



Students change how chemistry is taught

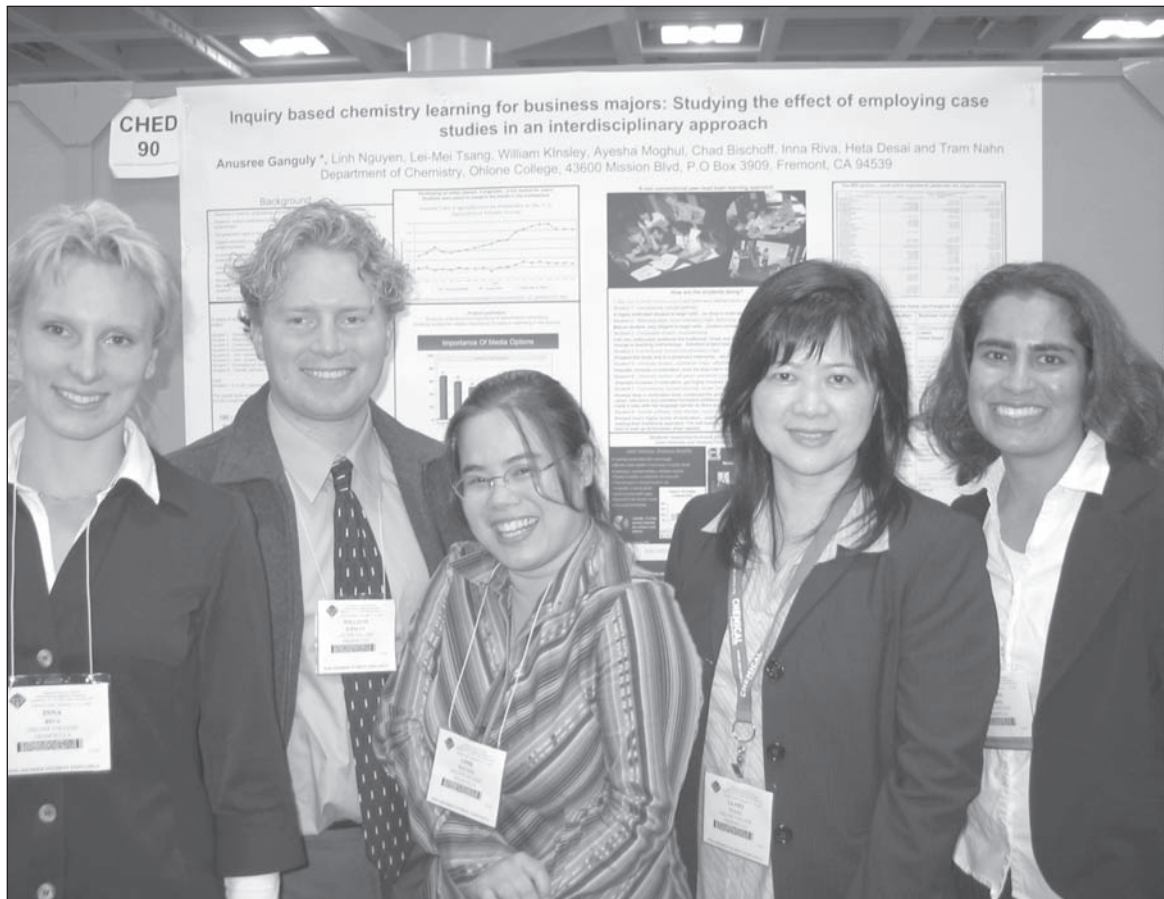


Photo provided by Anusree Ganguly

Dr. Anu Ganguly's students at the National Chemistry Conference in San Francisco. Behind them is a presentation of their interdisciplinary research. From left to right, they are: Inna Riva, William Kinsley, Linh Nguyen, Le-Mei Tsang and Ayesha Mogul.

By **NOAH LEVIN**
Staff writer

During this past summer, eight students from Ohlone College did research in organic chemistry, the findings of which were presented by their teacher, Dr. Anusree Ganguly, from Sept. 10 to 11 in San Francisco.

