On the Use of Multi-Disciplinary Climate Literacy Teaching in Building Interest in Science

Gerald J. Mulvey[1], Ph. D., CCM #571

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DEPARTMENT of ATMOSPHERIC SCIENCE and PHYSICS

Abstract

A number of students in the university environment arrive at the first day of a core required class of meteorology, or climatology with a dislike for science. Science is a discipline that require time and thought. These are not encouraged skills in our world of high speed electronic media and communications. They have adopted opinions on the reality of climate change, its causes and a poor understanding of scientific research, misunderstood scientific statements, internet blogs, partially accurate statements, and misleading internet postings, all of which that were developed over a number of years. Such opinions make it difficult for students to objectively view the scientifically valid evidence of climate trends and causes.
Repeating statements from the Intergovernmental Panel on Climate Change (IPCC) Assessment Reports, or discussing climatologically sensitive parameter trends are generally not sufficiently motivating to engage the developing critical thinking skills of the student. The challenge for college science faculty is to overcome the misunderstandings about science, help students learn students about climate and climate change ,and finally building interest in science, because science is **FUN!!**

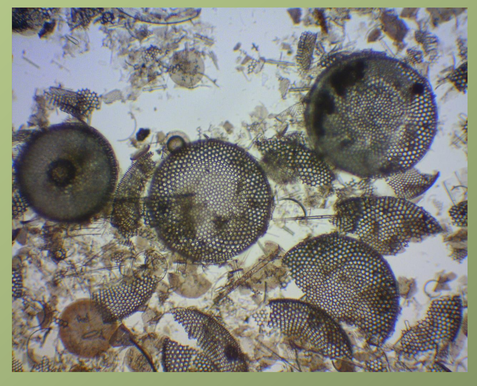
At the University of the Incarnate Word students are interested in:

- **The unusual**
- **A challenge**
- **A chance to self discover**

The Unusual

Take a bit of white powder and put it under a microscope and see diatoms. This opened the discussion of

- What were diatoms?
- Where are they in the food web?
- What was the water temperature in which they thrive?
- What does this mean about the climate above the water surface.



Microphotograph of diatoms in a sample retrieved from a deep ocean core by the JODES Resolution

The Challenge

Take a need to research the climate and challenge students to design an system to explore it. These engineering students needed to find out a lot more about geology and climate science as they solved the soil core sampler system design

Proud engineering students torque wrench in hand, standing next to their prototype/mock-up of the Soil Core Retrieval System . 10/2015

A Chance to Self Discover

What do you see in the microscope and what does it mean for the Paleoclimate of this site.? Student teams were challenged to capture what they had seen and its importance . The results were captured on a post-it poster for group read-out and discussion. They were able to determine how well their conclusions matched that of the experts

Students examining ocean sediment core smear slide samples . 11/2015

Summary
Science is Fun

This work is the result of a series of workshops sponsored by the American Meteorological Society/National Science Foundation titled MSI Reconstruction Earth's Climate History (REaCH) provide university instructors with the data, tools, techniques, and resources to engage students in the discussion over climate change and thus attract students to consider science careers.

Recognition

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[1]University of the Incarnate Word, San Antonio, TX mulvey@uiwtx.edu