

Bringing Earth Sciences to the Community Through Outreach Opportunities

On the Cutting Edge: Early Career Geoscience Faculty Workshop – June 2009

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WHY OUTREACH?

Why are we in this session today?

Why does outreach matter to us?

What are the benefits of outreach to ourselves and our departments?

HONESTLY?

I do outreach because it makes me feel a useful and contributing part of my community. It meets my own personal mission on this planet.

Now...if it matters, how do I show that outreach also achieves my tenure-track position's mission? My department's mission?

ON YOUR OWN... On a piece of paper, answer:

Why am I interested?

What am I hoping to achieve through outreach, for myself, my students, and my department?

PARTNER SHARE... (Share your answers to both questions with a partner)

GROUP SHARE...

SOME IDEAS FROM THE GROUP:

- Makes us feel like good humans / citizens by giving us an opportunity to share our skills
- Gives us a chance to enjoy other pleasures: I think kids are awesome!
- Groundwater issues in the community need input
- I have a funded student who is required to do ½ outreach
- Increases science education of community
- Satisfies my desire for service
- Is part of my professional responsibility
- I enjoy it!
- Increases recruitment! (Especially for brand-new campuses)
- My Dean is keen on outreach
- Will give me a better public profile (I get my name in the paper!)
- Ensures research is known to and benefits the public
- Creates networks that will facilitate future research projects for students (projects that have local relevance!)
- Expands my views beyond my limited institutional environment
- Connects me and my department with our town (improves relations!)
- Exposes underrepresented groups to Earth Science
- Increases visibility of the institution within within the community
- Satisfies the Broader Impacts section on grants
- Invigorates your own studies with community-related issues
- Can involve our students (giving them hands-on experience and helping them gain confidence).
- Provides resources for our students (internships, jobs)
- Educates the community on local environmental issues, especially policy makers

- Strengthens relationship between college and leaders
- Encourages more interest in teaching in the community
- It's a requirement (service learning) for program or class
- Attracts money from private and public donors
- Builds better relationships with local landowners (facilitates field work)
- Advertises expertise of your department as a future resource
- Changes institution's image of *outreach to partnering for mutual benefit*
- Provides resources and professional development to K-12.
- Improves your own education and teaching (after observing how others do it for different audiences and levels)
- Like Richard Feynman said: if you can't explain it to a 2nd grader, you don't understand it!

SOME OUTREACH OPPORTUNITIES

Teaching teachers (K-12 and 2-year and 4-year colleagues)

<p>SOME OPPORTUNITIES...</p> <ul style="list-style-type: none"> • Placement of student interns • Recruitment of majors • Recruitment of teachers • Teacher training • Public education • Loaning or donation of materials • Shared curriculum development • Basic skills and preparation • Making field trips more accessible • Community building 	<p>BAY AREA EXAMPLES...</p> <ul style="list-style-type: none"> • BAESI (Bay Area Earth Science Institute) - Teaching teachers Geology • SFUSD (San Francisco Unified School District) teacher-training workshops • CCSF Teacher-Prep Center • CCSF Science Outreach Open Houses • CCSF - SFUSD joint Math Curricula • WISE - Workshops In Science Education • MASTEP - Math & Science Teacher Education Program (Community College and 4-year and High School Collaboration)
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Working with High School students

<p>SOME OPPORTUNITIES...</p> <ul style="list-style-type: none"> • Placement of student interns • Recruitment of majors • Public education • Community building 	<p>BAY AREA EXAMPLES...</p> <ul style="list-style-type: none"> • CCSF Science Outreach Open Houses • Service-Learning and Science Clubs (outreach from our students to theirs) • CCSF Science Departments (night and weekend classes) • Center for Habitat Restoration (collaborates with local high school students) • Hosting AP classes for local High School students
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Collaborating with research groups

<p>SOME OPPORTUNITIES...</p> <ul style="list-style-type: none"> • Placement of student interns • Recruitment of Majors • Education in local issues • Incorporation of research data into classroom • Funding for classroom data collection • Research and job experience 	<p>BAY AREA EXAMPLES...</p> <ul style="list-style-type: none"> • CALFED Bay Delta Program • State Department of Fish and Game • State Department of Water Resources • US Fish and Wildlife • Municipal Sewage Departments and Ports (like the Port of Sonoma, City of San Francisco) • Regional Effects Monitoring Program (State and Federal and Local) - Pollution watchdog • EPA • NOAA • USGS
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Collaborating with other 2-year and 4-year college departments

<p>SOME OPPORTUNITIES...</p> <ul style="list-style-type: none"> • Placement of student interns • Research and job experience • Recruitment of Majors • Incorporation of research data into classroom • Funding for classroom data collection • Sharing resources (seminars, materials, etc.) 	<p>BAY AREA EXAMPLES...</p> <ul style="list-style-type: none"> • University of San Francisco • University of California – Berkeley • University of California – Davis • University of California – Santa Cruz • University of California – San Francisco • Stanford University • San Francisco State University • Sonoma State University • California State University – East Bay • San Jose State University • City College of San Francisco • Other local community colleges
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Assisting in community science workshops

