Jonathan M. G. Viducich, P.E.

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EDUCATION

Master of Science in Water Resources Engineering
Oregon State University, Corvallis, OR, USA
Graduated July 2015, Cumulative GPA: 3.95
Thesis Title: *Spillway Staging and Selective Sediment Deposition in Sand Storage Dams*

Bachelor of Science in Engineering Applied Sciences, minor in Global Urban Ministries
Seattle Pacific University, Seattle, WA, USA
Graduated Magna cum Laude, June 2009, Cumulative GPA: 3.83

SUMMARY OF QUALIFICATIONS

- Strong background in cross-discipline engineering practice, project management, research, teaching, and technical field work
- Worked on four continents using three languages (English, Portuguese, Spanish)
- Registered Professional Civil Engineer in California

EMPLOYMENT AND RESEARCH EXPERIENCE

River Focus, Inc., California, USA
Senior Water Resources Engineer / Project Manager, September 2021 – Present (Part-time)

- I help manage and perform hydraulic, hydrologic, and sediment transport analyses for private and public clients, including all stages of project development and execution. Selected projects include:
  - Post-fire hydrology and sediment bulking studies for San Diego, Orange, and San Bernardino Counties in support of county hydrology manual updates
  - Hydrologic, hydraulic, and bridge scour assessments for 150+ county- and state-owned bridges in Hawaii and California
  - 2-D HEC-RAS sediment transport modeling in support of the Los Peñasquitos Lagoon Restoration
  - Truckee Basin Water Management Options Pilot Study for the US Bureau of Reclamation, which included updates to rain and snowmelt flood-frequency curves and a channel capacity analysis

Point Loma Nazarene University, California, USA
Adjunct Professor, August 2021 – Present (Part-time)

- I currently teach the Engineering Senior Project I and II (EGR 4072 and EGR 4082) courses within the Department of Physics and Engineering.
  - This year, students are designing and developing locally relevant solar crop dryers for a non-profit client with operations in Chisec, Guatemala.
- Past courses taught include:
  - Introduction to Engineering II course (EGR 1023)
  - Analog Electronics course and lab (EGR 3053/L)
  - University Physics II lab (PHY 2054L)
  - General Physics I lab (PHY 1044L)

Jon Viducich Consulting, California, USA
International Engineering Consultant, June 2021 – Present (Part-time)

- I help water-focused non-profits achieve excellence by providing consulting services to develop the professional capacity of their technical and engineering staff and develop tools and resources. Selected projects include:
  - Work with a multidisciplinary team to develop an operational asset monitoring and management platform for rural water service providers
  - Facilitation of an online solar-powered water system course for participants from over 40 countries
  - Individual coaching and technical design review for a new WASH program in Uganda.
- Website: www.jonviducich.com

Lifewater International, California, USA
Manager of WASH Engineering, July 2020 – June 2021

- Oversaw engineering operations across organization, providing leadership to US-based engineering team and regular support to program engineering leadership in Uganda, Ethiopia, Tanzania, and Cambodia. Selected tasks included:
  - Oversaw all hardware and water quality standards and processes, including development and updates
  - Oversaw hardware planning; reviewed and approved project hardware plans with in-country leadership
  - Reviewed, advised on, and approved technical drawings, BOQs, and hardware contracts
  - Oversaw the creation, revision, and rollout of app-based water quality and hardware monitoring surveys
  - Ensured in-country engineering leadership had necessary training and support to implement quality hardware
  - Proactively integrated learning and best practices from the sector into engineering strategies, processes, and standard operating procedures

WASH Engineer, January 2018 – July 2020

- Provided engineering support and oversight to five technical field teams in Uganda and Cambodia. Selected tasks included:
  - Supported field offices in WASH hardware design and planning, contract development, technical drawing development, construction supervision, and hardware review
  - Led regular calls to support project management
  - Performed mapping and access calculations to support water point (boreholes, springs, rainwater harvesting systems) and latrine planning for rural communities, schools, and health facilities
  - Visited field locations to review hardware quality and lead trainings
  - Developed and reviewed hardware and water quality standards and processes

WEST Consultants, Inc., California, USA
Staff Hydraulic Engineer, August 2015 – January 2018

