

# Geological Sciences Department Annual Report 2011-12

## 1. *Instruction Innovation*

Discuss courses taught *during the ACADEMIC year July 1, 2011 through June 30, 2012* that implemented new teaching techniques or pedagogy, including use of technology, service learning, honors sections, and interdisciplinary material.

### David R. Berry

GSC 112--Earth Time and Life-Fall and Winter, 2011; GSC 331/L--Invertebrate Paleontology-Spring, 2012:

I am in the process of converting my thousands (literally!) of 35 mm photographic slides to digital format. I am being helped in this laborious enterprise by a varying number of student volunteers.

### David R. Jessey

GSC 440/L – Mining and Exploration Geology - Winter, 2011:

Resurrected GSC 440 after a 17 year hiatus. Class was fully implemented on Blackboard with all labs and lecture material posted on the Blackboard website. All grading as well as student participation was implemented thru Blackboard. Class included a four day field trip to the Cortez Mine near Elko, NV and the Robinson Mine near Eky, NV. Student evaluations were extremely positive with requests to make the class an annual or semiannual offering.

### John A. Klasik

The use of technology and trying new techniques or pedagogy is not new (nor should it be) to any of my 2011 – 2012 courses. I continue to use, refine and create new PowerPoint presentations for my classes. This is especially true for my GSC 120—Introduction to Oceanography class. Non-science, freshmen / sophomore, students need all the visuals they can receive. About two thirds of Oceanography course is now PowerPoint. This past year I have created two new presentations: “Oceanography and World History” and “General Characteristics of Waves”. These replace "old" transparency pedagogy and much board work. These new presentations have permitted the better use of illustrations and has further facilitated learning. Established presentations in all my classes are always being modified in response to available illustrations, to information derived from answers to test questions and general student questions. I have begun to incorporate video segments into my PowerPoint presentations.

### Jeffrey S. Marshall

GSC 323 – Geomorphology, Fall 2011:

Introduced new laboratory exercises and powerpoint lectures

GSC 111 – Physical Geology, Fall 2011:

Introduced new internet-based lecture presentations and online homework exercises

GSC 491L – Geology Field Module (Watershed Hydrology & Geomorphology) Winter 2012:

Developed and implemented entirely new Field Module examining the hydrology and geomorphology of watersheds, with new field exercises in San Dimas Canyon (Los Angeles County) and Santa Ynez Valley (Santa Barbara County)

GSC 350 – Natural Disasters, Spring 2012:

Introduced new internet-based lecture presentations, powerpoint and slide lectures, and online homework exercises

SCI 212 – Earth Science Education, Spring 2012:

Introduced new internet-based lecture presentations and online homework exercises

Jonathan A. Nourse

GSC 311/L—GIS Applications for Geologists II, Fall 2011:

Piloted a set of User's Manuals written by me and custom-designed for this GIS. These manuals provide cookbook procedures for performing many of the data access, data manipulation and map image superposition tasks necessary to produce multi-layered GIS maps. Incorporation of the manuals greatly facilitated instruction in this course and freed up my time to give focused attention to students who needed it.

GSC 333/L—Structural Geology, Winter 2012:

Utilized GPS data loggers for precise location of observation stations to facilitate mapping of geological structures in remote areas with poor topographic control. Also piloted this year in GSC 333 and GSC 321 was a new Stereonet plotting program by Richard Almendinger that reduced class time needed to produce plots of structural orientation data

GSC 321/L—Engineering Geology I, Spring 2012:

Utilized Blackboard to post maps and data sets for use in the group “dam site investigation” projects. Many other course materials were also distributed on line. This greatly reduced the amount of Xeroxing required for this course.

Stephen Osborn

GSC 360L—Groundwater Geology Laboratory and GSC 300L—Geochemistry Laboratory, Winter, 2012:

Led combined class field trip to San Antonio Canyon to collect water samples for water quality analysis and gauge surface flow at sampling sites. Students utilized new sampling equipment and portable instruments to measure various parameters.

Jascha Polet

GSC491L—Field Module, Spring 2012:

Incorporated all recently acquired geophysical equipment and used team/peer teaching approach

*In the sections below pertaining to scholarly activity (Sections 2 – 5), list only work completed during the CALENDAR year January 1, 2011 to December 31, 2011. Use APA style, as appropriate, when making entries. (A Cheat Sheet for APA style is available, courtesy of our Library, at <http://csupomona.libanswers.com/a.php?qid=17707>)*

## **2. Research, Scholarship, and Creative Activity**

### **a. Externally peer reviewed, critiqued, juried, and/or judged articles or performances**

**Marshall, J.**, and Spotila, J., 2011, Piedras de fuego and the trembling serpent of Nicoya: On the hunt for ancient shorelines and megathrust earthquakes, Nicoya Peninsula, Costa Rica: NSF GeoPRISMS Newsletter, No. 26, Spring 2011, p. 33-36.

Montero, W., **Marshall, J.**, Kruse, S., Lewis, J., and Wetmore, P., 2011 (In review, revised version submitted December 2011), Neotectonic faulting and fore arc sliver motion along the Atirro-Río Sucio fault system, Costa Rica, Central America: Geological Society of America Bulletin.

**Polet, J., & Thio, H. K.** (2011). Rapid Calculation of the Centroid Moment Tensor and Waveheight Predictions Around the Pacific for the 2011 Tohoku Earthquake, *Earth Planets Space*, Vol. 63 (No. 7), pp. 541-545.

**b. Works NOT externally peer reviewed, critiqued, juried, or judged**

David R. Berry

Participated in summer 2011 short courses and special classes at UC, Berkeley on the teaching of evolution to middle school and high school AP Biology students: *Think Evolution; A Summer Institute for Science Educators* is the name of the program. This workshop consists not just of lectures, but also with sessions focused on “hands-on” activities for students and teachers extending to the community college level as well. Among other activities, students construct phylogenetic trees and cladograms. A recent cladistics study, augmented with culinary treats and spices, helped answer the question: “What did *T. rex* taste like?” (fried chicken). This exercise has been transmitted widely in middle school biology classes.

Jeffrey Marshall

Benoit, M., Goodliffe, A., and **Marshall, J.**, 2011, Pop stars: Graduate students sound off at implementation workshops: NSF GeoPRISMS Newsletter, No. 26, Spring 2011, p. 24.

