emissions from boilers, internal combustion units, and flares at PWD's regulated facilities and submitted reports to the PA DEP.
- Ensured PWD's compliance with Title V and Synthetic Minor Operating Permits by monitoring and tracking air emissions, recordkeeping, and reporting submissions in a timely manner.
- Completed and submitted compliance certification forms to Philadelphia Air Management Services annually for PWD's regulated facilities.
- Completed the Title V permit renewal application for the Northeast Water Pollution Control Plant and submitted it in advance of the regulated deadline.
- Reviewed the Synthetic Minor Operating Permit requirements for the Southwest Water Pollution Control Plant and validated that the compliance requirements were met.
- Calculated the potential emissions during a construction event at Southwest Water Pollution Control Plant and submitted the results to Philadelphia Air Management Services.
- Prepared a Request for Proposal for assistance with Toxchem and air emission calculations and participated in the selection process.
- Researched and identified potential causes of filamentous bulking at Northeast Water Pollution Control Plant, analyzed the plant data using R statistical programming, and wrote a memo summarizing the findings.
- Researched and compared various digester mixing technologies used in the wastewater treatment industry and wrote a memo summarizing the findings.
- Researched drinking water disinfection technologies such as ultraviolet disinfection and advanced oxidation processes and wrote summaries for potential pilot plant studies.
- Assisted the project engineers with sampling event preparation for the primary tank evaluation study at Northeast Water Pollution Control Plant.
- Organized and provided opportunities for professional development such as technical sessions for PWD employees.
- Attended webinars and prepared summaries for PWD employees.
- Monitored and analyzed centrate flow and its characteristics data received from the Biosolids Recycling Center and the Southwest Water Pollution Control Plant.
- Interviewed candidates for multiple co-op positions in the Research Program. Trained and mentored co-ops upon hire in the Research Program.

Philadelphia Water Department
Philadelphia, PA
Environmental Engineer I October
2016 – December 2017
- Evaluated the performance of the ZetaSizer Nano benchtop model at Queen Lane Water Treatment Plant by data collection and analysis.
- Coordinated with operations staff in conducting dry weather sampling events, reviewing sampling reports, and compiling comments as part of the grit removal performance study at the Southwest Water Pollution Control Plant.
- Participated in filter media sampling and data collection for the air scour demonstration study at the Queen Lane Water Treatment Plant.
- Monitored and analyzed centrate flow and its characteristics data received from the Biosolids Recycling Center and the Southwest Water Pollution Control Plant.
- Sampled plant influent and digested sludge from three wastewater treatment plants for the plasmids and rare earth elements study conducted by Bucknell University.
- Assisted the knowledge management program in scheduling webinars and webcasts hosted by professional membership organizations.
- Interviewed candidates for multiple co-op positions in the Research Program.

Philadelphia Water Department
Philadelphia, PA
Graduate Environmental Engineer October
2015 – October 2016

- Assisted in the background research, project kickoff, and condition assessment of grit tanks for the grit removal performance study at the Southwest Water Pollution Control Plant.
- Evaluated the performance of the ZetaSizer WT device used to optimize the plant coagulant dose by data collection and analysis at Baxter and Queen Lane Water Treatment Plants.
- Participated in the filter media sampling and data entry for the air scour demonstration study at the Queen Lane Water Treatment Plant.
- Monitored and analyzed centrate flow and its characteristics data received from the Biosolids Recycling Center and the Southwest Water Pollution Control Plant.
- Sampled plant influent and digested sludge samples from all three wastewater treatment plants on alternate months for the plasmids and rare earth elements study conducted by Bucknell University.

Philadelphia Water Department
Philadelphia, PA
Co-op Laboratory Assistant (Bureau of Laboratory Services)
September 2010 – March 2011

- Prepared and submitted routine reports on alkalinity, conductivity, chlorine levels, and turbidity of drinking water.
- Tested leak, pipeline, and customer complaint samples to ensure the quality of water when it reaches customers.
- Prepared standard solutions for chlorine, alkalinity, and fluorine analysis.
- Standardized and calibrated instruments such as turbidimeters and pipettes.
- Managed the lab under limited supervision.

Graduate Research Experience

Graduate Research Assistant, NJIT January 2014 – December 2014

Effect of dry coating on moisture absorption and physical stability of acetaminophen

- Prepared amorphous drug particles in different sizes and coated them with polymers and wax using ball milling.
- Evaluated the dry-coated active pharmaceutical ingredients for moisture absorption and amorphous content by X-ray crystallography.
- Conducted background research in the field of dry coating on amorphous drugs.

Controlled release of acetaminophen coated with polymer using the dry coating method

- Designed an experimental setup to study the effectiveness of dry coating technology in the controlled release of pharmaceutical ingredients.
- Prepared amorphous active pharmaceutical ingredients and tested for the optimum processing time.
- Analyzed the dissolution rate of pharmaceutical ingredients dry coated with polymer using dissolution and UV apparatus.

Physical stability of amorphous particles in polymer films

- Studied the methods to improve the physical stability of amorphous drugs.
- Prepared amorphous Griseofulvin of different sizes and thin polymer films of desired thickness.
- Polymer films with the amorphous drug are tested for their amorphous content using X-ray crystallography.

[redacted]
MIDX: 000034770
[redacted]
United States Citizen: Y
Veterans' Preference: NV
Military Service Dates (Start of Service - End of Service):
Location(s) Applied to: Portland, OR(US)
Series Applied To: 0401, 1301

Resume
[redacted]
Country of Citizenship: United States
Highest Grade: 12

Desired locations: United StatesPortland

Work Experience: Customs and Border Protection
02/2013 - Present
8337 NE Alderwood Road
Salary: $0.00 USD Bi-weekly
Portland, OR 97220 US
Hours per week: 40
Series: 0401
Pay Plan: GS
Grade: 11
Supervisor: Christopher Johnson (503-326-2721)
Okay to contact this Supervisor: Yes

Agriculture Specialist
• As an Environmental Specialist I am responsible for the implementation of environmental policies in accordance with the laws and regulations of United States Department of Agriculture (USDA). • Performs professional work in support of environmental requirements for Animal Plant Health Inspection Services (APHIS) and USDA. • Certified Field Training Officer • Certified National Frontline Recruiting Officer • Union Steward for National Treasury Employee Union Chapter 156 • Peer Support Member • Inspects the traveling public to prevent the intentional and unintentional entry of prohibited/restricted agriculture items. • Checks conveyances, commodities, and packaging materials for invasive species, contaminants, or diseases that could harm our agriculture and natural resources. • Provides advice and assistance to staff concerning environmental concerns and compliance. • Expert in responding to and resolving technical and operational questions. • Develops implementation plans and reviews quality for environmental special operation projects. • Provides guidance and training in detecting and preventing deliberate acts of ag/bio-terrorism by the introduction of biologicals, toxins, and select agents. • Plans, conducts and supervises actions such as treating, disinfecting and decontaminating prohibited commodities, contaminants or agricultural materials and ensures all are under compliance.

• Developed, implemented and maintained standard operating procedures for safeguarding agriculture quarantine. • Supervises and trains coworkers how to use non-intrusive instruments to detect prohibited agriculture items. • Facilitated training on new technology (288 app) at multiple ports of entry; aiding in the efficiency of trade and development. • Improves the perception and image of CBP with the traveling public and/or others who must conduct business with CBP. • Experience in a multitude of ports of entry: Participated in Mother’s Day peak season TDY in Miami. AWARDS • Portland International Airport “Rising Star” award: outstanding customer service. • Maritime award: team intercepted the most Asian Gypsy Moth in nation. • Recruiting award: excellent performance in recruiting 3 years in a row. • Training award: outstanding achievement delivering All Threats Operational Awareness Training at the port of Anchorage, AK. • Foreign Language Awards Program: proficient in Spanish.

Sierra Club (Green Home)
08/2011 - 10/2013
2101 Webster St Suite 1300
Salary: $0.00 USD Piece Work
Oakland, CA 94612 US
Hours per week: 2

Writer
• Gathered technical and legal information to discuss alternatives for environmental planning and natural resource management, analyzed options and developed conclusions and recommendations for action. • Communicated scientific research results in articles, prepared reports and scientific assessments to technical and non-technical audiences. • Wrote, reviewed, and edited scientific publications, biological assessments and other technical documents in regards to habitat conservation. • Preformed scientific literature research, analyzed aspects of environmental conservation management issues and the impact of proposed natural resource management plans while also recommending plans or regulatory amendments that would resolve the issue.

Transportation Security Administration
01/2012 - 02/2013
Portland International Airport
Salary: $0.00 USD Bi-weekly
Portland, OR 97220 US
Hours per week: 40
Pay Plan: ZY
Supervisor: Jerry Schulze (503-209-6582)
Okay to contact this Supervisor: Yes

Master Training Instructor
• Performed training instruction within established guidelines and standards in support of nationally developed training programs. • Supported recurrent training needs and conducting return to duty and remediation training. • Adapted and developed local training materials to meet requirements. • Conducted testing, monitored and evaluated training and provided feedback on needed adjustments, recommended enhancements and maintained communication with management and supervisors concerning issues with training that may reveal vulnerabilities. • Provided mentoring and coaching to address identified training needs.

Transportation Security Administration
09/2011 - 01/2012
Portand International Airport
Salary: $0.00 USD Bi-weekly
Portland, OR 97220 US
Hours per week: 40
Pay Plan: ZY

Supervisor: Jerry Schulze (503-209-6582)
Okay to contact this Supervisor: Yes

Transportation Security Officer / Assistant Training Instuctor
• Conducted screening of passengers, baggage or cargo to ensure compliance with Transportation Security Administration (TSA) regulations. • Retained and implemented knowledge of all applicable Standard Operation Procedures, demonstrated responsible and dependable behavior and adapted to new information and unexpected obstacles.

Education: University of Colorado
Boulder, CO US
- 05/2009

Job Related Training: *Field Trainer Qualification Pre/Post Academy - 65/701 Graduated - 02/01/2017 *Instructor Development Course - 1603 Graduated - 03/24/2016 *CBP Recruiting Training Course - NRC 1803 Laredo Graduated - 12/15/2017 *TCA CHS Non-Intrusive Inspection Field Trainer Course - TCA CHS NII Field Trainer Course 2017 (G0725011-13) San Francisco, CA Graduated - 02/07/2020

Languages: Spanish

Spoken: Intermediate
Written: Intermediate
Read: Intermediate

References: Christopher Johnson
CBP
Supervisor
Phone Number: 503-326-2721
Email Address: Christopher.L.Johnson@CBP.DHS.GOV
Reference Type: Professional

[redacted]
MIDX: 001300299
[redacted]
United States Citizen: Y
Veterans' Preference: NV
Military Service Dates (Start of Service - End of Service):
Location(s) Applied to: Anchorage, AK(US); Boise, ID(US); Lacey, WA(US); Portland, OR(US); Seattle, WA(US)
Series Applied To: 0401

Resume
[redacted]
Country of Citizenship: United States
Veterans' Preference: No, I do not claim Veterans' Preference
Highest Grade: 13

Availability: Job Type: Permanent
Detail
Work Schedule: Full-time

Work Experience: U.S. Environmental Protection Agency
03/2012 - Present
1200 Pennsylvania Ave, NW
Washington, DC 20460 US
Hours per week: 40
Series: 0028
Pay Plan: GS
Grade: 13
Supervisor: Susan Holdsworth (202-566-1187)
Okay to contact this Supervisor: Yes

Environmental Protection Specialist
PROJECT AND TECHNICAL LEAD, NATIONAL WETLAND CONDITION ASSESSMENT Plan, implement and manage scientific study assessing the condition of wetland resources in the United States and reporting status and change results on five-year cycles: • Coordinate with technical and scientific advisors to determine appropriate study designs, sampling frames, and analyses for developing and implementing field protocols that assess biological, physical and chemical properties of wetland resources at regional and national scales. • Facilitate collaboration with broad and diverse array of partners in state, tribal, and federal agencies, non-profit organizations, and universities to implement survey and advance wetland monitoring and assessment capabilities across multiple jurisdictions and geographic scales. • Provide technical assistance and tools to enhance state and tribal monitoring capacity. Develop work plans, schedules, staffing, cost estimates, and funding proposals to implement survey: • Oversee project budget; review, analyze and monitor

expenditures of funds. • Develop scopes of work and serve as Technical or Contracting Officer Representative for contracts, cooperative and interagency agreements. • Coordinate and foster teamwork among staff assigned to survey to promote a positive, productive, and healthy work environment. • Advertise research fellowship opportunities, interview and select research fellows under Oak Ridge Institute for Science and Education program. Oversee survey logistics, data collection, data management and reporting activities: • Prepare, refine and document field and laboratory protocols and Quality Assurance Project Plans; train and audit state and tribal agency and contract field crews and laboratories on survey protocols. • Track field observations and laboratory samples collected at over 1,000 sites nationally; utilize GIS and data management tools to conduct consistency, valid range and other data quality checks of the physical, chemical and biological data collected. • Ensure data, reports, and publications are of high quality and are properly managed, secured, preserved and accessible to project partners, Congress, other agencies and organizations, scientists, and the general public. Communicate survey findings to agency leaders, project partners, non-profit organizations, research community, and public to inform national wetland management and decision making: • Summarize scientific findings, conclusions, and recommendations clearly and succinctly in written assessment reports, fact sheets, and online formats. • Prepare briefings, conference presentations, webinars, and other oral presentations to disseminate survey objectives, accomplishments, and scientific findings.

U.S. Environmental Protection Agency
10/2008 - 02/2012
1200 Pennsylvania Ave, NW
Washington, DC 20460 US
Hours per week: 40
Series: 0028
Pay Plan: GS
Grade: 13
Supervisor: Lynda Hall (202-566-1210)
Okay to contact this Supervisor: Yes

Environmental Protection Specialist
Developed and administered guidance, technical support tools, and policies in support of first-ever national assessment on the ecological condition of wetland resources: • Authored guidelines to assess potential wetlands and determine suitability for inclusion in national survey. • Created geographic information system (GIS) analytical tools and maps and provided support, guidance, and training to regions, states, and tribes in their use to evaluate candidate wetland sites. • Developed protocols to select national wetland reference sites used to characterize high quality wetland condition. • Trained and advised states, contractors, and field crews on proper survey protocols at national and regional training workshops and during the sampling season. • Coordinated and tracked field sampling activities and special add-on studies with study partners. Monitored, assessed, and utilized data related to wetlands and water-quality management activities: • Staffed Emergency Operations Center as a Water Desk data liaison in Agency response to the 2010 Deepwater Horizon oil spill in the Gulf of Mexico; assessed the results and quality of surface water and sediment collected in near-shore waters in response to the spill and prepared daily summaries and tables for EPA senior managers and the public. • Assessed capacity and utility of leveraging other agency monitoring activities to short and long-term Gulf monitoring plans and natural resource damage assessments. Initiated, administered, and successfully closed out grants, cooperative agreements, and contracts to improve management of wetlands: • Administered grant with national organization to provide information and guidelines to build state and tribal wetland regulatory programs under sections 401 and 404 of the Clean Water Act. • Administered grant with non-governmental organization to develop an innovative rapid methodology assess tidal wetlands and create a network of reference tidal wetland sites. Developed and maintained relationships with EPA regional offices, federal, state, tribal, and local partners, environmental groups, and other stakeholders: • Coordinated Agency participation on Migratory Bird Conservation

Commission; briefed senior leadership on activities and staffed commission meetings. • Managed Water Resource Center (WRC) and National Service Center for Environmental Publications (NSCEP) activities related to wetlands outreach.

U.S. Environmental Protection Agency
10/2006 - 09/2008
1200 Pennsylvania Ave, NW
Washington, DC 20460 US
Hours per week: 40
Series: 0028
Pay Plan: GS
Grade: 11

Environmental Protection Specialist
EPA ENVIRONMENTAL INTERN PROGRAM PARTICIPANT Selected for competitive early career development program. Successfully completed professional training and rotational assignments in home office and three other EPA and National Park Service organizational units. EPA HQ Wetland Strategies and State Programs (Oct 2006-Aug 2007) Developed and implemented strategy for program’s participation in May is American Wetlands Month outreach campaign: • Drafted various communications, including article on the benefits of wetlands. • Planned division’s participation in Anacostia Environmental Fair and Rock Creek BioBlitz events. • Publicized outreach activities by EPA Regional Offices on agency web site and EPA’s participation in National Wetland Awards Ceremony. • Completed comprehensive evaluation of program’s participation in campaign and briefed managers on outcomes and lessons learned. National Park Service Resource Stewardship Division, Rocky Mountain National Park (Sept 2007-Dec 2007) Supported Resource Stewardship Division staff in mission to conduct or oversee studies on physical, biological and cultural resources and provide scientific guidance to park management on all matters related to natural and cultural resource stewardship: • Collected environmental and archival data to support natural resource damage assessment (NRDA) claims related to hydrological processes, ecological services and wilderness character impacted by 2003 Grand Ditch breach. • Conducted routine air and water quality sampling at fixed monitoring stations in the National Atmospheric Deposition Program (NADP), Clean Air Status and Trends Network (CASTNet), and Water, Energy, and Biogeochemical Budgets (WEBB) program. • Provided planning and research support for workshop on climate change science. EPA HQ Wetland Aquatic Resource and Regulatory Program (Jan 2008–June 2008) Provided cross-program coordination and support to ensure compliance with the Clean Water Act (CWA) Section 404 permit program. • Coordinated review of wetland jurisdictional determinations with EPA HQ, Regional and Army Corps staff in EPA Region 10 (Pacific Northwest). • Conducted Geographic Information System (GIS) and map imagery analysis to review wetland jurisdictional determinations in multiple EPA Regions. • Coordinated project reviews with EPA regional offices to identify and resolve environmental and regulatory issues identified under National Environmental Policy Act (NEPA) and CWA Section 404 permitting process. EPA Region 8 Pollution Prevention and Toxics Unit (July 2008-Sept 2008) Researched federal green procurement programs, policies, and guidelines to assist the Greater Yellowstone Coordinating Committee (National Park Service, U.S. Forest Service, and U.S. Fish and Wildlife Service) in selecting environmentally preferable products for the Greater Yellowstone Ecosystem: • Drafted manual of product selection criteria that incorporated ecosystem factors into environmentally preferable product selection. • Briefed staff and managers on project results.

Oak Ridge Institute for Science and Education Research Fellowship
07/2002 - 07/2006
1200 Pennsylvania Ave, NW
Washington, DC 20460 US
Hours per week: 40
Supervisor: John Wilson (703-401-1872)
Okay to contact this Supervisor: Yes

ORISE Research Fellow
• Evaluated program performance and helped draft agency's submission for Office of Management and Budget assessment of EPA's coastal and ocean programs. • Analyzed ecologic, economic, and health impacts of mercury contamination in marine environments; synthesized information into reports, charts, graphs, and presentations for senior managers and coastal environmental specialists. • Tested and revised fish tissue concentration database in Microsoft Access; analyzed mercury concentration data and generated maps, charts, and tables to depict mercury statistics. • Developed methodology to estimate nitrogen deposition reductions in nationally significant estuaries resulting from changes in environmental regulations.

Environmental Careers Organization
07/2001 - 06/2002
1200 Pennsylvania Ave, NW
Washington DC, DC 20460 US
Hours per week: 40
Supervisor: Jamal Kadri (202-566-1248)
Okay to contact this Supervisor: Yes

Research Associate
• Researched and assessed national smart growth policies, tools, and resources; synthesized information into a published EPA fact sheet on smart growth and water-quality. • Analyzed and depicted national economic data on the National Estuary Program using ArcGIS software. • Developed Microsoft Access database to track and report habitat restoration activities in the National Estuary Program.

Education: Yale University School of Forestry and Environmental Studies
New Haven, CT US
- 05/2001
56
Major: Environmental Management
GPA: 3.6
Relevant Coursework, Licensures and Certifications:
Coursework includes Patterns in Terrestrial Ecosystems, Chemistry of Organic Pollutants, Biogeochemistry & Pollution, Geographic Information Systems, Observing the Earth from Space, Environmental Hydrology, Hydrologic Modeling, Introduction to Statistics, Statistics for Environmental Sciences, Environmental Aspects of Technical Society. Masters project evaluated public-private brownfield development programs.

Tufts University
Medford, MA US
- 05/1998
7
Major: Premedical
GPA: 3.5
Relevant Coursework, Licensures and Certifications:
Completed certificate program with course and laboratory work in organic chemistry, chemistry, and biology.

Dartmouth College
Hanover, NH US
- 06/1993
35
Major: History
GPA: 3.5
Honors: Cum Laude

Relevant Coursework, Licensures and Certifications:
Physical Geography, Oceanography I, Calculus, Calculus and Linear Algebra, Physics I, Physics II

Job Related Training: Endangered Species Act of 1973 - Overview (BLM-TC-1730-36/FWS-CSP3114): Aug 2020

Languages: French

Spoken: Novice
Written: Novice
Read: Novice

Professional Publications: Herlihy, A.T., Kentula, M.E., Magee, T.K. Lomnicky, G.A., Nahlik, A.M. and Serenbetz, G. Striving for consistency in the National Wetland Condition Assessment: developing a reference condition approach for assessing wetlands at a continental scale. Environ Monit Assess 191, 327 (2019). https://doi.org/10.1007/s10661-019-7325-3 Hill, B.H., C.M. Elonen, A.T. Herlihy, T.M. Jicha, and G. Serenbetz. 2018. Microbial ecoenzyme stoichiometry, nutrient limitation, and organic matter decomposition in wetlands of the conterminous United States. Wetlands Ecology and Management 26(3):425-439. doi.org/10.1007/s11273-017-9584-5 Serenbetz, Gregg. 2016. National Wetlands Condition Assessment 2011-2016: Lessons Learned and Moving Forward. National Wetlands Newsletter 38(3):17-20. Brooks, R.P., D. Faber-Langendoen, G. Serenbetz, J. Rocchio, E.D. Stein, and K. Walz. 2016. Towards Creating a National Reference Wetlands Registry. National Wetlands Newsletter 38(3):7-13. Scozzafava, M.E., M.E. Kentula, E. Riley, T.K. Magee, L. Hall, G. Serenbetz, R. Sumner, C. Faulkner, M. Price. 2011. The National Wetland Condition Assessment: National data on wetland quality to inform and improve wetlands protection. National Wetlands Newsletter 33: 11-13 Scozzafava, M.E., M.E. Kentula, E. Riley, T.K. Magee, L. Hall, G. Serenbetz, R. Sumner, C. Faulkner, M. Price. 2011. Tracking trends in the quality of the nation's wetlands -- A powerful supplement to status and trends. Pages 81-85 in: Dahl TE (ed) Status and trends of wetlands in the conterminous United States 2004 to 2009. U.S. Department of the Interior; Fish and Wildlife Service, Washington, D.C.

References: Sarah Lehmann
US EPA
Team Leader, National Aquatic Resources Surveys
Phone Number: 202-566-1379
Email Address: lehmann.sarah@epa.gov
Reference Type: Professional

Michael McDavit
Phone Number: 571-318-8463
Email Address: mcdavit.kimic@verizon.net
Reference Type: Professional

Ann Rossi
USDA Natural Resources Conservation Service
Resource Soil Scientist
Phone Number: 443-746-4313
Email Address: Ann.Rossi@usda.gov
Reference Type: Professional

Additional Information: JOB-RELATED HONORS AND AWARDS EPA Bronze Medal – Individual Achievement (2016) EPA Bronze Medal – Team Achievement (2012, 2015, 2018, 2019) EPA Achievement in Science and Technology Award (2016) Quality Step Increase (QSI) Performance

Award (2012, 2016) Casey Trees Volunteer of the Year (2016) SKILLS AND TRAINING Certified Contracting Officer’s Representative, Level II Certified Project Officer Microsoft Excel, Word, PowerPoint, Outlook, and Teams ArcGIS, R Statistical Software

[redacted]
MIDX: 002418122
[redacted]
United States Citizen: Y
Veterans' Preference: CPS
Military Service Dates (Start of Service - End of Service):
03/10/2003 - 03/09/2007
Location(s) Applied to: Boise, ID(US)
Series Applied To: 0801

Resume
[redacted]
Country of Citizenship: United States
Veterans' Preference: 10-point preference based on a compensable service connected disability of 30% or more (CPS)
Highest Grade: 13

Availability: Job Type: Permanent
Work Schedule: Full-time

Work Experience: USAF AFNWC/NDBD
09/2021 - Present
205 Foster Dr.
Salary: $94,373.00 USD Per Year
Eglin AFB, FL 32542 US
Hours per week: 40
Series: 0801
Pay Plan: GS
Grade: 13

Systems Development Engineer, Long Range Stand Off (LRSO), Engineering Division
TS/SCI Clearance Responsibilities: • Provide engineering and technical direction as required in support of assigned armament programs during all phases of the weapon system acquisition cycle. • Provide technical direction to the contractors; interface with participating activities to assuring technical objectives are consistent with overall system objectives • Participate with other technical specialists in design reviews making joint decisions which may result in design changes or changes in program in emphasis. Projects: Payload Lift Beam (PLB) Engineering Lead Rework of mechanical design and demonstration with 3D- Modeling software that the Finite Element Analysis shows all design, safety, nuclear, and human systems integration requirements are meet. Coordinate request for bid, funding, selection, testing, and nuclear certification with DoD partners and selected contractor. Mechanical Technical Lead & Systems Development Engineer Leads the mechanical technical efforts of a 24-person team (8 civilians and 16 prime

contractors). Responsible for the design, development, and delivery of 18 pieces of support equipment which support the LRSO ($30B of the ACAT 1D LRSO) Cruise Missile test plan and delivery. Outcome; PSE equipment accepted though Sub System Critical Design Review (CDR) maintaining schedule for System CDR

USAF AFNWC/NDBD
09/2021 - Present
205 Foster Dr.
Salary: $82,655.00 USD Per Year
Eglin AFB, FL 32542 US
Hours per week: 40
Series: 0830
Pay Plan: GS
Grade: 12

Mechanical Engineer, Long Range Stand Off (LRSO), Engineering Division
Top Secret/Special Access Required Security Clearance 2021 3rd Quarter Cat II Civilian of the Quarter (1 July - 30 Sept) Responsibilities: * Perform analysis and use systematic, disciplined, and quantifiable approaches to implement, develop, and document projects. * Perform development engineering systems and devices. - Perform professional mechanical engineering work in support of the acquisition, development, or sustainment of armament systems, subsystems, an/or support equipment. - Develop system performance requirements, objectives, and integration, and the estimation of time and resources for system design, development, and support. - Perform analysis and use systematic, disciplined, and quantifiable approaches to implement, develop, and document projects. - Perform development engineering systems and devices. Projects: Failure Review Board Member Purpose: Provide root cause analysis for leadership and develop a solution to keep testing on schedule. Task: Provide technical support in the identification of the root cause and contributing factors with the prime contractor to improve the safety of the equipment and protect DoD assets. Represent the Government in requirements for return to service and through change acceptance of the Engineering Development Equipment (EDE) design in support of TMRR testing. Outcome: The root cause was identified and design changes were implemented to correct the deficiency and reduce the risk of another failure. Steps where also added to procedure and post use inspection to ensure assembly remains in a serviceable condition. Contract Data Requirements List (CDRL) Review Purpose: Ensure that artifacts submitted by the contractor meet all the requirements specified in the contract. Task: Provide technical review of test plans, demonstration plans, support equipment use instructions, explosive ordinance disposal data, and Design Missile Profile Report Draft (DRMPD). Ensuring activities in support of TMRR meet contract requirements. Outcome: These review ensure packages are complete and technically correct. They provide the contractor with a line of communication to aid them in providing the customer with the product they want. These reviews support specific activities which lead to Critical Design Review (CDR) and Millstone B which marks the entrance into the EMD phase of the acquisition process. Support Equipment (SE) Design Analysis Review Purpose: Ensure that SE Analysis submitted by the contractor is complete and meets all requirements specified in the contract and by applicable Military Standards (MIL-STD). Task: Review documentation submitted by contractor for completeness and technical feasibility. Outcome: These reviews ensure that the warfighter is provided with equipment that can be used to safely preform the task or operation it was designed to do allowing the mission to be accomplished.

