

On the Cutting Edge Professional Development Program: Workshop and Web Resources for Current and Future Geoscience Faculty (ED23B-0095)

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Overview

The Issue Many college and university faculty (and graduate students) receive little formal training in teaching, are largely unaware of advances in research on teaching and learning, and face a variety of challenges in advancing in academic careers

Some Resources: *On the Cutting Edge* provides professional development for current and future geoscience faculty at various stages in their careers. Resources include a program of

- six multi-day workshops each year
- sessions and one-day workshops at professional meetings
- a website with information about workshop opportunities and a variety of resources that bring workshop content to faculty
- numerous networking and sharing opportunities.

The program helps faculty improve their teaching and their job satisfaction by providing workshop and web resources on innovative and effective teaching practices, course design, geoscience content, and strategies for career planning, as well as approaches for teaching particular topics and strategies for starting and maintaining a research program in various institutional settings.

Workshops

Six multi-day workshops are offered each year.

Early Career Faculty in the Geosciences Workshop: Teaching, Research, and Managing Your Career – teaching strategies, course design, developing a plan for your research, strategies for working with research students, tenure issues, getting your research funded, goal-setting, optional visit to NSF.

Preparing for an Academic Career in the Geosciences: A Workshop for Graduate Students and Post-Doctoral Fellows – strategies for becoming a more effective teacher and a stronger job candidate, various optional workshops

The workshops for graduate students and early career faculty include sessions on topics such as dual careers, gender issues, family-work balance, and time-management.

Designing Effective Innovative Geoscience Courses

Teaching Hydrogeology in the 21st Century, 2005, following Teaching Structural Geology in the 21st Century in 2004 and Teaching Petrology in the 21st Century in 2003

Two emerging theme workshops are offered each year. The 2005 workshops are:

Teaching About the Ocean System Using New Research Technique: Data, Models, and Visualizations
AND
Understanding What Our Geoscience Students are Learning: Observing and Assessing

