Please note: as of Fall 2015, the UCSC Hydrogeology Research Group includes 5 graduate students, 2-3 undergraduate students, a technician and a postdoc. This is as big a group as I plan to maintain, and it is unlikely that I will be admitting new graduate students for the 2015-16 admissions cycle. I will consider all applications that are submitted, and it is possible that research opportunities, changes in staffing and/or new funding will lead to a reassessment.

Potential project topics:
(1) Marine hydrogeology (modeling of subseafloor hydrothermal systems)
(2) Managed aquifer recharge, surface water – groundwater interactions, water quality.

Project descriptions:
(1) Students, colleagues and I have accumulated considerable field data from areas of vigorous "ridge-flank" hydrothermal circulation. These data sets provide the basis for three-dimensional modeling of coupled flows (fluid, heat, solutes). We use these models to understand the dynamic nature of these systems, their variability, and their significance as part of the modern hydrogeologic cycle. This work is being done as part of the Center for Dark Energy Biosphere Investigations (C-DEBI), www.darkenergybiosphere.org
(2) We are studying surface water - groundwater interactions in managed aquifer recharge, stream/river, and wetland systems, with an emphasis on processes and properties influencing subsurface flow water and associated improvements to water quality. Our work involves GIS, numerical modeling, and field and laboratory experiments, and is associated with the UC Water Security and Sustainability Research Initiative (UC Water, http://ucwater.org/home).

Skills, Knowledge, and Abilities Required:
Successful applicants will have an outstanding academic record with a degree in some branch of Earth/Planetary Science, Engineering, Physics, Geochemistry or a related discipline, including considerable quantitative coursework. Honors or a senior thesis are a plus, as are strong writing skills, undergraduate research experience, the ability to work effectively both alone and in a group, dedication to high-quality work, enthusiasm for discovery, and professional ambition.

Other important skills/interests: maintaining lab/field equipment, enthusiasm about computer programming (desire and/or experience), strong organizational skills, ability to work independently and as part of a multidisciplinary team, ability to work long days in the field or lab. For field work: occasional heavy lifting, working on uneven ground/ships, driving a truck to field (must have valid driver's license), willingness to go through EH&S safety training. Strong interpersonal skills, good judgment, and professional discretion are essential for working on public and private field sites, working with community resources, etc.

Funding:
Hydrogeology students are funded with fellowships, research grants, and teaching assistantships.

Please direct questions to Andy Fisher (Professor of Earth and Planetary Sciences, UCSC), afisher@ucsc.edu. More information on research activities within the UCSC Hydrogeology Group can be found at: http://websites.pmc.ucsc.edu/~afisher.