Army Installation Management Command (IMCOM)
09/2020 - Present
4409 77th Street
Salary: $76,810.00 USD Per Year
Fort Hood, TX 76544 US
Hours per week: 40
Series: 0830
Pay Plan: GS

Grade: 11

Mechanical Engineer, Directorate of Public Works, Environmental Division, Energy Management Branch
Responsibilities: - Plan, coordinate, and monitor data gathering and analysis, as it's related to supporting the Army's Energy Program. - Provide technical guidance that requires knowledge and experience in translating actual energy usage data into graphical and numerical documentation. - Provide service or guidance on projects connected with maintenance, alteration and modification with emphasis on interior/exterior electrical systems and equipment, plants, substations, utility systems and design for energy conservation. - Make professional engineering studies, cost studies, surveys and analysis of projects for construction, alterations, repair and maintenance of electrical/engineering systems and equipment. - Coordinate and prepares designs, plans and specifications for service and construction contracts relating to energy management and conservation. - Serve as the Alternate Contracting Officers Representative (ACOR) for Energy Saving Performance Contract (ESPC). - Responsible for the Building Energy Monitoring (BEM) program and conducts energy training and public awareness campaigns. Projects: Planning Representative Purpose: Ensure that the Army's Energy Plan is being adhered to and promote energy conservation. Task: Attend project review boards and annual work plan meetings to provide energy management comments on new construction and renovations projects related to energy usage and the Army’s Energy Program. Report plans to parties of interest for awareness and additional comments. Outcome: Comments provide insight for project managers and promotes energy conservation for planning efforts. Overall cost savings to the government are earned and can be identified as estimated energy savings or with payback time analysis. Contracting Officer Technical Representative (COTR) Purpose: Provide guidance to and oversight of the contractor. Task: Provide support as a COTR with relations to the contracted maintenance of Heating Ventilation and Air Conditioning (HVAC) system and the Utility Monitoring and Control System (UMCS). Coordinate the collection of EPA required documentation involving refrigerant to the environmental team. Outcome: Oversight ensures cost savings to the government through efficiently functioning equipment and schedules and identifies early warning of maintenance deficiencies. It also ensures proper documentation is submitted and kept. Guidance provides improved communication between the government and contractor to accomplish contract requirements. Building energy usage investigations Purpose: To identify and correct excessive energy usage. Task: Coordinate with all parties of interest site visits to identify excessive energy usage with relation to HVAC systems and other building loads. Upon completion of analysis, create a detailed report of the deficiencies and identify corrective measures to be submitted to management in building reports. Outcome: Corrective measures are identified, and assessed to help prioritize projects based on cost analysis and value added.

National Aeronautics and Space Administration (NASA)
04/2019 - Present
12211 South Brantly Ave
Salary: $83,787.00 USD Per Year
Ellington Field
Hours per week: 40
Series: 0801
Pay Plan: GS
Grade: 12
Houston, TX 77034 US

Aerospace Engineer, Aircraft Operations Directorate (AOD)
Responsibilities: - Assigned to engineering support for the T-38 J-85 engine. - Assigned as engineering support for the US16LN ejection seat. Projects: T-38-N J-85 Engine Analysis Purpose: Verify test failures to identify root cause Tasks: Analyze engine operation within the flight envelope and provide explanations for events such as stalls or flame outs. Outcome: Before analysis FCA test were failing rebuilt engines, increasing cost and

maintenance requirements for the agency. With complete analysis, it was discovered that some of the failure events were actually expected due to conditions. This allowed the engines to be retested without completing the required failure maintenance trouble shooting. When the engines were retested in the proper conditions they would pass, saving the agency several maintenance troubleshooting hours and significant cost. Martin Baker US-16-LN analysis Purpose: Evaluate comparable systems and procedures. Tasks: Compare the components of the USAF ejection seat to NASA ejection seat to verify form, fit, function, and integration of interchangeable components. Test alternate maintenance procedures for acceptance and present findings to colleagues and management in Configuration Control Panels (CCPs). Outcome: Acceptance of alternate components for the ejection seat resulted in agency savings at the 3 year maintenance inspections. Acceptance of alternate maintenance procedures reduced lag time and provided in house capability for head box repacking. Overall jets were returned from a planned maintenance status to a flight status more cost effectively and quicker. T-38 flight gear acquisition Purpose: To add touchscreen flight gloves to the supply chain. Tasks: Work with distributors to obtain test sample gloves and create a fair evaluation criteria to compare form, fit and function. Coordinate with test pilots to test samples and report findings. Package data to determine the best path forward for the division and present findings to the program manager. Outcome: Compatible flight gloves were tested and one set was accepted and added to the supply chain.

National Aeronautics and Space Administration (NASA)
04/2018 - Present
2101 NASA Parkway
Salary: $69,904.00 USD Per Year
Houston, TX 77058 US
Hours per week: 40
Series: 0801
Pay Plan: GS
Grade: 11
Supervisor: Robert Schwank (281-244-0004)
Okay to contact this Supervisor: Yes

General Engineer, Exploratory Vehicle Guidance, Navigation and Control (EVGNC) Responsibilities: -Assists in the development of operational control concepts and techniques for the purpose of providing instruction to other system engineers and flight controllers. -Participates in space systems design reviews, panels, and working groups for the Orion Vehicles to extract space systems architectural, operational, and performance characteristics and to identify operational issues. -Assists in the preparation of spacecraft systems schematics that provide the primary systems reference for all mission support elements including operations personnel, flight crew, and program office support personnel. -Implements procedures and techniques for the development and review of space systems for normal and contingency systems operations while ensuring appropriate verification to determine their operational suitability and accuracy. -Assists in the development of written requirements and specifications, prototypes, and guidance for information defining ground/workstation equipment and data processing capabilities to enable space systems development and operations activities. -Assists in developing requirements, test and evaluation plans, and documentation on projects related to testing, operation, and certification of flight controller products. PROJECTS: Telemetry Rating Project Purpose: To identify the telemetry requirements to control and troubleshoot the Lockheed Martin Orion Spacecraft's Guidance, Navigation and Control (GN&C) system from mission control. Tasks: Allocate required data and data rates while staying within the bandwidth limits for each stage of flight, and maintain safe operations of the spacecraft. Coordinate with other groups and subject matter experts to meet bandwidth and safe flight requirements. Outcome: The required data did not all fit within the down-link limits. This initiated analysis of trade-offs and exploration of alternate strategies to make the system work. It was identified that some data would live in packets which could be called upon when more in depth analysis would be required. There were also trade-offs allowing

one bit of data to be received instead of the whole bit set. It was determined that this would give enough insight into the state of the spacecraft to ensure safe flight while greatly reducing the bandwidth usage. Orion Display Development Purpose: To develop ground displays for the Orion spacecraft with the objective of giving flight controllers insight and control of the Guidance and Navigation Controls (GN&C) system. Tasks: Design, create, and test Orion spacecraft displays such as: Altimeters, Kalman Filters, Entry Guidance, Global Positioning Systems (GPS), Flight Detection Isolation & Repair Systems (FDIR), Inertial Measurement Units (IMU), Optical Navigation, Star Tracker, and Overview Displays. Outcome: Displays were established, developed and tested at the Houston Orion Test Hardware (HOTH) Lab and at the Mission Control Center (MCC). These displays functioned as intended and the tests identified improvements that could be implemented to enhance them in the future. CST-100 Test Rig Simulation Operator Purpose: To simulate docking of the Boeing CST-100 space craft to the International Space Station (ISS). Tasks: Operate the computer simulation, and record data for further analysis. In some instances add malfunctions to verify the astronaut procedure manual and test the human interaction with the controls. Outcome: Over 200 test cases were run, procedures were verified, and jet plume data was collected for analysis. These were milestone accomplishments for the project leading to safe human space flight and asset protection.

National Aeronautics and Space Administration (NASA)
10/2016 - Present
2101 NASA Parkway
Salary: $62,658.00 USD Per Year
Houston, TX 77058 US
Hours per week: 40
Series: 0801
Pay Plan: GS
Grade: 09

General Engineer, Attitude Determination and Control Officer (ADCO)
Performance Award (May 2016) Responsibilities: - Assists in the development of operating procedures for the integration of various vehicle activities. - Assists with activities that serve to define ground and on board software and hardware requirements. - Contributes to the evaluation of requirements and development of profile options within operational constraints. - Serves as an engineer supporting on board flight guidance, navigation, and control (GN&C) techniques; and ground and on board GN&C computational capabilities. PROJECTS: Operations Product Testing, Validation and Certification Purpose: To certify and validate new and modified operation products for support of for real time operations of the International Space Station. Tasks: Create test and verification process that build confidence in the performance and capabilities of operations products. Preform tests designed by other engineers to verify operations products. Manage planned test procedures and provide support to other engineers testing operations products. Outcome: The process allows new and modified operations products to be certified for use during operations of the International Space Station. These products allow the ADCO to more effectively provide missions support and reduce the time needed for specific processes. Optimum Propellant Maneuver Initiation Calculator Purpose: To provide quick and accurate calculations, to the ADCO on console, for Optimum Propellant Maneuver (OPM) initiation times. Tasks: Create a graphic package that calculates optimum initiation time for OPMs by taking solar noon time data, which is provided by the pointing group, and attitude data from the ISS. The package must provide optimum start times for the intended orbit, intended orbit +1, and intended orbit +2. Outcome: The new package was tested, verified, and certified allowing the ADCO on console to quickly and effectively calculate OPM start times. The package reduced calculation time and probability of error. Prior to implementation the data was manually entered and calculated. Space Launch System (SLS) Guidance Navigation and Control (GN&C) Failure Tool Purpose: To quickly identify the effects of loss of communications and/or power events on other components within the SLS GN&C system. Tasks: Create a visual model of the control system that displays all the components and identifies their failures based loss of communication and/or power within the system as selected by the user. Outcome: The

models were verified for accuracy, affects, and completeness. They were then handed off to a coding team to create a GUI, where the user could select failures and identify the effects of them on the system. Once the GUI was completed it was verified and accepted for use in systems training and operations.

Bureau of Safety and Environmental Enforcement (BSEE)
04/2015 - Present
1201 Elmwood Park Boulevard
Salary: $60,064.00 USD Per Year
Elmwood, LA 70123 US
Hours per week: 40
Series: 0881
Pay Plan: GS
Grade: 09

Petroleum Engineer, Gulf of Mexico Regional Office, Pipeline Section
Star Award (Aug 2014) Performance Award (Dec 2014) Responsibilities: - Conduct engineering analysis of oil and gas production and operations on the Outer Continental Shelf (OCS) - Performs technical engineering review of requests by operators for permits to determine if operations are safe and comply with regulations - Perform routine inspections of oil, gas, and other mineral facilities and operations on the OCS - Prepare Incidents of Non-Compliance (INC) for safety or environment infractions - Review applications for completeness and compliance with federal regulation - Complete engineering reports under the direction of the Pipelines Section Chief and/or the District Manager PROJECTS: Right-Of-Way (ROW) Description Update and Bonding Project Purpose: To correct ROW legal descriptions to enhance enforcement of regulation and to asses decommissioning costs associated with pipelines in the Gulf of Mexico (GOM). Tasks: Gather information on hundreds of pipelines and asses the cost associated with the decommissioning of active pipelines. From this information create supplemental bonding requests and present them to the Decommissioning Section Head. Upon acceptance, update ROW descriptions into the new format and draft correspondence to notify the companies of the changes. Outcome: The new ROW descriptions eliminated a legal loop hole which was unclear about the classification of “in service” pipelines. The supplemental bonding required money to be set aside for asset decommissioning in the event of a company declared bankruptcy, thus ensuring that the asset would be decommissioned as specified in the code of federal Regulation. This protects the environment and other operations on the outer continental shelf. Offshore Pipeline Inspections Purpose: To ensure regulations are being followed on offshore facilities and identify hazardous situations. Tasks: Meet with the platform manager and verify documentation is accurate then compare documentation to the actual components on the platform. Once equipment and documentation are verified test safety equipment for functionality. Document any unsafe or environmentally hazardous working conditions, and issue any Incident of Non-Compliance (INCs). Outcome: Inspections help to verify safe working conditions, protect the environment, and track repeat violators of federal regulations, thus ensuring the continued use of the minerals on the Outer Continental Shelf and protection of our nation's assets. Pipeline Application Review Purpose: To ensure work is being completed in a safe manner, and that all work plans and designs are of sound engineering principals. Tasks: Verify applicant's plans for safety and federal regulation compliance. Work with company representative to correct plan deficiencies. Once plans are verified; complete correspondence approving the work, obtain the proper section and division approval signatures, and return the approval documentation to the company. Outcome: Work plan review ensures safe work practices and compliance with federal regulation protecting the nation's natural resources and citizens.

US Naval Air Systems Command Fleet Readiness Center (NAVAIR)
02/2014 - Present
101 Wasp Street
Salary: $55,452.00 USD Per Year
Jacksonville, FL 32212 US

Hours per week: 40
Series: 0861
Pay Plan: GS
Grade: 07

Aerospace Engineer, Propulsion and Power
Secret Security Clearance Responsibilities: - Provide engineering services for the F414 Turbofan Engine to fleet commands - Conducted engineering analysis of failure modes - Render technical decisions and provides engineering advice to the fleet or production shops - Modifies existing repairs to meet flight performance requirements for aerospace applications and the needs of the fleet - Maintain publications and manuals related to the repair and maintenance of the F414 engine PROJECTS: Plasma Spray Combustor Casing New Repair Project Purpose: To expand depot level repair capabilities of the F414 turbofan engine. Tasks: Coordinate with Materials Engineers, Plasma Spray Technicians, and Machinists to understand the capabilities and create a test plan developing the new repair. Review technical drawings specifications and verify with Quality Control the acceptance criteria for the new repair. Oversee test repair processes for verification of capability. Upon repair acceptance implemented amendments to procedures documentation to include the new repair process. Outcome: After the test repair and the acceptance of the test repair process the depot demonstrated the ability to repair the combustor case seal. This capability saves the agency the cost associated with acquiring a new combustor casing and the lead time associated with procuring the replacement. Prior to the acceptance the only remediation for damaged combustor seals was purchasing a new part from GE. Risk Assessment Classification Project Purpose: To establish risk classifications for F414 turbofan engine parts that are unclassified. Tasks: Classify all components not already classified based on the DoD risk matrix. Create a presentation with the engine components classification and provide rational. Coordinate a meeting with headquarters engineers to review the presentation and collect comments. Amended classification based on comments and discussion from the presentation and submit a final risk classification to headquarters for acceptance. Outcome: Classifications were presented, commented, discussed, and ultimately accepted. Upon acceptance publication were updated allowing the procurement section to more effectively plan supply on hand and future acquisition.

Apogee Imaging Systems
10/2013 - Present
151 North Sunrise Avenue
Salary: $65,000.00 USD Per Year
Suite 902
Hours per week: 40
Roseville, CA 95661 US

Mechanical Engineer
- Design camera components using engineering methods to insure proper fitment and performance - Analyze assembly and manufacturing issues with new product line - Manage drawing files and product matrices which are used to ensure all necessary parts are on hand for assemblies - Conducted engineering analysis on failed units to verify the failure mode, and improve design to eliminate future failures - Interact with customers to produce custom parts for specific requirements PROJECTS: ASPEN SolidWorks Drawings Package and Manufacturing Support Purpose: To complete SolidWorks models, renderings and technical drawings for manufacturing and marketing. Tasks: Create 2D drawings, 3D models and renderings of parts, components, and assemblies. Manage the drawings within the drawing locker for use by engineering and the machinists. Verify the capabilities of the equipment with the machinists to ensure the ability to manufacture designs is possible with the equipment and tooling on hand. Outcome: Completion of the Aspen product line models and drawings allowed for the manufacturing and marketing of the ASPEN camera line. Redesign of Camera Filter Assembly Purpose: To correct a rotation deficiency in the current design of the filter wheel. Tasks: Create a design and model package of a bearing assembly for use with the current filter wheel housing to replace the failure prone design. Complete a cost

analysis on the design changes and present findings to management. Upon approval, order required components and complete a prototype with manufacturing for testing. Test prototype according to test plan to ensure reliability. Outcome: The design change was approved by the management and the design team. Due to manufacturing's schedule the prototype was put on hold until current camera orders were fulfilled. Once the orders were fulfilled the prototype would be manufactured and tested in accordance with the test plan.

FMC Technologies/Shilling Robotics
05/2013 - Present
260 Cousteau Place
Salary: $0.00 USD Per Year
Davis, CA 95618 US
Hours per week: 30

Student Engineer/Senior Project
- Design mechanical components for a sub-sea thruster using engineering analysis to meet environmental and performance requirements - Present design and specifications to an engineering panel for evaluation - Create drawings using ASME standards providing information to machinists and assemblers - Manage progress and lead time to ensure completion of design on schedule - Meet with FMC/Schilling senior engineers on all matters related to design and performance of subsea thruster PROJECTS: Thruster Project Purpose: Improve the functionality and serviceability of the current sub-sea thruster. Tasks: Find a solution to the limited life and leaking seal deficiency on the current sub-sea thruster and develop a replacement. Verify the functionality of the design through prototype testing. Present status and milestone achievements to professional engineers and management. Also present status to senior design professor and fellow students as part of final mechanical engineering capstone project. Outcome: Working in a small design team the prototype was developed. The new design included a modular seal and bearing housing assembly. The new assembly reduced overhaul times and provided opportunity to keep spare assemblies on ship where storage is limited. The previous design would have required a complete overhaul or complete replacement of the thruster in the field. The new design's seal reduced environmental concerns with hydraulic fluid seepage at low depths and salt water infiltration at high depths. The design was tested in a test pool for 24 hours and passed the design requirements. After the pool test the prototype was fitted onto an underwater Remote Operated Vehicle (ROV) to perform oil production inspections in the Gulf of Mexico. Upon successful completion of the 6 month field test the design would be considered vetted would be put into production.

West Coast Motors
09/2012 - Present
7553 Auburn Boulevard
Salary: $0.00 USD Without Compensation
Citrus Heights, CA 95610 US
Hours per week: 40

Motorcycle Mechanic
- Test and repair motorcycle systems to meet manufacturers' performance specifications - Machine engine components and make modifications to enhance performance - Review damage reports and prepare repair cost estimates - Communicate the details of the problems to the customers and explain the work to be performed - Schedule maintenance and plan work to be performed by the shop

United State Marine Corps (USMC)
03/2007 - Present
Bldg 43259 Las Pulgas Road
Salary: $0.00 USD Per Year
Camp Pendleton, CA 92055 US
Hours per week: 50

Marine (0811 Artilleryman)
HONORABLE DISCHARGE - Testing, inspecting, and storing of ammunition - Conducted preventive maintenance and testing of weapon systems and related equipment - Maintained operational readiness in garrison and in combat zones - Coordinated with other units to complete objectives during training and combat operations - Lead an artillery section of up-to twelve Marines in training and combat missions BILLETS: Assistant Section Chief Vehicle Commander Sargent of the Guard Squad Leader Fire Team Leader AWARDS: Meritorious Unit Commendation Ribbon Marine Corps Good Conduct Ribbon National Defense Ribbon Iraq Campaign Ribbon Global War on Terrorism Service Ribbon Humanitarian Service Ribbon Navy Sea Service Deployment Ribbon

Education: Texas A&M
College Station, TX US
- 01/2016
15
Major: Petroleum Engineering Principles and Practices
GPA: 3.4
Relevant Coursework, Licensures and Certifications:
Graduate Level Courses: - Drilling Engineering (PETE 661) - Production Engineering (PETE 662) - Formation Evaluation and Analysis of Reservoir Performance (PETE 663) - Petroleum Project Evaluation and Management (PETE 664) - Reservoir Engineering (PETE 665)

California State University, Sacramento
Sacramento, CA US
- 05/2013
167
Major: Mechanical Engineering
GPA: 3.697
Honors: Cum Laude
Relevant Coursework, Licensures and Certifications:
*Dean's Honor Roll *National Engineering Honor society Member (Tau Beta Pi) *National Academic Honor Society Member (Delta Epsilon Iota) *Phi Beta Delta member (Honor Society for International Scholars) *Study Abroad Program (University of Technology, Sydney) Graduate Level Courses: - Advanced Fluid Mechanics (ME 253) - Engineering Analysis 2 (ENGR 202)

University of Technology, Sydney
Sydney, NSW AS
- 06/2012
15
Major: Mechanical Engineering
GPA: 3.675
Relevant Coursework, Licensures and Certifications:
- Heat Transfer - System Modeling & Simulation - Control System Design - Mechanical Properties Materials

Sierra College
Rocklin, CA US
- 12/2011
122
Major: Engineering
GPA: 3.26
Relevant Coursework, Licensures and Certifications:
*Presidents Honor Roll *Dean's List

Job Related Training: DAU Courses: ENGINEERING LVL I certification FACILITIES ENGINEERING LVL I certification ENGINEERING LVL II courses complete (certificate pending) SCIENCE & TECHNOLOGY MANAGER LVL I courses complete (certificate pending) PROGRAM MANAGEMENT LVL I courses complete (certificate pending) USAF AFNWC/NDBD: Air Force Continuous Improvement Green Belt certification Aerospace Corp. Model Based Systems Engineering (MBSE) and SysML Training AF Continuous Process Improvement (CPI) Foundational Skills Training AF Continuous Process Improvement (CPI) Green Belt Training AF Risk Management Fundamentals Course AFIT SYS-282 Management of the Systems Engineering Process AFIT REL-210 Reliability Basics for Acquisition Professionals Army IMCOM: WAWF Training NASA: Astronaut Instructor Course International Space Station Command Training ADCO Console Courses: Reference Frames Console Displays Training Global Positioning Systems (GPS) Rate Gyro Assemblies (RGA) State Determination Operator Command Training BSEE: Basic Aviation Safety Aviation Transport of Hazardous Materials Aircraft Accident Review Basic Production Production Offshore Drilling Principals of Offshore Inspection Valves Training Production Safety System (T2) including Electronic Lab/API-U – J. Schneider and Associates, Ltd. Water Survival/HUET (HSE0039) - Water Survival –Shell Roberts Learning Center NAVAIR: Lean/Sigma 6 Yellow Belt USMC: Sergeant's Course *SMART transcripts available on request

Affiliations: Tau Beta Pi (Engineering Honor Society)
Member & Officer

Delta Epsilon Iota (National Academic Honor Society)
Member

Phi Beta Delta (Honor Society for International Scholars)
Member

API (American Petroleum Institute)
Subcommittee 6D (Valve Standards)

Additional Information: CERTIFICATIONS: FE Engineer-in-Training California Certificate No. EIT 147365 Board for Professional Engineers, Land Surveyors, and Geologist DAU Certified Acquisition Professional - Engineering Level 1 SolidWorks Certified Associate – Mechanical Design Tau Beta Pi Engineering Futures Soft Skills Certification Courses: -Basic People Skills -Advanced People Skills -Group Process -Team Chartering -Effective Presentation Skills -Analytical Problem Solving

[redacted]
[redacted] | [redacted] | [redacted] United States Citizen

SUMMARY

Eleven years' experience in sales and in-person customer service; management of commercial accounts; accounting tasks; website content development; advertising; data entry, analysis and data visualization; identification of trends and patterns in consumer spending.

Over 20 years of experience as an environmental and data science professional. Extensive work in restoration and protection of surface waters, including designing and implementing scientific studies for water quality projects addressing nonpoint source pollution from agricultural watersheds; surface water quality monitoring and biological systems; wetland biogeochemistry; and soil science as related to Total Maximum Daily Loads, the National Estuaries Program, and the Clean Water Act. Performed statistical analyses; database management and data mining; identification of data trends and patterns; created data visualizations and interpreted data; authored, published, and presented technical reports and presentations to management staff, stakeholders, and at professional conferences. Reviewed/edited technical reports for colleagues. Developed scope of works, managed multiple contracts, and reviewed/approved contract deliverables and closed contracts.

SKILLS

- Highly-motivated and results driven; ability to work autonomously and in a diverse team environment.
- Enjoy challenging tasks and working on multiple projects; inherently curious.
- Excellent time management skills.
- Detail-oriented with a reputation for accurate and thorough, high-quality work.
- Excellent interpersonal communication skills necessary to interact and present project findings and recommendations to senior management, stakeholders, and at professional conferences.
- Strong verbal and written communication skills.
- Self-starter and fast learner; extremely capable of learning and utilizing multiple data analytical programs and other software.
- Proven ability to manage multiple projects and deadlines.
- Strong technical writing and oral presentation skills.
- Led teams in data collection and monitoring.
- Extensive experience in data collection, data mining, extraction, spreadsheets, data visualization, identification of patterns and trends, database management, validation, statistical analysis, technical writing and oral presentations.
- Proficient in Excel (spreadsheets, pivot tables, analysis), Word, SharePoint, PowerPoint, Tableau, SQL, R, SAS, SigmaStat, Minitab, Surfer, QuickBooks, Microsoft Access, and GIS.

- Extensive experience in applying multiple statistical techniques such as trend analysis, analysis of variance, tests of significance, dispersion, skewness, sampling error, simple and multiple correlation, forecasting and central tendency utilizing various statistical packages.
- Managed multiple contracts including soliciting, evaluating, negotiating, and awarding contracts. Developed budget, scope of work, approved deliverables, and closed contracts.
- Performed grant writing.
- Extensive experience in project design, scope of work development, coordination and contract management for surface water quality and biology, created wetlands and soil science.
- Directed outsourced contractors for large scale created wetland restoration projects.
- Thorough knowledge of soil and water quality data analysis, data interpretation, statistical analysis, and technical reporting; familiar with Total Maximum Daily Loads, Basin Management Action Plans, Clean Water Act, and coastal restoration.
- Extensive experience in project design, scope of work development, coordination and contract management for surface water quality and biology, created wetlands and soil science.
- Technical expertise in environmental research assessment, monitoring, management, and restoration initiatives.
- Extensive experience in trailering/operating single and twin-engine outboard boats.

EDUCATION

University of Florida 5/1997
Bachelor of Science
Major: Soil and Water Science (agriculture), College of Agricultural and Life Sciences

Job Related Training

STATISTICS = 8 total credit hours
Statistics (3 credit hrs.)
Linear Programming (2 credit hrs.)
Environmental Statistics (Colorado State University equiv. 3 credit hrs.)

MATH = 19 total credit hours
College Algebra (3 credit hrs.)
Precalculus (3 credit hrs.)
Finite Mathematics (3 credit hrs.)
Analytical Geometry and Calculus I (4 credit hrs.)
Economics I and II (6 credit hrs.)

SCIENCE = 56 total credit hours (includes 24 hrs. of physical science courses noted with *)
Chemistry I and II (8 credit hrs.)
*Physical Science (4 credit hrs.)
*Physics (4 credit hrs.)
Biology (4 credit hrs.)
*Physical Geology (4 credit hrs.)
Wetland Science (3 credit hrs.)
Biogeochemistry of Wetlands (University of Florida equiv. 3 credit hrs.)
*Soil Physics (3 credit hrs.)
*Soils and Land Use (3 credit hrs.)
Soils, Chemistry and Environmental Quality (3 credit hrs.)
*Environmental Pedology (4 credit hrs.)
Agriculture and Environmental Quality (3 credit hrs.)
Agriculture Water Management (3 credit hrs.)
*General Soils (4 credit hrs.)
Wetland Treatment Systems (professional course taught by industry leaders, Kadlec & Knight)
*Advanced Hydric Soils (professional course Tallahassee, FL, Dept. of Environmental Protection)
Psychology (3 credit hrs.)

ADDITIONAL
Effective Oral Communication (3 credit hrs.)
Geographic Information System (3 credit hrs.)
Environmental Food and Society (3 credit hrs.)

Volunteer Work

Conduct annual fundraising for JDRF, a nonprofit 501 organization that funds type 1 diabetes (T1D) research, which provides a broad array of community and activist services to the T1D population and actively advocates for regulation favorable to medical research and approval of new and improved treatment modalities.

