Galen Gorski

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ACADEMIC HISTORY

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

Research Focus
My research combines field, laboratory and modeling techniques to investigate improvements to water quantity and quality with a particular emphasis on non-point source pollution modeling and mitigation. Current projects include:

- Developing and implementing reactive barrier technologies for the passive removal of nitrate and other contaminants from water
- Instrumentation and sampling of an active Managed Aquifer Recharge site for rainy season measurements of water quality and infiltration rates, including digitization and interpretation of water well logs for stratigraphic analysis of the project area
- Integrating data sets from field and lab experiments with modeled and remote sensing products to develop maps of potential sites for targeted recharge sites based on objective criteria analysis
- 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*

PREVIOUS EMPLOYMENT

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

- Maintained and installed infrared gas analyzers and sonic anemometers on four eddy covariance flux towers
- Developed systematized protocols for data storage, analysis and upload to Ameriflux database using MySQL
- Refined and developed scripts for processing flux data in MatLab

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

- Developed and wrote extensive data reduction and calibration scripts in R
- Calibrated and managed two Picarro cavity ring-down water isotope analyzers
- Developed new experimental procedures and wrote protocols for lab instruments
- Collaborated with graduate students on water and soil sample collection, preparation and analysis for stable isotopes and carbon content
- Supported projects by planning field outings, completing lab work, teaching lab tasks to other workers, developing lab protocols, and ordering supplies
- Gained proficiency in data analysis using MS Excel and R and mapping using ArcGIS

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

- Investigated photo-dissociation of organometallic complexes using a system of dye lasers and time-of-flight mass spectrometry (TOF-MS) assembled in-house
- Gained proficiency and hands-on troubleshooting experience with TOF-MS
- Optimized laser function and experimental setup in collaboration with machine shop
- Gained exposure to LabView software by integrating oscilloscope and dye laser

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

- Synthesized platinum-based sensors for environmental detection of benzene vapor
- Analyzed trends in reaction data using MS Excel and MetreNova to optimize synthetic procedures
- Reviewed current scientific literature, updated procedures and prepared summaries for future researchers
- Presented a poster at the national meeting of the American Chemical Society

Research Assistant *Nov. 2011 - Dec. 2011*
Earth History Lab of Adam Maloof, Princeton University, Princeton, NJ

- Characterized and prepared samples for $\delta^{13}C$ and $\delta^{18}O$ isotopic analysis using mass spectrometry

AWARDS GRANTS AND HONORS

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*
Distinction in Senior Thesis – Carleton College	*June 2013*
Carleton College Department of Chemistry Franz Exner Award	*June 2013*
Graduated *magna cum laude* Carleton College	*June 2013*

PUBLICATIONS

Beganskas S., **Gorski G.**,Weathers T., Fisher A.T., Saltikov C.W., Schmidt C., Stoneburner B., Harmon R., Weir W., Carbon-rich soil amendments stimulate nitrate removal during infiltration in pilot field studies. *(Manuscript in Prep to be Submitted April 2018)*

Balestra B., Orland I.J., Paytan A., Fessenden-Rahn J., **Gorski, G.**, Franks R., Tenner T.J., Rhan T., Valley J.W., Comparison of different methodologies for O isotope and elementa. ratio analysis in the benthic foraminifera genus *Uvigerina. (Manuscript in submission)*

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*
doi:10.5194/acp-2015-923

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 Science*, 112, 3247-3252.
doi: http://dx.doi.org/10.1073/pnas.1424728112

SELECTED PRESENTATIONS

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., (2017) 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.(October 2016)*

Gorski G., Beganskas S., Weir W., Murray J., Saltikov C.W., Fisher A.T. (2016) Investigating conditions for denitrification during controlled MAR experiments using reactive barrier technology.*Oral presentation at the 9th Annual International Symposium on Managed Aquifer Recharge. (June 2016)*

COMPUTER SKILLS

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

INTERESTS

Hobbies: hiking, backpacking, cycling, canoeing
Other: Intermediate Spanish