Web Resources

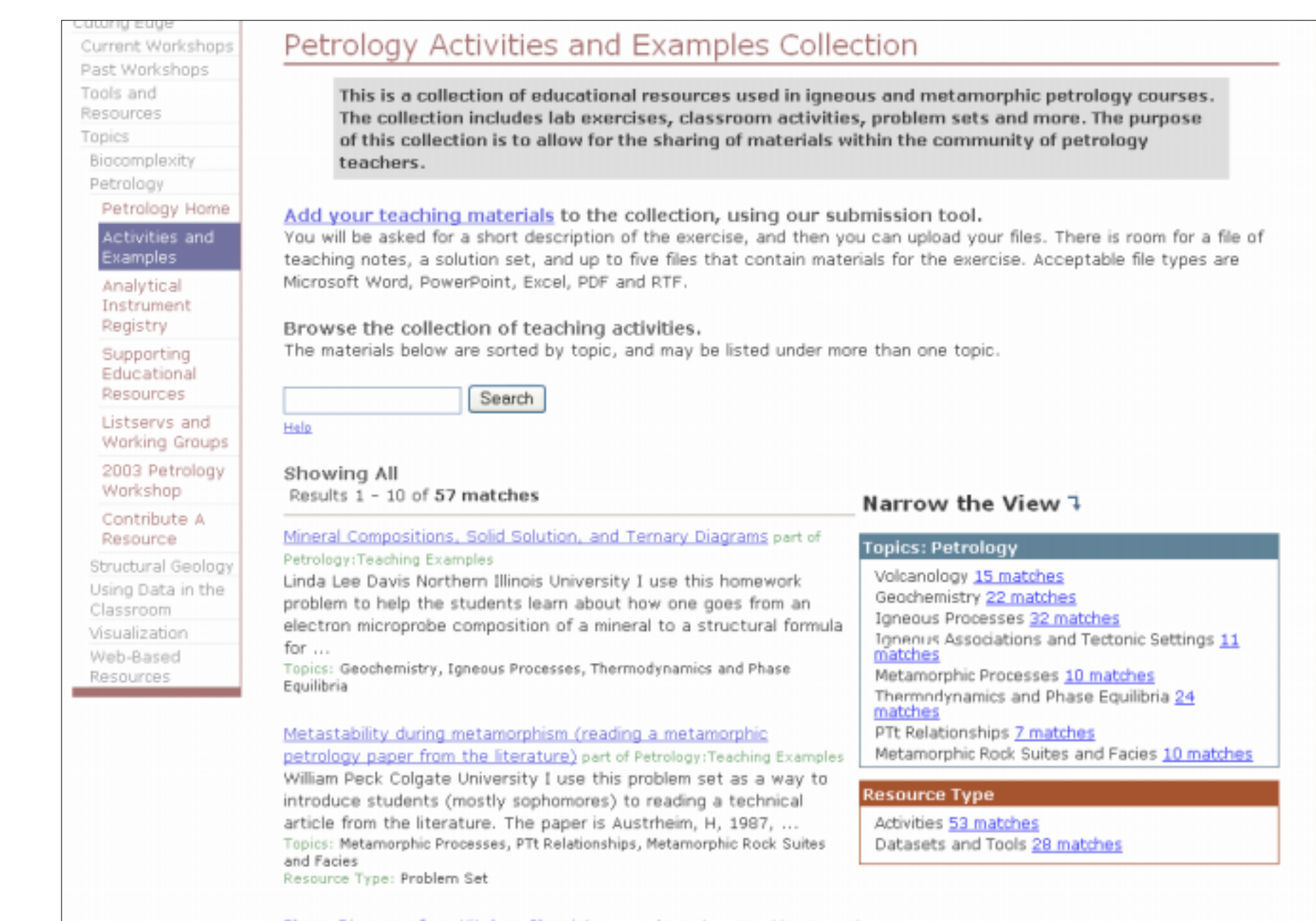
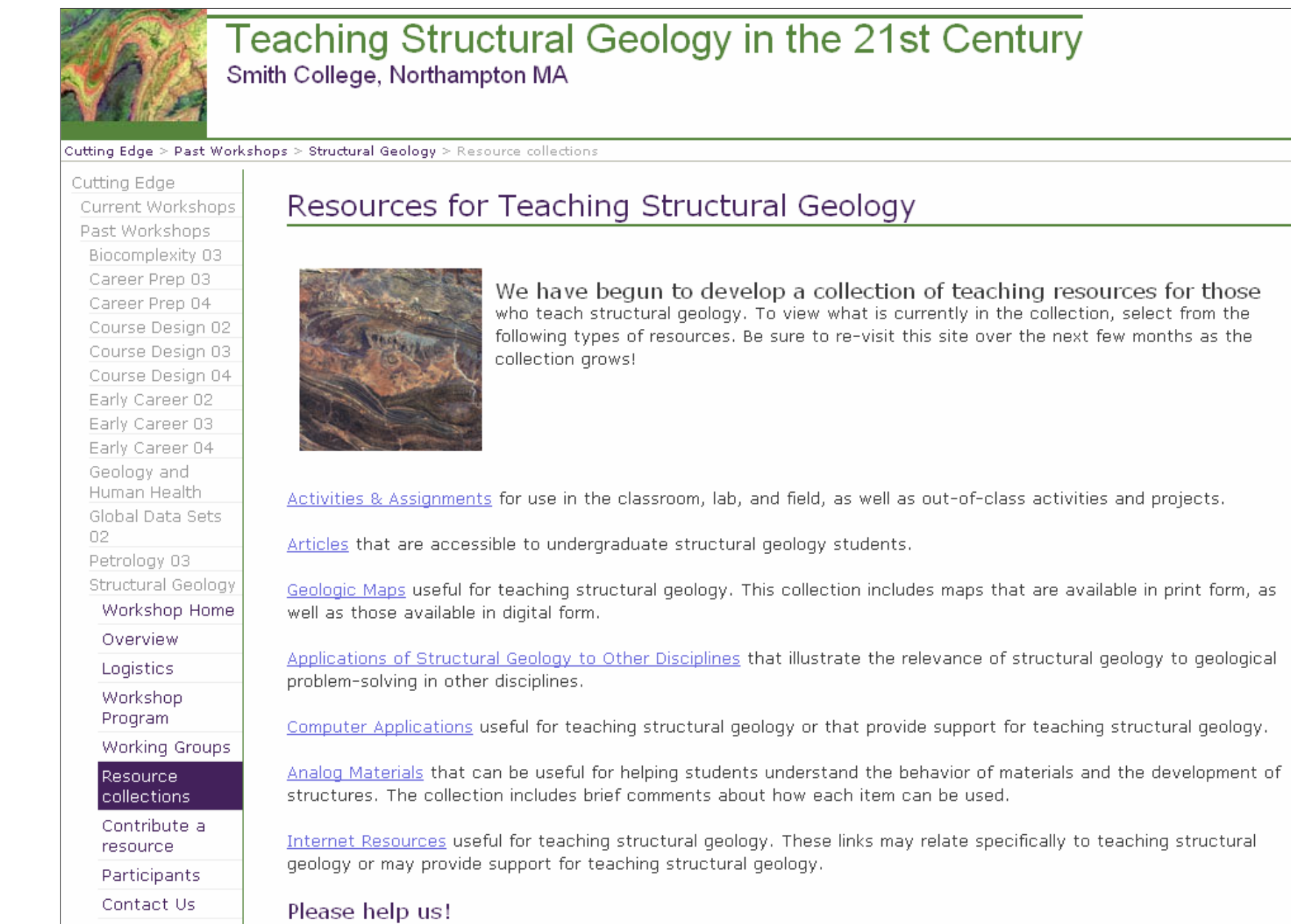
On-line resources that capture key aspects of workshops

Thematic collections – content associated with workshops

- Teaching Biocomplexity in the Geosciences
- Teaching Petrology in the 21st Century
- Using Data in the Classroom
- Using Data to Teach Earth Processes
- Developing On-line Educational Resources
- Geology and Human Health
- Teaching with Visualizations
- Teaching Structural Geology in the 21st Century

Teaching activities and materials collections
Syllabus and goals posting tool
Registry of geochemical analytical equipment

Other special collections of resources
 A bookshelf for use in environmental geology and geology and human health courses
 Collections of recommended maps, articles, and analog materials useful in teaching structural geology



Learning, Sharing, and Making Connections



Some Results

Workshop evaluations indicate that the workshops are well received with faculty particularly appreciating the content of the workshops and the opportunities for networking. The website received more than 5000 hits in November.

The ~500 workshop participants (45% women) have come from more than 290 colleges and universities in 49 states and the District of Columbia. Workshop participants reflect the full range of institutional diversity.

On the Cutting Edge programs provide a variety of opportunities for leadership: faculty serve as co-conveners, invited speakers, demonstration leaders, working group leaders, co-conveners of post-workshop sessions at professional meetings, and contributors to the websites.

For more information about *On the Cutting Edge* visit

<http://serc.carleton.edu/NAGTWorkshops/>

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