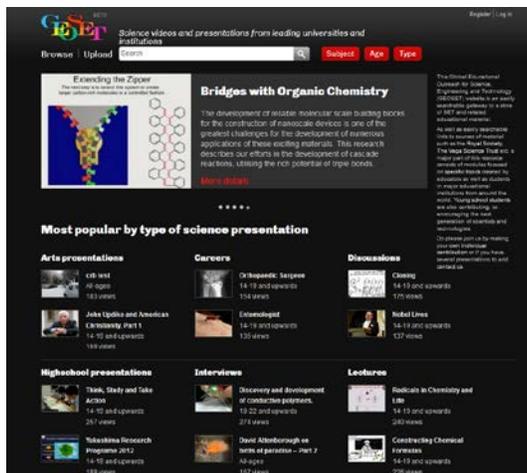




Global Educational Outreach for Science, Engineering and Technology (GEOSET)

A Introduction

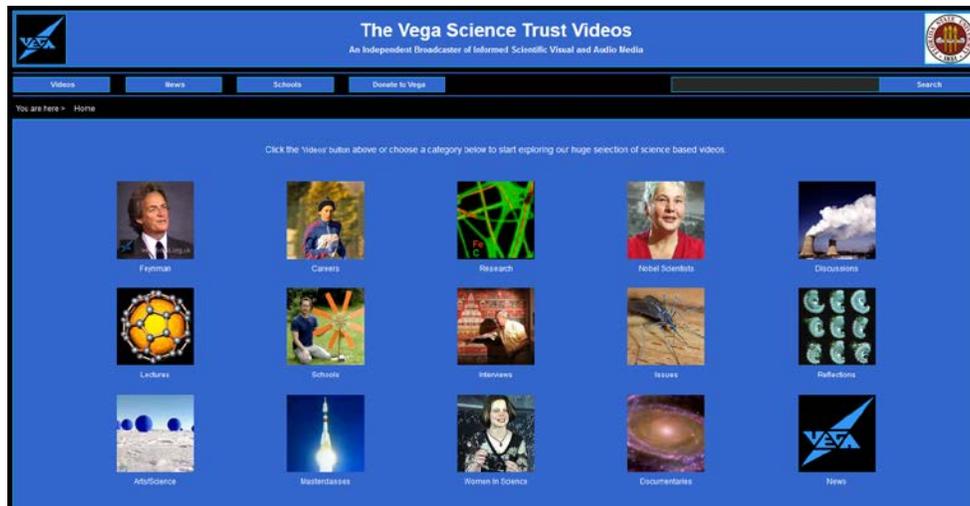
GEOSET is a searchable Internet gateway www.geoset.info, (Fig 1 below) to an ever-growing cache of SET and related educational material.



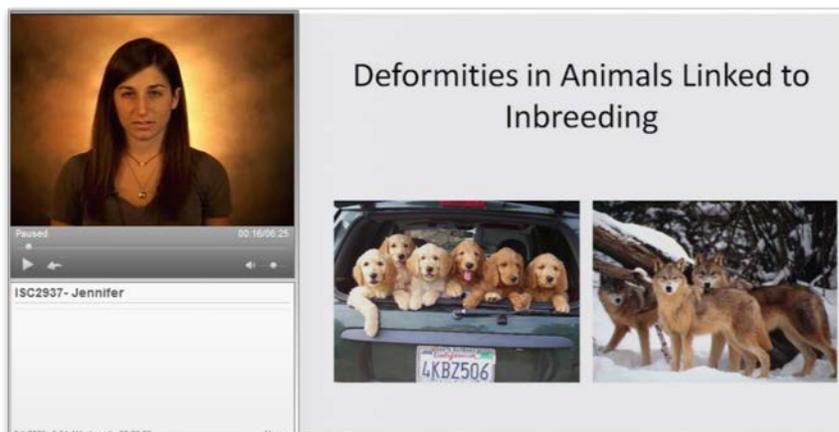
The material is located on the websites of participating academic institutions eg major universities such as FSU at www.geoset.fsu.edu (Fig 2 below left) and Sheffield www.geokri.org (Fig 2 below right) and other sites around the World.



GEOSET also links to other major sources of educational material such as at the Vega archive site www.vega.org.uk (Fig 3 below) and the Royal Society (London).



