Galen Gorski

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EDUCATION

University of California, Santa Cruz, Santa Cruz, CA
PhD Candidate Hydrogeology *Expected Date of Defense: Summer 2020*
Committee Members: Andrew Fisher (Primary Advisor), Adina Paytan, Noah Finnegan, Samuel Sandoval Solis

- Completed coursework includes: Introduction to Probability, Classical and Bayesian Inference, Applied Bayesian Modeling, and Groundwater Modeling

Carleton College, Northfield, MN
Bachelor of Arts in chemistry *June 2013*

- Extensive coursework in geology
- Senior thesis: *Probing the primary events in photosynthesis using ultra-fast lasers*

Current Research
My research combines field, laboratory and modeling techniques to investigate improvements to water quantity and quality with a particular emphasis on measuring and modeling biogeochemical cycling in groundwater-surface water interactions.

POSITIONS HELD

NSF Graduate Research Intern *Jan. 2018 - Current*
USGS advised by Daniel Goode, Lawrenceville, NJ

PhD Candidate and NSF-GRFP Fellow *Sept. 2015 - Current*
Hydrogeology Lab of Andrew Fisher, UC Santa Cruz, Santa Cruz, CA

Biological Science Technician *Nov. 2014 - July 2015*
Biometerology Lab of John Baker and Tim Griffis, USDA, Minneapolis, MN

Laboratory Technician *Oct. 2013 - July 2014*
Isotope Geochemistry Lab of Gabriel Bowen, University of Utah, Salt Lake City, UT

Research Assistant *June 2013 - Sept. 2013*
Physical Chemistry Lab of Will Hollingsworth, Carleton College, Northfield, MN

Research Assistant *June 2012 - Sept. 2012*
Materials Chemistry Lab of Steven Drew, Carleton College, Northfield, MN

PUBLICATIONS

Gorski G., Dailey H., Fisher A.T., Schrad N., Saltikov C. (2020) Denitrification during infiltration for managed aquifer recharge: Infiltration rate controls and microbial response. *Science of the Total Environment*, 727, 138642.
doi.org/10.1016/j.scitotenv.2020.138642

Balestra B., Orland I.J., Fessenden-Rahn J., **Gorski G.,** Franks R., Rahn T., Paytan A. (2020) Paired analyses of oxygen isotope and elemental ratios within individual shells of benthic foraminifera genus *Uvigerina*. *Chemical Geology*, 533, 119377. doi.org/10.1016/j.chemgeo.2019.119377

Gorski G., Fisher A.T., Beganskas S., Weir W., Redford K., Schmidt C., Saltikov C. (2019) Field and laboratory studies linking hydrologic, geochemical, and microbiological processes and enhanced denitrification during infiltration for managed recharge. *Environmental Science and Technology*, 53, 9491-9501. doi/10.1021/acs.est.9b01191

Beganskas S., **Gorski G.**,Weathers T., Fisher A.T., Schmidt C., Saltikov C.W., Redford K., Stoneburner B., Harmon R., Weir W. (2018) A horizontal permeable reactive barrier stimulates nitrate removal and shifts microbial ecology during rapid infiltration for managed recharge. *Water Research*, 144, 274-284. doi.org/10.1016/j.watres.2018.07.039

Griffis T.J., Wood J.D., Baker J.M., Lee X., Xiao K., Chen Z., Welp L.R., Schultz N.M., **Gorski G.**, Chen M., Nieber J. (2016) Investigating the source, transport, and isotope composition of water vapor in the planetary boundary layer. *Atmospheric Chemistry and Physics Discussion*, 16, 5139-5157. doi.org/10.5194/acp-16-5139-2016

Gorski G., Strong C., Good S.P., Bares R., Ehleringer J.R., Bowen G.J. (2015) Vapor hydrogen and oxygen isotopes reflect water of combustion in the urban atmosphere. *Proceedings of the National Academy of Sciences*, 112, 3247-3252. dx.doi.org/10.1073/pnas.1424728112

IN REVIEW/ PREPARATION

Gorski G., Fisher A.T., Beganskas S., Dailey H., Schmidt C. Denitrification potential of working landscapes: mapped using experimentally informed machine learning approach. *Environmental Science and Technology.* Target submission May 2020.

