**Nicolas Barth**
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## Education:

- (in progress) Ph.D. Geology, University of Otago, New Zealand, "Comparative Fault Mechanics in Quartzofeldspathic, Mafic and Ultramafic Protoliths: a Study of the Alpine Fault Zone in South Westland" Advisors: Virginia Toy, Richard Norris and Alan Cooper

- M.S. Geological Sciences, University of California-Santa Barbara, "Strain in the Western Gneiss Region of Norway Recorded by Quartz LPOs" Advisor: Dr. Brad Hacker, 4.0 GPA, June 2008

- B.S. Geological Sciences, University of California-Santa Barbara, 3.92 GPA, High Honors and Distinction in the Major, March 2007
    - Spent my junior year studying geology at the University of Otago, New Zealand as part of the UC Education Abroad Program, January-November 2006

- Canyon High School of Anaheim, CA, 3.62 GPA, Honors and Advanced Placement courses, June 2003

## Publications:

- Barth et. al (2010), "Strain within the Ultrahigh-Pressure Western Gneiss Region of Norway Recorded by Quartz CPOs" in *Continental Tectonics and Mountain Building: the Legacy of Peach and Horne*, Geological Society of London
- Contributing author and photographer to "The World of Gem & Crystal Treasures" by Dr. Peter Bancroft, hardcover book, expected publication: late 2010
- "Strain within the Ultrahigh-Pressure Western Gneiss Region of Norway Recorded by Quartz LPOs," MSc thesis, UCSB, 2008
- "Geology of the South Branch of the Pareora and Otaio Rivers Region, Hunter Hills, Canterbury, New Zealand," Senior Thesis, UCSB and U. of Otago, 2006

## Work Experience:

- Teaching Fellow, University of Otago- Department of Geology, March 2010 to present
- Field Assistant to Dr. Virginia Toy, University of Otago- Department of Geology, geological investigation of the Red Hills, NZ, January 2009
- Graduate Student Researcher and Teaching Assistant, UCSB, January 2007-June 2008
- Consulting geologist for BreitBurn Energy Company, Ltd., March-April 2007
    - Employed to do detailed geologic surface mapping of S. Orcutt Hill Oil Field, Santa Maria, CA to aide in exploration
- Dr. Brad Hacker and Dr. Doug Burbank Labs, UCSB Geological Sciences, October-December 2005
    - Prepared samples for radiometric age dating, ground up rocks using a disk mill, sieved out desired sample size, separated minerals using a Franz magnetic separator, selected grains for sampling using a microscope

    - Prepared samples for cosmogenic age dating, ground up rocks using a disk mill, sieved out desired sample size
- H.A.M. Technology in Anaheim, CA as the Shipping/Receiving Manager, November 2005 and as a Ring Bumper, December 2005
    - Handled multiple shipment deadlines daily, received packages and placed them in inventory
    - Placed rings on drill bits and ensured quality control
- Target Corporation Asset Protection as a Target Protection Specialist for Store #0677 in Anaheim Hills, CA; April-August 2003 and June-July 2004
    - Provided a professional/physical appearance, protected merchandise, employees and guests; responded to crises; assisted in apprehensions

**Teaching:**

- Structural Analysis of Deformed Rocks (Geol 351), Teaching Fellow, First Semester 2010
- Advanced Field Studies (Geol 302), Teaching Fellow, 10 day mapping exercise, First Semester 2010
- Sedimentary Processes and Materials (Geol 273/373), Student Demonstrator, Second Semester 2009
- Structural Analysis of Deformed Rocks (Geol 351), Student Demonstrator, First Semester 2009
- Field Studies and New Zealand Geology (Geol 252), week-long field-based class, Student Demonstrator, First Semester 2009
- Spring Field (Geol 104B), Teaching Assistant, week-long field-based class teaching geologic mapping, cross sections, stratigraphic columns, and scientific writing, Spring 2008
- Earth Materials (Geol 114A), Teaching Assistant, lab-based mineralogy/petrology class, Fall 2007
- Designed 2 new Earth Materials classes (Geol 114A&B)
    - Created course materials, labs, lectures, websites; chose textbooks, 300+ hours
    - Funded by a UC Instructional Development grant, Summer 2007
- Geology of Yosemite (Geol 19), Teaching Assistant, field-based class, Spring 2007
- Geology of Death Valley (Geol 18), Teaching Assistant, field-based class, Spring 2007
- Igneous Petrology (Geol 102B), Instructional Aide to laboratory sessions, Winter 2008

**Outreach and Community Service:**

- Speaker at the University of California- New Zealand Education Abroad Program student orientation, 4 days, February 2010
- Over 50 hours volunteering to teach $1^{st}$-$8^{th}$ grade students about geology at various UCSB-affiliated events and school science fairs, 2004-2008
- BSA Eagle Scout project- Trail restoration at Oak Canyon Nature Center in Anaheim, 200+ hours, 2001

**Honors and Awards:**

National Geographic Society

- National Geographic Young Explorer Grant for PhD fieldwork, awarded 2010

University of Otago

- Otago Postgraduate Scholarship to conduct a PhD in geology, 2009-2011

University of California- Santa Barbara

- 2008 Teaching Assistant of the Year awarded by UCSB geology undergraduates
- 2008 Preston Cloud Award awarded by UCSB Geology Department for presenting a talk at the 2007 GSA annual conference in Denver
- 2007 Fugro West Scholarship for "educational excellence in engineering geology and marine geophysics"
- 2007 George Tunell Endowed Fellowship for "special interest in economic geology, mineralogy, crystallography, geochemistry or petrology"
- 2005 Robert M. Norris Prize in Field Geology for "educational excellence in geological field mapping"

