Jeffrey C. **Davids**

Assistant Professor, Water Resources and Agricultural Engineering

400 W. First St., Chico, CA 95929

(+1) 530.898.3167 | jcdavids@csuchico.edu | jeffdavids

"Be the change that you want to see in the world. Now!"

Education

Delft University of Technology — *Delft, Netherlands*

Ph.D. in Civil Engineering, Water Management — *Aug. 2015 - Jun. 2019*

- Dissertation on SmartPhones4Water: Young Researchers + Citizen Scientists + Mobile Technology.
- Managed team of 10 Nepali researchers and supervised 20 B.Sc. and M.Sc. students from the Netherlands and the US.

California State University, Chico — *Chico, CA, USA*

M.Sc. in Geosciences, Option in Hydrology/Hydrogeology — *Jan. 2008 - May. 2011*

- Graduation with distinction.
- Thesis on the spatial and temporal analysis of stream restoration efforts in depleted aquifer systems.

California Polytechnic State University, San Luis Obispo — *San Luis Obispo, CA, USA*

B.Sc. in General Engineering, Concentration in Water Resources — *Sep. 2000 - Jun. 2004*

- Senior project on slow sand filtration and solar disinfection water treatment technologies.

Summary

Jeff's educational background, professional experience, and dedication to developing human resources from diverse backgrounds demonstrate his commitment to the co-equal goals of (1) providing the food and fiber the world needs while (2) sustainably managing the Earth's limited natural resources. This passion plays itself out through education, research, community engagement, and appropriate application of technology. Jeff is an Assistant Professor with CSU Chico, Founder and President of SmartPhones4Water and H2oTech, guest researcher at Delft University of Technology (TU Delft), a Water Resources Consultant for the Food and Agriculture Organization of the United Nations (UN-FAO), and a Water Resources Engineer with Davids Engineering. As a Water Resources Consultant to the UN-FAO, Mr. Davids is tasked with the design and implementation of a series of training packages on Water Accounting and Water Productivity in Afghanistan and Myanmar. Jeff is a licensed Professional Engineer in the State of California and has a Ph.D. in Civil Engineering (Water Management) from Delft University of Technology, an M.Sc. from California State University Chico in Geosciences and Hydrogeology, and a B.Sc. in General Engineering from California State University San Luis Obispo.

Jeff's interests focus on how sustainable management of water, energy, and food are supported by education, integrated systems thinking, innovative sources of data, modeling tools, social engagement, and outreach. From 2015 to 2019, together with SmartPhones4Water and TU Delft, he investigated how young researchers, citizen science, mobile technologies, and remote sensing can be leveraged to develop foundational hydrologic datasets in data scarce regions. Prior to moving to Nepal in 2015, Jeff provided professional engineering services to a variety of clients in the Western United States and abroad for over 10 years. He successfully launched various entrepreneurial endeavors, including the RemoteTracker (2011) - an innovative new flow measurement device currently in use on over 150,000 acres of farm land in the Western US; SmartPhones4Water (2013) - a non-profit organization; FLOW (2015) - an online water data portal; and S4W-Nepal (2017) - a Nepal based non-profit research organization. Jeff has utilized various technologies to accurately quantify water flows in a variety of settings including natural streams and rivers, open-channel agricultural conveyance systems, and pipelines over a broad range of materials and sizes. Jeff has extensive experience performing hydrologic and hydrogeologic field measurements used to characterize groundwater and surface water quantity and quality. Jeff has managed diverse international teams and large projects, including the design, installation, calibration, and maintenance of several large flow measurement and data acquisition networks in the US and abroad.

Summary of Skills

Teaching	Water Resources, Ag Water Management, Environmental Monitoring, GIS and Remote Sensing, Data Science
Software	MS Office Suite, Quantum GIS (QGIS), Open Data Kit (ODK) Collect, ODK Aggregate, Google Cloud, LaTeX
Data Science	Python, Pandas, Matplotlib, SciPy, NumPy, GDAL, SQL
Languages	English (native), Nepali (intermediate), Spanish (basic), Thai (basic)
SCADA	Human Machine Interface (HMI) development, Programmable Logic Controllers (PLCs), systems integration
Water Accounting	Hydrology, field data collection, data management, remote sensing, GIS, Python raster analysis
Environmental Monitoring	Acoustic Doppler velocimetry, pressure transducers, telemetry, data loggers, MODBUS, SDI-12, 4-20 mA