PROFESSIONAL EXPERIENCE

Administrator (20 hrs/week - partner in family business) 10/1/2011- present
Toby's Alignment, Inc. Palatka, FL

- Manage full cycle accounts payable functions and processing.
- Complete invoice payments by receiving, processing, verifying, and reconciling invoices.
- Manage entire accounts receivable billing function. Coordination, oversight and issuance of customer invoicing, statements and management of all accounts receivable functions.
- Responsible for the oversight of timely accounts receivable collections and management of accounts receivable aging.
- Sales and customer service
- Website content development
- Data entry, data analysis, data visualization, accounting

- Identification of patterns and trends in customer spending
- Advertising

Biologist (Volunteer) 9/1/2010 – present
Friends of the Summer Haven River St. Augustine, FL
Summer Haven River Restoration Project

- Authored and submitted grant applications for restoration funding for the Summer Haven River.
- Grant writer for funding of the Summer Haven River Restoration project. Awarded a technical assistance grant in 2015 from the National Park Service from the Rivers, Trails and Conservation Assistance Program for support of, and assistance with, the Summer Haven River Restoration.
- Organized and hosted a funding event for Florida Senator Travis Hutson and Florida Representative Paul Renner for 3 million dollars of funding obtained from the State of Florida in support of the Summer Haven River Restoration project.
- Authored a comprehensive biological assessment report for the coastal Summer Haven River as supporting documentation for the restoration permit application submitted to state of Florida agencies.
- Reviewed, analyzed and reported on water quality data in the Matanzas River and Pellicer Creek Aquatic Preserve.
- Communicated with scientists and water resource managers on the benefits of restoring the River.
- Authored technical letters of support to legislative representatives for restoration of the Summer Haven River.

Environmental Scientist IV ($69,000 annual, 40hrs/wk.) 10/1/2006 - 9/30/2011
St. Johns River Water Management District State of Florida Palatka, FL
On-Site Consultant with BCI Engineers & Scientist, Inc.
Lower St. Johns River Basin Program

1) Served on a project team with District staff from Environmental Sciences and Engineering Divisions for the design and construction of two pond/wetland treatment facilities. Assisted with the design of the created treatment wetland portion of the projects.

   Treatment facilities were built to reduce nitrogen and phosphorus loading to the Lower St. Johns River by pumping agricultural runoff from high-priority watersheds into a pond and created wetland treatment system. Treatment facilities were constructed to assist in meeting Total Maximum Daily Loads (TMDLs) enacted by the US Clean Water Act, which is a plan for restoring impaired surface waters. TMDLs identify the maximum amount of

a pollutant that a body of water can receive while meeting water quality standards for public health and safety and reducing the occurrence of harmful algal blooms.

Specific project responsibilities included:

- Conducted scientific literature reviews, project and contract management, data collection, data management and statistical analysis, developed data visualizations, ran watershed and water quality models, authored treatment wetland design white papers, participated in inter-departmental project meetings, developed quarterly project performance reports for senior management and stakeholders.
- Calculated estimated treatment wetland removal efficiencies of nitrogen and phosphorus; selected and designed wetland vegetation plantings based on nutrient uptake capacities; supervised and coordinated multiple plant nurseries for wetland vegetation installation.
- Conducted soil sampling and data calculations to assess the potential for internal phosphorus loading from the project land's previous agricultural use; calculated soil phosphorus storage capacities; developed soil amendment projects and determined application rates of alum and ferric water treatment residual for the abatement of legacy soil phosphorus prior to construction of the created wetland treatment area.
- Consulted with University of Florida professors for their input and expertise in soil amendment projects.
- Coordinated with contractors and a wastewater treatment plant for obtaining ferric water treatment residual as a soil amendment to absorb legacy phosphorus prior to construction of the treatment wetland.
- Managed multiple contracts during created wetland construction including soliciting, evaluating, negotiating, and awarding contracts. Developed budgets, Scope of Works, approved deliverables for the wetland soil amendment projects and vegetation plantings.
- Supervised outsourced contractors during soil amendment work and vegetation plantings.

Post-construction performance monitoring responsibilities included:

- Weekly management and collection of scientific data through performing and directing staff in the operation, maintenance, and troubleshooting of in-field automated water quality sampling equipment and dataloggers, and ambient water quality monitoring.
- Performed quarterly wildlife surveys on the property, specifically bird species identification and counts.
- Performed quality assurance of electronically transmitted data.
- Responsible for statistical analysis and interpretation of water quality data to assess pond/wetland treatment performance and calculated nitrogen and phosphorus load removal to ensure compliance with the Lower St. Johns River Basin Management Action Plan.

- Developed data visualizations.
- Authored quarterly and annual technical reports of facility treatment performance for senior management and in-house publications.

2) Served on a project team with Environmental Sciences District staff, research professors at the University of Florida Agricultural Extension Research Center, and independent potato growers in the Tri-County Agricultural Area for the development and implementation of a study which compared edge-of-field water quality runoff from agricultural fields fertilized with varying forms of nitrogen fertilizer.

   This project was initiated to assist potato growers in meeting their nitrogen discharge reductions to the St. Johns River in support of Total Maximum Daily Loads enacted by the US Clean Water Act, which is a plan for restoring impaired waters that identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards for public health and safety and reducing the occurrence of harmful algal blooms.

Specific responsibilities included:

- Weekly maintenance, troubleshooting, and programming of automated water sampling equipment deployed to collect runoff from storm events; processed water quality samples. Led team for data collection, monitoring, and processing of samples.
- Performed statistical analysis and interpretation of water quality data.
- Provided contract management support, including drafting of memos and Scopes of Work and review of contract deliverables.
- Participated in meetings with stakeholders, including University of Florida staff, fertilizer suppliers and local agricultural growers.
- Analyzed data; developed written technical reports and presented project results to senior management, stakeholders, and at professional conferences.

3) Performed statistical analysis and interpretation of water quality data related to other nonpoint source pollution studies within the Tri-County Agricultural Area, as well as reviewed and edited reports for colleagues.

Environmental Scientist III ($45,000 annual, 40 hrs./wk.) 10/1/2003 - 9/30/2006
St. Johns River Water Management District State of Florida Palatka, FL
On-Site Consultant with BCI Engineers & Scientist, Inc.
Lower St. Johns River Basin Program

Performed same responsibilities as Environmental Scientist IV above, which prompted the promotion to Environmental Scientist IV.

Environmental Scientist II ($36,000 annual, 40 hrs./wk.) 10/1/1999 - 9/30/2003
St. Johns River Water Management District State of Florida Palatka, FL
On-Site Consultant with BCI Engineers & Scientist, Inc.
Lower St. Johns River Basin Program

- Managed multiple contracts including soliciting, evaluating, negotiating, and awarding contracts. Developed budget, memoranda, scope of work, coordinated with contractors, approved deliverables, and closed contracts.
- Assisted district staff and trained staff on submerged aquatic vegetation identification and monitoring methodologies along the length of the Lower St. Johns River Basin.
- Performed water quality collection and harmful algal bloom monitoring as related to public health and safety.
- Performed light attenuation monitoring and seasonal light attenuation effects on submerged aquatic vegetation species and density.
- Ran water quality models for the Lower St. Johns River Basin-specific Optical Water Quality Model.
- Statistically analyzed, interpreted results, developed data visualizations and authored technical reports on water quality data and light attenuation effects on submerged aquatic vegetation.

Environmental Scientist I ($24,000 annual, 40 hrs./wk.) 10/1/1998 - 9/30/1999
St. Johns River Water Management District State of Florida Palatka, FL
On-Site Consultant with Hi-Tech Associates, Inc.

Natural Systems Subprogram

- Assisted district staff and trained staff on submerged aquatic vegetation identification and monitoring methodologies along the length of the Lower St. Johns River Basin.
- Performed water quality collection and harmful algal bloom monitoring as related to public health and safety.
- Performed light attenuation monitoring and seasonal light attenuation effects on submerged aquatic vegetation species and density.

Environmental Specialist ($24,000 annual, 40 hrs./wk.) 12/1/1997- 4/30/1998
Universal Engineering Sciences Jacksonville, FL

- Performed and developed Phase I Environmental Site Assessment Reports.
- Assisted with Phase II, Contamination, and Tank Closure Environmental Assessment Reports.
- Conducted groundwater monitor well sampling, and soil sampling and analysis.
- Performed Atterberg and Percent Fines laboratory testing.

- Conducted environmental marketing.

College Intern ($8.00/hour, 40 hrs./wk.) 5/1/1996 – 8/1/1996
St. Johns River Water Management District State of Florida Palatka, FL

- Performed terrestrial vegetation monitoring and data entry.
- Conducted water quality sampling and submerged aquatic vegetation monitoring for the Lower St. Johns River Basin Program.
- Developed a vegetation map of the Seminole Ranch Wetlands using Geographic Information Systems.

PUBLICATIONS

"Biological Summary of the Summer Haven River, St. Johns County, FL." [redacted] (2012). Friends of the Summer Haven River, St. Augustine, FL.

"A white paper report summarizing the research funded by the St. Johns River Water Management District to evaluate agricultural nonpoint source and best management practice technology in the tri-county agricultural area." Way, P.L. and [redacted]. (2010). Lower St. Johns River Basin. St. Johns River Water Management District.

"Deep Creek West Regional Stormwater Treatment Facility: Treatment Wetland Design and Monitoring-Tri-County Agricultural Area." [redacted] and P.L. Way (2009). Lower St. Johns River Basin. St. Johns River Water Management District Technical Publication SJ2009-6.

"Development of a controlled release nitrogen best management practice for potato production in the tri-county agricultural area of north east Florida." Way, P.L., C.M. Hutchinson, [redacted]. (2008). The Florida Watershed Journal 1:15-18.

"An evaluation of glass prisms in boat docks to reduce shading of submerged aquatic vegetation in the lower St. Johns River, Florida." [redacted] M. Jeansonne, E. Gordon, and J. Burns. (2004). Estuaries 27:938-944.

"An evaluation of glass prisms in boat docks to reduce shading of submersed aquatic vegetation in the lower St. Johns River, Florida." [redacted] M. Jeansonne, E. Gordon, and J. Burns. (2003). St. Johns River Water Management District Professional Paper SJ2003-PP2.

PROFESSIONAL CONFERENCE AND ORGANIZATION PRESENTATIONS

"Lower St. Johns River Basin Tri-County Agricultural Area Nonpoint Source Program: Linking agricultural production and water quality goals to meet the Total Maximum Daily Load." Livingston Way, P. and A.M. Steinmetz. St. Johns River Water Management District Projects and Lands Committee Meeting. Palatka, Florida. 8 May 2008.

"An overview of two regional stormwater treatment facilities designed to treat agricultural runoff in the tri-county agricultural area." Steinmetz, A.M. and P. Livingston Way (joint presentation). University of Florida Department of Environmental Engineering Sciences and Department of Soil and Water Science Wetland Seminar Series. Gainesville, Florida. 14 Nov. 2007.

"Agricultural Water Quality Projects and BMP Research to Reduce Nutrient Runoff to the Lower St. Johns River." Steinmetz, A.M. and P. Livingston Way. University of Florida Agronomy Soils Club. Gainesville, Florida. 1 Mar. 2007.

"Treatment of phosphorus enriched sandy soils in agricultural land prior to conversion to a constructed treatment wetland." Steinmetz, A.M. and P. Livingston Way. American Society of Agronomy-Crop Science Society of America and Soil Science Society of America International Annual Conference. Indianapolis, Indiana. 16 Nov. 2006.

"Development of a control release nutrient management BMP to address TMDLs in the tri-county agricultural area of northeast Florida." Livingston Way, P. and A.M. Steinmetz. American Society of Agronomy-Crop Science Society of America-Soil Science Society of America International Annual Conference. Indianapolis, Indiana. 16 Nov. 2006.

"Treatment of phosphorus enriched sandy soils in agricultural land prior to conversion to a constructed treatment wetland." Steinmetz, A.M. and P. Livingston Way. Lower St. Johns River Technical Advisory Committee. Jacksonville, Florida. 20 Jun. 2006.

"Treatment of phosphorus enriched sandy soils in agricultural land prior to conversion to a constructed treatment wetland." Steinmetz, A.M. and P. Livingston Way. Florida Lake Management Society. St. Augustine, Florida. 7 Jun. 2006.

"Development of a controlled release fertilizer program for potato production in the tri-county agricultural area." Steinmetz, A.M. and P. Livingston Way. Florida Fertilizer and Agrichemical Association. Tampa, FL. 12 Jan. 2006.

"Suitability of Alternative SAV Measurements as an Indicator of Water Quality Effects" Dobberfuhl, D., A. Steinmetz, N. Trahan. Seagrass Restoration Workshop Proceedings: Success, Failure and the Costs of Both, S.F. Treat and R.R. Lewis III, editors. Mar. 2003.

"Restoration Alternatives for Doctors Lake, Florida" Schropp, S., P. Dompe, M. DelCharco, C. Moss, A. McKinney, and G. Morrison. American Water Resources Spring Conference. 2002.

"Preliminary Investigations of Light Attenuation and Submerged Aquatic Vegetation Response in the Lower St. Johns River." Lower St. Johns River Technical Advisory Committee. Dec. 2002.

"Initial Explorations into Light Requirements for the Lower St. Johns River." Workshop on Establishing Seagrass Light Requirements, Harbor Branch Oceanographic Institute. Sep. 2002.

"Evaluation of Glass Prisms as a Boat Dock Construction Best Management Practice" McKinney, A., M. Jeansonne, E. Stecker, and J. Burns. 16th Biennial Conference of the Estuarine Research Federation, St. Pete Beach, FL. Nov. 2001.

"Comparison of Lower St. Johns River Estuary mid-channel and near-shore water quality conditions." Jeansonne, M., A. McKinney, E. Stecker, and J. Burns. 16th Biennial Conference of the Estuarine Research Federation, St. Pete Beach, FL. Nov. 2001.

"Evaluation of Glass Prisms as a Boat Dock Construction Best Management Practice." McKinney, A. Lower St. Johns River Technical Advisory Committee. Apr. 2001.

"Evaluation of Glass Prisms as a Boat Dock Construction Best Management Practice." McKinney, A. Southeastern Estuarine Research Society. University of South Florida. Tampa, FL. Oct. 2000.

"Evaluation of Glass Prisms as a Boat Dock Construction Best Management Practice." McKinney, A. St. Johns River Water Management District. Sep. 2000.

"Will History Repeat Itself on the St. Johns River: A Serendipitous Solution to a Historical Problem." Palatka Yacht Club. Jul. 2000.

"Littoral Zone Macroalgae in the St. Johns River: A Blackwater Estuary in Northeast Florida." Chapman, A., J. Burns, and A. McKinney. Phycological Society of America. St. Louis, MO. Aug. 1999.

"Hydroacoustic Mapping of Submerged Aquatic Vegetation in the Lower St. Johns River, Florida." Konwinski, J., A. McKinney, J. Sagan, and J. Burns. Southeastern Estuarine Research Society. Jacksonville, FL. Apr. 1999.

References Available Upon Request

[redacted]

EXPERIENCE **Right-Of-Way Negotiator/Relocation Specialist** **May 2021 – Present**

ARROW Land Solutions, LLC, Altoona, PA **40 Hr/Week**

- Interpret roadway engineering blueprints to illustrate to property owners how they are to be affected by Department of Transportation projects
- Perform field views of project sites to confirm information on blueprints are up to date, such as existing improvements, utility lines, and dimensions
- Maintain communication and ethical relationships with claimants in order to discuss rights, negotiate, aid in relocation, provide benefits and compensation, and find solutions to issues and questions.
- Research and consolidate data about projects, land, and claimants
- Correspond with several project managers concurrently; balance and prioritize workload to meet each deadline efficiently
- Log parcel and claimant information into PennDOT's Right-Of-Way Office database
- Correspond with several project managers concurrently; balance and prioritize workload to meet each deadline efficiently

Engineering Scientific and Technical Intern **May to August, 2016 – 2018**

Pennsylvania Department of Transportation, Hollidaysburg, PA **37.5 Hr/Week**

- Total of 1 year experience (4 months per 3 summer internship seasons)
- This position was a field work setting on daily basis
- Inspected and evaluated structural, physical, and flow conditions of each system via specialized computer surveys in order to prioritize their need of maintenance
- Identified environmental hazard in wastewater drainage systems (Potential Illicit Discharges) and processed reports for the environmental engineers
- Inspected approximately 5,300 drainage systems, 4,700 shoulder systems, and 6,400 guiderail systems over the course of 3 summers
- Physically located systems due for inspection using a DMI in state cars in a team of two.
- Trained and demonstrated leadership to a new intern proper & efficient survey technique during third year
- Communicated with the public about roadway system maintenance inquiries
- Managed time and workload to ensure every assigned system was thoroughly inspected over the summer

EDUCATION **Bachelor of Science, Aerospace Engineering** **August 2019**

The Pennsylvania State University, University Park, PA **GPA: 3.17**

- Dean's List: Fall 2015 & Spring 2017

SOFTWARE **SolidWorks, MATLAB, AutoDesk / AutoCAD, LabVIEW**

- Certified SolidWorks Associate
- 2 years academic experience in SolidWorks, LabVIEW, and MATLAB
- Adobe Acrobat

HONOR **Boy Scouts of America, Eagle Scout Award** **July 2014**

- Conducted and organized a team project to renovate a music room at First Presbyterian Church using a budget of $1,500

[redacted]

Work Experience:

U.S. Environmental Protection Agency
Series: 0028
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460 United States

Pay Plan: GS
Grade: 13

01/2020 - present
Salary: $124,626 USD Per Year
Hours per week: 40 (in combination with Skill Marketplace project below)
Environmental Protection Specialist
Duties, Accomplishments and Related Skills:
Serve as a representative of the Office of Policy's Regulatory Management Division. Primary duties include assisting program/regional offices (specifically Office of Water, Office of Air and Radiation, and Region 4) in the development of policy and regulations; reviewing interagency regulations; assisting in developing procedural guidance documents; serving as the coordinator for Regulatory Steering Committee meetings; managing regulatory database information; assisting with the compiling and submission of information for the Spring/Fall Regulatory Agendas and quarterly reviews for the Office of Management and Budget; assist in coordinating Small Business Advocacy Panels (e.g. PFAS in drinking water, Lead and Copper Rule Improvements), and generating data reports for senior management.
Supervisor: Caryn Muellerleile (202-564-2855)

U.S. Environmental Protection Agency
Skills Marketplace Project (Office of Research and Development/Center for Public Health and Environmental Assessment)
03/08/2022 – 06/08/2022
Project Title: Coral Reef Water Quality Literature Screening
Project Work: Utilize literature screening software to extract basic categorical information (e.g., water quality stressor type, adverse effect type, geographical location of study, etc.) from an assembled set
of studies for evaluating the impact of water quality stressors on coral reef habitats.
Supervisor: Britta Bierwagen (202-564-7676)

Federal Energy Regulatory Commission
888 1st St, NE
Washington, D.C. 20426 United States
11/2014 – 01/2020
Series: 0486
Pay Plan: GS
Grade: 13
Salary: 105,782.00 USD Per Year
Hours per week: 40
Wildlife Biologist
Duties, Accomplishments and Related Skills:
Primary duties were to 1) serve as a biologist and project coordinator on multi-disciplinary teams for the purposes of identifying and analyzing effects to aquatic and terrestrial resources (e.g., water quality, macroinvertebrates, fish, aquatic birds and mammals, wetlands, and riparian zones) related to the construction, operation, and maintenance of hydropower projects, and 2) propose protection, mitigation, and enhancement measures to assist in the restoration of adversely affected natural resources. Other work duties included: reviewing the adequacy of hydropower permit and license applications and research study proposals and reports; review project compliance reports and coordinate with administration and compliance staff for license renewal applications and drafting license conditions; reviewing Clean Water Act Section 401 Water Quality Certifications; serving as project coordinator for proposed projects; drafting technical documents or correspondences (e.g., National Environmental Policy Act assessment documents, Endangered Species Act (ESA) biological assessments, study proposals, comment letters and responses to comment letters, agency permit and license orders, etc.); overseeing technical support contractor work performance; and conducting site visits and meetings (e.g., public scoping meetings, ESA consultation meetings) to discuss environmental issues, agency recommendations, and Federal Power Act regulations with other government agencies, Indian tribes, non-governmental organizations, and members of the public.
Supervisor: David Turner (202-502-6091)

U. S. Fish and Wildlife Service
4980 Wildlife Drive
Townsend, GA 31331 United States
07/2009 –11/2014
Series: 0408 **Pay Plan:** GS
Grade: 11
Salary: 65,713.00 USD Per Year
Hours per week: 40
Ecologist
Duties, Accomplishments and Related Skills:
Performed the duties and responsibilities of a contaminants specialist to address point and nonpoint sources of pollution. Specific duties included: serving as trustee representative for natural resource damage assessment and restoration (NRDAR)

cases; reviewing and commenting on Superfund site documents (e.g., ecological risk assessments, remedial investigations/feasibility studies, Records of Decision), reviewing and commenting on construction projects or permits that may have pollutant-related issues for inland or coastal projects; reviewing and providing comments and recommendations for proposed amendments to state water quality standards and regulations (e.g., TMDLs for nutrients, rules regarding concentrated animal feeding operations); serving as regional coordinator for the National Abnormal Amphibian Monitoring Program (including training staff and technical support contractors in field sampling protocols and standard operating procedures, QA/QC of field datasheets submitted by staff, producing data summary reports, and managing the budget of survey operational funds); assist with research studies involving contaminant-related issues (e.g., effects of herbicides on refuge lands, exposure of wildlife to contaminants from dredge spoils); coordinating with local and federal partners in responding to oil and chemical spills; tracking and providing annual summaries of program accomplishments and performance measure achievements; and engaging in outreach activities.

Specific NRDAR responsibilities included: serving on multi-agency restoration or injury assessment technical working groups; performing habitat equivalency analyses from large data sets of biotic and abiotic samples, drafting Damage Assessment and Restoration Plans and Environmental Assessments (DARPs/EAs), working with state and federal Solicitor Office attorneys to negotiate settlements and draft consent decrees; case budget management; coordinating trustee meetings; assisting with review and editing of technical or legal case documents; reviewing of contractor bids, research studies, and work products; briefing management of case progression; responding to public inquiries; and drafting outreach material for external websites.
Supervisor: Strant Colwell (retired) (912-832-8739)

U. S. Fish and Wildlife Service
70 Commercial Street
Suite 300
Concord, NH United States

Series: 0401 **Pay Plan:** GS **Grade:** 11

02/2006 - 07/2009
Salary: $63,472 USD Per Year
Hours per week: 40
Natural Resource Damage Assessment and Restoration (NRDAR) Specialist
Duties, Accomplishments and Related Skills:
Conduct natural resource injury assessments (including evaluating known point and nonpoint source pollutants contributing to baseline conditions); identify and evaluate

proposals for compensatory restoration grants and cooperative agreements; coordinate with representatives from non-governmental organizations and governmental agencies (local, state, and federal) during case development and restoration planning; draft Damage Assessment and Restoration Plans (DARPs); conduct scoping for restoration project (e.g., low impact development projects for urban lakes and rivers); prepare restoration fact sheets; and write proposals for NRDAR case start-up funding. Additional work duties include responding to oil or chemical spills; reviewing Superfund site documents (e.g., ecological risk assessments; remedial investigations/feasibility studies; Records of Decision); assisting with field assignments (e.g., common eider banding and nest searches, saltmarsh sparrow contaminant study, surveys for white-nose syndrome, endangered species Karner blue butterfly recovery work (mark and recapture); and engaging in outreach events.
Supervisor: Veronica Varela (907-786-3866)

Education: **Pennsylvania State University** University Park, PA United States
Doctorate 05/2005
Credits Earned: 27 semester hours
Major: Ecology
Relevant Coursework, Licenses and Certifications:
Coursework - Plant Ecology, Advanced Avian Biology, Population Ecology, Applied Statistical Techniques, Ecotoxicology

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University of Tennessee Knoxville, TN United States
Master's Degree 05/1998
Credits Earned: 24 semester hours
Major: Life Sciences
Relevant Coursework, Licenses and Certifications:
Coursework - Physiological Ethology, Comparative Animal Behavior Lecture and Laboratory, Survey Statistical Methods I and II

East Tennessee State University Johnson City, TN United States
Bachelor's Degree 05/1992
Credits Earned: 129 semester hours
Major: Biology **Honors:** Cum Laude
Relevant Coursework, Licenses and Certifications:
Coursework - Aquatic Biology, Invertebrate Zoology, Ornithology, General Biology Lecture and Laboratory I, II, and III, Vertebrate Zoology, Ecology, Conservation Biology, General Chemistry Lecture and Laboratory, Organic Chemistry Lecture and Laboratory, General Genetics, General Physics Lecture and Laboratory I and II

Cleveland High School Cleveland, TN United States
High School Graduation 05/1988

Job Related Training:

- EPA Contracting Officer's Representatives (COR) Basics - FCR 101 (August 2022) - EPA COR certification policy and training course
- 40 CFR § 122.42 - Additional conditions applicable to specified categories of NPDES permits (October 2020) – Review of additional conditions pertaining to certain National Pollutant Discharge Elimination System permits
- 40 CFR 51.165: Permit Requirements (October 2020) – Review of the permit requirements for State Implementation Plan and Tribal Implementation Plan provisions
- EPA Lean Management System (ELMS) (June 2020) – Instruction in EPA's ELMS process for identifying and solving problems
- Managing Your Financial Assistance Agreements for Project Officers (May 2020) – Overview of the issues and regulations related to various types of agreements; how to develop and manage assistance agreements
- Financial Management of Contracts (May 2020) - Basic knowledge and advice for managing contract funds
- Instream Flow Incremental Methodology (September 2018) – Instruction in the Instream Flow Incremental Methodology hydraulic modeling of regulated streamflow on fish habitat
- Alternative Dispute Resolution (April 2018) – Instruction in methods for settling disputes outside of the courtroom
- Stream Habitat Measurement Techniques (March 2018) – Instruction in assessing the physical habitat characteristics of streams; field activities included pebble counts and wet-sieving, bankfull measurements, cross-section and longitudinal profile surveys, and sight and laser level elevation surveys
- Migratory Bird Treaty Act (MBTA) (November 2016) – Instruction in the MBTA and its applicability in conservation policy and decision-making
- Avian Power Line Interaction Committee (July 2016) – Instruction in avian/power line issues
- Basic Wetland Delineation (April 2016) – Instruction in wetland delineations and field indicators of hydric soils, hydrophytic vegetation, and wetland hydrology
- **NEPA Process Overview/Cumulative Effects (2015)** – Instruction in NEPA's procedural requirements and implementing process and for assessing various types of information for cumulative impact analyses for EAs and EISs
- Interagency Consultation for Endangered Species (July 2013) – Instruction in conducting interagency consultations under Section 7 of the Endangered Species Act

- U. S. Department of Interior Wetland Restoration and Enhancement (May 2008) – Instruction in wetland ecology, wetland function and design, and methods for restoring, maintaining, and monitoring wetland systems
- U. S. Department of Interior Ecological Risk Assessment (August 2007) – Instruction in the general policy and technical approaches to conducting ecological risk assessments
- U. S. Department of Homeland Security Incident Command Training (ICS-100, ICS-200) (January 2007), (ICS-300) (March 2007), 24-Hour Basic Health and Safety for Emergency Responders (April 2006)
- U. S. Department of Interior Natural Resource Damage Assessment and Restoration (September 2006) – Instruction in the process for conducting natural resource damage assessments for both the Comprehensive Environmental Response, Compensation, and Liability Act and the Oil Pollution Act
- U. S. Department of Interior Motorboat Operator Certification (August 2005)

Professional Publications:

1) [redacted] Brittingham, M. C., and J. B. French, Jr. 2008. Endocrine effects of the herbicide linuron on the American goldfinch (*Carduelis tristis*). Auk 125 (2):411-419.