**Marshall, J.**, 2011, Alaska workshop graduate student symposium: NSF GeoPRISMS Newsletter, No. 27, Fall 2011, p. 17.

Jonathan Nourse

Authored Geology Department 18<sup>th</sup> annual Alumni Newsletter (“The Mylonite”); now available each year in electronic format

Revised the Geology Department Strategic Planning document

Led College effort to rework College of Science Strategic Planning document

**c. Books written or edited**

**Nourse, Jonathan A.**, 2011, ArcGIS 10 User’s Manual for Geologists, 23 pages, working draft of manuscript piloted in Fall 2011 GSC 311/L course.

**Nourse, Jonathan A.**, 2011, OziExplorer version 3.95 User’s Manual for Geologists, 8 pages, working draft of manuscript piloted in Fall 2011 GSC 311/L course.

**Nourse, Jonathan A.**, 2011, Adobe Illustrator version CS4 User’s Manual for Geologists, 8 pages, working draft of manuscript piloted in Fall 2011 GSC 311/L course.

**d. Presentations at Professional Conferences**

(Indicate peer reviewed presentations with an asterisk (\*).)

*i. Local/Regional*

**Marshall, J.**, Morrish, S., Butcher, A., Ritzinger, B., Wellington, K., Barnhart, A., Kinder, K., González, J., Lino, S., LaFromboise, E., Simila, G., Protti, M., Gardner, T., Spotila, J., Owen, L., Murari, M., and Cupper, M., 2011, The trembling serpent of Nicoya: On the hunt for ancient

shorelines and megathrust earthquakes, Costa Rica, Central America: Cal Poly Pomona Summer Research Symposium, August 24, 2011.

**Marshall, J.**, Morrish, S., Butcher, A., Ritzinger, B., Wellington, K., LaFromboise, E., Protti, M., Gardner, T., and Spotila, J., 2011, Morphotectonic segmentation along the Nicoya Peninsula seismic gap, Costa Rica: U.S. Geological Survey Los Angeles Basin College and University Research Symposium, Pasadena City College, Pasadena, California, November 18, 2011.

Butcher, A., & **Polet, J.** (2011)\*. Exploring the Tectonic Transition from Ocean to Continent in the Northern Gulf of California Using Surface Wave Back Projection, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Greenwood, R. N., & **Polet, J.** (2011)\*. Volcanic Tremor at Kilauea: Measurements from a Temporary Seismic Deployment, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Ho, K. Y. K., & **Polet, J.** (2011)\*. Determining Site Amplification from Seismic Noise Measurements on the Cal Poly Pomona Campus, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Lino, S., & **Polet, J.** (2011)\*. Analysis of Micro-Seismicity beneath Cal Poly Pomona, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Potter, H., & **Polet, J.** (2011)\*. Investigating the San Jose Fault on the Cal Poly Pomona Campus Using Gravimetry, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

## *ii. State*

**Marshall, J.**, 2011, Undergraduate research at Cal Poly Pomona: The UR BRONCO Initiative: Council on Undergraduate Research Workshop on Institutionalizing Undergraduate Research for State Systems and Consortia, California State University, Los Angeles, October 22, 2011.

## *iii. National*

Bruns, Jessica J., **Jessey, David R.**, and Baltzer, Suzanne M., (2011) Rare Earth Mineralization of Southern Clark County, Nevada, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah. (WINNER: best undergraduate POSTER award)

\* **Marshall, J.**, Morrish, S., Butcher, A., Ritzinger, B., Wellington, K., LaFromboise, E., Protti, M., Gardner, T., and Spotila, J., 2011, Morphotectonic segmentation along the Nicoya Peninsula seismic gap, Costa Rica: National Science Foundation GeoPRISMS Program, Subduction Cycles and Deformation Initiative Implementation Workshop, Bastrop, Texas, January 5-7, 2011, SCD Poster Presentation Program, p. 3.

**Marshall, J.**, Goodliffe, A., Brown, J., Browne, C., Childress, L., Colella, H., Dragovic, B., Genareau, K., Jadamec, M., Meltzner, A., Shaw, S., Syracuse, E., Worthington, L., 2011, Graduate student and post-doc perspectives on the NSF GeoPRISMS SCD implementation plan: National Science Foundation GeoPRISMS Program, Subduction Cycles and Deformation Initiative Implementation Workshop, Bastrop, Texas, January 6, 2011.

\* Butcher, A.J., **Marshall, J.S.**, Morrish, S.C., Ritzinger, B.T., and Wellington, K.L., 2011, Seismic cycle deformation and net coastal uplift at San Juanillo, Nicoya Peninsula, Costa Rica: Geological Society of America, Abstracts with Programs, v. 43, no. 4, p. 88, Abstract 31-20.

**Marshall, J.**, Brounce, M., Brown, J., Buurman, H., Colella, H., de Moor, M., Emry, E., Finn, S., Ghosh, A., Head, E., Jordan, E., Kentner, A., Kuehn, H., LeVoiir., M., MacInnes, B., Nadeau, P., Ohlendorf, S., Patton, J., Reece, B., Ribeiro, J., Roland, E., Rotman, H., Tibbets, A., 2011, Student perspectives on the NSF GeoPRISMS Alaska research site: GeoPRISMS-Earthscope Planning Workshop for the Alaska Primary Site, Portland, Oregon, September 24, 2011.

\* Butcher, A.J., **Marshall, J.S.**, Morrish, S.C., Ritzinger, B.T., and Wellington, K.L., 2011, Seismic cycle deformation and net coastal uplift at San Juanillo, Nicoya Peninsula, Costa Rica: Eos, Transactions, American Geophysical Union, v. 92, Fall Meeting Supplement, Abs. T44C-07.

\* Henning, A.T., Benoit, M.H., **Marshall, J.S.**, Goodliffe, A.M., Morgan, J.K., and Bopp, C.J., 2011, Engaging students in GeoPRISMS science planning: Preparing the leaders of tomorrow: Eos, Transactions, American Geophysical Union, v. 92, Fall Meeting Supplement, Abs. ED43A-0536.