Selected Experience

California State University, Chico

Chico, California, USA

Assistant Professor, Water Resources and Agricultural Engineering — *Aug. 2019 - PRESENT*

- Teaching AGET 340 - GPS and GIS in Agriculture and Natural Resource Management; AGET 360 - Irrigation; CIVL 461 - Water Resources Engineering; and CIVL 561 - Hydrology and Open Channel Hydraulics.
- Continued research on the applications of citizen science in water resources management and agriculture.
- Co-management of U.S. Bureau of Reclamation (USBR) grant at the Agricultural Training and Research Center (ATRC) at the California State University, Chico Farm.

Food and Agriculture Organization of the United Nations (UN-FAO)

Kabul, Afghanistan; Dubai, UAE; Nay Pyi Taw, Myanmar

Water Resources Consultant — *May. 2017 - PRESENT*

- Served as lead author for the development of comprehensive curricula for water accounting training including packages on: the water cycle; water balances; environmental data acquisition; spatial and temporal domains; fluxes and changes in storage; geographical information systems (GIS); remote sensing (RS); hydrological modeling; green, blue, and grey water; crop physiology and transpiration processes; crop yields; consumptive vs. non-consumptive water uses; water productivity; climate change; Water Accounting Plus (WA+); interpretation of WA+ fact sheets; UN sustainable development goals; and development of appropriate water sector intervention packages.
- Led diverse teaching team of international specialists from the Netherlands, Nepal, Thailand, UK, Afghanistan, the US, and the UAE for implementation of first six training packages for 3o water resources specialists from three different Afghan water related ministries.
- Designed and initiated training water accounting training program for Myanmar water managers and researchers.

Swedish Research Links Grant

Kathmandu, Nepal

Co-Principal Investigator — *Jan. 2017 - PRESENT*

- Wrote application for and successfully acquired grant funding for research project titled ”Jump-starting Nepal’s Citizen Science Based Monitoring and Management of Water Resources.”
- Co-Managed project budget of roughly $155,000
- Led development of core research topics and related publications including one publication that is fully completed, two under review, and one to be submitted in the spring of 2019.
- Provided capacity building, training, leadership, and oversight to activities in Nepal including team members from Nepal, Netherlands, Sweden, Canada, and the US.
- Planned and facilitated two symposiums on ”Citizen Science for Sustainable Mountain Development” as part of the Kathmandu Institute of Applied Sciences ”Mountains in a Changing World” conferences.

Nepali Groundwater Resources Development Board

Kathmandu, Nepal

Water Resources Consultant — *Mar. 2016 - Oct. 2016*

- Developed mobile technology platform with Open Data Kit (ODK) Collect and Aggregate for distributed hydrogeologic data collection with Android smartphones.
- Performed historical analysis of collected groundwater level data from Groundwater Resources Development Board.
- Provided training in Nepali language to office and field staff for the use, quality control, and management of data collected with mobile collection platform.
- Created schema for Nepal groundwater information system.

SmartPhones4Water (S4W)

Chico, California, USA

Founder and President — *Sep. 2013 - PRESENT*

- Founded SmartPhones4Water (S4W), and California based 501(c)(3) non-profit organization in September of 2013.
- Developed and refined S4W’s mission to leverage the power of young researchers, mobile technology, and citizen science to improve lives by strengthening our understanding and management of water.
- Led fund raising and outreach efforts for funding S4W’s first pilot project in Nepal (S4W-Nepal)
- Led development of mobile technology platform for citizen science based data collection based on Open Data Kit (ODK) Collect, ODK Aggregate running on the Google Cloud, and a custom Python web application for viewing, quality controlling, and disseminating information.

SmartPhones4Water-Nepal (S4W-Nepal)

Kathmandu, Nepal

Co-Founder — *Aug. 2015 - PRESENT*

- Moved to Kathmandu Nepal to lead the design and launch of S4W’s first pilot project called S4W-Nepal.
- Learned Nepali language and culture to assemble project team and partners.
- Developed professional network and partnerships with the Himalayan Biodiversity and Climate Center (HimBioCliC), Nepal; Kathmandu Institute of Applied Sciences (KIAS), Nepal; Delft University of Technology, Netherlands; the Swedish International Development Agency (SIDA), Sweden; and Institute of Engineering (IOE), Tribhuvan University, Nepal.
- Assembled and trained S4W-Nepal’s core staff team of 10 Nepali scientists and engineers, who in turn are engaged with over 50 young researchers and over 300 citizen scientists.