A major part of the overall cache consists of concept modules focused on specific topics created by outstanding educators as well as some of our most talented students, both graduate and undergraduate (Fig 3 below) as well as high school students.



A key point of GEOSET is summed up by the answer to the perennial question: At whom is GEOSET targeted? The answer is that GEOSET turns the dynamics of educational process round by 180 degrees; instead of focusing on the educatee as essentially all other educational initiatives do, GEOSET targets outstanding educators. In general GEOSET does not aim to present whole lectures or courses of lectures, although some are on the site; **the major aim is the creation of a readily locatable and accessible cache of specifically focused educational concepts created by the whole global panoply of teachers, researchers, UG and PG students, high school students as well as primary school children.** The main criterion is that presenters be passionate about the material they create and that it be reliable. Dual-window recording, in which the video of the presenter is in one window and the educational material is synchronised and presented in a second window, is preferred. A second key point is that recordings may form an important part of job and scholarship applications and references. Indeed GEOSET can revolutionise the CV or resumé of the students who contribute. GEOSET presentations aim to capture educational ingenuity by recording the subjective ways in which our best teachers as well as students explain concepts and inspire enthusiasm for the sciences as well as other subjects in the minds of young people. Excitingly, even bright very young students in high schools are also now contributing, so GEOSET is encouraging the next generation of scientists and technologists to communicate their ideas and it is also catalysing their enthusiasm for the creation of scientific educational material. Participating websites are now located in the US, UK, Japan, Croatia, Brazil and soon Spain. The fact that GEOSET material is, in general, streaming from the sites of major educational institutions guarantees a significant degree of intellectual reliability. GEOSET is now in a position to upload and vet material from individual contributors.

B GEOSET material

The databased gateway site (www.geoset.info) is searchable and redirects to contributing servers in the US, UK, Japan and elsewhere. The FSU site at www.geoset.fsu.edu is organised in strands. The sister site is at Sheffield University's Kroto Research Institute (kri) <http://www.geokri.org/presentations.php>

The following six links give a quick idea of GEOSET:

1. Student Projects: (Graduate) [Building Bridges with Organic Chemistry](#)
2. Student Projects: (Undergraduate) [Inbreeding in Animals](#) , [Beetles](#)
3. Teaching Modules: (Middle School) [Logarithms](#)
4. Teaching Modules: (Elementary) [Maps](#)
5. Teaching Modules: (Elementary) [Secret Science - Invisible Ink](#)
6. Research Seminars: [Systems Chemistry: How can reactions shape the macroscopic world](#)

C Students and GEOSET

Students who make GEOSET recordings get jobs, scholarships and postdocs as their presentations are conflated with their applications, nominations and references. GEOSET offers a way of improving their chances of success by an order of magnitude as they get instantaneous personal visibility anywhere in the world at the click of a button; it is the next best thing to being "there" for an interview:

- a) GEOSET offers the students an outstandingly effective and proven successful vehicle to getting jobs, postdoctoral fellowships, scholarships, awards and promotions.
- b) Recording focuses the students' minds towards presenting themselves and their interests effectively
- c) The initiative stimulates the enthusiasm and imagination of students for intellectual activity
- d) The recording can be a much more effective project report than a written document
- e) In general presentation material already exists for most science students who have to give data-based presentations as a matter of course and so GEOSET becomes simply a re-packaging exercise (recommended time ca 4-8 min)
- f) Recordings greatly simplify the teacher's task of creating a reference as the URL can be inserted
- g) Recordings simplify immeasurably the task of a prospective employer or adjudicator
- h) The recording conflates synergistically with the written resume by simplifying the assessment of written content and expanding appreciation of the paper material
- i) Recordings contribute to the global cache of educational material
- j) Geoset offers an outstanding educational outreach approach as it indicates to high school student's what they can do when they go to university
- k) Recordings can become part of the permanent record of educational institutions such as universities

- l) Research student presentations can become part of the departmental and group website
- m) A good recording can help a student, indeed we have evidence that as a career progresses it can improve chances of promotion
- n) Geoset recordings can be and have been used as tangible and effective ancillary material in research reports (eg to NSF) conflating with written documentation and facilitating the demonstration of achievement.
- o) Last but not least a recording can make assessment an enjoyable and painless exercise (Fig 4 below) and from the student's point of view anything that makes their assessor's life more pleasurable is worth serious consideration!