Coast Geological Society

- 2006 John Woolley Memorial Undergraduate Scholarship

Boy Scouts of America, Troop 241

- Eagle Scout- June 2001

**Experience:**

Technical Skills:

- Geologic field mapping, Garmin and Ashtech ProMarkGPSs, Brunton Geo Transit Compass, Jacobs Staff
- Adobe Creative Suite 3, Microsoft Office suite, Compass computer software, StereoWin 1.2, Google Earth, GeoWall
- ArcGIS: ArcMap, ArcCatalog, ArcScene; MapInfo
- Photoshop CS3 Fundamentals Workshop, taught by Jonathon Kingston at the Lepp Institute of Digital Imaging, June 4-6, 2007
- Making petrographic thin sections, disk mill, Franz magnetic separator, mineral picking for radiometric dating, optical microscopy
- Core logging, water conductivity testing, gravitometer, shallow-ground conductivity
- Scanning Electron Microscope (SEM), Electron Backscatter Diffractometer (EBSD), X-Ray Diffractometer (XRD)

Field Experience in Geology:

- 2010 Ellis Basin Cave Expedition, exploring what is likely New Zealand's deepest cave and one of the deepest in the world, January 2010
- Caving expedition exploring, surveying and mapping Deer Cave in Gunung Mulu National Park in Borneo as the expedition's geologist, 3 weeks, November-December 2009
- Geologic investigation of the Red Hills Ultramafic Massif, Nelson, New Zealand, 2 weeks, January 2009
- Traverse of the Grand Canyon of the Colorado by raft and foot, 23 days, November-December 2008
- Surveying and exploring in Lechuguilla Cave in New Mexico, 7 days, September 2008
- Comprehensive geologic field study (solo) of the Pareora and Otaio River Gorges Region (16 $km^2$) of Canterbury, South Island, New Zealand, 2006
    - 12,000+ word report encompassing lithology, structure, petrography, macrofossil assemblages, hydrogeology, geomorphology, unconformities, inversion tectonics, geological hazards and economic geology. Geologic mapping and cross sections constructed at 1:5,000. Copy available upon request.

- Field mapping at Swinburn Station, Central Otago, New Zealand, 2 weeks, February 2006
    - Map, cross sections, report, shallow ground-conductivity and gravity surveys
- Field Assistant to Joshua Cole (UCSB graduate student) for 6 weeks in Austria on a NSF funded research project, July-August 2005
    - Looked at geologic structure and shear zones within the Hohe Tauern National Park in the Austrian Alps; took pictures, measurements, oriented samples, notes, data analysis
- Field Assistant to Jennifer Van Pelt (UCSB graduate student), Lead Mountain/Elephant Mountain region northeast of Barstow, CA, April 2005
    - Helped measure a composite stratigraphic section using Jacobs Staff (1500m+ thickness)
- UCSB Summer Field geology course in the White Mountains, Poleta and Mammoth Lakes region, CA, 3 weeks, June-July 2005
    - Mapped for 2 weeks at Poleta Folds and turned in a comprehensive geologic report, studied volcanology of the Long Valley Caldera region, mapped glacial moraines and fault scarps using 3D stereographic projection of aerial photos
- Volunteer for Cave Restoration Foundation (CRF) and National Park Service (NPS) with Dr. Joel Despain (Cave Specialist for Sequoia& Kings Canyon National Parks) at Sequoia& Kings Canyon National Parks
    - 2001-present- cave surveyor and mapper, cave exploration, cave restoration, photo documentation, 200+ hours, ~3-4 times/year
    - August-September 2004- Assisted Cave Biology project, discovered new caves and virgin passage, surveyed and mapped caves, attended cave management meetings, assisted air quality instrument readings, used telemetry to track radio-collared bears, performed conductivity tests, visited 20 park caves, spent over 70 hours caving, hiked over 135 miles

**Affiliations:**

- Student Membership in the Geological Society of America (GSA) 02/05-present
- Member of the National Speleological Society (NSS) 01/07-present
- Member of the New Zealand Speleological Society (NZSS) 01/09 to present
- Member of the New Zealand Alpine Club (NZAC) 02/09 to present
- President of Muckers Cotorie, a student-run club for UCSB geology majors, 2004-2005
- Member of Santa Ana Rock& Mineral Club, 1994-present, Field Trip Chairman from 1996-2000

**Hobbies/Interests:**

- Caving, photography, canyoning, rock climbing, hiking, backpacking, mineral collecting, lapidary, ultimate frisbee

**Future Endeavors:**

- Attend and present research at the American Geophysical Union Annual General Meeting in San Francisco, 13-17 December 2010

- Contributing writer and photographer to the book “The World of Gem & Crystal Treasures” by Dr. Peter Bancroft, expected publishing date: late 2010
- Co-leader of a future U.S. caving expedition to New Zealand to find and survey caves, March 2011
- Publish a coffee table book of pictures from New Zealand

References available upon request.
Sample geologic maps or geologic reports available upon request.