RemoteTracker

Chico, California, USA

Lead Developer (H2oTech) *Oct. 2011 - PRESENT*

- Invented concept of portable, GPS enabled, wireless acoustic Doppler velocimeter (WADV) for farm-gate flow measurement.
- Assembled and managed development team for RemoteTracker related software and hardware components.
- Led outreach, marketing, and piloting efforts leading to wide scale implementation on over 150,000 acres of farm land in Northern California within Reclamation District No. 108, Richvale Irrigation District, Biggs-West Gridley Water District, Western Canal Water District, Natomas Central Mutual Water Company, Glenn-Colusa Irrigation District, Provident Irrigation District, and Princeton Codora Glenn Irrigation District.
- Applied for patent with the US Patent Office 13/542,490.

California State University, Chico

Chico, California, USA

Lecturer, Civil Engineering Department *Jan. 2011 - May. 2015*

- Taught three sections of Fluid Mechanics (CIVL 321) labs for a total of 10 semesters.
- Developed and exposed students to real-world examples for Fluid Mechanics lab course.
- Scored Good to Excellent marks on four peer review classroom evaluations.
- Scored an average 4.55 out of 5 for overall indicators from a total of nine student evaluations from 131 individual students.

Yuba Water Agency | Measurement Improvement Plan Development and Implementation

Yuba County, California, USA

Consultant (Davids Engineering) *Mar. 2011 - Aug. 2015*

- Led development of Measurement Improvement Plan (MIP) to improve customer delivery measurement and quantification of key boundary inflows and outflows.
- Inventoried and inspected existing open channel and pipe flow measurement sites, in addition to development of designs and cost estimates for improvements required to ensure that YCWA is compliant with the Agricultural Water Measurement Regulation (CCR §597).
- Implemented various technologies including acoustic Doppler velocimeters, acoustic Doppler profilers, and stage-discharge curves for compliance.

Hydraulics Control | IJmuiden Sluice Gate Flow Measurement Improvements

IJmuiden, Netherlands

Consultant (Davids Engineering) *Aug. 2013 - Sep. 2013*

- Analyzed existing flow measurement and data management practices at the IJmuiden Sluice Gates on the North Sea and Amsterdam-Rhine Canals, which are the main water supply and drainage facilities for a significant portion of The Netherlands surrounding the greater Amsterdam area.
- Developed data collection plan to improve the accuracy of flow measurements through the seven sluice gates.
- Recommended use of advanced hydroacoustic methods to qualitatively detect reversed flow (i.e. from the North Sea into the Canal), and to quantitatively determine flow rates through the sluice structures as compared to the Venturi methods currently being utilized.

Shasta Valley Resource Conservation District | Stream-Aquifer Data Collection Plan

Siskiyou County, California, USA

Consultant (Davids Engineering) *Sep. 2012 - May. 2013*

- Performed and summarized literature review of (1) previous studies on the Shasta Valley and (2) sustainable groundwater management.
- Developed stream-aquifer data collection plan for the Shasta Valley, a hydrogeologically complex and poorly understood intermontane groundwater basin in Northern California.
- Identified and prioritized tasks in support of the Shasta Valley Resource Conservation District's (SVRCD) goal of developing foundational knowledge of the basin's groundwater system and the nature of its interaction with surface water bodies.

Joint Water District Board | SCADA System Development and Implementation

Butte and Sutter Counties, California, USA

Consultant (Davids Engineering) *Sep. 2011 - Jun. 2015*

- Designed a Supervisory Control and Data Acquisition (SCADA) system for the Joint Water District Board, an agricultural water provider to four irrigation and water districts served by the Thermalito Afterbay.
- Programmed MODBUS remote terminal unit (RTU) communication protocols between a central ClearSCADA server and the remote sites using cellular communication.
- Upgraded RTU hardware and peripherals (e.g. solar power supplies) and performed velocity index ratings for acoustic Doppler velocimeter sites.
- Designed and programmed user friendly human machine interface (HMI) for interacting with real-time and time-series historical data.