- Performed a range of hydraulic (1-D and 2-D), hydrologic, and sediment transport analyses for private and public clients. Selected projects included:
  - Developed 2-D HEC-RAS dam break models for San Bernardino Flood Control District
  - Performed long-term, unsteady sediment transport modeling on Missouri River using and testing new HEC-RAS BSTEM functionality for the US Army Corps of Engineers
  - Supported development of large-scale FLO2D models for National Trails Highway inundation analyses

  - Performed flood inundation mapping for San Diego River as part of RTS deployment for San Diego County
  - Developed CAVI and HEC-RAS model for USACE Bighorn River CWMS deployment

Oregon State University Water Resources Graduate Program, Oregon, USA
M.S. Thesis Research, August 2013 – July 2015

- Studied impacts of spillway staging on sedimentation for sand dams built on seasonal rivers
- Conducted field research in Kenya and Mozambique during July-August 2014
- Used HEC-RAS, ArcMap, MATLAB, R, and other engineering software in analyses

Oregon State University Department of Biological and Ecological Engineering, Oregon, USA
Graduate Research Assistant, August 2013 – July 2015

- Provided technical and administrative support to the Trans-African HydroMeteorological Observatory (www.tahmo.org) project in West, East, and Southern Africa
- Designed and built solar chargers, rain gauge brackets, and calibrators for TAHMO agro-met stations

Mennonite Central Committee, Tete, Mozambique
Service Worker - Water Engineer, August 2009 – July 2012

- Partnered with Mozambican national development organization and rural communities to develop water resources for semi-arid, food-insecure regions in Central Mozambique
- Sited, designed and/or oversaw construction of over 30 sand dams in seasonal rivers
- Developed spreadsheet-based sand dam design tool and accompanying user's manual
- Worked cross-culturally to develop partner capacity in project design, management, and evaluation

HCJB Global, Quito, Ecuador
Clean Water Summer Intern, May 2008 - July 2008

- Completed unpaid internship with international development organization
- Designed gravity-fed drinking-water distribution system for rural village in Ecuador
- Developed and utilized skills in topographical survey, AutoCAD design, and cross-cultural communication

PROFESSIONAL SERVICE

- *Volunteer Water Resources Engineering Consultant:* Mennonite Central Committee, Mozambique: August 2014, May 2016, September 2017
- *Volunteer Water Resources Engineering Consultant:* Restore International, Uganda: 2013-2015
- *Mentorship Team Leader:* Hydrophiles, Oregon State University student chapter of the American Water Resources Association: 2014-2015
- *Vice President,* Engineers Without Borders (SPU chapter): 2008-2009

PUBLICATIONS AND CONFERENCE PRESENTATIONS

- Viducich, J., Gulduren, S., Ellingson, J. and Selker, J. (2024), Geomorphological and Sedimentological Rationale for Staged Sand Dam Construction. Hydrological Processes, 38: e15307. https://doi.org/10.1002/hyp.15307
- Viducich, J.M.G. & Teal, M.J. (2017, April 5). Sediment Transport Through Lake Clarke and Lake Aldred. [Session 5B: Reservoir Sedimentation]. 37th Annual USSD Conference and Exhibition: It's a Small World: Managing Our Water Resources, Anaheim, California. http://toc.proceedings.com/38948webtoc.pdf.

- Viducich, J. (2015, April 28). Towards Optimizing Sedimentation Processes in Sand Dams. [Session 6: Water Management and Infrastructure]. 2015 Hydrophiles' Water Research Symposium: Connections—Ourselves to Water, Each of Us with One Another, and Our Work to Others, Corvallis, Oregon. https://people.wou.edu/~taylors/g473/OSU_H2O_Symposium_2015_abstract_book.pdf

LICENSES AND CERTIFICATIONS

- *Professional Civil Engineer*, California Board for Professional Engineers, Land Surveyors, and Geologists. Credential ID 91362.
- *Unmanned Aircraft System Remote Pilot,* Federal Aviation Administration. Certificate Number 4533122.

HONORS

- Research featured on cover of OSU's College of Engineering *Momentum!* publication: 2015
- *Recipient,* Wade Rain Irrigation Scholarship: 2015
- *Recipient,* Evans Family Fellowship Travel Scholarship: 2014
- *Recipient*, Ron Miner Memorial Scholarship: 2013
- *Recipient*, Seattle Pacific University Full Tuition Scholar Award: 2005-2009