SERGIO VALBUENA

M.Sc. Civil Engineer

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PROFILE

Ph.D. candidate at the University of California – Davis working in the Tahoe Environmental Research Center (TERC). Presently working on investigating nearshore physical processes and water quality by applying 3D numerical modeling and large datasets from in-situ observations to understand upwelling dynamics, and inflow transport fate in rotationally influenced lakes. Previous experience in hydrologic and hydraulic modeling of small lakes and wetlands, and project control and alignment to high standards management protocols. In search of constant academic and professional growth while working in team. Entrepreneur with fast learning and adaptability skills.

EDUCATION

University of California – Davis
2018 – Present
Doctor of Philosophy
Civil and Environmental Engineering
Water Resources
Lake Hydrodynamics
Advisors: Fabian Bombardelli & Geoffrey Schladow

University of California – Davis
2017-2020
Master of Science, Civil & Environmental Engineering
Emphasis in Water Resources and Nearshore Lake Hydrodynamics
Advisor: Fabian Bombardelli

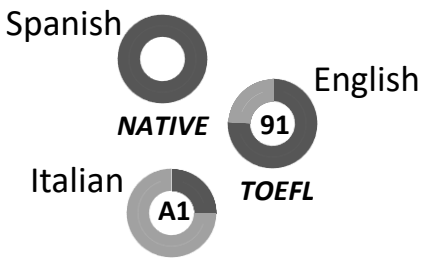
Colombian School of Engineering Julio Garavito
2011-2016
Bachelor of Science, Civil Engineering
Honors:
Summa Cum Laude

TECHNICAL SKILLS

- Matlab A.K.
- si3D A.K.
- OpenFOAM A.K.
- HEC-RAS A.K.
- AutoCAD A.K.
- Python A.K.
- Microsoft Excel A.K.
- Data Management A.K.
- Time Series A.K.
- ArcGIS B.K.
- QGIS B.K.
- Microsoft Project B.K.
- SQL B.K.

advanced knowledge: A.K.
basic knowledge: B.K.

LANGUAGES



RESEARCH EXPERIENCE

Graduate Student Researcher
University of California – Davis, USA / Jan 2018 – Present

- Led field campaign to investigate water clarity losses due to anthropogenic activities in the nearshore area of a lake.
- Data manager of the Nearshore Network long-term program to monitor water quality near the shore around Lake Tahoe.
- Investigated boat induced sediment resuspension in shallow flows by applying 3D numerical modelling of a recreational boat. *Published in River flow 2020 10th conference on fluvial hydraulics.*
- Investigating 3D dynamics of upwelling events in rotationally influenced lakes and water quality by applying hydrodynamical model si3D.

TEACHING EXPERIENCE

Teaching Assistant
Fluid Dynamics
University of California – Davis, USA / F2019, F2020, W2021

Organized laboratory lectures, demonstrations, and data collections for junior level fluid mechanics course.

Hydraulics | Open Channel and Pipe Flow
University of California – Davis, USA / W2018, F2018, S2019, S2020

Organized laboratory lectures, demonstrations, and collection of data for the senior level hydraulics course. Aided in grading laboratory reports and final exams.

Water Resources Simulation
University of California – Davis, USA / W2019

Hold a weekly one-hour discussion session to provide insights about course topics and aided in grading exams.

W – Winter Quarter | S. – Spring Quarter | F. – Fall Quarter

WORK EXPERIENCE

Hydraulic Engineer
Assistant of M.Sc. Alejandro Duran. / Bogotá D.C, Colombia / Sept 2016 – Sept 2017
Functions: perform and report hydrologic and hydraulic studies to more than 100 small lakes and wetlands in Cundinamarca, Colombia. Highway hydraulic design of two road sectors in Cundinamarca, Colombia.

Project Engineer
INNOVATECH STRATEGIC SOLUTIONS S.A.S – Based in Houston, Texas, USA / Office Bogotá D.C, Colombia / Jan 2016 – Sept 2016
Functions: professional support in the construction, plan monitoring strategy, budget structuring, preparation of reports, progress, and traceability of projects.