Turlock Irrigation District | Customer Delivery Measurement Plan

Stanislaus County, California, USA

Consultant (Davids Engineering) *Feb. 2012 - Aug. 2015*

- Developed and implemented Customer Delivery Measurement Plan (Plan) to ensure compliance with the Agricultural Water Measurement Regulation (CCR §597).
- Reviewed and refined spot flow measurement protocols for performing current metering measurements of farm-gate flows.
- Led the development of customized procedures for gate/parcel specific ratings, in addition to the field testing of acoustic Doppler velocimeters.

South San Joaquin Irrigation District | Flow Measurement Plan — *San Joaquin County, California, USA*

Consultant (Davids Engineering) — *May. 2011 - Aug. 2015*

- Identified the goals of the South San Joaquiun Irrigation District's (SSJID's) Flow Measurement Plan (Plan): (1) to provide cost-effective service to customers; (2) generate improved operational records for planning and analysis, and; (3) comply with the Agricultural Water Measurement Regulation (CCR §597).
- Designed a range of flow measurement methodologies and site improvements for SSJID involving standard critical depth structures (e.g. flumes and weirs) and acoustic Doppler flow measurement devices.
- Performed extensive field testing of acoustic Doppler velocimeters, magnetic meters, and meter-gate to evaluate accuracy relative to CCR §597 accuracy requirements.

Reclamation District No. 108, Richvale Irrigation District, and Biggs-West Gridley Water District | Turnout Flow Measurement Improvements — *Colusa, Butte, and Sutter Counties, California, USA*

Consultant (H2oTech and Davids Engineering) — *May. 2009 - PRESENT*

- Evaluated alternative measurement methods that are potentially capable of achieving heightening regulatory standards, including: existing orifice gates, weirs set in precast boxes, and the RemoteTracker, a recently introduced portable acoustic Doppler flow measurement device.
- Designed pilot program including (1) customization of the portable measurement device for District needs, (2) selection and inventory of a test reach, (3) calibration of upstream and downstream measurement devices, (4) development of an automated data transfer process and (5) development of a Water Information System for billing and accounting.
- Provided training to district staff (operators and managers) for use and management of the selected alternative, the RemoteTracker system.
- Supported district-wide implementation of the RemoteTracker system at over 1000 delivery points (including all three districts) including infrastructure improvements, and hardware and software refinements.
- Developed customized Water Information System (WIS) and Water Accounting Database (WAD) to integrate flow measurement data into management and billing processes.
- Evaluated historical water application depths, rate structures, and water sales to provide guidance for development and adoption of new water rate structures based in part on the volume of water delivered.
- Provided ongoing support of all portions of the RemoteTracker system.

AquaTerra Consulting | Montague Weir Flow Measurement and Fish Passage Alternatives — *Siskiyou County, California, USA*

Consultant (Davids Engineering) — *Mar. 2011 - Dec. 2011*

- Assessed existing weir structure from fish passage and measurement perspectives.
- Developed alternatives for modification of the weir to satisfy the identified co-equal fish passage and flow measurement goals.
- Presented results to US Geological Survey, US Fish and Wildlife, Shasta Valley Resource Conservation District and others and worked with stakeholders to identify a preferred alternative.

City of San Diego | San Pasqual Groundwater Basin Monitoring Program Development — *San Diego, California, USA*

Consultant (Davids Engineering) — *Jan. 2012 - July. 2012*

- Identified data gaps for development of groundwater management plan for San Pasqual Groundwater Management Plan.
- Developed methodology for quantifying surface inflows and outflows to and from the groundwater basin to improve estimates of groundwater recharge occurring from overlying streams.

Glenn-Colusa Irrigation District | Drain Flow Measurement Improvements — *Glenn and Colusa Counties, California, USA*

Consultant (H2oTech) — *Feb. 2008 - Oct. 2009*

- Designed flow measurement methodology and improvement plans for 12 drain flow measurement sites around the low gradient borders of Glenn-Colusa Irrigation District.
- Performed detailed hydraulic calculations necessary for the design of the various flow measurement structures.
- Supported installation of permanent Acoustic Doppler Velocimeters and velocity index calibrations with Acoustic Doppler Current Profiler measurements.