**Nourse, Jonathan A.**, Hanks, Audra M., Pepin, Jeffrey D., Ellis, Robert A., and Ruotolo, Allison M., 2011\*, Late Quaternary Evolution of the East-Central San Gabriel Mountains Frontal Fault System Recorded By Unroofing Sequence, Geological Society of America Abstracts with Programs, Vol. 43, No. 4, p. 54

Pepin, Jeffrey D., Hanks, Audra M., and **Nourse, Jonathan A.**, 2011\*, Clast Analysis Of Quaternary Gravels Along the East-Central San Gabriel Mountain Front: Implications For Evolution of the Sierra Madre-Evey Canyon Thrust System, Geological Society of America Abstracts with Programs, Vol. 43, No. 4, p. 87

**Osborn, S.**, Warner, N, Vengosh, A., and Jackson, R., 2011. Dissolved Gas Geochemistry of Shallow Groundwater Systems in Pennsylvania and New York, Associated with Natural Gas Extraction, abstracts with programs, Geological Society of America Meetings, Minneapolis, MN.

Warner, N., **Osborn, S.**, Jackson, R., and Vengosh, A., 2011. Boron and Strontium Isotopes as Sensitive Tracers for Indicating Potential Shallow Groundwater Contamination from Marcellus Formation Brines, abstracts with programs, Geological Society of America Meetings, Minneapolis, MN.

Pazos, C., Potter, H., & **Polet, J.** (2011) \*. Gravity Profiles Across the San Jose Fault on Cal Poly Pomona Campus, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah.

Kwong, K., & **Polet, J.** (2011) \* Testing an Algorithm to Rapidly Determine Earthquake Fault Parameters From Aftershock Locations, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah, 2011.

**Polet, J.**, Thelen, W., Greenwood, R. and Butcher, A. (2011) \*. Practical Seismology in Undergraduate Education: A Short-Term Seismic Deployment on the Big Island of Hawaii, Abstract ED11A-0760 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

#### *iv. International*

\* **Marshall, J.**, Morrish, S., Butcher, A., Ritzinger, B., Wellington, K., Barnhart, A., Kinder, K., LaFromboise, E., Simila, G., Protti, M., Gardner, T., Fisher, D., Spotila, J., Owen, L., Murari, M., and Cupper, M., 2011, Morphotectonics and seismic cycle deformation along the Nicoya Peninsula seismogenic zone, Costa Rica: ICTP/TWAS Workshop on Seismic Sources in Central America, Heredia, Costa Rica, October 30 – November 5, 2011.

**Nourse, Jonathan A.**, 2011, Geologic Controls on Silver-Lead –Zinc-Copper Mineralization on the Ramard Project, Central Sonora, Mexico, Roundup Conference, Association of Mineral Exploration, Vancouver, British Columbia

**Polet, J.**, Thio, H. K., & Earle, P.S. (2011) \*. Surface Wave Back-Projection for Near Real-Time Determination of Global and Regional Earthquake Locations, Magnitudes and Mechanisms, International Union of Geodesy and Geophysics (IUGG) General Assembly, Melbourne, Australia.

### **3. Professional Awards and Honors**

#### **a. Professional Honors**

##### Jeffrey Marshall

National Science Foundation (NSF) Tectonics Program – Invited to serve as proposal review panelist for 2011-12.

National Science Foundation (NSF) GeoPRISMS Program – Invited to write first Field Blog article on my Costa Rica research project for the inaugural NSF GeoPRISMS Newsletter, Spring 2011.

National Science Foundation (NSF) GeoPRISMS Program – Invited to direct the Graduate Student/Post-Doc programs for NSF GeoPRISMS planning meetings, Bastrop, TX and Portland, OR, January and September, 2011.

California State University, Council on Ocean Affairs, Science, and Technology (COAST) – Selected by President Ortiz to serve as CPP Campus COAST Representative.

##### Stephen Osborn

Invited Speaker, Hydraulic Fracturing: An Environmental Perspective, Institute of Arctic and Alpine Research (INSTAAR), Department Seminar, University of Colorado, October 2011.

Keynote Speaker, Scientific Workshop: Potential Effects of Natural Gas Development on Water and Air in the West, University of Colorado, INSTAAR, and Colorado State University Sponsors, October, 2011.

Recipient of a 2-year Provost Teacher-Scholar award, Spring 2012

##### Jascha Polet

Finalist for the College of Science Distinguished Teaching Award, Spring 2012

## **b. Grants Awarded**

### ***As Principal Investigator:***

#### Jeffrey Marshall

Kellogg Foundation - Kellogg Legacy Project Endowment (\$130,000): *Kellogg Fund for Transformative Undergraduate Research Engagement (Kellogg FuTURE Program)*, 3-year project to enhance undergraduate research activities across all 8 colleges at Cal Poly Pomona, includes KUSP Scholars Program for students and FuTURE Mini-Grant Program for faculty.

Cal Poly Pomona - Kellogg Research, Scholarship and Creative Activity Program (\$12,000): *Paleoseismology and megathrust earthquake hazards of the Nicoya Peninsula seismic gap, Costa Rica, Central America*, 1-year project including \$5000 RSCA mini-grant and \$7000 Kellogg student research supplement.

#### Jascha Polet

Seismicity of the Southern End of the M7.2 El Mayor-Cucapah Earthquake Sequence From Surface Wave Back-projection; Southern California Earthquake Center/University of Southern California/National Science Foundation; Amount: \$15,000

Subcontract awarded: Contributions to the ARIA-EQ system development; Caltech/JPL; Amount: \$60,000

Intergovernmental Personnel Agreement awarded: Continued Development of a System to Determine Fully Automatic Centroid Moment Tensors at the National Earthquake Information Center; Amount: \$16,484

### ***As Senior Project Personnel:***

#### Jeffrey Marshall

Council on Undergraduate Research (CUR) – Workshop Program for Institutionalizing Undergraduate Research for State Systems and Consortia (funded by NSF CCLI Program) (Total Budget Unknown): *Institutionalizing Undergraduate Research within the California State University Consortium*, 1-year project to organize CSU campus consortium for undergraduate research and develop a system-wide workshop program, Awarded to P.I. Beth Ambos, CSU Assistant Vice Chancellor for Research and Sponsored Programs.