2) Boinski, S., Quatrone, R., [redacted] Selvaaggi, L., Henry, M., Stickler, C., and L. Rose. 2003. Do brown capuchins socially learn foraging skills? In D. M. Fragaszy and S.Perry (Eds.), *The Biology of Traditions: Models and Evidence*(pp. 365-390). Cambridge University Press, Cambridge.

3) Boinski, S., [redacted] Selvaggi, L., Quatrone, R., Henry, M., and S. Cropp. 2002. An expanded test of the ecological model of primate social evolution: Competitive regimes and female bonding in three species of squirrel monkeys (*Saimiri oerstedii, S. boliviensis*, and *S. sciureus*). Behaviour 139: 227-261.

4) New, L. D., Cunningham, D. S., and [redacted] 1998. Social play and estrous cycle: The relationship between social play and estrous cycle in a captive adolescent female chimpanzee (*Pan troglodytes*). In M.C. Duncan, G. Chick, and A. Aycock, (Eds.), *Play and Culture Studies: Diversions and Divergences in Fields of Play*, vol. 1 (pp. 179-185). Ablex Publishing, Greenwich.

References:

Name	Employer	Title	Phone	Email
Dr. James Berdeen	Minnesota Department of Natural Resources	Wildlife biologist	(218)308-2280	jim.berdeen@dnr.state.mn.us

Dr. Margaret Brittingham	Pennsylvania State University	Professor of Wildlife Studies	(814)863-8442	mxb21@psu.edu
Dr. John French	USGS Patuxent Wildlife Research Center	Center Director	(301)497-5502	jbfrench@usgs.gov
Molly Sperduto	U. S. Fish and Wildlife Service	Assistant Supervisor, Contaminants	(603)227-6415	molly_sperduto@fws.gov

Additional Information:

I. Awards:
1) EPA performance award (2020, 2021, 2022)
2) Federal Energy Regulatory Commission performance award (2016, 2017, 2019)
3) U. S. Fish and Wildlife Service performance award (2011, 2012, 2013, 2014)
4) U.S. Department of Justice Certificate of Commendation (2013)
5) Pennsylvania State University Ecology Program Research Award (2003)

II. Presentations:
1) [redacted] Ecological Considerations at Contaminated Sites: USFWS Perspective. EPA R4 Site Assessment Workshop, Louisville, KY, May 22-24, 2012.

2) [redacted] Session Coordinator: Strengthening Use of Scientific Inputs into Habitat Equivalency Analysis. DOI Natural Resource Damage Assessment and Restoration Program National Workshop, Phoenix, AZ, April 20-23, 2010.

3) [redacted] Brittingham, M. C., and J. B. French. Physiological differences between wild and captive American goldfinches (*Carduelis tristis*). Eighth International Symposium on Avian Endocrinology, Scottsdale, AZ, June 6-11, 2004 [Poster presentation].

4) [redacted] French J. B., and M. C. Brittingham. Morphological and physiological effects of the endocrine-disrupting contaminant linuron on the American goldfinch (*Carduelis tristis*). Society for Integrative and Comparative Biology, New Orleans, LA, January 5-9, 2004.

5) [redacted] 1997. A behavioral study of co-habitating silverback gorillas. Third Gorilla Workshop, Pittsburgh, PA, April 2-6, 1997.

III. Job Skills:

1) Computer software and statistical packages - Microsoft Office, SYSTAT, SAS, R statistical package, StatView, ArcGIS, Visual_HEA
2) Laboratory procedures - hormone immunoassays (RIAs and EIAs)
3) Field techniques - Radiotelemetry, mist-netting.

IV. Volunteer Activities:
1) Reston Association Environmental Advisory Committee member
2) Certified Stream Monitor for Virginia Save Our Streams and RiverTrends – Alliance for the Chesapeake Bay
3) Casey Trees volunteer
4) Fairfax County Stewardship Invasive Management Area volunteer

MICHELLE SUTHERLAND

612-232-1804 (Mobile) • MICHELLE.M.SUTHERLAND@HOTMAIL.COM

EDUCATION

Masters of Business Administration	University of Idaho	2020
Masters of Science in Geology	University of Minnesota	2008
Bachelors of Science in Geology	University of Southern California	2002
Bachelors of Science in Biology	University of Southern California	2002

RELEVANT EXPERIENCE

Waste Management Project Environmental Lead (PEL) & D&D Environmental Support — Idaho National Laboratory (INL), IEC, Idaho Cleanup Project (ICP) — 2020 – 2022

- As Waste Management Project Environmental Lead (PEL), responsible for supporting the Waste Management organization with waste treatment, processing, storage, inspections, emergency management, and day to day operations, including waste types of: RCRA Hazardous, Radioactive, Mixed Low-Level Waste (MLLW), CH/RH-TRU (transuranic), CERCLA and Industrial. Ensure all work done in compliance with HWMA/RCRA facility permit, and assist with permit modifications. Conduct document reviews for manuals, procedures, forms, etc, and write annual environmental reports. Support waste accumulation area setup such as SAA/TAA/CSA, oversight of weekly/monthly inspections and waste management units. Develop Environmental Checklists that document environmental aspects of work conducted and NEPA impact. In charge of all environmental media for Waste Management footprint at INTEC site, with in regards to: water, air, soil, birds, RCRA, EPCRA, TSCA, CERCLA, NEPA, etc.
- As D&D Environmental Support, worked on multiple aspects of D&D across the INL including interactions with regulators, running monthly D&D meetings, oversite of D&D completion reports, development of project Engineering Evaluation/Cost Analysis (EE/CAs) and risk Assessments, application of CERCLA regulations to projects, project management, oversite of subcontractor support, update LST-1213 of General Action Memo activities, etc. Supported D&D prep and execution work for the D&D of NRF prototypes through contract with DOE-EM and NR, including development of risk assessments, EECA, support documents (radiological, environmental, quantitative, cost estimate, etc,) and regulatory memos. Met and worked weekly with DOE-EM and NR on comment project initiatives, comment resolutions and coordination. Also supported the day-to-day operations of S1W prototype prep and work, including hazardous material removal (lead, asbestos, other identified materials), environmental regulations, disposal requirements. Included development of procedures, work orders (major and minor), oversite of daily work, and weekly touch points with Project Management and DOE-EM.

Senior Environmental Compliance Engineer - Environmental Liaison — Idaho National Laboratory (INL), Fluor Marine Propulsion Laboratories Naval Reactors Facility (NRF) — 2017 – 2020

- In house environmental consultant to assist site wide, with day to day operational needs, project specific support and construction work. Partner with all parts of organization to ensure daily compliance with all federal and Idaho Department of Quality (IDEQ) regulations, of all media including: soil, water, air, migratory birds, waste management (radiological, RCRA, asbestos, PCBs, etc.), CERCLA sites, sewage lagoons, industrial reuse ditch, spill response, and radiological contamination. Work with Environmental Engineering and Oversight with permits, reporting, and regulator interactions. Participate in recapitalization

project of spent fuels, to [redacted] ermediary projects and transition of new facility components to Facilities and Operations groups. Work on enterprise ESH (Environmental, Safety and Health) initiatives in waste minimization, reduction in energy consumption by decreased use and increased efficiency, and create awareness of environmental excellence. Member of Emergency Response Organization, to build capacity for quicker response to environmental releases and potential threats to human health and the environment.

Senior Program Administrator **-** *Environmental Management* U.S. Air Force National Guard 2016 – 2017

- Within the Civil Engineering Group, provide environmental management and compliance for all media on base including: water, stormwater, sanitary sewer, regulated waste streams including hazardous waste (oils, POLs, other RCRA materials), radioactive waste, non-regulated solid waste, air, asbestos, jet fuel, deicing chemicals, and cultural and historical resources. Ensure implementation of management plans, permits and inspections for each media such as spill prevention (SPCC), SWPPP, hazardous waste containment, tank program, recycling, and pollution prevention. Manage environmental assessments, investigations, remediations, and abatements, while providing environmental oversight to construction projects. Complete EPCRA and TSCA reporting. Responsible for maintenance and continued growth of GIS, and other environmental databases. Work with Air Force, Department of Defense (DOD) and Department of Energy (DOE) directives to decrease environmental impact of entire base and work within Green Procurement Plan objectives.

Geologist Contractor Various Employers 2014 – 2015

- Complete contract work for various employers in various areas such as geological, laboratory, field and educational.

Hydrologist/GIS Specialist Minnesota Pollution Control Agency 2012 – 2013

- Responsible for solid waste permit writing for the State of Minnesota in regards to: solid waste, hazardous materials, recycling, composting, industrial waste, demolition debris and waste to energy alternatives. Work with permitees and associated consultants on hydrological assessments of sites, engineering recommendations for liner specifications, stormwater control, methane gas systems and sampling protocols. Contributing authorship in Environmental Impact Statements (EIS) for solid waste facility expansions and Environmental Assessment Worksheets (EAW) for continued site operations. Support state initiatives in meeting maximized quantities of recycled materials and reduction of solid waste that is landfilled. Meet state and department’s timelines for permit public notification, release and issuance. Also, responsible for remediating water and soils in relation to federal Resource Conservation and Recovery Act (RCRA) and state regulations for hazardous waste, on state owned and directed lands. Project manager for periodic environmental monitoring of sites, review of hydrogeological and chemical data, model sensitivity analysis, and functionality audits. Responsible for maintenance and continued growth of GIS, analytical and other agency databases.

Laboratory Technician/Project Coordinator National Lacustrine Core Facility, University of Minnesota 2011 – 2012

- Manage daily laboratory functions including: repository core retrieval, core receiving, core preparation for sampling and geo-tek photography, bore logging, sample documentation, sample analysis, data compilation, report writing, grant writing, visitor tours and assistance, component billing and project budgeting. Point technician for coloumetric carbon and x-ray diffraction analyses. Coordinate Minnesota Pollution Control Wild Rice Sulfate Project submittals, including report writing, data representation and correspondence (including Equis, Department of Natural Resources inquiries and private stakeholders), and directed correspondence.

Environmental Representative Target Corporation 2010 – 2011

- Work with the Clean Wate[redacted]h regards to Target Corporation construction of new stores and distribution centers, including: permitting (NPDES, state, city and watersheds), reporting, stormwater water pollution prevention plan (SWPPP) design and enforcement, technical consultant to civil engineers and design teams for each new location. Manage and execute operational aspects of all stormwater assets at existing stores and distribution centers, including: permitting, regulation reporting, watershed dues, rehabilitation of sites, preventative maintenance of sites, vendor management and GIS. Complete monthly budgetary forecasts and accruals, documentation management and archiving, continued partnerships amongst other groups within Target, and leading group initiatives within the company, including sustainable concepts and building techniques.

START Project Manager / Geologist U.S. Environmental Protection Agency / Sullivan International 2008 – 2010

- *START (Superfund Technical Assessment and Response Team) Project Manager* – Work with U.S. Environmental Protection Agency (EPA) to setup necessary protocol for each superfund site and be the project manager. This includes: writing Health and Safety Plans (HASP), creating sampling plans, carrying out sampling required for scenario, equipment calibration and care, cost-tracking, documentation (written, photos, movies), database management of all project data, GIS, writing monthly reports and final summary reports. Additional assistance given to the EPA On-site Coordinator (OSC) with site functions, overseeing site activities, preparation of public meeting materials and publications, and act as a liaison to the public. Also, provided similar support to Air Force Bases along the west coast, for the Department of Defense.
- *Geologist* – Work on various projects in roles from project manager to field assistant to project oversight. Projects include activities in: ground water sampling, soil sampling, air monitoring, report writing, sampling plan direction, project dictation, sample prep and shipment (such as EPA CLP (Contract Laboratory Program) guidelines), equipment needs and calibration, sampling documentation, soil identification and log borings.

SKILLS

Certifications:

- 40 Hour OSHA Hazwoper (with current 8-hour refresher)
- Professional Geologist Licensure (Expected 2022)
- Visible Emissions – EPA Method 9
- National Historic Preservation Act, Section 106
- Asbestos Supervisor
- Stormwater Pollution Prevention Plans (SWPPP) Design and Inspection
- McCoy RCRA (Resource Conservation and Recovery Act) 40 Hour
- Department of Transportation (DOT) Hazardous Materials and Waste
- Solid Waste / Demolition Landfill Operator Licensure (Minnesota)
- Hazardous Materials Response – Awareness Level (Michigan State University)
- FEMA Emergency Management Courses: ICS-100 and ICS-200
- First Aid, Cardiopulmonary Resuscitation (CPR), and Automated External Defibrillator (AED)
- Open Water SCUBA Diver

Computer Programs:

- Arc GIS (current and earlier versions), Geodatabases, Global Positioning System (GPS)
- CAD (limited editing and GIS interface)
- Website Management and Design, SharePoint Platform Proficiency
- Microsoft Office (Access, Database Management, Word, Excel, Works, Power Point, Outlook, Project)
- Adobe

Large Equipment:

- Geoprobe, Bobcat, Fork-lift, Skid Steer, Backhoe

[redacted]

Languages:

- English (native)
- Spanish (conversational)

Security Clearances:

- Department of Energy - Level L

ORGANIZATIONS

- Association for Women Geoscientists (AWG), 2008 – Present
  - National President, 2021-2022
  - National President Elect, 2020 – 2021
  - National Treasurer, 2018 – 2020
  - GSA Coordinator, 2011 – Present
  - Chapter Vice President, 2008 – 2011
- Geological Society of America (GSA), 2013 - Present
- Geological Society of Minnesota (GSM), 2003 – Present
- American Institute of Professional Geologists, 2018 – Present
- Women in Nuclear (WiN), 2018 – Present
- Women's Environmental Network (WEN), 2016 - 2017
- Midwest Groundwater Association (MGWA), 2012 – 2014
- Forum for Women in the Environmental Field (FWEF), 2011 - 2012
- Minnesota Science Teachers Association (MNSTA), 2010 – 2012

AWARDS/GRANTS

- Environmental Engineering Employee Recognition, June 2019
- Special Appreciation – Partnering and Teaming, Facilities, March 2019
- AWG Foundation, Student Supplement for Annual GSA Awards and Networking Breakfast, 2015 – 2022
- Special Recognition – Membership Outreach and Recruitment, Association for Women Geoscientists, 2014
- Voyager Award, Minnesota Pollution Control Agency, 2013
- Remediation Division Award for Performance, Minnesota Pollution Control Agency, 2012
- Homer Awards for "Living Our Values" (Twelve in All), Home Depot Corporation, 2012 - 2014
- Customer Service All Star, Home Depot Corporation, 2012
- Summer Research Grant, Department of Geology and Geophysics, U of M, 2007
- Women In Science and Engineering (WISE), Undergraduate Research Grant, USC, 2002
- National Science Foundation, Research Experiences for Undergraduates Supplemental Grant, USC, 2002
- Earth Science Apprenticeship Program (ESRAP), USC, 2001 – 2002

SERVICE

- GSA Career Mentor, 2016 – 2022
- AWG Career and Academic Advancement Mentor, 2015 – 2022
- SeaPerch, 2019
- STEM Outreach, 2019
- Starbase Graduation Speaker, 2016 – 2017
- WEN Career Mentor, 2016 – 2017
- National AWG GSA Conference Booth Representative, 2012 – 2012
- Boy Scout North Star Council Fall Jamboree - Geology Badge, 2011, 2013
- Women in the Sciences and Early Childhood Development Seminar, 2011
- Minnesota Earth Sciences Teacher Association Annual Training, 2010-2012
- Minnesota Academy of Science State Fair (MASSF), 2008 – 2012
- Simpson Shelter Program Breakfast, 2008

[redacted]

RESEARCH AND PUBLICATIONS

- Contributing authorship to multiple Technical Reports, Maps, Environmental Assessments, Risk Assessments, etc. while working for the following organizations: Department of Energy, Department of Defense, Minnesota Pollution Control Agency, National Lacustrine Core Facility, Target Corporation, and United States Environmental Protection Agency. 2008 - Present.
- [redacted] Whitney, D., Davis, P., and N. Seaton. Microfabric analysis of Quartzites in the Sivrihisar Massif, in West-central Turkey: University of Minnesota. 2006 – 2008.
- Wetmore, P.H., Herzig, C., Alsleben, H., [redacted] Schmidt, K.L., Schultz, P.W., and S. R. Paterson, Mesozoic tectonic evolution of the Peninsular Ranges of southern and Baja California: Geological Society of America Special Paper 374, p.1-24, 2003.
- [redacted] Wetmore, P.H., Herzig, C., and S.R. Paterson, The early Cretaceous Santiago Peak Arc: a continental margin arc built on the North American Triassic-Jurassic accretionary prism of southern and Baja California: Geological Society of America Annual Meeting "Abstracts with Programs," v.34, p.43, 2002.
- Wetmore, P.H., Alsleben, H., Ducea, M., Gehrels, G., [redacted] and S.R. Paterson, The Ancestral Agua Blanca Fault: an early Cretaceous suture of the western Peninsular Ranges of Baja California, Mexico. Tectonics 2002.

[redacted]

RELEVANT COURSES TAKEN

Master of Business Administration

- Introduction to Team Building & Group Dynamics, U of I
- The External Context of Business, U of I
- Financial Reporting and Management, U of I
- Strategic Business Communication, U of I
- Strategy Formulation and Execution, U of I
- Ethical Leadership, U of I
- Strategic Cost and Process Management, U of I
- Managing Relationships – Influencing Behavior, U of I
- Marketing Management and Innovation, U of I
- Lean Startup & Product Launch, U of I
- Leading Strategic change, U of I
- Decision Analytics, U of I
- Assessing to Improve Firm Performance, U of I
- Crisis Communication, U of I
- Negotiation and Conflict Management, U of I
- Risk Management, U of I
- Managing Your Future, U of I
- Capstone Integrative Analysis, U of I

Geology/Earth Sciences

- Earth History: A Planet and Its Evolution, USC
- Mineralogy and Petrology A and B, USC
- Surfical Processes and Stratigraphic Systems, USC
- Structural Geology and Tectonics, USC
- Paleontology and the Evolution of Life, USC
- Oceans, Climate and the Environment, USC
- Geophysics and Geoengineering, USC
- Geochemistry and Hyrdogeology, USC
- Graduate Seminar in Structure and Tectonics, USC
- Graduate Seminar in Geobiology, USC

Geology/Earth Sciences (continued…)

- Field Camp - Field Geology in the Rocky Mountains, Indiana University
- Igneous/Metamorphic Petrology, U of M
- Neotectonics, U of M
- Glacial Geology, U of M
- Mineral and Rock Physics, U of M
- Fluid Mechanics in Earth Sciences, U of M
- Electron Microprobe, U of M
- Advanced Structural Geology, U of M
- Oil and Gas Exploration Short Course, Exxon Mobil

Biology/Ecology/Environmental

- Biology I, North Hennepin
- Advanced Introduction to Biology II, USC
- Molecular Biology, USC
- Advanced Molecular Biology, USC
- Biochemistry and Cell Biology, USC
- Evolution and Population Genetics, USC
- History of Discover in Biology, USC
- Environment and Ethics, USC
- Ecology, U of M
- Flowering Plant Systematics, U of M

Physics

- Fundamentals of Physics I: Mechanics and Thermodynamics, USC
- Fundamentals of Physics II: Electricity and Magnetism, USC

Chemistry

- General Chemistry A and B, USC
- Organic Chemistry A and B, USC

Mathematics

- Calculus I, USC
- Calculus II, USC

[redacted]

Hydrologist | Postdoctoral Researcher

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EDUCATION

2021 **PhD Hydrology**, University of Alaska Fairbanks, Fairbanks, AK

2016 **Graduate Certificate in Science Outreach and Teaching,** University of Alaska Fairbanks, Fairbanks, AK

2010 **MS Watershed Science,** Colorado State University, Fort Collins, CO

2004 **BS Civil Engineering Technology**, Rochester Institute of Technology, Rochester, NY

2001 **AAS Mechanical Technology,** Rochester Institute of Technology, Rochester, NY

2008, 2014 **Avalanche Certifications,** American Institute of Avalanche Research and Education, CO and AK

PUBLICATIONS

2022 [redacted] Dahl, T.A., & Giovando, J.J. Hydrologic Regime Classifications and Rain-on-Snow Vulnerability for CONUS. In *Proceedings of the 89th Western Snow Conference*, 18-21 April 2022, Salt Lake City, Utah.

2022 Morán-Tejeda, E., Fassnacht, S.R., Pfohl, A.K.D., Collados-Lara, A.J, [redacted] & Pulido-Velazquez, D. A Proposal for Studying Rain-on-Snow Events: A Case Study from SNOTEL Data in the Southern Rocky Mountains, USA. In *Proceedings of the 39th IAHR World Congress,* 19-24 June 2022, Granada, Spain.

2022 [redacted]**.,** Trochim, E.D., Fassnacht, S.R., & Wolken, G.J. Brooks Range Perennial Snowfields: Extent Detection from the Field and via Satellite. *The Cryosphere – Accepted.*

2022 [redacted] Dahl, T.A., & Giovando, J.J. Climate Driven Changes in Hydrologic Regime Classifications of the US. *In Preparation.*

2022 [redacted] Fassnacht, S.R., Trochim, E.D., Wolken, G.J., & Barnes, D.L. A Logistic Temperature Melt Model for Perennial Snowfields in Alaska. *In Preparation.*

2021 [redacted] Trochim, E.D., & Fassnacht, S.R. Brooks Range Perennial Snowfields: Extent Detection via Satellite and from the Field in Alaska. In *AGU Fall Meetings,* 2021, C15F-0853.

2021 [redacted] Brooks Range perennial snowfields: mapping and modeling change in Alaska's cryosphere. *Doctoral Dissertation,* University of Alaska Fairbanks.

2020 Fassnacht, S.R., Patterson, G.G., Venable, N.B.H., Cherry, M.L., Pfohl, A.K.D, Sanow, J.E., & [redacted]**.** How Do We Define Climate Change? Considering the Temporal Resolution of Niveo-Meteorological Data. *Hydrology,* 7(3), 38.

2019 [redacted] Trochim, E.D., Fassnacht, S.R., & Wolken, G.J. Extent changes in the Perennial Snowfields of Gates of the Arctic National Park and Preserve, Alaska. *Hydrology,* 6(2), 53.

2019 Cosgrove, C.L., Prugh, L.R., Nolin, A.W., Sivy, K.J., Crumley, R.L., & [redacted] Snow Depth, Stratigraphy, and Temperature in Wrangell St Elias NP, Alaska, 2016-2018. *ORNL DAAC NASA ABoVE Dataset,* Oak Ridge, Tennessee. https://doi.org/10.3334/ORNLDAAC/1656

2019 Thoman, R. & Walsh, J.E. Alaska's changing environment: Documenting Alaska's physical and biological changes through observations. [redacted] contributed research component #18, pp. 7. *International Arctic Research Center,* University of Alaska Fairbanks,

2017 [redacted]**.,** Fassnacht, S.R., & Meiman, P.J. Scales of snow depth variability in high elevation rangeland sagebrush. *Frontiers of Earth Science*, 11(3), 469-481.

2017 [redacted] & Rasic, J.T. Perennial Snowfields of the Central Brooks Range: Valuable National Park Resources. *Alaska Park Science*, 16(1), 50-53.

2017 Cherry, J.E., Knapp, C., Trainor, S., Ray, A.J., [redacted] & Walker, S. Planning for climate change impacts on hydropower in the Far North. *Hydrology & Earth System Sciences,* 21(1), 133-151.

2015 [redacted] Snow Patches in the Brooks Range. *US National Park Service Science Brief.*

2015 [redacted] & Conner, L.A. A "CASE" Study on Developing Science Communication and Outreach Skills of University Graduate Student Researchers in Alaska. In *AGU Fall Meetings,* 2015, ED23E-0876.

2015 [redacted] Freeburg, A.K., Rasic, J.T., Ciancibelli, C., & Fassnacht, S.R. Multi-resolution Changes in the Spatial Extent of Perennial Arctic Alpine Snow and Ice Fields with Potential Archaeological Significance in the Central Brooks Range, Alaska. In *AGU Fall Meetings,* 2015, C33E-0858.

2010 [redacted]**.** Snow depth variability in sagebrush drifts in high altitude rangelands, North Park, Colorado. *Masters Thesis,* Colorado State University.

2007 [redacted] S.R. Fassnacht, P. Meiman, and M.E. Fernandes-Gimenez. Snowcover Variability on a High-Altitude Rangeland in North Park, Colorado. *EOS Transactions*, 88(52): H21B-0514.

PROFESSIONAL EXPERIENCE

Snow Hydrology Postdoctoral Research Fellow
US Army Corps Engineer Research & Development Center (USACE - ERDC)
Coastal & Hydraulics Laboratory (CHL) and Cold Regions Research & Engineering Laboratory (CRREL)
Oak Ridge Institute for Science and Education, Oak Ridge National Laboratory
Dates: 08/15/2021 – present; **Hours/Week:** 40
Duties: Primary research project involves the creation of a hydrologic regime classification system for the contiguous US (CONUS), which will be published as journal article during the postdoc tenure. This project uses cloud-based computing, big data, machine learning, and spatial analysis via Google Earth Engine with gridded climate data and modeled snow cover variables used in the pixel-wise classification maps of CONUS over 40 years (1981 to 2020). Other research projects involve helping with validation and verification of several snowmelt modeling techniques being tested within the USACE HEC-HMS environment (Hydrologic Engineering Center's Hydrologic Modeling System) and literature review for an associated journal publication. Assisted with review and editing of multiple ERDC technical reports and scholarly journal articles.

Affiliate Research Professor and Student Committee Member
Water and Environmental Research Center, University of Alaska Fairbanks
Dates: 05/24/2022 – present; **Hours/Week:** 5
Duties: Currently a member of student committees at Colorado State University (CSU) and at Alaska Pacific University (APU), assisting with two research projects as an affiliate of the University of Alaska Fairbanks:

Northern Colorado Wildfire Snow Cover Mapping Project (CSU) - Using synthetic aperture radar (SAR) satellite imagery, I created snowmelt date maps for the area encompassing the Cameron Peak, Williams Fork, Middle Fork, Mullen, East Troublesome, and Calwood wildfire sites in Northern Colorado. Dates of snowmelt were derived using a SAR backscatter intensity differencing approach. The results are being used by the student researcher for characterizing effects of wildfires on snowmelt and snow cover for an upcoming journal article publication.

Eklutna Glacier and Eklutna Lake Watershed Project (APU) - Advising an MS student at APU who is studying snow cover changes on the Eklutna Glacier. Project includes development of snowmelt and stream flow models to quantify surface water supply to the reservoir and water treatment facility that serves the city of Anchorage. Inputs to the models were validated by correlating stream gage data and field collected snow depths with snow water equivalent data from the SNOTEL station associated with the glacier.

Snow Hydrology Field Researcher
NASA SnowEx Alaska Project
Dates: 04/10/2023 – 04/23/2023 (*Anticipated*); **Hours/Week:** 40
Duties: In April 2023, the NASA SnowEx Alaska project will be flying Airborne Visible InfraRed Imaging Spectrometer - Next Generation **(**AVIRIS-NG) instruments over Alaska to retrieve snow cover data. This will be the third measurement period for the 2022-2023 winter season and is slated to capture snowmelt in the study areas. I will be volunteering for the coincident, on-the-ground validation effort and field data collection campaign.

River Hydrologist
State of Alaska Department of Natural Resources
Anchorage and remote Alaska
Dates: 06/15/2019 - 08/06/2021; **Hours/Week:** 40
Duties: Worked as a river hydrologist researching geomorphology and navigability of rivers within the state of Alaska for state title to submerged lands for public access. Duties included preparation of journal research articles, analysis of stream gauge and weather station data, writing river navigability reports, developing computer code in R and python, hydraulic geometry modeling for Alaskan rivers, lake bathymetry analysis, and mapping / spatial analysis of river geography using satellite remote sensing in Google Earth Engine (GEE) and in ESRI ArcGIS. Analysis of gridded climate datasets was also performed for run-off modeling within watersheds. Field work involved floating Alaskan rivers via water craft, data collection using an Acoustic Doppler Current Profiler (ADCP), a digital Flow Tracker, and land surveying techniques. Travel to boat put-in sites was by small plane and helicopter.