Western Canal Water District, Joint Water Districts Board, and California Department of Water Resources | Rice Water and Harvest Yield Monitoring — *Butte and Sutter Counties, California, USA*

Consultant (H2oTech) — *May. 2007 - Oct. 2010*

- Collected, quality controlled, and transmitted necessary data to quantify the impacts of cold water on yields from individual rice fields.
- Installed, maintained, and managed data from 125 continuous monitoring sites measuring both water and air temperature.
- Developed required documentation and presented information to stakeholders.

Orland Unit Water Users' Association | Northside Canal Improvements *Glenn County, California, USA*

Consultant (Davids Engineering) *Feb. 2007 - Oct. 2013*

- Performed site surveys and designed improvements for a series of canal improvements and a 35 acre-foot regulating reservoir on Lateral 210 of the Orland Unit Water Users' Association.
- Prepared plans and specifications for associated improvements and regulating reservoir.
- Compared historical rating curves for a Parshall flume and sharp crested weir with spot flow measurements to validate accuracy of historical flow records used in designing the reservoir.
- Provided construction inspection and oversight services.

The Nature Conservancy | Shasta Valley Water Management Studies *Siskyou County, California, USA*

Consultant (Davids Engineering) *May. 2006 - Nov. 2013*

- Conducted site visits including spot flow measurements in conveyance ditches, tested seepage rates in ditches, observed tailwater flows and drainage patterns.
- Installed transit-time and acoustic Doppler velocity flow meters for pump station and distribution system flow monitoring.
- Performed ponding seepage tests to quantify irrigation distribution seepage rates.
- Supported development of a final water balances technical report to guide the District's water conservation efforts.
- Created custom water information systems to manage and quality control data.

Petra Partners Co., Ltd | Water Supply Plans *Chiang Mai, Thailand*

Consultant (H2oTech) *July. 2006 - Oct. 2006*

- Developed water supply plan for one of the company's biodiesel and coffee production facility in Mae Lai Village.
- Assessed coffee plantation's water demand.
- Quantified potential spring yields.
- Performed aquifer performance tests of supply wells.
- Developed conceptual designs for water storage and distribution system.

Wilsey Ham | Civil Design and Site Improvements *Chico, California, USA*

Junior Engineer *May. 2005 - Apr. 2006*

- Designed and prepared plans for various improvement projects using AutoCAD.
- Performed gravity pipeline and retention pond design in order to not alter post improvement site runoff generation.
- Developed grading, drainage, and roadway designs, plans, and specifications.

Publications

Davids, J.C., Devkota, N., Pandey, A., Prajapati, R., Ertis, B.A., Rutten, M.M., Lyon, S.W., Bogaard, T.A. and van de Giesen, N., 2019. Soda bottle science-citizen science monsoon precipitation monitoring in Nepal. Frontiers in Earth Science, 7, p.46.

Davids, J.C., Rutten, M.M., Pandey, A., Devkota, N., Oyen, W.D.V., Prajapati, R. and Giesen, N.V.D., 2019. Citizen science flow–an assessment of simple streamflow measurement methods. Hydrology and Earth System Sciences, 23(2), pp.1045-1065.

Davids, J.C., 2019. Mobilizing Young Researchers, Citizen Scientists, and Mobile Technology to Close Water Data Gaps - Methods Development and Initial Results in the Kathmandu Valley, Nepal, Delft University of Technology, Netherlands, PhD Dissertation.

Davids, J.C., Rutten, M.M., Shah, R.D.T., Shah, D.N., Devkota, N., Izeboud, P., Pandey, A. and van de Giesen, N., 2018. Quantifying the connections—linkages between land-use and water in the Kathmandu Valley, Nepal. Environmental monitoring and assessment, 190, pp.1-17.

Davids, J.C., van de Giesen, N. and Rutten, M., 2017. Continuity vs. the crowd—tradeoffs between continuous and intermittent citizen hydrology streamflow observations. Environmental management, 60(1), pp.12-29.

Davids, J.C. and Mehl, S.W., 2015. Sustainable capture: Concepts for managing stream□aquifer systems. Groundwater, 53(6), pp.851-858.

Davids, J.C., 2011. Spatial and temporal analysis of stream restoration efforts in depleted aquifer systems, California State University, Chico, USA, Master's Thesis.

Prajapati, R., Thapa, B.R., **Davids, J.C.**, Talchabhadel, R., Kafle, A.S., 2019. Water quality index assessment for groundwater: A case study of Bhaktapur Municipality, Nepal, Groundwater for Sustainable Development, in review.