## **c. Active Grants (see also Grants Awarded)**

### ***As Principal Investigator:***

#### Jeffrey Marshall

National Science Foundation (NSF) MARGINS Program (\$90,000): *Collaborative Research: Seismogenesis of the Middle America Trench at the Nicoya Peninsula over multiple seismic cycles*, 1-year collaborative project (with two 1 year no-cost extensions) involving two PIs (Jeff Marshall, Cal Poly Pomona University, and James Spotila, Virginia Tech University), including Research Experience for Undergraduates (REU) Program.

***As Senior Project Personnel:***

Jeffrey Marshall

National Science Foundation (NSF) Science, Technology, Engineering, and Mathematics Talent Expansion (STEP) Program (Total Budget Unknow): *Three Strategies to Improve STEM Graduation Rates, Cal Poly Pomona University*, Awarded to P.I.s Barbara Burke, Winny Dong, and Ed Walton, Cal Poly Pomona Colleges of Science and Engineering.

National Science Foundation (NSF) Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) Program (\$584,000): *Comprehensive Scholarship Program for Mathematics, Physical, Biological, and Computer Science Majors, Cal Poly Pomona University*, Awarded to P.I. Barbara Burke, Cal Poly Pomona SEES Program.

**d. Proposals Submitted (but not awarded)**

***As Principal Investigator:***

Jeffrey Marshall

National Science Foundation (NSF) Transforming Undergraduate Education in Science (TUES) Program (Total Request \$199,000, Cal Poly Pomona Budget \$19,400): *Collaborative Research: Bringing NSF MARGINS/GeoPRISMS Continental Margins Research into the Undergraduate Curriculum*, 2-year multi-university collaborative project sponsored by GeoPRISMS Education Advisory Committee (GEAC), submitted May 2011.

Kellogg Foundation - Kellogg Legacy Project Endowment (Total Request \$500,000): *Kellogg International Field Studies Program*, 3-year project to develop and implement an interdisciplinary international field studies program for STEM disciplines at Cal Poly Pomona, submitted May 2011.

Jascha Polet and Jonathan Nourse

United States Geological Survey National Earthquakes Hazard Reduction (NEHRP) program; Total Request \$79,346, *Integrated Microseismicity-Geology-Gravity Survey of the Sierra Madre-Cucamonga Fault Transition*; submitted May, 2011

Jascha Polet

United States Geological Survey National Earthquakes Hazard Reduction (NEHRP) program; Total Request \$39,806, *Incorporating Hypocentral Depths in Rapid Estimation of Rupture Extent for Large Earthquakes Using Aftershocks*; submitted May, 2011

United States Geological Survey National Earthquakes Hazard Reduction (NEHRP) program; Total Request \$29,792, *Rapid Finite Fault Inversion for Earthquakes in Southern California*; submitted May, 2011

***As Senior Project Personnel:***

Jeffrey Marshall

National Science Foundation (NSF) Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) Program (Renewal Request): *Comprehensive Scholarship Program for Mathematics, Physical, Biological, and Computer Science Majors, Cal Poly Pomona University*, P.I. Barbara Burke, Cal Poly Pomona SEES Program, submitted July 2011.



#### **4. *Scholarship with Students***

*(Place a hash mark (#) after the last name of each student.)*

##### **a. Research involving students as researchers**

###### David Jessey

I am currently supervising senior thesis projects for Jason Jorgenson# (Gold Acre Mine, San Bernardino County, CA), Joshua Sargent# Brad Lawry# (Sacramento Mountains-Josie K Prospect). Jessica Bruns# completed Senior Thesis Winter 2012 (Thor Prsopect, Clark, County, NV). In addition I employ students as assistants on research and consulting projects. This year I have or am employing Jessica Bruns#, Jason Jorgenson#, Oliver Wolfe# and Taylor Hoorebeke# on projects in CA, NV and AZ.

###### John Klasik

I continue to work closely with students in the Chemical and Materials Engineering Program in the College of Engineering. I provide instruction, guidance and supervision for students using the Geology Department's X-ray diffraction instrument. Of late, there has been a developing interest in the use of the Geology Department's X-ray fluorescence instrument. Thus far, I have done the fluorescence analyses of samples provided by students.

###### Jeff Marshall

National Science Foundation MARGINS Program - Research Experience for Undergraduates (REU): "Seismogenesis of the Middle America Trench at the Nicoya Peninsula over multiple seismic cycles"

Undergraduate Researchers: Andrew Barnhart#, Amber Butcher#, Sarah Denise#, Jazmin Gonzalez#, Kelly Kinder#, Susana Lino#, Shawn Morrish#, Brent Ritzinger#, and Kacie Wellington# (Cal Poly Pomona, Geological Sciences Department)

Graduate Researcher: Eli LaFromboise# (Cal State Northridge, Geological Sciences Department)

Team research activities in 2011 related to this project included the following:

1. Spring 2011 Field Research on Península de Nicoya, Costa Rica, Central America: Field mapping, surveying, and sampling of uplifted marine and alluvial terraces & surveying of pre-earthquake tidal levels, Playas Junquillal/Negra/Avellanas, Playa Conchal, San Juanillo, Nosara/Garza, and Montezuma/Cabuya, with A. Barnhart, A. Butcher, K. Kinder, S. Morrish, B. Ritzinger, and K. Wellington (Cal Poly Pomona students) (March 6-24, 2011)

2. Summer and Fall 2011 laboratory and computer work at Cal Poly Pomona: Preparation and shipping of field samples for radiocarbon dating at Beta Analytic Labs, optically stimulated luminescence dating at University of Cincinnati, and cosmogenic radionuclide dating at Purdue University PRIME Lab; cutting thin section blanks and shipping to Quality Thin Section Labs for preparation; XRF analysis of igneous rock samples; drafting geologic maps and generating digital elevation models of field sites; processing topographic survey data and generating elevation profiles of paleo-shorelines; interpreting field results; creating posters for presentation at professional meetings.