NASA Earth and Space Science Graduate Research Fellow
Snow Hydrology and Remote Sensing PhD Student Researcher
University of Alaska Fairbanks
International Arctic Research Center and Water & Environmental Research Center
Fairbanks and remote Alaska
Dates: 08/15/2016 – 06/01/2019; **Hours/Week:** 40
Duties: Worked as a snow hydrology and remote sensing graduate research assistant. PhD dissertation used multi-spectral (optical) satellite imagery, synthetic aperture radar (SAR) satellite data, on-the-ground field collected data, and gridded climate model reanalysis data. This project mapped changes in extent and modeled snowmelt of perennial snowfield extents in the Brooks Range Mountains and in Gates of the Arctic National Park and Preserve, Alaska. Project included remote, on the ground field validation of remotely sensed data, as well as community outreach, citizen science, and science teaching in rural Alaska Native communities.

Snow Hydrology Field Researcher
Department of Energy (DOE) Next Generation Ecosystem Experiment (NGEE) Arctic Project
Oak Ridge, Los Alamos, Lawrence Berkeley, and Brook Haven National Labs; University of Alaska Fairbanks
Nome and Seward Peninsula, Alaska
Dates: 04/01/2018 – 04/08/2018; **Hours/Week:** 50
Duties: Volunteered for a field data collection campaign in the Western Alaskan arctic to collect snow hydrology variables used to improve arctic representation through field validation of Department of Energy climate models. Field work involved travel by helicopter, snowmobile, and on foot.

Snow Hydrology Field Researcher
NASA Arctic-Boreal Vulnerability Experiment (ABoVE), University of Washington State, University of Oregon
Wrangell-St. Elias National Park and Preserve, Alaska
Dates: 09/13/2017 – 09/20/2017 and 03/13/2018 – 03/19/2018; **Hours/Week:** 80
Duties: Worked on two data collection campaigns in Wrangell-St. Elias National Park to set up high alpine snow hydrology monitoring stations and to subsequently check the stations. Project research focused on snow cover influences on Dall sheep behavior. Field work involved travel by plane, foot, ski, and snow mobile.

Snow Hydrologist
US National Park Service - Young Leaders in Climate Change Fellow
Gates of the Arctic National Park and Preserve, Alaska
Dates: 06/01/2015 – 08/30/2015; **Hours/Week:** 40
Duties: Worked as a George Melendez Wright Young Leaders in Climate Change Intern, hosted through the NPS Climate Change Response Program. Modeled snowmelt and mapped locations of perennial snowfields in the Central Brooks Range Mountains. Analyzed remotely sensed satellite data and field collected snow and ice hydrology data in order to model recession of perennial snowfields for an archaeological project involving frozen artifacts. Internship involved helicopter assisted field work, GPS surveys, GIS mapping, and climate data analysis.

Hydrology Field Researcher - Permafrost, Snow, and Groundwater
Idaho State University and University of Alaska Fairbanks
Toolik Field Research Station, Toolik Lake, North Slope, Alaska
Dates: 05/01/2012 – 05/10/2012; **Hours/Week:** 50
Duties: Worked as a snow hydrologist for a permafrost water track research project, assisting with seasonal snow cover field data collection and teaching of these field methods to the permafrost research specialists. Assisted with hydrological laboratory specimen preparation. Field logistics included remote site access by snow mobile.

Hydrology Field Researcher - Snow and Permafrost
Caribou Poker Creek Research Watershed, University of Alaska Fairbanks
Bonanza Creek Long Term Ecological Research Forest, Alaska
Dates: 03/01/2012 – 03/05/2012 and 10/15/2012 – 10/16/2012; **Hours/Week:** 60
Duties: Worked as a field assistant for two projects in the Caribou Poker Creek Watershed in interior Alaska. Assisted a snow hydrologist in setting up snow water equivalent monitoring stations. Also assisted a hydrologic engineering technician in the collection of soil samples and other field data to validate a permafrost dynamics model for streams and thermokarsts. Field travel was by ATV and by ski.

Hydrologist
Three Parameters Plus, Inc. Environmental Consulting
Anchorage, Alaska
Dates: 12/01/2010 – 02/05/2012; **Hours/Week:** 50
Duties: Worked as a hydrologist and aquatic scientist for a private consulting firm specializing in hydrology, hydrogeology, wetlands delineation, and environmental permitting for large gold mine exploration projects in Alaska. Research included surface and ground water chemistry, macro-invertebrate biology, snow hydrology, wetland ecology, soil science, vegetation biology, and GIS mapping. Projects included ground water study at the

Kachemak Bay Research Reserve (Kenai Peninsula), snow hydrology and geology at the Chulitna River (Golden Zone mine in Denali State Park), wetland delineation and environmental permitting in Illiamna village (Pebble gold mine), hydrology of the Kuskokwim River (Donlin gold mine), and snow hydrology and soil science at the Livengood gold mine. Field work in water and soil sampling, remote site logistics, helicopter and ATV operation.

United States Fulbright Scholar - Snow Hydrologist and Rangeland Plant Ecologist
Mongolian Academy of Sciences, Institute of Geography
Ulaanbaatar and remote Mongolia
Dates: 03/01/2010 – 10/15/2010; **Hours/Week:** 40
Duties: Hydrologic and climatologic researcher in the fields of snow hydrology and rangeland plant ecology of the Mongolian Steppe and Taiga, funded by a United States Fulbright Scholarship. Duties included helping develop a climatologically based warning system for oncoming snow storms to notify rural Mongolian herders. Guest lecturer for methods of environmental statistical computing, and English language academic literature reviewer. Field travel by horse back and ATV.

Hydroclimatologist
Crested Butte Avalanche Forecasting Center
Crested Butte, Colorado
Dates: 11/15/2009 – 04/15/2010; **Hours/Week:** 15
Duties: Compiled and correlated near-real-time climate and hydrometeorological data from multiple weather stations located around the Gunnison Valley in Colorado into one database for use in avalanche forecasting. Assisted in the QA/QC of weather station data, including snow cover variables, temperature, and precipitation.

Wilderness Ranger – Crew Leader – Federal Grade Level GS-07
US National Forest Service - Gunnison National Forest
Gunnison, Colorado
Dates: 05/01/2009 – 10/15/2009; **Hours/Week:** 40
Duties: Worked in the backcountry of several wilderness management areas within the Gunnison National Forest. Main duties included GPS data collection on the impact on natural resources by recreational users within wilderness boundaries, as well as trail maintenance and public contacts.

Rangeland Plant Ecology Field Research Assistant
Rangeland Science Department, Colorado State University
Laramie and Medicine Bow National Forest, Wyoming
Dates: 05/01/2008 – 08/15/2008; **Hours/Week:** 40
Duties: Worked as a field assistant to a PhD student in the Rangeland S department, in cooperation with the Southeast Wyoming Cheatgrass Partnership. Performed field monitoring of native and invasive rangeland grasses, shrubs, and forbs in grassland / shrubland / foothill transitional zones, as well as in rangeland wildfire burned areas. Field sites were located in the Medicine Bow National Forest, the Sybille Canyon Ecological Research Area, and on private ranches in Southern Wyoming.

Water Rights Research Assistant
National Park Service, Water Resources Division
Fort Collins, Colorado
Dates: 11/01/2007– 05/15/2008; **Hours/Week:** 20
Duties: Worked as a research assistant in the Colorado Water Rights Branch of the Water Resources Division of the National Park Service. Duties included processing data from USGS stream gauging stations located within NPS land boundaries for water rights permitting. Also compiled historical hydrology data for stream gauging stations.

Snow Hydrology Graduate Research Assistant
Watershed and Rangeland Science Departments, Colorado State University
Walden, Cameron Pass, and Fort Collins, Colorado
Glacier Lakes Ecosystem Experiments Site (GLEES), Snowy Range, Wyoming
Dates: 01/15/2007– 12/15/2008; **Hours/Week:** 40
Duties: Worked as a graduate research assistant for Watershed Science and Rangeland Science department faculty during Master's program. Studied wind – induced snow drifting around shrub vegetation in the high altitude rangelands of North Park, Colorado. Research focused on statistical modeling of snow geometry and distribution, snowmelt modeling, fluid dynamics of blowing snow, as well as soil moisture inputs from snow drift melting.

Hydrologic Engineer
FRA (Flint, Radley, & Allen) Engineering, Planning, & Codes
Rochester, New York
Dates: 05/01/2005– 06/15/2006; **Hours/Week:** 45
Duties: Worked in hydrologic engineering and design for a private consulting firm. Duties included hydrologic modeling and analysis of river systems, drainage basin/ floodway mapping and delineation, wetland delineation, and storm water management design, including retention/detention ponds, storm water sewer systems, and drainage system remediation. Also performed GIS mapping, soil survey research, sanitary sewer design, domestic water supply and septic system design, and erosion control systems. Wrote engineering reports detailing hydrologic and hydraulic system designs, storm water pollution prevention plans (SWPPPs), environmental impact statements (EIS), and environmental quality reviews. Field work included hydrant flow tests and metering, soil permeability tests, site plan reviews, and construction site inspections.

Backcountry Trails Construction – Federal Grade Level GS-05
US National Park Service - Kings Canyon National Park
Three Rivers, California
Dates: 06/01/2004 – 10/15/2004; **Hours/Week:** 50
Duties: Construction of rock masonry to maintain grade and integrity of trails. Created hydrologic structures, steps, retainer bars, water bars, and retaining walls on trails. Involved with vegetation restoration. Aided in maintenance scheduling and personnel and equipment logistics. Trail maintenance included logging out trails, clearing boulders, work with hand tools and jackhammers, and clearing brush.

Vegetation Ecologist
US National Park Service - Sequoia & Kings Canyon National Parks
Three Rivers, California
Dates: 06/01/2003– 09/01/2003; **Hours/Week:** 45
Duties: This position was obtained as a member of the Student Conservation Association (SCA). Volunteered as a vegetation management specialist with non-native, invasive plant species identification and eradication. Performed forest fire burn area studies and watershed studies. Used GIS mapping of natural resources within the national park. Worked on GPS mapping of trails in the field and in the GIS lab. Assisted with an irrigation project for vegetation restoration of Giant Forest.

Hydrologic Engineering Assistant
Monroe County Department of Environmental Services, Division of Waters
Rochester, New York
Dates: 03/01/2002– 08/15/2002; **Hours/Week:** 40
Duties: Assisted in monitoring of sewer operations and flow analysis. Inspected sewer connections for municipal construction requirements and public health standards. Used GPS mapping to locate sewer infrastructure. Reviewed construction plans for conformance with Monroe County construction specifications, assisted with land surveying tasks, and performed storm water runoff calculations.

TEACHING EXPERIENCE

2022 **University of Alaska Fairbanks**
Hydrology Guest Lecturer
NRM 489/689 - Soil Geography of Alaska Field Course

2020-present **Snow Hydrology Student Committee Member**
Manuela M. Jay, Graduate MSES Student
Eklutna Glacier and Eklutna Lake Watershed Project
Department of Environmental Sciences, Alaska Pacific University

Marin MacDonald, GIS BS Student
Northern Colorado Wildfire Snow Cover Mapping Project
Watershed Science Department, Colorado State University

2007-2008 **Colorado State University**
Teaching Assistant for Watershed Science Courses
WR 474 - Snow Hydrology - semester long undergraduate course
WR 575 - Snow Hydrology Field Methods - graduate level field course
WR 418 - Land Use and Water Quality - semester long undergraduate course

2010 **Mongolian Academy of Science, Institute of Geography, Ulaanbaatar, Mongolia**
Computer Programming Instructor through US Fulbright Scholar program

GRANTS AND FELLOWSHIPS

2021-2022 Oak Ridge Institute for Science and Education (ORISE) Postdoctoral Research Fellowship

2021 University of Alaska (UAF) PhD Dissertation Completion Grant

2020 Alaska Climate Adaptation Science Center (AK CASC) Small Grant

2016-2020 NASA Earth and Space Science Graduate Fellowship (NESSF)

2017 Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) Pathfinder Graduate Fellowship for field work

2017 The Explorer's Club Graduate Student Grant for field work

2016 NSF Experimental Program to Stimulate Competitive Research (EPSCoR) Engaging Alaska Natives (AKNEG) Grant

2016 NASA Alaska Space Grant Program (ASGP) Graduate Fellowship

2016 UAF Resilience and Adaptation Program (RAP) Graduate Fellowship

2016 UAF Katherine E. and John P. Doyle Scholarship for women in science

2016 American Water Resources Association (AWRA) Graduate Fellowship - National Organization Richard A. Herbert Memorial Scholarship

2016	American Water Resources Association (AWRA) Graduate Fellowship - Alaska State Chapter
2016	Arctic Institute of North America (AINA) Grant-In-Aid Fellowship
2016	American Water Resources Association (AWRA) Student Travel Grant
2015	National Park Service George Melendez Wright Young Leaders in Climate Change (YLCC) Research Fellowship
2015	Alaska NSF Experimental Program to Stimulate Competitive Research (EPSCoR) Travel Grant
2014-2015	National Science Foundation (NSF) Changing Alaska Science Education (CASE) GK-12 Teaching Fellowship
2012	American Water Resources Association (AWRA) Student Travel Grant
2010	United States Fulbright Fellowship to Mongolia
2007-2008	Margery M. Wilson Scholarship - Colorado State University
2007-2008	Smith Scholarship - Colorado State University
2007-2008	Dils Scholarship - Colorado State University
1999-2004	Alumni Scholarship - Rochester Institute of Technology
1999-2004	Presidential Scholarship - Rochester Institute of Technology

SCIENCE OUTREACH EXPERIENCE

2017 **Cryosphere Summer Science Camp at University of Alaska Fairbanks**
Hydroclimatology Instructor, Grades K-6
Fairbanks, Alaska

2016 **Anaktuvuk Pass Winter Citizen Science Event**
Snow Hydrology Citizen Science Project
Anaktuvuk Pass, Gates of the Arctic National Park & Preserve, AK

2016 **Anaktuvuk Pass Summer Science & Culture Camp - Grades K-12**
Hydrology & Native Alaskan Traditional Ecologic Knowledge (TEK)
Anaktuvuk Pass, Gates of the Arctic National Park & Preserve, AK

2016 **National Park Service Bio-Blitz Citizen Science Nationwide Event**
Field Biology Citizen Science Project
Gates of the Arctic National Park & Preserve, Alaska

2015-2016 **Alaska Summer Research Academy to the Schools Program**
University of Alaska Fairbanks
Remote/Rural Alaskan communities Grades K-12 Science Teaching and Outreach
Nome, Dillingham, Kotzebue, Bethel, Unalakleet, Wainwright, Shishmaref, Allakaket

2014-2015 **NSF Changing Alaska Science Education (CASE) GK-12 Program**
K-12 Science Teaching and Outreach Graduate Fellow
Fairbanks, Alaska

2015 **Arctic Village Summer Science & Culture Camp – Grades K-12**
United States Fish & Wildlife Service
Hydrology, Aquatic Biology, & Native Alaskan Traditional Knowledge
Arctic Village, Arctic National Wildlife Refuge, Alaska

2015 **American Water Resources Association Alaska Chapter Annual Meeting**
K-12 Science Teaching and Outreach Sessions
Hydrogeology & Geography Instructor
Fairbanks, Alaska

2015 **Groundwater Modeling Workshop for Japanese High School Students**
International Arctic Research Center, University of Alaska Fairbanks
Hydrogeology & Snow Hydrology Instructor
Fairbanks, Alaska

2014 **Alaska Avalanche Information Center Avalanche Awareness Course**
Avalanche Safety and Science Instructor - Volunteer
Fairbanks, Alaska

2014 **Outdoor Days, United States Fish & Wildlife Service**
Eco-hydrology Instructor
Fairbanks, Alaska

2014 **Girl Scouts of Alaska, Women of Science, Farthest North Council**
Hydrology Instructor
Fairbanks, Alaska

2011-2014 **Girl Scouts of Alaska, Women of Science, Rural Southwest Program**
Hydrology and Hydrogeology Instructor
Southwest Alaska Region – Multiple Remote Alaskan Communities
Nome, Dillingham, Nondalton, Illiamna, Bethel, New Stuyahok, Aniak

SERVICE ACTIVITIES

2022 **American Geophysical Union (AGU) Cryosphere Section Canvassing Committee Member**
Committee focused on bringing DEI to nomination process for AGU Cryosphere Awards

2021 **American Geophysical Union (AGU) 2021 Fall Meeting**
Cryosphere Section Outstanding Student Presentation Award Judge

2020 **Remote Sensing -** Academic Journal Peer Reviewer

2015-2017 **American Water Resources Association (AWRA), Alaska Section**
Northern Alaska Regional Chapter Leader, Fairbanks, AK

2017 **Joint Conference - Alaska Chapters of the American Fisheries Society (AFS) and Water Resources Association (AWRA) -** Student Organizer / Conference Volunteer, Fairbanks, AK

2016-2021 **Frontiers of Earth Science -** Academic Journal Peer Reviewer

2016 **American Water Resources Association (AWRA) National and State Conferences**
Best Student Poster Award Judge, Anchorage, AK

2015 **Permafrost & Periglacial Processes -** Academic Journal Peer Reviewer

2015 **American Geophysical Union (AGU) 2015 Fall Meeting**
Exploring Role of Arctic Science in Developing International Arctic Policy
Organized and Co-Convened this Public Affairs Session, San Francisco, CA

2015 **American Geophysical Union (AGU) Congressional Visits Day (CVD)**
Invited Participant in science meetings with Alaska's members of Congress in Washington, DC

2015 **American Water Resources Association Alaska Chapter Annual Meeting**
Board of Directors **-** Student Organizer and Conference Volunteer**,** Fairbanks, AK

2014 **Girls on Ice Alaska - Science, Mountaineering, & Art Summer Camp**
Equipment Transporter / Backpacker Helper, Gulkana Glacier, AK

WORKSHOPS

2022 **US Army Corps of Engineers - Desert Research Institute (DRI) Collaborative Meeting**
Arid Regions Research and Development Priorities - Post-Wildfire Flood Risk Management
Las Vegas, NV. May 2022.

2020 **Wilderness Advanced First Aid (WAFA) Certification Training**
Wilderness Medical Associates International
Anchorage, AK. January 2020.

2017 **Snow Science Winter Field Methods School**
Finnish Meteorological Institute of Arctic Research Centre (FMI-ARC)
Sodankyla & Saariselka, Finland. February 2017.

2016 **Graphic Design for Science Communication Workshop**
International Arctic Research Center, University of Alaska Fairbanks
Fairbanks, AK. August 2016.

2016 **Global Learning and Observations to Benefit the Environment (GLOBE)**
GLOBE Science Instructor Certification, University of Alaska Fairbanks
Fairbanks, AK. June 2016.

2016 **Make an Impact Workshop - The Arctic in the Classroom**
Native Alaskan teachers and university researchers' collaborative workshop
Arctic Science Summit Week, Arctic Research Consortium of the United States (ARCUS)
Fairbanks, AK. March 2016.

2015 **National Science Foundation Director and Division of Polar Programs**
Invited Graduate Student Representative for NSF Site Visit to Alaska
University of Alaska Fairbanks, Fairbanks, AK. June 2015.

2015 **Snow Cover Phenology Remote Sensing and Modeling Workshop**
Interagency Workshop at National Park Service Administrative Center
Fairbanks, AK. May 2015.

2012 **Climate System Modeling: Downscaling Techniques and Applications**
International Arctic Research Center, University of Alaska Fairbanks
Fairbanks, AK. July 2012.

2012 **Ground Water - Surface Water Interactions Modeling Workshop**
American Water Resources Association (AWRA) Alaska Chapter Meeting
Juneau, AK. March 2012.

MEDIA COVERAGE

2019 **National Geographic - Scientists in the National Parks: Gates of the Arctic**
Story on Perennial Snowfields, Rourke Publishing.

2016 NSF Alaska Experimental Program to Stimulate Competitive Research (EPSCoR)
EPSCoR Education, Outreach, and Diversity Group Fall Newsletter
Engaging Alaska Natives (AKNEG) Grant Recipient Research
Newsletter & Social Media Posts, October 2016.

2015 National Park Service Climate Change Response Program Newsletter
Young Leaders in Climate Change:
Perennial Arctic Alpine Snow and Ice Patch Monitoring in Alaska
http://depts.washington.edu/pnwcesu/news/project%20news/2015-12-07%20CCRP%20Newsletter%20Q4%202015%20FINAL.pdf
Quarterly newsletter, December 2015.

2015 KUAC Fairbanks National Public Radio (NPR)
Gates of the Arctic National Park and Preserve Snow Patch Dynamics
Morning news radio story, October 2015.

2015 Anchorage Daily News (ADN)
Melting Brooks Range snow patches may reveal ancient artifacts
https://www.adn.com/science/article/tracing-melting/2015/10/17/
Newspaper article, October 2015.

2015 Fairbanks Daily News Miner
Warming Arctic could uncover Alaska Native artifacts
Newspaper article, October 2015.

2015 Juneau Empire
Warming Arctic could uncover Alaska Native artifacts
https://www.juneauempire.com/news/warming-arctic-could-uncover-native-artifacts/
Newspaper article, October 2015.

2015 **IARC Graduate Student Guides Kids with Science Artwork**
International Arctic Research Center (IARC) Spotlight Story, April 2015.

2015 **Japanese High School Students Learn about Groundwater at IARC**
International Arctic Research Center (IARC) Spotlight Story, March 2015.

2014 **Girls Explore Science with Women Scientists**
International Arctic Research Center (IARC) Spotlight Story, April 2014.

2013 **Nondalton Girl Scouts Have a Blast with Science**
International Arctic Research Center (IARC) Spotlight Story, September 2013

PROFESSIONAL MEMBERSHIPS

American Geophysical Union (AGU)
American Water Resources Association (AWRA)
Association of Polar Early Career Scientists (APECS)
American Association of University Women (AAUW)
Arctic Institute of North America (AINA)
Global Learning Observations to Benefit the Environment (GLOBE)

PRESENTATIONS - TALKS

2022 [redacted]., Dahl, T.A., & Giovando, J.J. Climate Driven Changes in Hydrologic Regime Classifications: What does it mean for Rain-on-Snow in US River Basins? *89th Annual Western Snow Conference.* Salt Lake City, Utah. April 2022.

2022 [redacted] Dahl, T.A., & Giovando, J.J. Assessing Risk: 40 Years of Shifting Hydrologic Regime Classifications, a Proxy for Climate Change and Flood Vulnerability. *ERDC RD22 (US Army Corps Engineer Research and Development Center - Research and Development Workshop 2022).* Vicksburg, Mississippi. April 2022.

2021 [redacted] Brooks Range Perennial Snowfields: Mapping and Modeling Change in Alaska's Cryosphere. *American Water Resources Association (AWRA) South Central Alaska Chapter Brownbag Meeting.* Anchorage, Alaska. November 2021.

2018 [redacted]. Perennial Snowfields in the Central Brooks Range in Gates of the Arctic National Park and Preserve, Alaska. *International Arctic Research Center (IARC) – Researcher's Meeting, University of Alaska Fairbanks*. Fairbanks, Alaska. March 2018.

2018 [redacted] Trochim, E.D., & Fassnacht, S.R. Perennial Snowfields in the Central Brooks Range, AK: Landsat Based Time Series of Extent Changes in Gates of the Arctic National Park and Preserve. *International Symposium on Arctic Research – 5 (ISAR-5).* Tokyo, Japan. January 2018.

2017 [redacted] Fassnacht, S.R., & Wolken, G.J. Climate Driven Extent Changes in Perennial Snowfields in Gates of the Arctic National Park in the Central Brooks Range, Alaska. *NASA Biodiversity and Ecological Forecasting Team Meeting.* Washington, DC. May 2017.

2017 [redacted] Fassnacht, S.R., Rasic, J.T., & Wolken, G.J. Climate Driven Extent Changes in Perennial Snowfields in Gates of the Arctic National Park and Preserve, Alaska. *19th George Wright Society Conference.* Norfolk, Virginia. April 2017.

2017 [redacted] Climate Driven Extent Changes in Perennial Snowfields in Gates of the Arctic National Park and Preserve, Alaska. *Alaska Space Grant and NASA EPSCoR (Experimental Program to Stimulate Competitive Research) Education and Research Symposium.* Fairbanks, Alaska. April 2017.

2016 [redacted] Fassnacht, S.R., Rasic, J.T., & Wolken, G.J. Climate Driven Extent Changes in Perennial Snowfields in Gates of the Arctic National Park and Preserve, Alaska: Implications for Hydrology and Archaeology. *National Park Service Centennial Science and Stewardship Symposium.* Fairbanks, Alaska. October 2016.

2016 [redacted] Climate Driven Extent Changes in Perennial Snowfields in Gates of the Arctic National Park and Preserve, Alaska: Implications for Hydro-Climatology and Archaeology. *Water and Environmental Research Center Weekly Seminar, University of Alaska Fairbanks.* Fairbanks, Alaska. April 2016.

2015 [redacted] Perennial Arctic Alpine Snow and Ice Patch Archaeology in the Central Brooks Range, Alaska. *National Park Service (NPS) Brownbag Seminar, NPS Fairbanks Administrative Center (FAC).* Fairbanks, Alaska. October 2015.

2015 [redacted] & Rasic, J.T. Perennial Arctic Alpine Snow and Ice Patch Archaeology in the Central Brooks Range, Alaska. *National Park Service Climate Change Response Program's Climate Change in America's National Parks.* Webinar. October 2015.

2015 [redacted] Perennial Snow Patch Modeling and Science Teaching and Outreach in Gates of the Arctic National Park and Preserve. *All IARC (International Arctic Research Center) Mini-Workshop, University of Alaska Fairbanks.* Fairbanks, Alaska. May 2015.

2015 [redacted] Promoting STEM Education among Elementary Students in Rural and Remote Alaska. *American Water Resources Association (AWRA) Northern Alaska Chapter Brownbag Meeting.* Fairbanks, Alaska. February 2015.

2013 [redacted] & Cherry, J. Middle to high elevation snow hydrology data for hydropower forecasting in Southern Alaska. *Japan Agency for Marine-Earth Science and Technology – International Arctic Research Center (JAMSTEC-IARC) Collaborative Meeting.* Fairbanks, Alaska. July 2013.

2012 [redacted] & Cherry, J. Assembling Snow Hydrology Data from High Elevation Watersheds for Use in Climate Change Models for Hydropower Forecasting in Southeast Alaska. *80th Annual Western Snow Conference.* Anchorage, Alaska. May 2012.

2008 [redacted] Fassnacht, S.R., & Meiman, P. J. Snow Depth Spatial Variability in Sagebrush Drifts in High Elevation Rangelands of North Park, Colorado. *28th Annual American Geophysical Union (AGU) Hydrology Days at Colorado State University.* Fort Collins, Colorado. March 2008.

PRESENTATIONS - POSTERS

2022 [redacted] Trochim, E.D., Fassnacht, S.R., & Wolken, G.J. Brooks Range Perennial Snowfields: Extent Detection via Satellite and from the Field in Alaska. *89th Annual Western Snow Conference.* Salt Lake City, Utah. April 2022.

2021 [redacted] Trochim, E.D., & Fassnacht, S.R. Brooks Range Perennial Snowfields: Extent Detection via Satellite and from the Field in Alaska. *American Geophysical Union (AGU) 2021 Fall Meeting.* New Orleans, Louisiana. December 2021.

2017 [redacted] Fassnacht, S.R., & Wolken, G.J. Climate Driven Extent Changes in Perennial Snowfields in Gates of the Arctic National Park in the Central Brooks Range, Alaska. *NASA Biodiversity and Ecological Forecasting Team Meeting.* Washington, DC. May 2017.

2017 [redacted] Fassnacht, S.R., & Wolken, G.J. Climate Driven Extent Changes in Perennial Snowfields in Gates of the Arctic National Park in the Central Brooks Range, Alaska. *Week of the Arctic: Arctic Interchange Poster Session, University of Alaska Fairbanks.* Fairbanks, Alaska. May 2017.