Conference Proceedings

Davids, J.C., Pandey, A., Prajapati, R., Devkota, N., Rutten, M.M., van de Giesen, N., 2018. Scalable Methods for Citizens to Measure Spring Discharge - a Canary in a Coal Mine for Changing Hydrological Systems, American Geophysical Union, Fall Meeting 2018, Washington D.C.

Davids, J.C., Pandey, A., Prajapati, R., Devkota, N., Rutten, M.M., van de Giesen, N., 2018. A Recipe for Sustainable Water Data Collection: Young

Researchers + Citizen Science + Mobile Technology, American Geophysical Union, Fall Meeting 2018, Washington D.C.

Sijapati, S., Khanal, P.R. and **Davids, J.C.**, 2018. Irrigation Modernization by Enhancing Water Productivity through Water Accounting, 8th International Committee on Irrigation and Drainage (ICID) Asian Regional Conference (8ARC) - Irrigation in Support of Evergreen Revolution, Kathmandu, Nepal.

Davids, J.C., Rutten, M.M. and van de Giesen, N., 'Can Low Frequency Measurements be Good Enough - A Statistical Assessment of Citizen Hydrology Streamflow Observations,' American Geophysical Union, Fall Meeting 2016, San Francisco, 2016.

Davids, J.C., van de Giesen, N., and Rutten, M.M., 'Citizen Hydrology - Tradeoffs between Traditional Continuous Approaches and Temporally Discrete Hydrologic Monitoring,' European Geosciences Union General Assembly, Vienna, Austria, 2016.

Mehl, S.W., and **Davids, J.C.**, 'Groundwater Storage vs. Surface Water Storage – Why Sustainability Requires a Different Management Framework,' American Geophysical Union, Fall Meeting 2015, San Francisco, 2015.

Davids, J.C., Norris, J., Mehl, S.W., 'Continuity vs. The Crowd - Tradeoffs Between Continuous and Temporally Discrete Hydrologic Observations,' U.S. Committee on Irrigation and Drainage, Sustainable Basin Water Management, Eighth International Conference on Irrigation and Drainage, Reno, NV, 2015.

Davids, J.C. and Mehl, S.W., 'Metrics for Sustainable Groundwater Management,' California Water Environmental Monitoring Forum (CWEMF) Annual Meeting, CA, 2015.

Davids, J.C., Mehl, S.W., 'Sustainable Capture Fractions, Sustainable Capture Thresholds, Capture Efficiency, and Sustainable Groundwater Storage: Concepts for Managing Stream-Aquifer Systems,' California Groundwater Resource Association Annual Meeting, Sacramento, CA, 2014.

van Overloop, P.J., Maestre, J.M. **Davids, J.C.**, Hashemy, S.M., Sadowska, A.D., Camacho, E.F., 'Human in the Loop Control of Dez Main Canal,' U.S. Committee on Irrigation and Drainage, Planning, Operation, and Automation of Irrigation Delivery Systems, USCID Water Management Conference, Phoenix, CA, 2014.

Davids, J.C., Mehl, S.W. and Davids, G.G., 'Sustainable Capture Fractions, Sustainable Capture Thresholds, Capture Efficiency, and Sustainable Groundwater Storage: Concepts for Managing Stream-Aquifer Systems,' U.S. Committee on Irrigation and Drainage, Groundwater Issues and Water Management, USCID Water Management Conference, Sacramento, CA, 2014.

Davids, J.C., van Overloop, P.J. and Vierstra, M., 'Mobile Monitoring Technologies: The MobileTracker and RemoteTracker,' U.S. Committee on Irrigation and Drainage, Groundwater Issues and Water Management, USCID Water Management Conference, Sacramento, CA, 2014.

Davids, J.C. and Davids, G.G., 'Canaries and Coal Mines: Monitoring Key Indicators of a Heterogeneous Aquifer in the Shasta Valley,' California's Groundwater Future in the Balance, California Groundwater Resource Association Annual Meeting, Sacramento, CA, 2013.

Davids, J.C. and Mehl, S.W., 'Defining Capture Thresholds for Sustainable Groundwater Management of Interconnected Stream-Aquifer Systems,' International Groundwater Modeling Center, MODFLOW and More 2013, Boulder, CO, 2013.