3. Presentation of team research results in posters and talks at eight professional conferences/symposia:

- a. National Science Foundation GeoPRISMS Program, Subduction Cycles and Deformation Initiative Implementation Workshop, Bastrop, TX (Jan 5-7, 2011)
- b. Geological Society of America (GSA) Cordilleran Section Meeting, Logan, UT (May 18-20, 2011)
- c. Cal Poly Pomona Summer Research Symposium (August 24, 2011)
- d. Ronald E. McNair California Scholars Symposium, U.C. Berkeley, CA (Aug 4-7, 2011)
- e. ICTP/TWAS Workshop on Seismic Sources in Central America, Heredia, Costa Rica (Oct 30 - Nov 5, 2011)
- f. U.S. Geological Survey Los Angeles Basin College and University Research Symposium, Pasadena City College, Pasadena, CA (Nov 18, 2011)
- g. Southern California Conference on Undergraduate Research, Mt. San Antonio College, Walnut, CA (Nov 19, 2011)
- h. American Geophysical Union (AGU) Fall Meeting, San Francisco, CA (Dec 5-9, 2011)

Jonathan Nourse

Senior Thesis students supervised during 2011: Audra Hanks#, Jeff Pepin#, Kelly Kinder#, Jennifer Kurashige#, Christina Bloom#, Anthony Mack#

Acted as mentor for CCRAA Research Apprentices Jennifer Kurashige# and Christina Bloom# (Summer 2011).

Stephen Osborn

Senior theses supervised during 2011-2012 school year are Greg Van Oosbree, Taylor Hoorbeke, Jazmin Gonzales, and Wendy Clark. All senior projects are in progress.

Jascha Polet

Advised Geology major Kevin Kwong# on his senior thesis research, which he defended in talk entitled "Testing an Algorithm to Determine Earthquake Fault Parameters From Aftershock Locations" May 26th, 2011.

Advised Geology major Celia Pazos# on her senior thesis research, which she defended in talk entitled "Gravity Profiles Across the San Jose Fault on the Cal Poly Pomona Campus: University Quad" June 2nd, 2011.

Advised Geology major Hannah Potter# on her senior thesis research, which she defended in talk entitled "Gravity Profiles across the San Jose Fault on the Cal Poly Pomona Campus: Citrus Lane and Quad Profiles" June 2nd, 2011.

Acted as mentor for CCRAA Research Apprentices Rebecca Greenwood# and Susana Lino# (Summer 2011).

**b. Externally peer reviewed, critiqued, juried, and/or judged articles or performances**

Jeff Marshall

Butcher<sup>#</sup>, A.J., **Marshall, J.S.**, Morrish<sup>#</sup>, S.C., Ritzinger<sup>#</sup>, B.T., and Wellington<sup>#</sup>, K.L., 2011, Seismic cycle deformation and net coastal uplift at San Juanillo, Nicoya Peninsula, Costa Rica: Geological Society of America, Abstracts with Programs, v. 43, no. 4, p. 88, Abstract 31-20.

Butcher<sup>#</sup>, A.J., 2011, Seismic cycle deformation and net uplift along the Nicoya Peninsula, Costa Rica: San Juanillo: Cal Poly Pomona McNair Scholars Research Symposium, July 28, 2011, Symposium Program, p. 4.

Butcher<sup>#</sup>, A.J., 2011, Seismic cycle deformation and net coastal uplift of the Nicoya Peninsula, Costa Rica: San Juanillo: 19<sup>th</sup> Annual Ronald E. McNair California Scholars Symposium, U.C. Berkeley, August 4-7, 2011, Program with Abstracts, p. 76.

**Marshall, J.**, Morrish<sup>#</sup>, S., Butcher<sup>#</sup>, A., Ritzinger<sup>#</sup>, B., Wellington<sup>#</sup>, K., Barnhart<sup>#</sup>, A., Kinder<sup>#</sup>, K., González<sup>#</sup>, J., Lino<sup>#</sup>, S., LaFromboise<sup>#</sup>, E., Simila, G., Protti, M., Gardner, T., Spotila, J., Owen, L., Murari, M., and Cupper, M., 2011, The trembling serpent of Nicoya: On the hunt for ancient shorelines and megathrust earthquakes, Costa Rica, Central America: Cal Poly Pomona Summer Research Symposium, August 24, 2011.

**Marshall, J.**, Morrish<sup>#</sup>, S., Butcher<sup>#</sup>, A., Ritzinger<sup>#</sup>, B., Wellington<sup>#</sup>, K., LaFromboise<sup>#</sup>, E., Protti, M., Gardner, T., and Spotila, J., 2011, Morphotectonic segmentation along the Nicoya Peninsula seismic gap, Costa Rica: U.S. Geological Survey Los Angeles Basin College and University Research Symposium, Pasadena City College, Pasadena, California, November 18, 2011.

Ritzinger<sup>#</sup>, B.T., and **Marshall, J.S.**, 2011, Active Tectonic Uplift along the Southern Nicoya Peninsula, Costa Rica: Marine and Fluvial Terraces of the Punta Coyote Area: 19th Annual Southern California Conference on Undergraduate Research, Mt. San Antonio College, Walnut, California, November 19, 2011, Program with Abstracts.

Wellington<sup>#</sup>, K.L., and **Marshall, J.S.**, 2011, Tectonic Uplift along the Northern Nicoya Peninsula, Costa Rica: Marine Terraces and Paleo-Shorelines at Tamarindo, Playa Grande, and Playa Carbón: 19th Annual Southern California Conference on Undergraduate Research, Mt. San Antonio College, Walnut, California, November 19, 2011, Program with Abstracts.

Butcher<sup>#</sup>, A.J., **Marshall, J.S.**, Morrish<sup>#</sup>, S.C., Ritzinger<sup>#</sup>, B.T., and Wellington<sup>#</sup>, K.L., 2011, Seismic cycle deformation and net coastal uplift at San Juanillo, Nicoya Peninsula, Costa Rica: Eos, Transactions, American Geophysical Union, v. 92, Fall Meeting Supplement, Abs. T44C-07.