2017 [redacted] Fassnacht, S.R., & Wolken, G.J. Climate Driven Extent Changes in Brooks Range Perennial Snowfields in Gates of the Arctic National Park and Preserve. *Joint Conference of the Alaska Chapters of the American Fisheries Society and American Water Resources Association.* Fairbanks, Alaska. March 2017.

2016 [redacted] Fassnacht, S.R., & Wolken, G.J. Climate Driven Extent Changes in Brooks Range Perennial Snowfields in Gates of the Arctic National Park and Preserve. *2016 Alaska EPSCoR (Experimental Program to Stimulate Competitive Research) Annual Meeting, University of Alaska Fairbanks.* Fairbanks, Alaska. November 2016.

2016 [redacted] Fassnacht, S.R., & Wolken, G.J. Multi-Proxy Records of Perennial Snowfield Extent in the Central Brooks Range, Alaska: Implications for environmentally sensitive archaeological artifacts. *American Water Resources Association (AWRA) National Specialty Conference and Alaska Chapter Annual Meeting.* Anchorage, Alaska. April 2016.

2015 [redacted] Conner, L.D., & Danielson, J. A "CASE" Study on Developing Science Communication and Outreach Skills of University Graduate Student Researchers in Alaska. *American Geophysical Union (AGU) 2015 Fall Meeting.* San Francisco, California. December 2015.

2015 [redacted] Freeburg, A.K., Rasic, J.T., Ciancibelli, C., & Fassnacht, S.R. Multi-Resolution Changes in the Spatial Extent of Perennial Arctic Alpine Snow and Ice Fields with Potential Archaeological Significance in the Central Brooks Range, Alaska. *American Geophysical Union (AGU) 2015 Fall Meeting.* San Francisco, California. December 2015.

2014 [redacted] Promoting STEM Education among Elementary Students in Rural and Remote Urban Alaska Communities. *American Association for the Advancement of Science (AAAS) Arctic Science Conference.* Fairbanks, Alaska. September 2014.

2013 [redacted]E. & Cherry, J. Assembling Snow Hydrology Data from High Elevation Watersheds for Use in Climate Change Models for Hydropower Forecasting in Southern Alaska. *Alaska Weather Symposium, Arctic Region Supercomputing Center (AWS/ARSC), University of Alaska Fairbanks.* Fairbanks, Alaska. March 2013.

2012 [redacted] & Cherry, J. Assembling Snow Hydrology Data from High Elevation Watersheds for Use in Climate Change Models for Hydropower Forecasting in Southeast Alaska. *American Water Resources Association (AWRA), Alaska Chapter Annual Meeting.* Juneau, Alaska. March 2012.

2010 [redacted] Fassnacht, S.R., & Meiman, P. J. Snow Depth Spatial Variability in Sagebrush Drifts in High Elevation Rangelands of North Park, Colorado. *International Mongolian Russian Conference on the Environment.* Ulaanbaatar, Mongolia. September 2010.

2009 [redacted] Fassnacht, S.R., & Meiman, P. J. Snow Depth Spatial Variability in Sagebrush Drifts in High Elevation Rangelands of North Park, Colorado. *62nd Annual Meeting of the Society for Range Management.* Albuquerque, New Mexico. February 2009.

2008 [redacted] Fassnacht, S.R., & Meiman, P. J. Snow Depth Spatial Variability in Sagebrush Drifts in High Elevation Rangelands of North Park, Colorado. *65th Annual Eastern Snow Conference.* Fairlee, Vermont. May 2008.

2007 [redacted] Fassnacht, S.R., & Meiman, P. J. Snow Depth Spatial Variability in Sagebrush Drifts in High Elevation Rangelands of North Park, Colorado. *American Geophysical Union (AGU) 2007 Fall Meeting.* San Francisco, California. December 2007.

[redacted]

Civil / Environmental Engineer

[redacted]

Project planning, execution and contract management, in progressive roles through all project phases within scope, budget, and schedule.

Facilitation of team cohesiveness, expectations, and collaboration with both inner- and Inter-departmental teams working on projects and initiatives.

Manage storm design standards, review technical designs for consistency, analyze standards for regulatory compliance and effectiveness in achieving City goals.

PROFESSIONAL EXPERIENCE

Capital Project Manager, Engineer II

City of Shoreline, WA, Full-time, 5/2020–Present

Manage capital improvement projects for the City from project inception to completion including public involvement, budget, schedule, and overseeing consultants.

Surface Water Engineer

City of Bothell, WA, Full-time, 9/2008–5/2020

With increased responsibility and indirect supervision, develop and manage programs and projects within municipal stormwater management and environmental compliance related to the state National Pollutant Discharge Elimination System (NPDES) permit.

- Illicit Discharge Detection & Elimination (IDDE)
- Surface Water Development Regulations
- Drainage analysis, solutions, and Technical Assistance

Design Engineer

WHPacific, Bothell, WA, Full-time, 1/2006–5/2008

Land Development Project Design including: project schedule, communication, report writing, technical calculations, site analysis, street improvement design, drainage system sizing, water quality facility sizing, flow calculations, erosion control measures, pond sizing, pipe routing, volume calculations, and grading. Drafted construction plans and exhibits in AutoCAD.

Civil Engineer

Bush, Roed & Hitchings, Seattle, WA, Full-Time

12/2000–12/2005, Land Development, Commercial Civil Design

SKILLS

Project Management

Employee Training and Development

NPDES & Environmental Law

Process Improvement

Program Development

Research Based & Big Picture Strategy

Collaborative Team Environments

Consultant Management

Self-Directed & Resilient

Geographic Information Services (GIS)

Municipal Operations

Code Compliance

Drainage Design & Problem Analysis

Cooperative & Technical Problem Solving

Effective Written & Oral Communication

Peer Support

HIGHLIGHTS

22+ years of civil and surface water engineering experience

Grant Award for Flood Reduction Project

Implementation team and Subject Matter Expert for **GIS and Lucity** Maintenance Management Software.

Emergency Coordination Center, **Planning Section**

EDUCATION

BS Civil Engineering, music minor
Washington State University, Pullman

Project Management Certificate
Bellevue College

[redacted]

EDUCATION

Bachelor of Science, July 2015

Georgia Southwestern State University (GSW), Americus, GA
Major: **Geology**

CERTIFICATIONS

40 Hour HAZWOPER 1910.120 – August 2021

EXPERIENCE

Fort Gordon Environmental Division

-Physical Scientist: May 2020 – Present

- Act as Program Manager and Supervisor for multiple programs including: Hazardous Materials/Waste, Solid Waste, Installation Restoration, and Drinking Water.
- Coordinate with Georgia EPD and EPA and assist in routine compliance inspections
-Provide technical review and coordination for installation storm water pollution prevention plans, Best Management Practices (BMPs) and associated water quality aspects of Transformation Storm Water projects.
-Advise Water Program Manager and other staff as appropriate of situations contrary to the installation's environmental and water pollution abatement objectives and provides technical assistance on methods and procedures for corrective actions.
-Recommend actions to resolve problems including the review of National Environmental Policy Act (NEPA) documents as they relate to water and storm water issues.
-Draft storm water related Standard Operating Procedures (SOPs) augmented with internal control checklists to conduct inspections.
-Provide assistance for compliance and monitoring.

-Coordinate and accomplishes sampling of surface waters and system outfalls as required.

Trinity Analysis & Development Corp

-**Environmental Scientist:** November 2017 – May 2020
-This role served as contract support for Fort Gordon Environmental at Fort Gordon, GA.
- Coordinate/Conduct Spill Prevention Control and Countermeasures (SPCC) monthly visual inspections.
- Conduct various environmental inspections to meet requirements of plans/permits.
- Provide detailed reporting and documentation of all inspection/sampling results for DPW management and other agencies
- Review of Erosion Sediment Control Plans, water quality plans, water conservation and drought contingency planning, and streamflow management. Review and approve best management practices for treatment of storm water runoff from construction sites and land development. Ensure the installation is in compliance with the State and Federal National Pollutant Discharge Elimination System (NPDES) permits for storm water construction covering stand-alone projects, infrastructure projects, and common development projects.
- Assist with sampling collections which includes: outfall sampling, turbidity sampling, soil sampling, and lead/asbestos.
- Assist with various GIS projects such as creating maps for environmental reports, plans, etc...

Atlantic Coast Consulting

-**CQA Technician:** July 2016 – November 2017
-Provide independent, experienced, Construction Quality Assurance (CQA) inspection services and Construction Management (CM) services for solid waste and hazardous waste landfills.

Professional References

Shelby T. Tomberlin
2006 Sterling Ridge Dr.
Augusta GA 30909
478-765-2033
Shelby.Tomberlin@gmail.com

Kristi Hagood – Branch Chief

Fort Gordon Environmental

1302 W Brainard Ave

Fort Gordon, GA 30905

Kristi.h.hagood.civ@army.mil

706-791-9927

Parks Medlock – Project Manager

Trinity Analysis & Development Corp

1002 Eglin Pkwy

Shalimar, FL 32579

pmedlock@trinityadc.com

850-758-9588

Jean Wilson – Project Manager

SCS Engineers

12651 Briar Forest Dr #205

Houston, TX 77077

jwilson@scsengineers.com

281-824-2407

[redacted]
MIDX: 002439111
[redacted]
United States Citizen: Y
Veterans' Preference: NV
Military Service Dates (Start of Service - End of Service):
Location(s) Applied to: Anchorage, AK(US); Boise, ID(US); Lacey, WA(US); Portland, OR(US); Seattle, WA(US)
Series Applied To: 1301

Resume
[redacted]
Country of Citizenship: United States

Availability: Job Type: Permanent
Temporary
Term
Seasonal
Summer
Multiple Appointment Types
Telework
Work Schedule: Full-time
Part-time
Multiple Schedules

Work Experience: White Sand National Park
05/2022 - Present
Alamogordo
Salary: $66,000.00 USD Per Year
Alamogordo, NM 88310 US
Hours per week: 40
Series: 1301
Pay Plan: GS
Grade: 11
This a time-limited appointment or temporary promotion
Supervisor: David Bustos (5754918054)
Okay to contact this Supervisor: Yes

Physical Scientist
Modeling complex White Sands ecosystem /dunes dynamics related to meteorology parameters and hydrology regime drift in last few decades with changing relief, erosion areas, and plants cover re-clustering direction. Coordinates projects with managing the strategy of searching new informative sampling coordinates of groundwater level and physical- chemical composition of minerals for detecting hydrology regime variation to update a geodatabase with multi-dimensional vector-raster dataset. Compiles input dataset for building

analytical models of informative raster functions to use in satellite imagery processing with classification and mapping in ArcGIS format. Managing monitoring projects of dunes ecosystem's physical and abiotic resources and conditions for achieving broad ecosystem protection strategies of archeology excavations . This includes conducting inventories to determine statistically valid plot distributions and design, issuing new monitoring documents that define monitoring techniques and develops methods for future refinements of protocols.

Ivy Tech Community College
06/2013 - Present
410 East Columbus Drive ,
Salary: $0.00 USD Per Year
East Chicago, IN 46312 US
Hours per week: 12
Supervisor: Dr Carlos Hernandez (2193923600)
Okay to contact this Supervisor: Yes

Adjunct Faculty on Physical Science and Astronomy
•Instructions on Astronomy, Physical Science, and Earth Science in Northwest region (East Chicago, Valparaiso, Michigan city, and Gary campuses) and Southwest region (Evansville)
* Involved students in digital simulations on spectral patterns recognition of space objects through VIREO modules (the Virtual Educational Observatory) provided by Gettysburg College , PA according to CLEA program (Contemporary Lab Experiences in Astronomy)

American Medical Technologies, Inc
11/2007 - 01/2009
505 Ocean pkwy,
Salary: $0.00 USD Per Year
Brooklyn, NY 11218 US
Hours per week: 12
Supervisor: Dr Farber (3475334349)
Okay to contact this Supervisor: Yes

Scientist-consultant
*Responsibilities included instructions on: image processing and modeling microscopy measurements of blood cells’ optical parameters based on Image-Pro technology
*Achievement: Adjusted the informative ratio of atypical blood cells parameters for recognition of their optical patterns deviation in the earlier stage of cancer disease

International Ecoenergy Academy
01/2002 - 08/2007
5 M. Arif St
Salary: $0.00 USD Per Year
Baku city, 00000 AJ
Hours per week: 20

Lead Researcher/Project Manager
Managed: 1.Optimization of sampling coordinates on GPS-monitoring tracks for tracing streamflow dynamics in watershed and rivers, floods and scarcity, groundwater level variation, Water Quality (WQ) and bio-productivity dynamics in aquatic ecosystems ; 2. Lab-based/ model-based calibration of Landsat images for RS- monitoring degradation and bio-productivity dynamics in watershed area, estuarine and riparian ecosystem, plant-soil and forested mountain ecosystems in coastal zones of Caspian Sea impacted by degradation processes (coastal erosion , desertification, deforestation, landslides, mudslides) as result of a land-use activity. Project. Designed the optical-spectral catalog of sampled standards representing WQ parameters of aquatic ecosystems and physical-chemical features of soil and vegetation in the degrading coastal zones of Caspian Sea . Based on optical-spectral models of sampled standards, provided model-based calibration of RS data for

mapping and monitoring : WQ , bio-productivity, and plant- soil parameters' dynamics in degrading coastal zones (sea water and estuarine biome pollution, coastal erosion, deforestation , desertification, landslides, mudslides)

AeroSpace Research Institute of Natural Resources
03/2000 - 08/2007
159 Azadliq Ave
Salary: $0.00 USD Per Year
Baku city, AJ
Hours per week: 40

Department Chair /Coordinator of subsatellite experiments
Designed optimal sampling plans & simulated informative GPS survey tracks for monitoring streamflow dynamics in watershed area and groundwater level variability, Water Quality (WQ) and bio-productivity dynamics in watershed, riparian, and estuarine biome in the Caspian coastal zone, land-cover and moisture variability of degrading plant-soil and forested mountain ecosystems Traced and calibrated RS data including radiation balance for monitoring watershed streamflow dynamics and groundwater level variation in degrading areas . Provided lab-based/model-based calibration of hyperspectral images in VNIR, SWIR , and TIR spectral bands for mapping typical variation of optical contrasts and spectral indexes indicating watershed degradation, coastal erosion, aquatic and estuarine ecosystems pollution, deforestation, desertification, plant-soil's, rocks' and minerals', sediments' , moisture, and bio-productivity dynamics in aquatic and coastal ecosystems. Monitored air quality parameters, greenhouse gases dynamics in air polluted zones of industrial activity and mobile sources of traffic congestion, Coordinated 2 international subsatellite experiments on RS environmental monitoring of bio-productivity dynamics in oil-sources elaboration shelf zones , aquatic resources in the coastal ecosystem of the Estuarine Reserve area impacted by degradation processes as well by offshore oilfield development sites. Planned monitoring tracks with optimizing the budget. Supervised 27 technical/administrative staff from 4 international aerospace agencies * Provided inspection reports on land/water resources to determine the compliance status of watershed and WQ condition. Given public presentation on Bay Preserve’s problem, involving governmental officials, NGO, media and academic institutions, and lead scientists

Institute of Geophysics and Ecology
04/1998 - 03/2000
Baku City
Salary: $0.00 USD Per Year
Baku city, AJ
Hours per week: 40

Geo-scientist
• Coordinated environmental monitoring, modeling, and calibration of optical aerosol and albedo variation over aquatic and coastal ecosystems. Simulated informative sampling coordinates on GIS/GPS monitoring tracks for tracing watershed and groundwater level, and WQ parameters in degradation zones. • Sampling, measurements, and Lab-based/ model-based calibration of physical-chemical , spectral and thermo-magnetic features of soils ,rocks , and minerals in geological survey for mapping mineral resources of Little Caucasus Mountains. • Retrieved coercive spectra of igneous rocks from measurements of their residual magnetization curves for mapping paleomagnetic features. • Modeling and calibration of optical contrasts' and radiation temperature variation for monitoring tectonic and volcanic activity zones, oilfield areas,

Thermo-physics & Electro-physics Institute at Estonia Academy of Sciences
05/1989 - 08/1990
Tallinn
Salary: $0.00 USD Per Year
Tallinn -Parnu, EN

Hours per week: 40

Coordinator of International subsatellite experiment
Coordinated the Project of Thermo-physics & Electro-physics Institute at Estonian Academy of Sciences (Estonia) for sub-satellite helicopter experiment on Visible multispectral Survey and Infra-Red Radiometry for tracing a watershed and bio-productivity dynamics in degrading coastal zone of Baltic Sea related with deforrestation and desertification processes and stressed by pollution sources of oilfield development sites Traced spectral indexes in remote measurements of bio-productivity and WQ dynamics for monitoring degradation processes in coastal zones, aquatic and estuarine ecosystems. Traced albedo, radiation balance, optical transfer function, and the atmospheric aerosol variation over degradation sites;

Education: Institute of Computational Mathematics & Geophysics, Russian Academy of Sciences
Novosibirsk, AL RS
- 06/1989
Major: Physics & Mathematics
Relevant Coursework, Licensures and Certifications:
Modeling informative modes of remote measurements of Earth landscapes' optical-spatial and spectral contrasts variation

Baku State University,
Baku, AJ
Major: Physics (Molecular spectroscopy)

Baku State University,
Baku city, AJ
Major: Physics

Certification of Space Research Institute of Natural Resources
Baku city, AL AJ
- 01/2003
Major: Remote Aerospace Research
Relevant Coursework, Licensures and Certifications:
Job related training : • ENVI-software based multi-spectral images analysis and processing (NDVI-indexes) • ArcView software based spatial data modeling and mapping; • Optimum design of sub-satellite experiments for remote data calibration with MBC tools (MATLAB) • Certificate EF No.0587 of Sr. Scientist in ‘Remote Aerospace Research’ issued 01/24/2003 by Supreme Attestation Commission of Azerbaijan Republic

ESRI- MOOC Certificate
online, NY US
- 05/2019
Major: EARTH imagery at work
Relevant Coursework, Licensures and Certifications:
* ESRI- MOOC Certificate " Earth's imagery at work"issued 05.18.2019 Using ArcGIS Pro and ArcGIS online softwaer for Landsat image processing : Power line corridor, Tornado damage estimation, Forrest fire, Management zones, * Passed training in Azerbaijan Aerospace Agency and Space Research Institute at Russsian Acafemy of sciences on: • Atmospheric & geometric corrections, calibration, and images processing with ArcGIS and ENVI-software; • Spatial data modeling and mapping using ArcGIS-software; • Design of optimum experiments with Model-based Calibration (MBC) of Matlab and Envi tools *
_____ • Certificate EF No.0587 of Sr. Scientist in ‘Remote Aerospace Research’ issued 01/24/2003 by Supreme Attestation Commission of Azerbaijan Republic • ESRI- MOOC Certificate " Earth's imagery at work"issued 05.18.2019 Topics :Using ArcGIS Pro and ArcGIS online software for Landsat image processing : Power

line corridor, Tornado damage estimation, Forrest fire, Management zones, • ESRI- MOOC Certificate "Going Places with Spatial Analysis" issued 10.09.2019 Topics :Using ArcGIS online mapping software for Spatial Analysis : Analyzing Demographics, Understanding and Comparing Places, Determining How Places are Related, Finding the Best Locations and Paths, Detecting and Quantifying Patterns ,Making Predictions (Air Pollution)

Job Related Training: * ESRI- MOOC Certificate " Earth's imagery at work"issued 05.18.2019 *Certificate EF No.0587 of Sr. Scientist in “Remote Aerospace Research” issued 01/24/2003 by Supreme Attestation Commission of Azerbaijan Republic

Languages: English

Spoken: Intermediate
Written: Advanced
Read: Advanced

Russian

Spoken: Advanced
Written: Advanced
Read: Advanced

Azerbaijani

Spoken: Intermediate
Written: Intermediate
Read: Intermediate

Professional Publications: 1. The informational properties of atmospheric-optical masking channel’s transformation of RS-data of on-ground objects. [6966-68] in Proceedings of SPIE Defense + Security 2008. Orlando, FL. 2. The informational calibration of RS- data for optical coherency mode. [6761-04] in Proceedings of SPIE Optics-East 2007. Boston, MA. 3. Synergetic calibration models of degrading forest ecosystem based on spatial contracts dynamics. [6761-03].in Proceedings of SPIE Optics-East 2007. Boston, MA 4. Optimum plans and self-descriptiveness of RS-data. Pages 33-43 in Proceedings of 4th Russian open Conference "Modern problems of Remote Sensing the Earth from Space" . Volume 1, Space Research Inst. RAS, 2007. Moscow. 5. Modern problems of optimal planning sub-satellite survey of Environment. Pages 113-123 in Proceedings of 3th Russian open Conference "Modern problems of Remote Sensing the Earth from Space”. Volume 1, Space Research Inst. of RAS, 2006.Moscow 6. Informational Calibration Models of Temporal-Spatial variations of Optical Field. Pages 20-24 in Proceedings of 31 ISPRS International Symposium on Remote Sensing of Environment, 2005. St. Petersburg. 7. . Informational Calibration Metrics for Ecosystems' Optical Patterns Transformation. Issledovanie Zemli iz Kosmosa.2:24-37, 2005. Moscow SYMPOSIUMS • Designing aerospace experiments with GPS for monitoring critical environmental zones. Second UN/USA Regional Workshop on the Use of GNSS. 2001 November 27.G/H Halls, Austria Center. Vienna • Using satellite informational technology for Monitoring the degradation of Caspian coastal zone. UN/OOSA workshop on digital divide. 2000. November 20-24. Kuala Lumpur. Malaysia

References: Dr. Michael K. Rafailov
Ultrafast Bandgap Photonics http://www.spie.org/ds115
Chief Engineer
Phone Number: 443-619-4427
Email Address: Michael.k.rafailov@gmail.com
Reference Type: Professional

Dr. Dale C. Downs
Ivy Tech Community College of Indiana
Dean, Professor
Phone Number: 2193923600
Email Address: ddowns@ivytech.edu
Reference Type: Professional

Prof.Stacey McCormack
Ivy Tech Community College of Indiana
Statewide Mentor
Phone Number: 5742897001
Email Address: smccorma@ivytech.edu
Reference Type: Professional

Mrs. IRINA FUCHS
General Electric
QA Engineer
Phone Number: 9784371182
Email Address: irina.fuchs@ge.com
Reference Type: Professional

Additional Information: Skills: Spectral analysis, spectrophotometry, spectroscopy, & IR-radiometry; multispectral Remotely Sensed data modeling and processing, sampling, tracking, collection, measurement data calibration and interpretation, monitoring of water quality and pollution. Tracing bio-productivity parameters of plant-soil & aquatic ecosystems, including estuarine biome. Detecting pollution & degradation by spectral indexes of chlorophyll, phytoplankton, soil organic substances (humus) and mineral content, pH, temperature, conductivity, salinity, COD, BOD, TOC, TDS, Anion, Metal, Phosphorus, etc. for water quality assessment. Remote measurements & sensors calibration; Image/signal processing using ENVI / ERDAS & mapping with ArcGIS using GPS; modeling experiments. Simulating effects & processes in 2D/3D animation-pictures Software/tools: MS Office Excel, Power Point, Word; Visual Basic; Fortran; MATLAB; Mathcad; ENVI; ERDAS; GPS; GIS; Image-Pro Microscopy

[redacted] | [redacted] | [redacted] | [redacted]

[redacted]

Environmental Scientist

Scientist with experience executing multidisciplinary environmental projects, with expertise in water quality standards development and technical reports for lakes, rivers, and estuaries applying various disciplines including, hydrology, stream ecology, limnology, aquatic chemistry, and watershed science. Professional with demonstrated ability to manage complex projects through all phases to completion. Recognized as a creative and effective problem solver with ability to work with diverse stakeholders. Skilled public speaker adept at communicating technical concepts to non-technical audiences.

Core Competencies

- Lake & stream nutrient dynamics
- Landscape pollutant loading
- Ecological stressor response
- Predictive modeling & spatial analysis
- R Programming
- Clean Water Act Programs & Regulations
- Technical report writing
- Project management
- Public speaking
- Meeting facilitation

Education

Ph.D. Student, Geography & Envi. Sustainability	August 2020- present	University of Oklahoma
Master of Science, Soil & Water Science	August 2004	University of California, Riverside
Bachelor of Science, Biology	August 2000	Texas Christian University

Professional Experience

Environmental Program Manager

July 2018 - Present | Oklahoma Water Resources Board | Oklahoma City, OK

- Program manager and lead technical staff for state's water quality standards program (WQS); organize and supervise all technical and regulatory work necessary to implement statewide program.
- Manage and technically execute site-specific and statewide water quality criteria development and implementation plans for parameters such as nutrients, toxic organic chemicals, and metals.
- Agency policy and regulatory expert for Clean Water Act programs (e.g., NPDES, TMDLs, Stormwater, 401)
- Spatial analysis of in-stream nutrient concentrations and animal agriculture facilities.
- Revision of biological criteria for macroinvertebrates and fish assemblages in OK's wadeable streams, technical collaboration with EPA Regional Applied Research Effort program.
- Developed nutrient response thresholds for lakes and launched use of remote sensing observations to identify lake cyanobacteria blooms, technical collaboration with EPA Nutrient Scientific Technical Exchange Partnership & Support program.
- Author regulatory technical guidance documents such as application of biotic ligand model for copper site-specific criteria.
- Direct and conduct rulemaking and water quality standards regulatory actions for the agency.
- Provide guidance and information to staff, partner agencies, and regulated community on applicability and implementation of water quality standards.
- Mentor staff with technical analysis, project management, and professional development.
- Brief executive management and legal staff regarding significant projects and identify potentially controversial issues.
- Present projects for consideration at OK Water Resources Board meetings, includes delivering oral presentations, providing staff recommendation, and Q & A.

- Engage regulated community on all projects to ensure meaningful stakeholder participation and cooperation, includes large public meetings, small group meetings, creation of technical working groups, and individual meetings.
- Represent the agency at national and regional meetings/workshops.

Environmental Programs Specialist IV

Oct. 2013 – July 2018 | Oklahoma Water Resources Board | Oklahoma City, OK

- Lead technical staff for WQS; managed statewide projects for the development of new and updated WQS including, Wetland WQS and updates to aquatic life criteria for metals and toxic organic chemicals.
- Developed regulatory framework to address Tier 2 Antidegradation Review of water quality for Sensitive Water Supply - Reuse waterbodies under state's Antidegradation Policy.
- Co-technical staff for comprehensive revision of state's groundwater quality standards to improve functionality and implementation of standards, while maintaining water quality protection.
- Facilitate interagency technical workgroups to support collaboration on new/revised WQS.
- Review water effect ratio workplans to ensure technical competence and consistency with state and federal guidance.
- Provide guidance and information to staff, partner agencies, and regulated community on applicability and implementation of water quality standards.
- Organize and conduct public stakeholder meetings.

Hydrologist

Oct. 2012 – Oct. 2013 | Oklahoma Department of Agriculture Food & Forestry | Oklahoma City, OK

- Develop National Pollutant Discharge Elimination System (NPDES) permit terms for animal feeding operations; requires calculation and evaluation of waste retention storage structure, agronomic land application rates for waste, and assessment of operation's management practices.
- Develop Comprehensive Nutrient Management Plans in accordance with Natural Resource Conservation Service (NRCS) requirements for swine and cattle operations. Includes determining agronomic land application rates for waste, scheduling waste applications and pumping events, and considering need for site specific conservation measures.
- Coordinate technical meetings with regulated parties and consultants regarding permit applications, land application procedures, and other soil/water quality concerns.
- Represent agency on interagency technical workgroups addressing TMDL development and wetland policy; requires knowledge of regulations and policies from other state environmental agencies.
- Pursue creative solutions to regulatory challenges in cooperation with regulated parties and other stakeholders; assist operators in leveraging grant/cost share resources for facility improvements.

