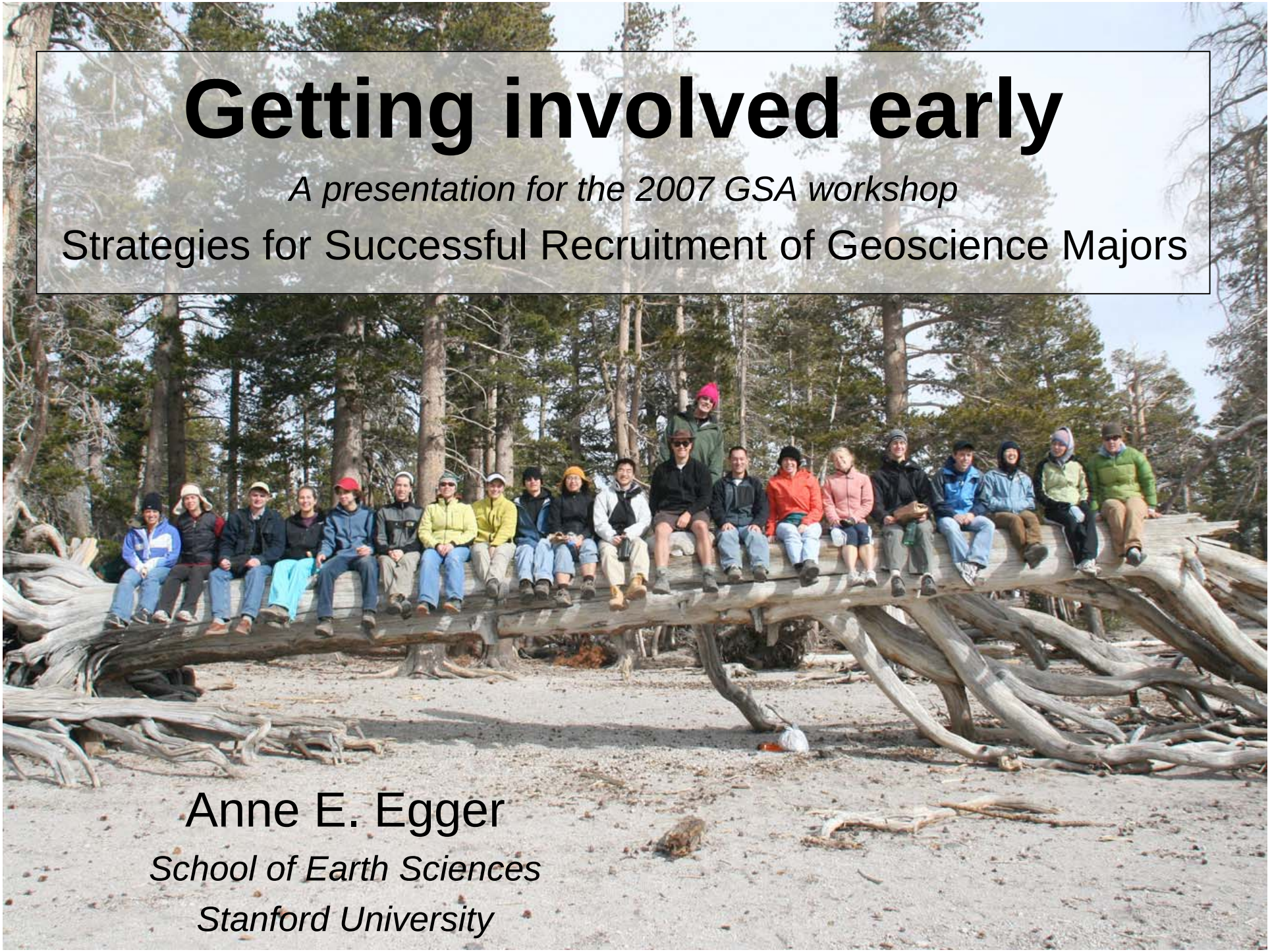
Getting involved early

A presentation for the 2007 GSA workshop

Strategies for Successful Recruitment of Geoscience Majors

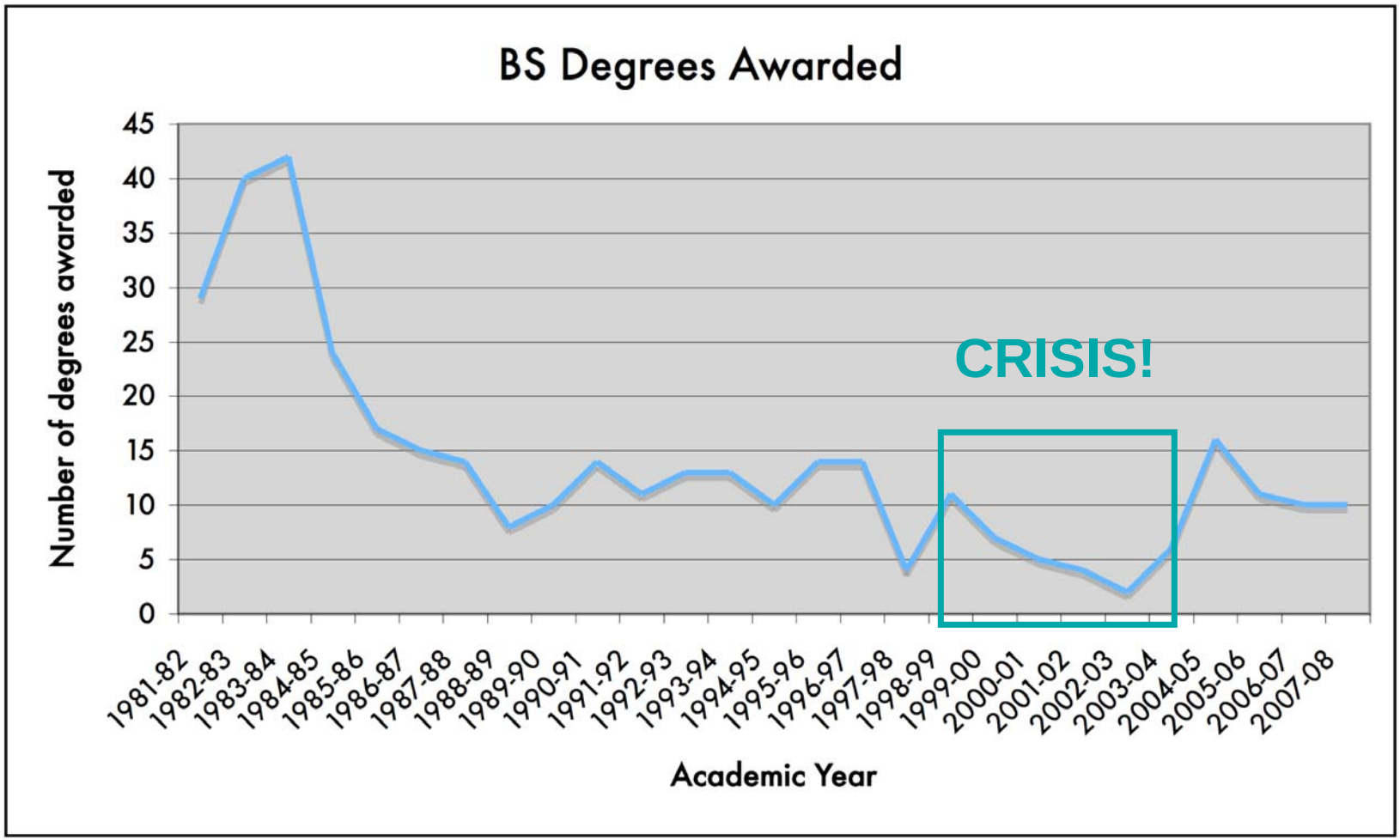


Anne E. Egger

School of Earth Sciences

Stanford University

A little background…



Why get involved early?

- Students don’t encounter earth sciences in high school and need to be introduced to the things we study
- Early advising means they might actually follow your advice
- They will remember your enthusiasm and come back for more

How to get involved early

1. Actively **advise freshmen**
2. Participate in **university events**
3. Offer fun and significant **opportunities for involvement**
4. Keep the **door open**
5. Create **research opportunities** for freshmen and sophomores

Advising freshmen

- Designate someone as the starting point
- Get to know other freshmen advisors
- Talk to ALL students
- Know *their* needs and restrictions
- Know *your* classes and curricula
- Create easy opportunities for involvement and **advertise** them *(more later)*

Majors in Earth Sciences

Geological & Environmental Sci.

Students on a field trip in Death Valley

The Geological &Environmental Sciences are naturally interdisciplinary, and the major is flexible. You can study

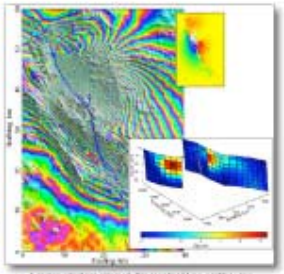
- the processes that shape the Earth's landscapes: mountain building, subsidence, erosion
- the chemistry and physics of earth materials, including rocks, minerals, soils, magma, water, ice, sediments
- Earth's history, including past climate & the evolution of life
- groundwater contamination and mitigation

...and much, much more.