Jonathan Nourse

Nourse, Jonathan A., Hanks<sup>#</sup>, Audra M., Pepin<sup>#</sup>, Jeffrey D., Ellis<sup>#</sup>, Robert A., and Ruotolo<sup>#</sup>, Allison M., 2011, Late Quaternary Evolution of the East-Central San Gabriel Mountains Frontal Fault System Recorded By Unroofing Sequence, Geological Society of America Abstracts with Programs, Vol. 43, No. 4, p. 54

Pepin<sup>#</sup>, Jeffrey D., Hanks<sup>#</sup>, Audra M., and Nourse, Jonathan A., 2011, Clast Analysis Of Quaternary Gravels Along the East-Central San Gabriel Mountain Front: Implications For Evolution of the Sierra Madre-Evey Canyon Thrust System, Geological Society of America Abstracts with Programs, Vol. 43, No. 4, p. 87

Hanks#, Audra M., Pepin#, Jeffrey D., and Nourse, Jonathan A., 2011, Clast Analysis Of Quaternary Gravels Along the East-Central San Gabriel Mountain Front: Implications For Evolution of the Sierra Madre-Evey Canyon Thrust System, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Jascha Polet

Butcher#, A., & Polet, J. (2011)\*. Exploring the Tectonic Transition from Ocean to Continent in the Northern Gulf of California Using Surface Wave Back Projection, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Greenwood#, R. N., & Polet, J. (2011) \*. Volcanic Tremor at Kilauea: Measurements from a Temporary Seismic Deployment, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Lino#, S., & Polet, J. (2011) \*. Analysis of Micro-Seismicity beneath Cal Poly Pomona, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Potter#, H., & Polet, J. (2011) \*. Investigating the San Jose Fault on the Cal Poly Pomona Campus Using Gravimetry, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Pazos#, C., Potter, H., & and Polet, J. (2011) \*. Gravity Profiles Across the San Jose Fault on Cal Poly Pomona Campus, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah.

Kwong#, K., & Polet, J. (2011) \* Testing an Algorithm to Rapidly Determine Earthquake Fault Parameters From Aftershock Locations, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah, 2011.

Polet, J., Thelen, W., Greenwood#, R. and Butcher#, A. (2011) \*. Practical Seismology in Undergraduate Education: A Short-Term Seismic Deployment on the Big Island of Hawaii, Abstract ED11A-0760 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

**c. Works NOT externally peer reviewed, critiqued, juried, or judged**

David R. Berry

Assisted by Stephen Osborne, I have been working with Taylor Hoorebeke# on a problem involving renewed production of petroleum from aging oil fields (such as the Brea/Olinda Field in northern Orange County). Taylor is investigating the technique of hydraulic fracturing (“hydrofracking”) to enhance porosity and stimulate production of some petroliferous units. It actually is a feasibility study. Already Taylor has acquired logs and other “down hole” data on formerly productive units and soon we will visit the core repository at CSU Bakersfield to sample relevant units. Some strength tests are anticipated on selected samples.

David R. Jessey

Bruns#, Jessica, 2011, Rare Earth Mineralization of Southern Clark County, Nevada, Senior thesis, Cal Poly Pomona

Jeff Marshall

Utick<sup>#</sup>, J.D., 2011, Morphotectonic implications of subducting slab heterogeneity, Nicoya Peninsula, Costa Rica: Senior Thesis Defense, Geological Sciences Department, Cal Poly Pomona, December 12, 2011.

Jonathan Nourse

Kinder<sup>#</sup>, Kelly, 2011, Geologic, Structural and Geochemical Relationships in Southern Bonelli Park Near the I-57 Landslide Site, Senior thesis, Cal Poly Pomona.

Pepin<sup>#</sup>, Jeff , 2011, Geology of Hawk Canyon, Anza-Borrego Desert State Park, California, Senior thesis, Cal Poly Pomona

Jascha Polet

Kwong, Kevin<sup>#</sup>, 2011, Testing an Algorithm to Determine Earthquake Fault Parameters From Aftershock Locations , Senior thesis, Cal Poly Pomona

Pazos, Celia<sup>#</sup>, 2011, Gravity Profiles Across the San Jose Fault on the Cal Poly Pomona Campus: University Quad, Senior thesis, Cal Poly Pomona

Potter, Hannah<sup>#</sup>, 2011, Gravity Profiles across the San Jose Fault on the Cal Poly Pomona Campus: Citrus Lane and Quad Profiles, Senior thesis, Cal Poly Pomona

**d. Presentations involving students as co-presenters**

David R. Jessey

Bruns, Jessica J.<sup>#</sup>, Jessey, David R., and Baltzer, Suzanne M., (2011) Rare Earth Mineralization of Southern Clark County, Nevada, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah.

John Klasik

My assistance to the Chemical and Materials science students has resulted in student successes and professional convocations. To my knowledge, the Geology Department has been acknowledged in providing invaluable assistance.

Los Angeles Chapter of ASM (American Society for Metals) International: Student presented posters won first and third places.

Annual meeting of NACE International (the corrosion society): Student won best undergraduate poster (only one is awarded at the meeting).

Jeff Marshall

Butcher<sup>#</sup>, A.J., **Marshall, J.S.**, Morrish<sup>#</sup>, S.C., Ritzinger<sup>#</sup>, B.T., and Wellington<sup>#</sup>, K.L., 2011, Seismic cycle deformation and net coastal uplift at San Juanillo, Nicoya Peninsula, Costa Rica: Geological Society of America, Abstracts with Programs, v. 43, no. 4, p. 88, Abstract 31-20.

Butcher<sup>#</sup>, A.J., 2011, Seismic cycle deformation and net uplift along the Nicoya Peninsula, Costa Rica: San Juanillo: Cal Poly Pomona McNair Scholars Research Symposium, July 28, 2011, Symposium Program, p. 4.

Butcher<sup>#</sup>, A.J., 2011, Seismic cycle deformation and net coastal uplift of the Nicoya Peninsula, Costa Rica: San Juanillo: 19<sup>th</sup> Annual Ronald E. McNair California Scholars Symposium, U.C. Berkeley, August 4-7, 2011, Program with Abstracts, p. 76.

**Marshall, J.**, Morrish<sup>#</sup>, S., Butcher<sup>#</sup>, A., Ritzinger<sup>#</sup>, B., Wellington<sup>#</sup>, K., Barnhart<sup>#</sup>, A., Kinder<sup>#</sup>, K., González<sup>#</sup>, J., Lino<sup>#</sup>, S., LaFromboise<sup>#</sup>, E., Simila, G., Protti, M., Gardner, T., Spotila, J., Owen, L., Murari, M., and Cupper, M., 2011, The trembling serpent of Nicoya: On the hunt for ancient shorelines and megathrust earthquakes, Costa Rica, Central America: Cal Poly Pomona Summer Research Symposium, August 24, 2011.