Davids, J.C., Ertis, B.A., Bair, L.E. and Earley, S.P., '"Spot" Measurements of Flow Can Be "Good Enough" for California's Heightening Agricultural Measurement Requirements,' U.S. Committee on Irrigation and Drainage, Using 21st Century Technology to Better Manage Irrigation Water Supplies, USCID Water Management Conference, Phoenix, AZ, 2013.

Davids, J.C., Davids, G.G., Bair, L.E. and Miller, E.A., 'Creative, Accurate and Cost-Effective Farm-Gate Delivery Measurement Approaches,' U.S. Committee on Irrigation and Drainage, Managing Irrigation Systems in Today's Environment, USCID Water Management Conference, Reno, NV, 2012.

Davids, J.C. and Thiede, M.V., 'Evaluation of Weir Boxes and Orifice Gates for Farm-Gate Delivery Measurement,' U.S. Committee on Irrigation and Drainage, Managing Irrigation Systems in Today's Environment, USCID Water Management Conference, Reno, NV, 2012.

Davids, J.C., Davids, G.G. and Bair, L.E., 'Performance of Existing Submerged Orifice Gates for Farm Delivery Measurement in Reclamation District No. 108 Relative to Pending Measurement Accuracy Standards,' U.S. Committee on Irrigation and Drainage, 6th Annual Conference on Irrigation and Drainage, San Diego, CA, 2011.

Davids, J.C., Davids, G.G. and Loy, K., 'Evaluation of stream-aquifer interactions on the Little Shasta River, CA,' Groundwater Resource Association of California, Groundwater-Surface Water Interactions Symposium, California's Scientific and Legal Disconnect, Sacramento, CA, 2011.

Davids, J.C. and Mehl, S.W., 'Stream Restoration and Aquifer Recovery – A Significant Nexus?,' Groundwater Resource Association of California, Groundwater-Surface Water Interactions Symposium, California's Scientific and Legal Disconnect, Sacramento, CA, 2011.

Davids, J.C. and Mehl, S.W., 'Analysis of stream restoration efforts in depleted aquifer systems,' International Groundwater Modeling Center, MODFLOW and More 2011, Boulder, CO, 2011.

Davids, J.C. and Mehl, S.W., 'The timing, spatial extent and magnitude of fishery benefits obtained from re-watering interconnected stream-aquifer systems depleted by historical diversions and pumping – A case study in the Shasta Valley, CA,' American Geophysical Union, Fall Meeting 2010, San Francisco, 2010.

Speaking Engagements

Davids, J.C., 'Make Your Data Count,' invited speaker, Hogeschool Rotterdam Water Management Department, Rotterdam, Netherlands, 2019.

Davids, J.C., 'Introduction to Water Accounting,' Water Accounting 301_302, water resources consultant for the United Nations Food and Agriculture Organization, Nay Pyi Taw, Myanmar, 2019.

Davids, J.C., 'Introduction to Water Accounting Plus (WA+),' Water Accounting 307, water resources consultant for the International Center for Biosaline Agriculture, Dubai, UAE, 2018.

Davids, J.C., 'Data: 'S4W = Young Researchers + Mobile Technology + Citizen Science,' invited speaker for WaterMappers' Summer Challenge, Climate-KIC and Delft University of Technology, Delft, Netherlands, 2018.

Davids, J.C., 'Two Years of SmartPhones4Water-Nepal,' Delft University of Technology Water Management Colloquium, Delft, Netherlands, 2018.

Davids, J.C., 'Linkages Between Land-use and Water in the Kathmandu Valley,' invited speaker for Citizen Science for Sustainable Water Management Workshop, Tribhuvan University Institute of Engineering - Paschimanchal Campus, Pokhara, Nepal, 2018.

Davids, J.C., 'SmartPhones4Water-Nepal Citizen Science Flow Campaign,' invited speaker for Khwopa Engineering College Symposium, Bhaktapur, Nepal, 2018.

Davids, J.C., 'Introduction to Water Productivity,' water resources consultant for the Food and Agriculture Organization of the United Nations (FAO), Kabul, Afghanistan, 2017.

Davids, J.C., 'SmartPhones4Water-Nepal: Looking Back and Looking Forward,' invited speaker for SonTek-A Xylem Brand, Escondido, CA, 2018.