<p>SOME OPPORTUNITIES...</p> <ul style="list-style-type: none"> • Development of curricula • Loaning or donation of materials • Recruitment of majors • Training workshop leaders • Placement of student interns • Public education • Community building 	<p>BAY AREA EXAMPLES...</p> <ul style="list-style-type: none"> • Mission Science Workshop – A K-12 after- and in-school program for hands-on science projects – funded by NSF, local colleges, museums, and businesses. • Community college science classes
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Providing resources to local museums and aquariums

<p>SOME OPPORTUNITIES...</p> <ul style="list-style-type: none"> • Placement of student interns • Loaning of display materials • Public education • Community building • Development and leading of local field trips • Assistance with display design • Assistance with curricula • Brown-bag lectures 	<p>BAY AREA EXAMPLES...</p> <ul style="list-style-type: none"> • Aquarium of the Bay • Fitzgerald Marine Reserve • Berkeley Museum of Paleontology • California Academy of Sciences • The Exploratorium • CCSF Life Through Time Display • Discovery Corner: Lawrence Hall of Science • The Bay Model • Tech Museum of Innovation • Chabot Space & Science Center • The Randall Museum • Coyote Point Museum • Marine Science Institute
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Collaborating with local, state, or national park programs

<p>SOME OPPORTUNITIES...</p> <ul style="list-style-type: none"> • Leading field trips • Teaching community classes • Providing resources • Producing curriculum 	<p>BAY AREA EXAMPLES...</p> <ul style="list-style-type: none"> • Golden Gate National Recreation Area • San Bruno Mountain State Park • Fitzgerald Marine Reserve (County Park) • San Francisco Historic Park
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Assisting the Media

SOME OPPORTUNITIES... <ul style="list-style-type: none">• Hosting programs or blogs• Presenting on programs or blogs• Writing articles• Providing expert advice or interviews for writers on natural hazards, natural resources, pollution or environmental issues, etc.	BAY AREA EXAMPLES... <ul style="list-style-type: none">• Local TV news stations• Local news – Bay Guardian, campus newspapers, SF Chronicle, etc.• BLOGS and the internet• Radio
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Developing or assisting with educational workshops

SOME OPPORTUNITIES... <ul style="list-style-type: none">• Organization• Design of the workshop• Leading• Co-leading• Presenting	BAY AREA EXAMPLES... <ul style="list-style-type: none">• NAGT Field Conferences• GSA Field Conferences• AGU National Conferences• SERC Earth Science Workshops• California Teacher’s Association Workshops• City College Professional Development Days• Local Geological Society meetings, like Peninsula Geological Society
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Getting involved with local political groups

SOME OPPORTUNITIES... <ul style="list-style-type: none">• Providing expert advice• Recruiting resources• Calculating statistics	BAY AREA EXAMPLES... <ul style="list-style-type: none">• Green Jobs• Environmental Issues• Energy Issues• Natural resource issues• Land management agencies, like coastal use, city planning, and reclamation projects.• California Coastal Conservancy• Oceanic Society (Farallons)
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TIPS FOR OUTREACH

- Make the outreach opportunity a partnership. Share the work!
- When approaching organizations and people to be involved, be sure your project is one that will save them time or make their job easier or better.
- Look to good models of outreach within your own department, other departments, other colleges, or the organizations that interest you.
- Get your feet wet by getting involved with an existing program (such as GLOBE – global learning and observation for the betterment of the environment – worldwide protocol for how K-12 students can collect data)
- Network. Network. Network.
- Match your outreach interest with departmental/college goals.
- Be realistic about time you can commit.
- Look to private companies and local foundations for funds. Look everywhere. Admissions. Deans. Public Utilities.
- Have booths at local fairs. Participate in local Earth Day events.
- Have a department open house.
- Provide public science talks to the community (hosted at sites throughout the city, including bars).
- Working with teachers benefits multiple more through their students.
- Look to the public outreach arm of AGU for more resources.

HOW?

PICK THE OUTREACH OPPORTUNITY THAT MOST APPEALS TO YOU, AND ON YOUR OWN, on a piece of paper, answer:

What are some steps I can take to pursue this outreach opportunity? (include as many steps as you think of – but start small and work to larger and larger ones)

SHARE... Discuss your steps with a partner – exchange ideas.

FINAL THOUGHTS

“A journey of a thousand miles begins with a single step.” Studies show that when you get the ball rolling and keep it moving, even if imperceptibly slow, things are more likely to happen for you.

- You’ve already begun the first step – you’ve opened your mind to the idea of doing something nontraditional.
- Step two was writing down some ideas on how to proceed.
- Step three was sharing those ideas with someone else. Hopefully the sharing gave you new ideas and if nothing else, it cemented the ideas more firmly in your mind.