Gorski G., Zimmer M.A. The role of flow regimes on nutrient export: Baseflow drives nutrient enrichment and stormflow drives chemostatis. *Geophysical Research Letters.* Target submission May 2020.

AWARDS AND FELLOWSHIPS

UCSC Aaron and Elizabeth Waters Award for best qualifying exam	*June 2018*
NSF Graduate Research Fellowship–3 years full funding	*March 2016*
UCSC Environmental Studies Hammett Graduate Fellowship	*March 2016*
UCSC Additional First Year Fellowship	*March 2015*

SELECTED PRESENTATIONS

Gorski G., Fisher A.T., Beganskas S., Schmidt C., Dailey H. Using machine learning to incorporate potential water quality improvements for mapping MAR suitability. *Oral presentation at the International Symposium for Managed Aquifer Recharge* (Madrid, Spain May 2019)

Gorski G., Dailey H., Fisher A.T. Coupling benefits to water quantity and quality through stormwater collection linked to managed recharge. *Oral presentation at the Biennial Symposium on Managed Aquifer Recharge* (San Diego, CA March 2018)

Gorski G., Beganskas S., Weir W., Redford K., Saltikov C., Fisher A.T. Linking field and laboratory studies to investigate enhanced nitrate removal using permeable reactive barrier technology during managed recharge. *Oral presentation at the national meeting of*

the American Geophysical Union (New Orleans, LA December 2017)

Gorski G., Beganskas S., Weir W., Fisher A.T. Linking field and laboratory studies to investigate enhanced nitrate removal using permeable reactive barrier technology. *Oral presentation at the Groundwater Resources Association of California Annual Meeting* (Sacramento, CA October 2016)

Gorski G., Beganskas S., Weir W., Murray J., Saltikov C.W., Fisher A.T. Investigating conditions for denitrification during controlled MAR experiments using reactive barrier technology. *Oral presentation at the International Symposium on Managed Aquifer Recharge* (Mexico City, Mexico June 2016)

MENTORING AND OUTREACH

Cultivamos Excelencia – Graduate Student Mentor
I served as a mentor for two community college students from San Jose City College interested in transferring to a four-year university. The program consisted of weekly meetings with the mentees, a year-long research project designed and conducted by the mentees, and an end-of-year research symposium.

Expand Your Horizons – Facilitator
An event for girls from Santa Cruz and Monterey County public schools, grades 5-10, to learn about earth science topics. I have helped facilitate activities on plate tectonics and ocean acidification.

Institute for Scientists and Engineer Educators Professional Development Program – Graduate Student Participant
A two-part workshop for early career scientists interested in education and teaching. The workshops focused on experiential learning and creating classroom environments inclusive to a diversity of identities and learning styles. I planned and executed a lesson plan for an Introductory Chemistry course on campus using techniques I had learned in the workshops.

GIS Workshop as part of NSF-GRIP internship
As part of the NSF Graduate Research Internship Program (GRIP) that I took part in, I led a GIS workshop with participants and stakeholders from Lebanon, Palestine, Jordan, Egypt, Cyprus, and the United States. The workshop was part of a larger collaborative meeting, and its goals were to help transfer skills and build capacity in our partnering countries as part of wider project goals centered on regional groundwater security and sustainability.

Community College Rise – Graduate Student Mentor
A program designed to give community college students research experience during the summer. I served as a mentor for Molly Cribari, a community college student, who performed lab work, analyzed water samples in our laboratory facilities, and delivered an oral presentation on her research topic at the end of the 10-week session.

COMPUTER SKILLS

Adobe Illustrator, ArcGIS, EddyPro, HYDRUS (Variably saturated hydrologic modeling), R, LaTeX, MatLab, MODFLOW, MySQL, Python, Surfer, SWAT (Soil Water Assessment Tool), UNIX shell scripting