Davids, J.C., 'Practical Lessons on Water Accounting,' water resources consultant for the Food and Agriculture Organization of the United Nations (FAO), Kabul, Afghanistan, 2017.

Davids, J.C., 'Basic Training on Water Accounting,' water resources consultant for the Food and Agriculture Organization of the United Nations (FAO), Kabul, Afghanistan, 2017.

Davids, J.C., 'Leveraging Citizen Science and Mobile Technology for Sustainable Water Management,' Invited Speaker for 8th National Symposium on Groundwater Resources in Nepal, Kathmandu, Nepal, 2017.

Davids, J.C., 'SmartPhones4Water - Leveraging Citizen Science and Mobile Technology for Sustainable Water Management,' Hydrologic Sciences Graduate Group Seminar Series, University of California Davis, Davis, 2017.

Davids, J.C., 'SmartPhones4Water - Leveraging Citizen Science and Mobile Technology for Sustainable Water Management,' Engineers Without Borders Keynote Speaker, California State University San Luis Obispo, San Luis Obispo, 2017.

Davids, J.C., 'Citizen Science for Sustainable Water Management,' Invited Speaker for Conservation Practices and Trends in Nepal, NAMI University, Kathmandu, Nepal, 2016.

Davids, J.C., 'Stream-Aquifer Interactions,' Invited Speaker for Freshwater Biodiversity Monitoring Training, Tribhuvan University Central Department of Environmental Science, Kathmandu, Nepal, 2016.

Davids, J.C., 'Groundwater Management in California - A Century of Scientific and Legal Disconnect and the 2014 Sustainable Groundwater Management Act (SGMA),' Invited Speaker for 7th National Symposium on Groundwater Resources in Nepal, Kathmandu, Nepal, 2016.

Davids, J.C., 'Sacramento Valley Groundwater: A Brief Overview,' Invited Speaker for the Water Education Foundation's California Groundwater Tour, Chico, CA, 2014.

News

TU Delft News: Mobilizing young researchers and citizen scientists to close water data gaps *TU Delft Website*

HTTPS://WWW.TUDELFT.NL/EN/2019/TU-DELFT/MOBILIZING-YOUNG-RESEARCHERS-AND-CITIZEN-SCIENTISTS-TO-CLOSE-WATER-DATA-GAPS/

Jun. 2019

Humans at TU Delft: Jeff Davids, PhD Candidate

TU Delft Delta

https://www.delta.tudelft.nl/article/humans-tu-delft-jeff-davids-phd-candidate

Nov. 2018

I Think I'm Going to Kathmandu: Citizen Science for Freshwater in Nepal

The Nature Conservancy, Cool Green Science

https://blog.nature.org/science/2018/01/10/kathmandu-citizen-science-freshwater-problems-nepal/?utm_source=cgs&utm_medium=archive&utm_campaign=Citizen+Science

Jan. 2018

Nonprofit Kick-Starts Water Data Gathering in Nepal Valley

Environmental Monitor

http://www.fondriest.com/news/s4w-nepal-kick-starts-water-data-gathering-nepal-valley.htm

Oct. 2017

In Search of Data

Stormwater

http://foresternetwork.com/stormwater-magazine/sw-water/sw-stormwater-software/in-pursuit-of-data/

Sep. 2017

Three Generations near the Banks of the Bagmati

Onset Computer Corporation

http://www.onsetcomp.com/resources/three-generations-near-banks-bagmati

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SmartPhones4Water

Cal Poly Engineering Advantage

https://issuu.com/calpolyengineering/docs/cal_poly_engineering_fall-2014_/22

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SmartPhones4Water hopes to fill water management data gaps for developing countries

Environmental Monitor

http://www.fondriest.com/news/smartphones4water.htm

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Water Management App Created

Civil Engineering, CSU Chico

http://www.csuchico.edu/ce/menu_alumni_and_friends/stories/2013_12-newsletter/2013_12-story4.shtml

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Improving Water Measurement with H2oTech's RemoteTracker

Irrigation Leader | The Innovators

http://www.h2otechonline.com/wp-content/uploads/2013/05/Irrigation_Leader_April-_2013_RT_Only.pdf

Apr. 2013

Professional Registrations

Professional Civil Engineer (No. 75656)

State of California

Jan. 2010