Staff Environmental Scientist

Jan. 2011 – Sept. 2012 | California Water Resources Control Board, Los Angeles Region | Los Angeles, CA

- Program coordinator for water quality standards; managed and oversaw both regional and statewide projects developing new water quality standards and implementation policies for nutrients, biological communities, wetlands, and riparian areas.
- Provided guidance and analysis to other staff on applicability and implementation of regional and statewide water quality standards.
- Project manager and lead technical staff, developed TMDLs for lakes, rivers, and estuaries, applying principals from multiple scientific disciplines (hydrology, ecology, aquatic chemistry, aquatic toxicology) in technical analysis.
- Managed comprehensive update of *Regional Water Quality Control Plan*, complete revision of general program information, procedures, and policies for 150 person agency.

- Developed water quality implementation plans and policies for various industries including, agriculture operations, wastewater treatment facilities, and municipalities.
- Organized and conducted technical meetings with regulated parties and consultants to evaluate water quality condition, potential impacts from waste discharges, and identify pollution prevention/clean-up strategies.
- Designed monitoring programs and conducted field sampling for various constituents (general chemistry, pesticides, metals, toxicity) and media (water, sediment, and biota). Trained colleagues on field methods and procedures.
- Technical Contract Manager for special study projects (contract value ranged $ 50,000 – 300,000). Responsibilities included, negotiating scope of work, preparing contract request package, and managing executed contract.
- Presented projects for consideration at Regional Board meetings, included delivering oral presentations, providing staff recommendation, and extensive Q & A.
- Engaged regulated community on all projects to ensure meaningful stakeholder participation and cooperation, includes large public meetings, small group meetings, creation of technical working groups, and individual meetings.
- Served as Environmental Justice & Public Participation Coordinator
    - Organized and facilitated public workshops (typically 200 + attendees) and stakeholder meetings on controversial projects and represented the agency to the public.
    - Provided community members information on various subjects including petroleum site clean-up projects, water quality standards, regulatory jurisdiction, and connections between local, state, and federal agencies.
    - Briefed elected officials and/or their staff regarding significant projects or investigations in their districts.

Environmental Scientist

Nov. 2005 – Jan. 2011	California Water Resources Control Board, Los Angeles Region	Los Angeles, CA

- Successfully launched new regulatory program for irrigated agriculture wastewater in 2005 with 90% enrollment by compliance deadline.
- Organized and conducted extensive outreach and education campaign to support enrollment and participation in irrigated agriculture program. Included public workshops (typically 100 – 300 attendees), individual site visits, group field tours, individual phone calls, and direct mailings.
- Managed all aspects of program including water quality monitoring and development of water quality management plans to minimize pollutants from agriculture operations.
- Conducted field site inspections and prepared inspection reports, involves meeting with growers to explain regulations and discuss best management practices.
- Issued enforcement orders with monetary penalties and conducted penalty settlement negotiations with responsible parties. Required cooperation with legal staff.
- Authored TMDLs for various waterbodies (lakes and rivers) and constituents (nutrients and toxic chemicals).
- Led field sampling projects for various chemicals and media, conducted sediment and water chemistry sampling across the region and provided training to colleagues.
- Employed creative compliance and implementation strategies providing discharger flexibility; negotiated MOU with City of Los Angeles to meet TMDL requirements and leverage planed restoration projects.
- Technical Contract Manager for Special Study and 319(h) projects (contract value typically $ 75,000 – 300,000). Responsibilities included, negotiating scope of work, preparing contract request package, and managing executed contract.

[redacted]

Education:

Texas Tech University- Class of 2020 Bachelor of Science – BS, Geology

Relevant Coursework:

Sedimentology and Stratigraphy, Geochemistry, Geophysics, Structural Geology, Hydrogeology, GIS, Advanced GIS, Environmental Geology

Work Experience:

Aptim Environmental & Infrastructure Staff Geologist (2021-Present): Completed environmental site characterization, monitoring, permitting, regulatory reporting, Performed Phase I and Phase II due diligence. Oversaw residential and commercial construction. Collected and interpreted soil, groundwater, and air samples. Drafted technical documents for regulatory agencies and private, commercial, and industrial clients. Executed field work, maintained project schedule and budgetary goals, and supervised contractors.

Great Wolf Lodge Lifeguard (2016-2017): Red Cross Certified, oversaw the safety of children at the waterpark, used rescue skills to save six children.

City of Lewisville Lifeguard (2007-2013): Red Cross Certified, oversaw the safety of children at the waterpark, used rescue skills to save thirteen children.

Certifications:

Geoscientist-in-Training, HAZWOPER 40 Hour Training,

Other Skills:

Proficient in GIS. Including spatial analysis, raster processing and analysis, map projections

Proficient in Microsoft Word, Excel, Powerpoint, gINT

Strong written and oral communication skills

Ability to travel

[redacted]

Mechanical Engineering professional with experience in project management, rural water/wastewater treatment, IoT, and energy management. Eager to advance my career and grow my knowledge in energy efficiency and sustainability to benefit the people of rural Alaska. Frequently praised as hard-working by my peers, I can be relied upon to help your company achieve its goals.

Authorized to work in the US for any employer

Work Experience

Utility Support Engineer I

ANTHC - Anchorage, AK February
2021 to Present - Full Time

• Managing long term and short term Utility Support/Energy projects with budgets ranging from $30k to $1.4 million.
• Conducted design reviews, energy audits and Operations & Maintenance support.
• Managing a 3 year IoT Remote Monitoring project for every rural community in the State of Alaska. Duties included budgeting, presenting, installing, and designing of the entire remote monitoring system.

Salesman/Head Mechanic

Round House Sports Center - Bozeman, MT
October 2016 to July 2020

• In charge of building and maintaining all higher end bikes and components as well as advanced and detailed trouble shooting for damaged customer equipment.
• Manage other mechanics and delegated various day to day tasks.
• Managed and organized all customer Special Orders.
• Keep the shop stocked with work supplies and bike specific retail goods such as tires, pedals, handlebars, drivetrains, etc.
• 20-40 hrs/week.

MSU Capstone Design Project

MSU - Bozeman, MT
August 2019 to May 2020

• Worked with 3 other students to design, spec, and fabricate a custom skid steer attachment to create mountain bike trails.
• Extensive and detailed 3D CAD(SolidWorks) and FEA simulations.
• Created test plans to verify FEA results and make improvements to following prototypes.
• Fabricated using proper Welding and CNC/Manual Machining techniques.
• Practiced LEAN Manufacturing, DFMA and detailed GD&T.
• 40+ hrs/week.

MSU Multidisciplinary Engineering Design Project

MSU - Bozeman, MT
May 2018 to January 2019

• Worked with 3 other students to ideate, prototype, test, and manufacture an RC Car.
• Extensive use of Gantt charts and Scrum boards to keep project on track.
• Quick prototyping using 3D Printing, CNC Machining, and 3D CAD(SolidWorks).
• Created detailed and repeatable testing procedures to make quick improvements on each product iteration.
• 40+ hrs/week.

Bike Mechanic

Chain Reaction Cycles - Anchorage, AK
May 2018 to August 2018

• Performed routing maintenance on customer bicycles i.e. Tune Ups, Brake Bleeds, Flat Fixes.
• Performed advanced maintenance including wheel truing+building, suspension rebuilds, dropper rebuilds, and carbon repair.
• Built new 9:Zero:7 bikes from the frame up with OEM parts.

Education

Bachelor's degree in Mechanical Engineering Technology

Montana State University - Bozeman, MT
August 2015 to May 2020

Skills

- Mechanical Design
- CAD
- Product Development
- FEA
- SolidWorks
- DFMA
- Machining
- CNC
- Project Management
- Mechanical Knowledge
- Manufacturing
- Labview
- Mechanical Engineering
- Research & Development
- GD&T
- Acoustics
- Lean Manufacturing

Languages

- Spanish - Intermediate

Certifications and Licenses

E.I.T

March 2020 to Present

FE Mechanical Exam - NCEES ID 20-817-36

https://account.ncees.org/rn/2081736-1309387-04d8119

References:

1. Tom Rupp - 406-551-0871 - Round House Shop Supervisor
2. Sarah Maloney - 940-435-1566 - Big Sky Shop Supervisor
3. Robb Larson - 406-994-6420 - MET/Capstone Coordinator
4. Chris Cronick - chcronick@anthc.org - ANTHC Supervisor

[redacted]
MIDX: 002747257
[redacted]
United States Citizen: Y
Veterans' Preference: NV
Military Service Dates (Start of Service - End of Service):
Location(s) Applied to: Lacey, WA(US); Portland, OR(US); Seattle, WA(US)
Series Applied To: 1301

Resume
[redacted]
Country of Citizenship: United States

Work Experience: University of Central Florida
08/2021 - Present
4000 Central Florida Blvd
Salary: $60,000.00 USD Bi-weekly
Orlando, FL 32816 US
Hours per week: 40

Lecturer
provided direct classroom instruction for undergraduate students in organic chemistry and forensic chemistry; lead teams of 14-16 graduate student teaching assistants per semester responsible for the direct supervision of undergraduates during organic chemistry and forensic chemistry laboratories; lead teams of 4-8 undergraduates per semester responsible for facilitating student learning and/or proctoring and grading examinations communicated clear learning objectives, expectations, and course content both orally and in writing; prepared and administered educational assessments and analyzed results; created and maintained course webpages and student grades through learning management system;

Bryn Mawr College
08/2018 - 07/2021
101 N. Merion Avenue
Bryn Mawr, PA 19010 US
Hours per week: 40
Supervisor: Jonas Goldsmith (610-526-5137)
Okay to contact this Supervisor: Yes

Interim Lecturer
provided direct classroom instruction for undergraduate and post-baccalaureate pre-medical students in general chemistry, organic chemistry, organic chemistry laboratory, advanced laboratory, and biochemistry; assured that all laboratory students and teaching assistants were conducting themselves safely and according to environmental health and safety regulations; communicated clear learning objectives, expectations, and course content both orally and in writing; prepared and administered educational assessments and analyzed

results; created and maintained course webpages through learning management system;

University of Pittsburgh
07/2012 - 07/2018
4200 Fifth Ave
Pittsburgh, PA 15260 US
Hours per week: 50
Supervisor: W. Seth Horne (412-624-8700)
Okay to contact this Supervisor: Yes

Graduate Research Assistant
applied knowledge of fundamental scientific theories, principles, and techniques to bioorganic chemistry research; synthesized peptides and small proteins using solid phase peptide synthesis (SPPS) and native chemical ligation (NCL) methodologies; employed analytical techniques in peptide and protein purification and analysis including: preparative, semi-preparative and analytical reverse phase high performance liquid chromatography (RP-HPLC), ultraviolet-visible (UV) spectroscopy, matrix assisted laser desorption/ionization time of flight mass spectrometry (MALDI-TOF-MS), electrospray ionization mass spectrometry (ESI-MS), nuclear magnetic resonance (NMR) spectroscopy, circular dichroism spectroscopy (CD), polarimetry, proteolysis; analyzed, interpreted, and evaluated the significance of scientific data prepared and presented project updates at weekly research-group meetings; assured that the laboratory space and all ongoing projects were adhering to environmental health and safety regulations as the laboratory safety officer; monitored and regulated laboratory waste disposal; coordinated with environmental health and safety during annual laboratory inspections and resolved any resultant violations or concerns; communicated research outcomes both orally and in written reports; trained graduate students on the calibration, proper operation, and maintenance of analytical instruments; published 5 manuscripts in peer-reviewed chemical journals (first-author on 4 of the 5)

University of Pittsburgh
07/2012 - 12/2015
4200 Fifth Ave
Pittsburgh, PA 15260 US
Hours per week: 20

Graduate Teaching Assistant
provided direct classroom instruction for undergraduate students in general chemistry, organic chemistry, organic chemistry laboratory, and biochemistry; assured that all laboratory students were conducting themselves safely and according to environmental health and safety regulations; instructed and evaluated students in scientific writing in the form of weekly lab reports; communicated clear learning objectives, expectations, and course content both orally and in writing; prepared and administered educational assessments and analyzed results;

Education: University of Pittsburgh
Pittsburgh, PA US
- 07/2018
82
Major: Chemistry
GPA: 3.438

Seattle University
Seattle, WA US
- 06/2012
Major: Biochemistry
GPA: 3.712

Honors: Magna Cum Laude

Languages: English

Spoken: Advanced
Written: Advanced
Read: Advanced

References: W. Seth Horne
University of Pittsburgh
Associate Professor
Phone Number: 412-624-8700
Email Address: horne@pitt.edu
Reference Type: Professional

Christopher Randles
University of Central Florida
Assistant Professor
Phone Number: 407-823-5950
Email Address: Christopher.Randles@ucf.edu
Reference Type: Professional

[redacted]
MIDX: 002746741
[redacted]
United States Citizen: Y
Veterans' Preference: NV
Military Service Dates (Start of Service - End of Service):
Location(s) Applied to: Boise, ID(US)
Series Applied To: 0801

Resume
[redacted]
Country of Citizenship: United States
Highest Grade: 04

Availability: Job Type: Permanent
Work Schedule: Full-time

Desired locations: United StatesLawton
United StatesOklahoma City
United StatesLewisville
United StatesDallas
United StatesFayetteville
United StatesFort Worth

Work Experience: Granite Construction
04/2022 - Present
701 East Main Street
Lewisville, TX 75057 US
Hours per week: 45
Supervisor: Frank Achuff (7026721380)
Okay to contact this Supervisor: Contact me first

Engineer II
Laredo North and South Patrol Roads Project, Laredo, TX - U.S. Customs and Border Protection The Laredo Patrol Roads Project is a Design-Build construction project for the Border Patrol along the Rio Grande River. The project consists of road improvements to 18.5 miles of road and the construction of three bridges. Assist in determining that project scope meets the project’s prime contract documents, schedule, design criteria, applicable codes, budget and agreements with designer to ensure adequate preparation for efficient execution throughout all phases of the project. Aid in the development of the preconstruction procurement phase of the project with estimating deliverables to ensure budgets and schedules are met. Execute and coordinate quantity take-offs to monitor scope growth, impact of design changes, and final quantities to ensure project profitability.

Support the Project Manager with the coordination of constructability reviews, development, and approval of design improvements through the use of task force processes to improve constructability, and reduce construction scope and project risks. Utilize organizational and collaboration skills for the coordination and tracking between the Designer, Quality, and Construction teams to insure that drawing reviews, design variations and information requests are completed in an effective and timely manner.

Granite Construction
04/2022 - Present
1333 West 120th Avenue
Suite 209
Hours per week: 60
Supervisor: Loren Lundry (972-971-8057)
Okay to contact this Supervisor: Contact me first
Denver, CO 80234 US

Engineer II
Idaho National Laboratory, Idaho - Department of Energy The Spent Fuel Handling Project Nuclear Quality Assurance Level-1 (NQA-1) project for the Department of Energy, where Granite is responsible for placing over 300,000cy of concrete and 10,000,000lbs of reinforcing steel for a classified future project. Researched and recommended resolutions to drawing interpretation problems, conflicts, interference, and errors, to verify that all completed work complies with applicable codes, drawing and specifications. Reviewed documentation regarding test reports, deliveries, and other document items from our subcontractors to ensure they meet NQA-1 standards and specifications. Created, managed, and maintained all documents required for closeout packages for Quality Control while ensuring they meet all NQA-1 specifications and client satisfaction.

Granite Construction
12/2021 - Present
1333 West 120th Avenue
Suite 209
Hours per week: 50
Supervisor: Patrick Murphy (303-579-5462)
Okay to contact this Supervisor: Contact me first
Denver, CO 80234 US

Engineer II
Rocky Mountain National Park, Colorado - Federal Highway Administration (FHWA) This FHWA project for the National Parks Service consisted of 2.93 miles of paving which provided a new and high-quality road for a National Park that sees over 4 million visitors per year. Evaluated and reviewed reports from field engineers, quality control and safety to determine productivity and/or issues. Managed job controls and analyze data to ensure compliance with contract, budget, schedule, forecasting and job costing. Handled project engineering activities to ensure compliance with company, contract, and schedule requirements and to ensure it is completed on time and under budget, including incurred costs, accruals, and forecasting. Provided technical support in construction planning, quality control, interpretation of design, application of construction methods, resolution and documentation of design conflicts, and constructability reviews to ensure successful job completion. Work with Federal, State, and local agencies on all environmental compliance, permitting, reporting and correspondence. Assist in preparing environmental compliance plans, permits, spill prevention, storm water (SWPPP). Coordinated, directed, and mentored project staff to ensure individual development and that project standards are met.

Granite Construction
03/2021 - Present
1333 West 120th Avenue

Suite 209
Hours per week: 60
Supervisor: Craig Head (720-638-2503)
Okay to contact this Supervisor: Contact me first
Westminster, CO 80234 US

Engineer II/Project Engineer
Waste Isolation Pilot Plant (WIPP), New Mexico - Department of Energy This location contained two simultaneous projects, North Access Road Bypass (NARB) and Utility Shaft Infrastructure (USI). The highway project provided a bypass road for traffic outside of the WIPP facility to provide safety to WIPP employees. The USI project provided installation of an alternate power feed, including electrical tests and transformers to provide another power resource if needed. Ensured compliance and technical knowledge for the project with quality control, field investigations, contracts, design interpretation, application of construction methods and viable resolutions to drawing interpretation problems and conflicts, to validate that the completed work meets required standards and specifications. Maintained and monitored job controls to ensure compliance with the project’s contract, budget, and incurred costs, including journal entries and accruals for accurate forecasting, and assist to utilize and maintain project schedule to ensure work is completed on time. Developed, distributed, and managed all required project documentation such as submittals, requests for information, non- conformance reports, change orders, status punch lists, turnover packages for closeout, and other forms of documentation. Applied excellent communication and professionalism to establish and maintain significant relationships with the owner, subcontractors and management and represent the company during client and project management meetings.

U.S. Army Corps of Engineers
01/2020 - Present
P1854 Constitution Avenue
Salary: $0.00 USD Bi-weekly
El Paso, TX 79936 US
Hours per week: 40
Series: 0830
Pay Plan: GS
Grade: 04
Supervisor: Cesar Ramos (9154962922)
Okay to contact this Supervisor: Yes

Mechanical Engineer
Under the supervision of the Lead Fire Protection Engineer took initiative to perform on the job training to become knowledgeable and to become a lead subject matter expert on the National Fire Protection Association codes Applied this knowledge during field observation, e.g. making sure exit lighting in all the buildings were in accordance with contract requirements and National Fire Protection codes to ensure safety To meet the mission needs, ensured that all training, position hazard analysis and safety gear/equipment is available during inspections and supports the safety plan for the Hospital in accordance with the Department of Army, Occupational Safety and Health Administration, U.S. Army Corps of Engineers and our customer. Performed daily field inspections for the Hospital since 2018, took the initiative to document quality assurance reports and became a resource of knowledge for the contractors in the field Represented the U.S. Army Corps of Engineers in meetings and communicating with our customers In regards to safety, ensured that exit lighting and fire extinguishers are certified and approved in accordance with Department of Army regulations and Occupational Safety and Health Administration standards; to include the inspection of the Hospitals Automatic Sprinkler system on all the floors of the buildings in the Clinical Investigation Building, West Clinic, East Clinic, Hospital, and Administration. Monitored Contractor schedules, progress, productivity, payments and changes and reported concerns to senior management. Effectively prioritized and organized workloads to meet daily, weekly and

monthly schedules. Attends weekly staff meetings and contributed technical input on issues under discussion Promoted partnerships and teamwork by working effectively to provide assistance and support for CAB/TECH and all customers 100% of time. Significantly added value to USACE relationships Also approached problems from the customer's perspective to seek resolution to achieve the goals of the mission. Performed extensive research and data entry by using technical writing skills for reports, emails, official memorandums Continually, exhibits effective and open communication with co-workers, customer, and management to achieve and excellence in the work environment and promote team work. ---------- Independently established and managed the Document Control Team System. Managed independently Document Control while starting with minimal training. Applied critical independent thinking to learn about Requests For Information, Government Requests For Information, Submittals, Architects' Supplemental Instructions, Engineering Change Proposals and how to process them as the correspondent between the Project Engineers', reviewer, designer and contractors. Organized document control files and kept logs on every document and their location and date of dispatch, their date of return and the response/review code. Updated the drawings on the project server which are used universally by anyone working at the Hospital. Followed the document schedule and provided management when headway falls behind and engaged with the reviewers, HDR, to adhere to scheduled review and completion dates for documents. As the correspondent on documentation for the U.S. Army Corps of Engineers; used problem solving skills on a daily basis to resolve document issues and get the documents on track to their destination. This required extensive effective communication with numerous individuals from the designer, reviewer and the contractor. Trained a team of colleagues to be members of the Document Control Team to obtain an efficient team with the ability to communicate and coordinate with each other and with the reviewer, designer and the contractor. Maintained clear communication and organization by arranging meetings to review and clarify processes with my team to answer questions and resolve uncertainties. Orchestrated problem-solving skills daily to resolve document issues and arranged meetings to review processes with the team. Accomplished these assignments and skills while a full-time student at the University of Texas at El Paso.

Frank Shen
12/2015 - Present
315 The Bridge St #103
Salary: $0.00 USD Bi-weekly
Huntsville, AL 35806 US
Hours per week: 40
Supervisor: Frank Shen (256-327-8558)
Okay to contact this Supervisor: Contact me first

Manager/Sales Associate
Multi-tasked daily barista roles with full management responsibilities of the store and other employees. Prepared or served hot or cold beverages, such as coffee, espresso drinks, blended coffees, or teas. Prepared a wide variety of brewed coffee drinks and espresso coffee drinks. Provided quality beverages and food products by carefully adhering to recipe and presentation standards. Cleaned or sanitized work areas, utensils, or equipment. Cleaned service or seating areas. Provided customers with product details, such as coffee blend or preparation descriptions. Received and processed customer payments. Accepted customer payments and calculated and balanced cash drawers. Took customer orders and conveyed them to other employees for preparation. Responded proactively to prevent customer service situations. Answered customer questions regarding coffee blends, preparation, and product freshness. Managed inventory of products and ensured optimal stock maintenance at all times. Recommended products to customers and assisted in placing orders. Maintained and implemented health and safety guidelines. Exhibited highly efficient customer service skills and a positive attitude towards everything.

RE/MAX Alliance

05/2015 - Present
12181 County Line Rd
Salary: $0.00 USD Bi-weekly
Madison, AL 35758 US
Hours per week: 40

Personal Assistant
Answered the telephone, took messages, and made appointments. Managed schedules. Managed marketing and advertising via social media and agent's website. Organized and filed documents Placed and removed signs on property.

Education: University of Texas at El Paso
El Paso, TX US
- 12/2019
Major: Mechanical Engineering
Relevant Coursework, Licensures and Certifications:
American Society of Mechanical Engineers National Society of Professional Engineers

Pope John Paul II Catholic High school
Huntsville, AL US
- 05/2012
GPA: 4.0
Relevant Coursework, Licensures and Certifications:
Advanced High School Diploma Spanish Honors Society Art Honor Society Science Fair – Honorable mention Varsity Cheerleading

Alton Convent School
Alton, AL UK
- 07/2010
Relevant Coursework, Licensures and Certifications:
Completed 10 General Certificate of Secondary Education (GCSE's) Royal Academy of Music - Singing Grade 6

El Paso Community College
El Paso, TX US
Major: Mechanical Engineering

University of Alabama at Birmingham
Birmingham, AL US
Relevant Coursework, Licensures and Certifications:
American Society of Mechanical Engineers Experiential Learning Society Honors Program

Univeristy of Alabama in Huntsville
Huntsville, AL US
Major: Mechanical Engineering
Relevant Coursework, Licensures and Certifications:
Cheerleading Team

Job Related Training: OSHA 10 Certification - Completed November 2021 Emerging Leaders Leadership Program at Granite Construction, 6 month course completed in December 2020

Languages: Spanish

Spoken: Novice
Written: Novice
Read: Novice

References: Veronica Martinez
Granite Construction
Phone Number: 214-662-6175
Email Address: v_solangel@hotmail.com
Reference Type: Professional

Margo Waisanen
Granite Construction
Phone Number: 720-514-1358
Email Address: margo.waisanen@gcinc.com
Reference Type: Professional

Charlene Meno
U.S. Army Corps of Engineers
Phone Number: 915-227-1298
Email Address: charlene.m.meno@usace.army.mil
Reference Type: Professional

Cesar Ramos
U.S. Army Corps of Engineers
Phone Number: 915-496-2922
Email Address: cesar.ramos@usace.army.mil
Reference Type: Professional

Additional Information: Dynamic and motivated Mechanical Engineer contributing to mission success through 6 years of engineering experience. A self-starter, who works well in a team and as a team leader, a great problem solver, excellent communicator, and extensive knowledge in AutoCAD, Creo, NX 10, EEBACS, RMS, HCSS HeavyJob, Nexus Payables, Procore, BIM 360, Bluebeam, Excel, PowerPoint, and Microsoft Word. Currently working on a U.S. Customs and Border Protection project accomplishing the start-up and procurement for a Design-Build project in Laredo, Texas. Willing to travel and relocate.

[redacted]

Education

May 2007 Ph.D. Food Science and Technology, Texas A&M University, College Station, TX
Dissertation: Influence of Autoinducer 2 (AI-2) and AI-2-like inhibitors generated from processed poultry on virulence and growth of *Salmonella enterica* serovar Typhimurium.

2001 M.S. Biology, New Mexico State University, Las Cruces, NM
Thesis: Utilization of artificial neural networks for the presumptive identification of *Cryptosporidium parvum* oocysts.

1992 B.S. Microbiology, University of Texas-El Paso, El Paso, TX

Professional Appointments

10/2019-pres Microbiologist, Office of Public Health Science, Midwestern Laboratory
Food Safety and Inspection Service, USDA, Saint Louis, MO USA
Full time (40 hours/wk)

4/2017-9/2019 Research Associate Professor, International Environmental Research Institute (IERI), Gwangju Institute of Science and Technology, Gwangju, Republic of Korea
Full time (40 hours/wk)

3/2010- 3/2017 Research Assistant Professor, International Environmental Research Center (IERC), Gwangju Institute of Science and Technology, Gwangju, Republic of Korea
Full time (40 hours/wk)

10/2007-2/2010 Postdoctoral Fellow, International Environmental Research Center, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea
Full time (40 hours/wk)

2002–2007 Graduate Research Assistant, Department of Poultry Science, Nutrition, and Food Science, Texas A&M University, College Station, TX
Part time (15 hours/week)

2000–2002 Oak Ridge Institute Fellow, Technical Support Center, Office of Ground Water and Drinking Water, USEPA, Cincinnati, OH
Full time (40 hours/wk)

1998–2000 Graduate Teaching Assistant, Department of Biology, New Mexico State University
Las Cruces, NM
Part time (15 hours/week)

1993-1998 Research Technician, Texas A&M University Research Center, El Paso, TX
Full time (40 hours/wk)

Nationality

United States Citizen

Research Interests

- Improvement of methods for detection of pathogens in environmental sources.
- Studying the fate and transport of microbial pathogens in the environment.
- Understanding the role of agriculture as a vector for human diseases and its implications on food safety.

Professional Activities

At IERI I conducted a variety of environmental microbial survey studies in several Southeast Asian countries with international colleagues from Cambodia, Thailand, Vietnam, and the Philippines. Primarily my past work has entailed detection of bacterial pathogens and fecal indicator organisms through conventional culture and molecular methods from surface waters. Additionally, I also conducted studies investigating the incidence of bacterial pathogens and fecal contamination of produce from market sources as well as agricultural production operations.

I was a co-investigator for Asian Pacific Network funded projects both in 2009-13 (Collaborative research on sustainable urban water quality management in Southeast Asian countries: analysis of current status (comparative study) and develop a strategic plan for sustainable development), and in 2014-15 (Developing Scientific and Management Tools to Address Impacts of Changing Climate and Land Use Patterns on Water Quality in East Asia's River Basins). Both of these projects were international collaborative efforts with several partners in Southeast Asia.