**Marshall, J.**, Morrish<sup>#</sup>, S., Butcher<sup>#</sup>, A., Ritzinger<sup>#</sup>, B., Wellington<sup>#</sup>, K., LaFromboise<sup>#</sup>, E., Protti, M., Gardner, T., and Spotila, J., 2011, Morphotectonic segmentation along the Nicoya Peninsula seismic gap, Costa Rica: U.S. Geological Survey Los Angeles Basin College and University Research Symposium, Pasadena City College, Pasadena, California, November 18, 2011.

Ritzinger<sup>#</sup>, B.T., and **Marshall, J.S.**, 2011, Active Tectonic Uplift along the Southern Nicoya Peninsula, Costa Rica: Marine and Fluvial Terraces of the Punta Coyote Area: 19th Annual Southern California Conference on Undergraduate Research, Mt. San Antonio College, Walnut, California, November 19, 2011, Program with Abstracts.

Wellington<sup>#</sup>, K.L., and **Marshall, J.S.**, 2011, Tectonic Uplift along the Northern Nicoya Peninsula, Costa Rica: Marine Terraces and Paleo-Shorelines at Tamarindo, Playa Grande, and Playa Carbón: 19th Annual Southern California Conference on Undergraduate Research, Mt. San Antonio College, Walnut, California, November 19, 2011, Program with Abstracts.

Butcher<sup>#</sup>, A.J., **Marshall, J.S.**, Morrish<sup>#</sup>, S.C., Ritzinger<sup>#</sup>, B.T., and Wellington<sup>#</sup>, K.L., 2011, Seismic cycle deformation and net coastal uplift at San Juanillo, Nicoya Peninsula, Costa Rica: Eos, Transactions, American Geophysical Union, v. 92, Fall Meeting Supplement, Abs. T44C-07.

#### Jonathan Nourse

Nourse, Jonathan A., Hanks<sup>#</sup>, Audra M., Pepin<sup>#</sup>, Jeffrey D., Ellis<sup>#</sup>, Robert A., and Ruotolo<sup>#</sup>, Allison M., 2011, Late Quaternary Evolution of the East-Central San Gabriel Mountains Frontal Fault System Recorded By Unroofing Sequence, Geological Society of America Abstracts with Programs, Vol. 43, No. 4, p. 54

Pepin<sup>#</sup>, Jeffrey D., Hanks<sup>#</sup>, Audra M., and Nourse, Jonathan A., 2011, Clast Analysis Of Quaternary Gravels Along the East-Central San Gabriel Mountain Front: Implications For Evolution of the Sierra Madre-Evey Canyon Thrust System, Geological Society of America Abstracts with Programs, Vol. 43, No. 4, p. 87

Hanks<sup>#</sup>, Audra M., Pepin<sup>#</sup>, Jeffrey D., and Nourse, Jonathan A., 2011, Clast Analysis Of Quaternary Gravels Along the East-Central San Gabriel Mountain Front: Implications For Evolution of the Sierra Madre-Evey Canyon Thrust System, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

#### Jascha Polet

Butcher<sup>#</sup>, A., & Polet, J. (2011). Exploring the Tectonic Transition from Ocean to Continent in the Northern Gulf of California Using Surface Wave Back Projection, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Greenwood#, R. N., & Polet, J. (2011). Volcanic Tremor at Kilauea: Measurements from a Temporary Seismic Deployment, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Lino#, S., & Polet, J. (2011) . Analysis of Micro-Seismicity beneath Cal Poly Pomona, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Potter#, H., & Polet, J. (2011) . Investigating the San Jose Fault on the Cal Poly Pomona Campus Using Gravimetry, Southern California Conference for Undergraduate Research, Mt. San Antonio College.

Pazos#, C., Potter, H., & and Polet, J. (2011) . Gravity Profiles Across the San Jose Fault on Cal Poly Pomona Campus, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah.

Kwong#, K., & Polet, J. (2011) Testing an Algorithm to Rapidly Determine Earthquake Fault Parameters From Aftershock Locations, Geological Society of America Rocky Mountain (63rd Annual) and Cordilleran (107th Annual) Joint Meeting, Logan, Utah, 2011.

Polet, J., Thelen, W., Greenwood#, R. and Butcher#, A. (2011) . Practical Seismology in Undergraduate Education: A Short-Term Seismic Deployment on the Big Island of Hawaii, Abstract ED11A-0760 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

## ***5. Awards and Honors Earned by your Students (as a result of your work with them)***

### GSA 2011 Cordilleran Sectional Meeting – Logan Utah:

Jessica Bruns# – 2011 Winner: Best Undergraduate Poster Presentation Award--\$250

### McNair Scholar, 2011:

Amber Butcher<sup>#</sup> –, Project Title: Coastal geomorphology and seismic cycle deformation along the Nicoya Peninsula, Costa Rica: San Juanillo.

### CCRAA Research Apprentices (Summer 2011):

Rebecca Greenwood#

Susana Lino#

Christina Bloom#

Jennifer Kurashige#

### Geology Department Scholarships:

Joshua Sargent# – 2011 recipient of Margaret Van Buskirk Memorial Scholarship Award--\$750

Audra Hanks# – 2011 recipient of Henderson-Valles Scholarship Award--\$1000

Greg Van Oosbree# – 2011 recipient of Brunton Compass Award--\$450

Hannah Potter# – 2011 recipient of Ernest Prete Junior Scholarship Award--\$1000

## **6. Service**

*This section relates to work completed during the ACADEMIC year July 1, 2011 through June 30, 2012. Record committee name and role, as appropriate (ex. Budget Committee, member).*

### David Berry

Department Chair Evaluation committee member

Collected teaching specimens for GSC 331, San Diego County (ongoing)

### David Jessey

Geology Club Advisor

Geology Club Field Trip to Tucson Gem and Mineral Show, 2011 – Trip Leader

Department Chair Evaluation committee member

### John Klasik

Department RTP committee member

Department Chair Evaluation committee member

### Jeff Marshall

#### ***Service to the Department***

Department RTP Committee (Chair)

Department Chair Review Committee (Chair)

Geological Sciences Graduate Program Committee (Member)

Geological Sciences Department Visiting Speaker Series (Coordinator)

Geology Equipment & Rock/Fossil Collections Salvage from Whittier College (Coordinator)

Seismological Society of America Meeting (SSA), San Diego, California, April 16-18, 2011  
(Faculty Chaperone for Participating Students)

