

# SERGIO VALBUENA

M.Sc. Civil Engineer



+1 (707) 567 9287



savalbuena@ucdavis.edu



savalbuena.github.io



savalbuena

## 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.

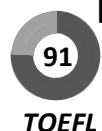
## LANGUAGES

Spanish



NATIVE

English



TOEFL

Italian



A1

---

## 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 10<sup>th</sup> 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.*

---

## HONORS & AWARDS

### **University Colombian School of Engineering Julio Garavito – 2016**

- Summa Cum Laude within Civil Engineering department for best overall undergraduate GPA.

### **California Lake Management Society (CALMS) Scholarship – 2021**

- One of the 4 graduate students to receive the scholarship during summer 2021

### **Goldman – Schladow Limnology Fellowship – 2022**

- Fellowship awarded to UC Davis graduate students conducting limnological research on California lakes in general and particularly those doing research on Lake Tahoe at TERC

### **David and Dana Loury Foundation Fellowship – 2022**

- Fellowship awarded in recognition of outstanding academic record and promise of productive scholarship.
-