More information at **http://pangea.stanford.edu/GES** or contact **Anne Egger** (*annegger@stanford.edu*) in **320-112**

Geophysics

Geophysics combines a strong foundation in math and physics with geology. You can study



A radar interferogram of the Hector Mine earthquake

- earthquake seismology, how earthquakes start and the energy released
- regional tectonics and crustal deformation
- environmental geophysics, looking at the upper 100 m of the crust
- subsurface resource charaterization and exploration
- remote sensing of the earth and other planets

More information at **http://pangea.stanford.edu/GP** or contact **Simon Klemperer** (*sklemp@stanford.edu*) in **Mitchell 353**

Earth Systems

Many of our most pressing and complicated environmental problems are caused by human activities in interaction with natural changes in the Earth System; thus, these problems often lie outside the scope of any single discipline. To understand them and develop viable solutions, they must be viewed in an integrated way. The interdisciplinary nature of the Earth Systems major gives you the tools you need to address these complex problems.

Prof. David Beerbower at the field site in Cambodia

More information at **http://pangea.stanford.edu/ESYS** or contact **Julie Kennedy** (*julie k@stanford.edu*) in **Mitchell 134**

Energy Resources Engineering

ERE field trip to a geothermal plant in Nevada

Coursework in ERE prepares you to work in the energy industry of today and gives you the tools you need to make the energy transitions for the future. You can study

- the changing energy landscape and challenges for energy production
- natural resources such as oil, gas, and geothermal reservoirs
- renewable energy resources feasibility and technology
- technology for managing carbon emissions

More information at **http://pangea.stanford.edu/ERE** or contact **Tony Kovscek** (*kovscek@stanford.edu*) in **Green Earth Sciences 72**

Interested but don't know where to start? Come on in and talk!

Visit Anne Egger in 320-112 or send an email (*annegger@stanford.edu*)

University events

- Participate in new student orientation
- Majors nights, open houses
- Advertise in targeted publications
- Highlight your strong points - field opportunities, research, community

Interested in the **earth?**
How about **energy?**
And the **environment?**

We are!

Join us.

School of Earth Sciences
OPEN HOUSE
Friday, September 21, 1-3 pm, Mitchell Patio

Earth Systems
Energy Resources Engineering
Geological & Environmental Sciences
Geophysics

Turn over to see 2007-08 classes to get you started

Visit **http://pangea.stanford.edu** for more information

Classes to get you started in the Earth Sciences

All of the following classes are meant to serve as an introduction to a component of the earth sciences. Try one (or more) - you might like it! Check the Bulletin and the Time Schedule for more information.

Autumn Quarter classes

GES 1	Dynamic Earth: Fundamentals of Earth Science
GES 3	Current Topics in the Earth & Environmental Sciences
GES 37N	Energy and Environment on the Back of an Envelope
GES 42N	Landscapes and Tectonics of the Bay Area
Geophys 25	Hands-On Introduction to Astrobiology
Geophys 123	Earth Sciences and War, Archaeology, National Security, Global Warming, and Music

Winter Quarter classes

EarthSys 10	Introduction to Earth Systems
EarthSys 45N	Energy Issues Facing the World
Energy 101	Energy and the Environment
GES 2	Earth System History
GES 3	Current Topics in the Earth & Environmental Sciences
GES 38N	The Worst Journey in the World: Polar Exploration
GES 43N	Environmental Problems
GES 49N	Field Trip to Death Valley and Owens Valley
GES 55Q	The California Gold Rush: Geologic Background and Environmental Impact

Spring Quarter classes

Energy 102	Renewable Energy Sources & Greener Energy Processes
Energy 104	Technology in the Greenhouse
GES 1	Dynamic Earth: Fundamentals of Earth Science
GES 8	The Oceans: Introduction to the Marine Environment
GES 46N	Exploring the Critical Interface Between the Land and Monterey Bay: Elkhorn Slough
GES 56Q	Changes in the Coastal Ocean
Geophys 104	The Water Course

Creating opportunities

- **GES 3** Current Topics in the Earth and Environmental Sciences
- **GES 191** Field Trips (Thanksgiving Break field trip to Owens Valley)
- **Significant introductory courses** every quarter/semester - advertise!

Keep the door open

- Referrals from other advisors and students
- Get to know your counterparts in other sciences, math, engineering, etc.
- Establish relationships *(next talk)*

Encountering research early

- Advertise opportunities to see and do research to freshmen
- Mentor them through the research process
- Build students who want to learn more

The bottom line:

- It takes time, money, and effort to get involved early
- The rewards are worth it

http://pangea.stanford.edu/GES/undergraduates/

annegger@stanford.edu