Cal Poly Pomona Geological Sciences Department Annual Alumni Reunion, June 2, 2012  
(Faculty Participant & Presenter)

#### ***Service to the College***

Center for Educ. Excellence in Math, Science, & Technology (CEEMaST) (Faculty Fellow)

NSF STEP Program Apprenticeship Team (Undergraduate Research Coordinator)

NSF S-STEM Scholarship Program (Management Team Member & Student Advisor)

College of Science Emergency Operations Committee Mini EOC #3 (Member)

#### ***Service to the University***

University Coordinator for Undergraduate Research, Office of Research (Faculty Associate)

Undergraduate Research Faculty Advisory Council (URFAC/UR-BRONCO) (Chair)

California State University Undergraduate Research Consortium (Campus Team Leader)



Kellogg FuTURE Program (Kellogg Fund for Transformative Undergraduate Research)  
(Director)

Cal Poly Pomona Teacher-Scholar Task Force (Member)

California State University, Council on Ocean Affairs, Science, and Technology (COAST)  
(CPP Campus Representative)

Cal Poly Pomona McNair Scholars Program (Research Advisor)

Science, Technology, and Society (STS) Program Faculty Advisory Board (Member)

Council on Undergraduate Research Workshop on Institutionalizing Undergraduate Research  
for State Systems and Consortia, California State University, Los Angeles, October 22, 2011  
(Campus Team Leader)

University Chairs Council Meeting, January 9, 2012 (Presentation on Campus Undergraduate  
Research Programs)

Cal Poly Pomona Water Initiative Inaugural Symposium, January 13, 2012 (Participant)

Southern California Water Technology Symposium, University of La Verne, La Verne, CA,  
January 26, 2012 (CPP Campus Representative, Panelist, & Talk Presenter)

University Academic Affairs Committee Meeting – Discussion on URC & URFAC  
Referrals, January 25, 2012 (URFAC Representative)

University Academic Senate Meetings – 1<sup>st</sup> & 2<sup>nd</sup> Readings, Discussion, and Vote on URC &  
URFAC Referrals, March 7 & April 11, 2012 (URFAC Representative)

American Association of Colleges & Universities (AAC&U) Student Success Conference,  
Seattle, WA, March 22-24, 2012 (Campus Team Member & Poster Presenter)

### ***Service to the Profession***

Council on Undergraduate Research (CUR) (Elected Councilor, Geosciences Division)

NSF GeoPRISMS Program Education Advisory Committee (GEAC) (Member)

CSU SMART Team – State Disaster Mitigation Assessment Review Team (Member)

NSF GeoPRISMS/Earthscope Planning Workshop for Alaska Primary Research Site,  
Portland, OR, September 22-24, 2011 (Director of Graduate Student/Post-Doc Program)

National Science Foundation (NSF) Tectonics Program, Proposal Review Panel, Arlington,  
VA, October 17-19, 2011 (Invited Panelist)

### ***Service to the Greater Community***

Cal Poly Pomona China International Disaster Training Program, October 24-28, 2011  
(Workshop Faculty – Earth Sciences)

Pomona College Geology Department, Annual Woodford-Eckis Banquet & Lecture,  
Claremont, CA, February 15, 2012 (CPP Campus Representative)

California Subject Examinations for Teachers (CSET) Preparation Workshops, CEEMaST,  
Cal Poly Pomona, April 21 & 28, May 12 & 19, 2012 (Earth Science Content Specialist)

Citrus College 2012 Summer Student Research Program, Cal Poly Pomona, June-July 2012  
(Faculty Advisor)

### Jonathan Nourse

Geology Department Curriculum Committee--Chair  
Geology Department Hydrogeology Search Committee—Chair  
Geology Department Graduate Program Committee—Chair  
Geology Department Strategic Planning Committee—Chair  
Geology Department Recruiting Committee—Chair  
Geology Faculty Search Committee, Chair  
Geology Department RTP Committee—Member  
College of Science Council of Chairs Committee—Geology representative  
College of Science Curriculum Committee—Geology representative  
College of Science Budget Advisory Committee—Geology representative  
College of Science Curriculum Committee—Geology representative  
College of Science Strategic Planning Committee—Chair 2010-11  
University Search Committee for Dean of Science--Member  
University GE Assessment Committee—SCI representative since January 2010  
Sorted through substantial donations of laboratory supplies from Whittier College Geology department, summer 2011  
Reorganized rock, mineral and map collections used for laboratory instruction, summer 2011  
Organization and implementation of Annual Alumni Reunion and Awards Ceremony  
Conducted 90% of Orientation activities for newly matriculated Geology Majors during Summer; also Transfer Orientation during Winter and Spring  
Wrote Catalog copy for new graduate program  
Designed advertisements for new Graduate program; promoted MS program at various venues  
Developed cost model for self-support graduate program per Provost request

### Stephen Osborn

Department Chair Evaluation committee member  
Geology Faculty Search Committee, member  
Geology Curriculum Committee, member  
University, Learning Communities Committee member  
Co-advisor Student Geology Club  
Invited Speaker, Hydraulic Fracturing: An Environmental Perspective, Institute of Arctic and Alpine Research (INSTAAR), Department Seminar, University of Colorado, October 2011.  
Keynote Speaker, Scientific Workshop: Potential Effects of Natural Gas Development on Water and Air in the West, University of Colorado, INSTAAR, and Colorado State University Sponsors, October, 2011.  
Author of a course proposal entitled, “Water in a Changing World”, submitted to California Polytechnic University, Pomona, December 2011.  
Invited Speaker, Iowa State University, National Affairs Lecture Series, February 2012  
Peer Reviewer for Environmental Science and Technology Journal  
Peer Reviewer for the Environmental Protection Agency.  
Invited Reviewer, Department of Energy NETL national research program, May 2012  
Emergency Preparedness committee member, spring 2012.  
Invited speaker, Paloma Valley High School, Work Experience Class

### Jascha Polet

Academic Senate, Geology Senator  
Academic Affairs Committee, member  
Geological Sciences Department Visiting Speaker Series – Co-Coordinator

Geology Curriculum Committee, member  
Geology Faculty Search Committee, member  
Department Chair Evaluation Committee, member  
ADVANCE, Associate  
State Mitigation Assessment Response Team, member