I have been a co-project manager for a 2013-15 program, "Science and Technical Training for Water Quality Monitoring and Management of Sustainable Water Resources" which was supported by the United Nations Office for South-South Cooperation (UNOSSC), and co-funded by the Korean Ministry of Science and ICT. This was a project under the Facility/Programme for Capacity Development for Poverty Reduction through South-South and Triangular Cooperation in Education, Science and Technology (Technology and Knowledge Transfer) for individuals in the water sector to learn water quality analysis techniques. I organized and ran the microbiology section for these training workshops. Participants were from developing countries in Southeast Asia and Sub-Saharan Africa, with 50 participants from such countries as Nigeria, Cameroon, Kenya, Sudan, Cambodia, Laos, Thailand, Myanmar, and Vietnam.

During my time at IERI, I managed the second phase of this project, "Village Empowerment Project to Promote Sustainable Community Development through Innovative Integration of Science and Technology" which was initiated in June 2016. I was the IERI coordinator for this project as part of a consortium group with other Korean research institutes and universities. My project tasks specifically were the installation and monitoring of effectiveness of drinking water treatment systems for rural village schools in Cambodia and Indonesia. This was a 5 year project which concluded in 2020.

My other duties included being the project manager for several international meetings hosted within Korea and abroad. IERI annually organized a two day scientific meeting with international researchers and experts from both developed and developing countries to discuss a variety of topics related to environmental issues. These meetings are listed below:

2008- "Sound Management of Hazardous Chemicals and Sustainable Energy", Gwangju, Korea
2009- "Science and Technology for Sustainability", Gwangju, Korea
2010- "Environmental Issues of the Mekong River", Gwangju, Korea
2011- "Urban Water Quality – Challenges and Emerging Issues for Sustainable Cities", Gwangju, Korea
2012- "Southeast Asian Transboundary Environmental Issues – Contaminants and Challenges", Bangkok, Thailand
2013- "Transboundary Contamination and Multimedia Pollutants in Asia", Kota Kinabalu, Malaysia
2016- "International Forum on Climate Adaptation: Achieving Sustainable Development Goals for the Environment", Siem Reap, Cambodia
2017- "International Forum on Climate Adaptation: Bridging Carbon Action with Development in SE Asia', Bangkok, Thailand

As a further demonstration of my capacity building efforts, I also managed our institute's International Internship Program. This program was designed for young scientists and graduate students to participate in a six month internship in Korea where they conducted a research project as well as attended courses, with faculty and IERI staff acting as their advisors. For the years I managed the internship, over 90 interns from 12 countries participated, and I had personally advised graduate student interns in my laboratory from Cambodia, Indonesia, Nigeria, Philippines, Thailand, and Vietnam.

My current position at the USDA Food Safety and Inspection Service has allowed me to continue work in public service as a microbiology analyst for foodborne pathogens. My duties are to assist the USDA mission in providing a safe food supply to the public through food testing, and ensuring commercial food suppliers adhere to federal guidelines and regulations. This has also included projects for validating new enumeration techniques for Salmonella and sampling studies of food contact surfaces for Listeria

Other Professional Activities
Editorial board member for the World Journal of Microbiology and Biotechnology

Graduate Students
Pierangeli G. Vital – Doctoral Student, Biology (Microbiology), University of the Philippines Diliman, 2013 (Co-Chair Advisor)

Key Skills and Abilities
- Extensive experience in environmental sample collection
- Cultivation and handling of pathogens (Biosafety Level 2) and fecal indicator organisms
- Sampling, processing, and identification (fluorescent microscopy) of *Giardia* and *Cryptosporidium* from water sources
- Knowledge of molecular methods for detection and identification of pathogens utilizing PCR, real-time PCR, including techniques for nucleic acid extraction from a variety of environmental matrices
- Regulatory methods for detection of bacterial pathogens in meat, poultry, and egg products
- Statistical analysis and use of SPSS and R

Policy Summary Reports
2017 International Forum on Climate Adaptation Report - Bridging Carbon Action with Development in Southeast Asia, Editor: [redacted], 2018

2016 International Forum on Climate Adaptation Report - Achieving Sustainable Development Goals for the Environment, Editors: [redacted] and H.O. Kim, 2017, ISBN 979-11-952954-2-5

Peer Reviewed Publications
Calayag, A.M.B., [redacted] Rivera, W.L. 2021 Antimicrobial Susceptibility and Frequency of *bla* and *qnr* Genes in *Salmonella enterica* Isolated from Slaughtered Pigs. Antibiotics 10: 1442. https://doi.org/10.3390/antibiotics10121442

Santos P.D.M, [redacted], W.L. Rivera. 2020 PCR-based detection and serovar identification of Salmonella in retail meat collected from wet markets in Metro Manila, Philippines. PLoS One, Sep 30;15(9):e0239457. doi: 10.1371/journal.pone.0239457

Bolo N.R., E.J.A. Pagoso, [redacted], and W.L. Rivera. 2019. Quantitative microbial risk assessment of Cryptosporidium in bivalve samples from Manila Bay, Philippines. Ann. Parasitol., 65(4): 315-320 DOI: 10.17420/ap6504.215

Vital P.G., N.T. Van Ha, L.T.H. Tuyet, and [redacted]. 2017. Application of quantitative real-time PCR compared to filtration methods for the enumeration of *Escherichia coli* in surface waters within Vietnam J. Water Health 15(1): 155-162 DOI: 10.2166/wh.2016.173

Chanpiwat P., S. Sthiannopkao, [redacted], S. Himeno, H. Miyataka, N.U. Vu, V.V. Tran, and T.T.N. Pham. 2016. Assessment of metal and bacterial contamination in cultivated fish and impact on human health for residents living in the Mekong Delta. Chemosphere 163: 342-350

Garcia B.C.B., M.A. Dimasupil, P.G. Vital, [redacted], and W.L. Rivera. 2015. Fecal contamination in irrigation water and microbial quality of vegetable primary production in urban farms of Metro Manila, Philippines. J. Environ. Sci. Health., Part B, 50: 734-743, DOI: 10.1080/03601234.2015.1048107

Vital P.G, K.G. Dimasuay, [redacted], and W.L. Rivera. 2014. Microbiological quality of fresh produce from open air markets and supermarkets in the Philippines. Sci. World J., Article ID 219534, DOI:10.1155/2014/219534

[redacted]., N.T. Van Ha, S. Vinitnantharat, S. Sthiannopkao, S. Wangsaatmaja, M.A. Prasetiati, N.C. Thanh, K. Thepnoo, A.D. Sutadian, H.T. Thao, D. Fapyane, V. San, P. Vital, and H.G. Hur. 2013. Prevalence of *Escherichia coli* in surface waters of Southeast Asian cities. World J. Microb. Biot. 2013 May 22 DOI: 10.1007/s11274-013-1376-3

[redacted] P. Jesudhasan, and S.Pillai. 2012. Fatty acid modulation of autoinducer (AI-2) influenced growth and macrophage invasion by Salmonella Typhimurium. Foodborne Pathog. Dis. 9(3):211-217

Unno, T., D. Han, J. Jang, [redacted], G. Ko, M. Sadowsky and H. Hur. 2011. Genotypic and phenotypic trends in antibiotic resistant pathogenic *Escherichia coli* isolated from humans and farm animals in South Korea. Microbes Environ. 26(3):198-204

Jesudhasan, P., M. Cepeda, [redacted], S. Dowd, K. Soni, M. Hume, J. Zhu, and S. Pillai. 2010. Transcriptome analysis of genes controlled by luxS/AI-2 in *Salmonella enterica* serovar Typhimurium. Foodborne Pathog. Dis. 7(4): 399-410

Soni, K.A., P. Jesudhasan, M. Cepeda, [redacted], G.K. Jayaprakasha, B.S. Patil, M.E. Hume, and S.D. Pillai. 2008. Identification of ground beef-derived fatty acid inhibitors of autoinducer-2-based cell signaling. J. Food. Prot. 71:134-138

[redacted] K. Soni, M.E. Hume, R.C. Beier, P. Jesudhasan, and S.D. Pillai. 2007. Identification of poultry meat-derived fatty acids functioning as quorum sensing signal inhibitors to autoinducer-2 (AI-2). J. Food Sci. 72:M363-368

[redacted], P.R. Jesudhasan, S.E. Dowd, and S.D. Pillai. 2007. Differential expression of virulence-related genes in a *Salmonella enterica* serotype Typhimurium *luxS* mutant in response to autoinducer AI-2 and poultry meat-derived AI-2 inhibitor. Foodborne Pathog. Dis. 4: 5-15

[redacted] S. Deepak, and S.D. Pillai. 2005. Use of artificial neural networks to accurately identify *Cryptosporidium* oocysts and *Giardia* cysts images. Appl. Environ. Microbiol. 71:80-84

[redacted] 2003. Development of artificial neural networks (ANN) capable of identifying *Cryptosporidium parvum* oocysts stained with 4', 6 diamidino-2-phenylindole (DAPI). J. Rap. Meth. Auto. Microbiol. 11:97-110

[redacted] K.H. Oshima, and S.D. Pillai. 2002. Identification of *C. parvum* oocysts using an artificial neural network approach. Appl. Environ. Microbiol. 68:1115-1121

Pillai, S.D., [redacted], L.J. Ivey, K.C. Coker, E. Newman, S. Lingsweiler, D. Baca, M. Kelley, D.S. Davis, N.J. Silvy and L.G. Adams. 2000. Failure to identify non-bovine reservoirs of *Mycobacterium bovis* in a region with a history of infected dairy-cattle herds. Prev. Vet. Med. 43:53-62

Pillai, S.D., [redacted], K.G. Maciorowski, and S.C. Ricke. 1997. Antibiotic resistance profiles of *Escherichia coli* isolated from rural and urban environments. J. Env. Sci. Health, Part A. 32: 1665-1675

Dowd, S.E., [redacted], and S.D. Pillai. 1997. Thermotolerant clostridia as an airborne pathogen indicator during land application of biosolids. J. Env. Quality. 26: 194-199

Pillai, S.D., [redacted], S.E. Dowd, and S.C. Ricke. 1996. Occurrence of airborne bacteria and pathogen indicators during land application of sewage sludge. Appl. Environ. Microbiol. 62: 296-299.

S.C. Ricke, S.D. Pillai, [redacted], S.D. Ha. 1995. Survival of Salmonella typhimurium in soil and liquid microcosms amended with clinoptilolite compounds. Bioresource Tech. 53(1):1-6

Conferences and Proceedings

2018 [redacted] Examples of Water Treatment Projects in SE Asia: Applications and Training for Climate Adaptation Technologies. 24th session of the Conference of the Parties (COP 24) to the UN Framework Convention on Climate Change (UNFCCC), Katowice, Poland, Dec.

2017 [redacted] Technology Transfer in Developing Countries: Finding a Greater Role for Universities. 23rd session of the Conference of the Parties (COP 23) to the UN Framework Convention on Climate Change (UNFCCC), Bonn, Germany, Nov.

2015 [redacted] Complexities of assessing sources of microbial contamination in foods for South East Asia. Philippine Society for Microbiology 44th Annual Meeting, Manila, Philippines, July

2011 [redacted] and D. Fapyane. Antimicrobial resistance in *Escherichia coli* isolates from urban surface waters in Southeast Asia. Annual Meeting of the Korean Society for Applied Biological Chemistry, Jeju, Korea, Oct.

2006 [redacted] P. Jesudhasan, S.E. Dowd, and S.D. Pillai. Gene expression in *Salmonella enterica* Serotype Typhimurium LuxS mutant in response to quorum sensing signals and a poultry meat-derived quorum sensing inhibitor using microarray-based studies. Annual general meeting, Am. Soc. for Microbiol., Orlando, FL, May

2004 [redacted], Deepak, S., S.D. Pillai. Detection of *Cryptosporidium* oocysts and *Giardia* cysts using artificial neural networks. Annual general meeting, Am. Soc. for Microbiol., New Orleans, LA, May

2002 [redacted] Utilization of Artificial Neural Networks (ANN) for the identification of *Cryptosporidium parvum* oocysts stained with 4', 6 diamidino-2-phenylindole (DAPI). Annual general meeting, Am. Soc. for Microbiol. Salt Lake City, UT, May

2000 [redacted], K. Oshima, R. Hartley and S.D. Pillai. Utilization of artificial neural networks for the presumptive identification of *Cryptosporidium parvum* oocysts. Annual general meeting, Am. Soc. for Microbiol. Los Angeles, CA, May

1996 [redacted], S.D. Pillai. Evaluation of protocols for reliable extraction of total RNA from soils. Ann. Meetings. Soil. Sci. Soc. Am. Indianapolis, Nov.

1995 [redacted] S.C. Ricke and S.D. Pillai. Airborne microbial populations during the land application of municipal sewage sludge. Ann. Meeting. Am. Soc. for Microbiol. Washington, D.C., May

Contact Information

Office of Public Health Science, Midwestern Laboratory
Food Safety and Inspection Service, USDA
4300 Goodfellow Blvd., Bldg. 105-D
St. Louis, MO 63120-0005
Phone: (314) 263-2680
Cell: (636) 386-9502
Email: kenneth.widmer@usda.gov
kennywid@gmail.com

References:

Suresh Pillai, Ph.D.
Director, National Center for Electron Beam Research
400 Discovery Drive
College Station, Texas 77845
Email: s-pillai@tamu.edu

Phone: 979-458-1640

Everardo Vega, Ph.D.
Research Scientist
Division of Viral Diseases, National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Rd. NE, Mailstop G10
Atlanta, GA 30333
Email: ftt6@cdc.gov
Phone: 404.639.2396
Fax: 404-639-4011

Suthipong Sthiannopkao, Ph.D.
Assoc. Professor
School of Earth Sciences and Environmental Engineering
Gwangju Institute of Science and Technology (GIST)
123 Cheomdangwagi-ro, Buk-gu, Gwangju 61005,
Republic of Korea
Email: suthisuthi@gmail.com
Phone: +82-62-715-3691

[redacted]

SKILLS

- Safe Drinking Water Act and Clean Water Act regulatory and policy implementation
- Exceptional oral and written communication abilities, skilled at speaking to senior management as well as to internal and external audiences
- Ability to build consensus and collaboration with stakeholders
- Contract and grant management
- Extensive experience in project management, budgeting, and reporting
- Significant experience leading project teams

EDUCATION

Master of Public Administration, December 2003

- Boise State University (Boise, Idaho)
- Emphasis in Natural Resource Policy

Bachelor of Science: Conservation Biology, April 1996

- Brigham Young University (Provo, Utah)
- Emphasis in Natural Resource Management
- Minor: Zoology

WORK EXPERIENCE

Position Title: IPDES Rules and Guidance Supervisor
Idaho Department of Environmental Quality
Office Location: 1410 North Hilton, Boise, Idaho 83706
Dates of Employment: September 2019 - Present
Hours per week: 40 hours
Salary: $76,084
Supervisor: Troy Smith, IPDES Bureau Chief (208)373-0488
Okay to contact: yes (please notify me first)

- Lead for the Idaho Pollution Discharge Elimination System guidance development and negotiated rulemaking process
- Programmatic and technical authority on the Rules Regulating the Idaho Pollution Discharge Elimination System Program (IDAPA 58) and Clean Water Act implementation
- Provide direction, management, and oversight for the Idaho Pollution Discharge Elimination System data management program
- Manage and lead the development and implementation of the Idaho Pollution Discharge Elimination System E-Permitting System (http://www2.deq.idaho.gov/water/ipdes) for the public and internal DEQ web-based Management Application
- Oversee national E-reporting requirements for the Idaho Pollution Discharge Elimination System program. Review and approve waivers for E-Reporting requirements

- Present more than 15 in person, virtual, and online trainings to DEQ staff, partner agencies, and IPDES permittees per year. Develop training materials and handouts targeted for regulated and other audiences
- Manage over $500K in grants and contracts annually (grant and subgrant management)
- Develop business rules, standard operating procedures (SOPs), internal directives, and program procedures for the Idaho Pollution Discharge Elimination System program and data group
- Assist internal and external clients (DEQ Staff and permittees) with the Idaho Pollution Discharge Elimination System program and e-reporting requirements
- Provide technical support to state and regional office staff
- Advise senior management on Idaho Pollution Discharge Elimination System data management, e-reporting, rules and guidance, fee impacts, and other program issues
- Interpret technical data and provide direction on the development and management of internal and external applications to management, staff, and contractors
- Develop and oversee Idaho Pollution Discharge Elimination System fee process, fee structure analysis, and implementation
- Track program goals and oversee program reporting and implementation
- Participate in strategic plan development and implementation on Objectives related to IPDES program and continued improvement agency goals
- Evaluate program needs and prioritize tasks for contractors and staff
- Supervise staff. Prepare annual performance plans and performance evaluations for two staff members (Data management analyst and Technical Records Specialist).

Position Title: Source Water Program Lead
Idaho Department of Environmental Quality
Office Location: 1410 North Hilton, Boise, Idaho 83706
Dates of Employment: April 2006 – August 2019
Hours per week: 40 hours
Salary: $66,560
Supervisor: Ed Hagan, Ground Water Bureau Chief (208) 373-0356
Okay to contact: yes

- Technical authority on the state source assessment and protection program and safe drinking water act implementation
- Oversaw the state source water assessment process (Clean Water Act Requirements), and implementation of Idaho's Source Water Assessment Plan including delineations, potential contaminant inventories, and susceptibility ranking of public drinking water sources.
- Conducted an analysis and review of the Source Water Assessment Plan recommendations, reported on implementation efforts, and updated plan recommendations. Analysis included interviews with over 30 different federal, state and local programs to determine implementation success.
- Coordinate with multiple (federal and state) technical programs to implement a source water assessment process that uses data to determine the susceptibility of a public drinking water sources to contamination. Developed policies for data sharing.
- Identified data gaps and conducted ground water studies to gather missing data for source water assessments and researching potential contaminant sources
- Managed the development of the online source water assessment (SWA) development tool (internal program used for susceptibility scoring and automated report generation) and public source water assessment online mapper – SWA Online (https://www2.deq.idaho.gov/water/swaOnline/Search).

- Responsible for implementation of state source water assessment and protection program including planning, developing, managing, and tracking budgets ($1.3 million budget annually), performance tracking, preparing reports, and ensuring adherence to EPA program requirements. The source water program included 8.5 DEQ staff.
- Advised senior management on source water program implementation and planning decisions
- Provided policy recommendations to senior management, develop program policies, and provide guidance, technical assistance, and training to state and regional office staff.
- Served as agency liaison for source water program implementation and coordination efforts
- Established and organized a state source water protection collaborative (2008) consisting of over 20 federal, state, and local agencies, and organizations to coordinate efforts and promote source water protection in the state. Held quarterly meetings, managed the development and content of SWP Collaborative website (www.protectthesource.org), and lead several joint projects with collaborative members.
- Participated in diverse, complex, and multi-disciplinary planning efforts with public and private groups, and state, local, tribal, and Federal agencies (examples include the Blain County Source Water Protection committee, the Teton Valley Source Water Protection committee, and the joint nitrate study in Bliss, Idaho).
- Coordinated with federal, state, and local government agencies, developed Memorandums of Understanding and partnership agreements. (i.e., MOU on shallow disposal wells with IDWR, MOU with Idaho Rural Water Association)
- Created and managed the development of an online planning template for source water protection and emergency response (contingency plans) plan development for public water systems (http://www2.deq.idaho.gov/water/swpp), which pulls in source water assessment data and implementation options by public water system. Allows electronic submission of protection plans for certification.
- Established evaluation criteria and reviewed and approved plans more than 150 plans for state certification. Reviewed implementation efforts for state recertification after 5-year period.
- Reviewed Total Maximum Daily Load (TMDL) implementation and Ground Water Improvement Plans for source water protection measures
- Assisted local governments with source water protection through approval of certified plans, development of local land-use policies and ordinances, and compliance to Safe Drinking Water Act requirements. Worked with the Association of Idaho Cities (and attorney) to develop dual Land Use and Planning and Zoning ordinances template for source water protection for Idaho city and county governments.
- Interpreted source water assessment and other technical information to make recommendations for state implementation plans, public water system protection plans, local government ordinances, and agency program implementation.
- Provide training and technical assistance to local government officials and public water system operators and promote public awareness through public presentations, videos, press releases, and the development of education materials. Targeted message to various audiences.
- Provided 6 trainings annually around the state (from 2006 – 2018) on various source water protection topics, including soil health, Agriculture BMPs to protect Water Quality, Harmful Agal Blooms (causes, risks, and solutions), Emergency Response planning, ground water 101, local ordinances to protect source water, household hazardous waste, source water protection planning, etc. Developed a network of

training experts on various source water protection topics to participate in trainings and presentations. Acquired Continuing Education Credits for drinking water and wastewater Operators and fertilizer applicators.

- Provided state symposium on nitrate issues in Idaho impacting Idaho's surface and ground water resources (Idaho Nitrate Symposium)
- Planned and presented two national conferences on source water protection (participants included state federal and local agencies in EPA Regions 8, 9, and 10 as well as other national entities).
- Developed display and interactive handout for Smithsonian traveling Water exhibit in Idaho.
- Provide education and outreach to schools and the public on water quality related topics by developing and presenting educational materials, presentations, and interactive activities (edible aquifer, Project Wet).
- Developed statewide source water protection grant program. Awarded and manage over $400,000 in subgrants and contracts annually; ensured contract compliance and approval of payments. Developed eligibility, evaluation and ranking criteria for grant selection. Focused grants in rural disadvantages communities and focused projects on priority contaminant issues.
- Partnered with Idaho Nonpoint Source 319 grant program to jointly fund source water protection projects through agricultural BMP implementation. Examples includes an informative video on sprinkler conversion on small acreage farms, and nitrate sampling study in Bliss.
- Provided funding and oversaw implementation of projects with conservation groups in Idaho – including outreach efforts, training, implementation of best management practices (BMPs) and implementation of restoration efforts, monitoring projects to identify improvements, ground water studies, installation of monitoring wells, etc.
- Technical authority on restoration projects related to source water protection – provided guidance to NRCS on source water priority areas and recommended conservation practices for increased incentives to meet NRCS source water protection goals (2018 Farm Bill).

Position Title: Project Associate
Environmental Finance Center, Boise State University
Office Location: 1910 University Drive, Boise, Idaho 83706
Dates of Employment: April 2002 - April 2006
Hours per week: 40 hours per week
Salary: $50,000
Supervisor: Bill Jarocki, Director (406) 437-1954
Okay to contact: yes (please notify me first)

- Assisted watershed groups in Idaho, Oregon, Washington, and Alaska to develop and implement watershed restoration plans. Assisted in the development of funding plans for implementation of TMDL implementation plans and Watershed Restoration plans.
- Conducted workshops (10 full day workshops per year) in Idaho, Washington, Oregon and Alaska. Developed presentation, training materials and handouts.
- Managed the development of the Directory of Watershed Resources, a web-based searchable resource and funding database for region 10 (Idaho, Oregon, Washington, Alaska) that included federal, state and private funding sources. Coordinated with funding entities to gather data on over 1000 funding sources to include in the database and regularly maintained the data.
- Responsible for planning, implementing, reporting, and evaluating objectives related to environmental finance, collaborative processes, watershed protection, and grants.

- Managed grant projects and contracts and identified opportunities for additional grant funding. Drafted grant proposals and requests for proposals.
- Responsible for completing and reporting project activities to federal and state granting agencies.
- Coordinated community watershed and drinking water protection coalition pilot projects in South Santiam River, Oregon, and Blain County, Idaho to meet water quality standards and goals. Responsible for planning and facilitating meetings, moderating discussions, setting agendas, scheduling presentations, and coordinating coalition activities.
- Assisted in conducting charrettes to problem solve complex and contentious watershed related issues. (Included charettes in Yakima Washington, and Klamath Basin)
- Assisted in the development/expansion of the Idaho One Plan. Investigated linking Idaho One Plan to EFCs funding/resource database (Directory of Watershed Resources).

Position Title: Graduate Assistant
Environmental Finance Center, Boise State University
Office Location: 1910 University Drive, Boise, Idaho 83706
Dates of Employment: August 2000 – April 2002
Hours per week: part-time 25 hours per week
Wage: $15 per hour
Supervisor: Paul Woods, Assistant Director

- Researched environmental financing techniques
- Developed watershed funding material for workshops in Idaho, Alaska, and Washington**.**
- Assisted in coordinating and facilitating collaborative source water protection projects in Idaho and Oregon.

Position Title: Legislative Intern for Senator Stennett, Idaho Senate Minority Leader
Idaho State Legislature, Idaho State Capitol
Office Location: 700 W. Jefferson St, Boise, Idaho 83702
Dates of Employment: January 2001 – April 2001
Hours per week: Part-time 20 hours per week
Salary: none (Received credits for BSU)
Supervisor: Senator Clint Stennett

- Assisted in drafting bills and policy research
- Responded to constituent's questions, researched, and drafted response letters
- Attended committee meetings, provided summary to Senator

COMPUTER SKILLS: Microsoft Word, PowerPoint, Publisher, Excel, Access, Planner, Teams, SharePoint, Paint, SDWIS, SQL (queries), JIRA, Infinity, Trello.

CERTIFICATES: Certified Public Manager (graduated 2015)

MEMBERSHIPS: Pi Alpha Alpha**,** National Honorary Society for Public Affairs and Administration

CITIZENSHIP: United States

REFERENCES:

Ed Hagan
Ground Water Bureau Chief, Idaho Department of Environmental Quality
(208) 373 – 0356, Ed.Hagan@deq.idaho.gov

Bill Jarocki
Director of Enterprise Planning and Analysis · Montana Department of Revenue
(406) 437-1954, billjarocki@hotmail.com

Maureen Pepper
State Water Quality Specialist, NRCS – Idaho
(208) 378-5723 Maureen.pepper@usda.gov

Johanna Zibbell
Data Scientist, Idaho Department of Labs
(208) 303-7706, Joanna.zibbell@hotmail.com

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EXPERIENCE

Engineering Student Trainee, U.S. Environmental Protection Agency Groundwater and Drinking Water Branch — *Lenexa, KS*

May 2022 - Present, 40 hours/week

- ➔ Earned and maintained extensive knowledge about the Safe Drinking Water Act, specifically Phase II/V Rules.
- ➔ Developed several interactive web maps to assist in record keeping, climate analysis, and/or enforcement tracking.
- ➔ Collaborated with colleagues to develop action plans for Tribal Direct Implementation public water systems.
- ➔ Performed and analyzed water quality testing on water samples taken from Tribal Direct Implementation public water systems.
- ➔ Assisted in developing a capacity development strategy for Tribal Direct Implementation public water systems to achieve and maintain sufficient technical, managerial, and financial capacity.

Engineering Intern, City of Lawrence Municipal Services and Operations Department — *Lawrence, KS*

May 2021- Sep 2021, 40 hours/week

- ➔ Extensive use of ArcGIS, e-Builder, Microsoft 365; as well as general computer tasks.
- ➔ Coordinated events to promote City-led campaigns.
- ➔ Attended virtual meetings and notated major points.
- ➔ Maintained and updated filing, mailing, and database systems, either manually or using a computer.

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EDUCATION

B.S. in Civil Engineering, with an Environmental emphasis,
Lawrence, KS — *University of Kansas*
Expected Graduation Date: December 2022, Current GPA: 3.30
Relevant Completed Coursework: Principles of Environmental Studies, Fluid Mechanics, Environmental Engineering Laboratory, Principles of Environmental Engineering, Hydrology, Design of Air Pollution Control Systems, Municipal Water Supply and Wastewater Treatment Design, Environmental Ethics
Relevant In Progress Coursework: Water Resources Engineering Design, Concepts of Environmental Chemistry

SKILL HIGHLIGHTS

- ➔ AutoCAD
- ➔ Revit
- ➔ ArcGIS Online
- ➔ HEC-HMS
- ➔ SAP2000
- ➔ Microsoft 365

PERSONAL SKILL HIGHLIGHTS

- ➔ Ambitious
- ➔ Collaborative
- ➔ Willing to learn
- ➔ Leadership
- ➔ Enthusiastic
- ➔ Honest
- ➔ Empathetic