The research was an experiment by Ganguly, who wanted to try to teach organic chemistry through an interdisciplinary case-study method. After the conclusion of her students' research, she and her class presented their findings at the Chemistry Society's National Conference in San Francisco.

The interdisciplinary approach to organic chemistry was well received. "We employ[ed] a dynamic business model," said Ganguly. As part of this teaching method, Ganguly assigned a research project to her students that required them to create a virtual company and design a new drug. The students then had to examine the marketability of their new drug and run mock trials.

The main purpose of the project was to teach organic chemistry in a way that non-majors could not

only understand it, but would cause them to become more interested in the subject. Ganguly's students did all their own research and ended up becoming far more interested in organic chemistry and its practical applications.

Ganguly ended up bringing her summer students and their research to the Chemistry Society's National Conference in San Francisco. In addition to the research and work from the students, Ganguly presented her own findings on the new teaching method.

The research was so well received that an editor of one journal suggested publication, commenting that Ganguly's methods would, "Change the way organic chemistry is taught." Ganguly is currently writing her manuscript for the journal. The National Science Foundation, one of the leading science organizations in the country, has also offered an opportunity for a grant should Ganguly choose to further her research towards the "development of a new interdisciplinary program." Her work shows "highly increased student retention and an increase in interest, where there was little."

Music and physics unite

By **FRANKIE ADDIEGO**
Staff writer

Ohlone College will host a Brown Bag science seminar devoted to examining the relationship between physics and music in Room 3201 on Friday, Oct. 6. The presentation on this unlikely subject will be given by Professor Charles Hepburn, an instructor of astronomy as well as a working musician, and will feature demonstrations of many different instruments and how they produce the sounds we're used to. "We have music and the question sometimes comes up...on what principles do these work?"

The seminar, titled "The Physics of Music", will focus largely on the role waves play in the vibrations created by musical instruments. The emphasis will mainly be on the string family of instruments, such as guitars and violins, and wind instruments, such as flutes and trumpets. Hepburn will also discuss how the air acts as a fluid medium allowing sound, including but not limited to music, in to our ears.

In addition, Hepburn's lecture will touch upon various principles

of harmony, such as the differences in the make-up of and the mood-reflected by major chords versus minor chords. Related to this is how the cause of the indefinite pitch produced by percussion instruments can be seen with the Bessel mathematical function. According to Hepburn, a percussion instrument such as a snare drum, "only has a portion of the tonal system."

Also planned is a discussion of synthesizers and samplers which produce sound not as a function of striking or plucking the instrument, but by a pre-programmed sound that a given key electronically activates. In synthesizers, he said, "the sounds are totally made up." Indeed, students will learn about how a synthesizer takes sound waves and manipulates them to create a particular sound, often one similar to another instrument. This distinguishes them from samplers, which serve the same purpose but use prerecorded sounds from other instruments. "There are hundreds of samples in a digital sampler, which can react differently depending on velocity."

For students who find this topic

fascinating, Ohlone offers many classes in music theory and recording. The relation between music and physics, however, is only touched upon incidentally in such courses. However, this seminar may bear fruit. "If there's interest in this sort of thing, there is a possibility we can offer a physics [and] music course," said Hepburn.

Ohlone's Brown Bag seminars are hour-long presentations given by a variety of professors and professionals, mainly in scientific realms. They usually include a lecture followed by a question and answer session.

According to the campus website, the purpose of the seminars is to "stimulate interest in and awareness of topics, trends, and careers in science." Past topics for the Brown Bag seminars this year have included environmental sustainability and the geological hazards facing Ohlone.

The Brown Bag seminars are sponsored by Ohlone's Math, Science and Technology Division and funded by the Associated Students of Ohlone College.

The event is open to the public.

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Mary Tyler Moore
International Chairman

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Early childhood conference

Continued from Page 5

Among the most popular are curricular workshops, those presenting new activities for use in the classroom, and ones dealing with challenging behaviors in children.

"Educators are always looking for new ideas to bring to the classroom," said Fonteno.

And on Saturday, they found them. Feedback to the conference this year, like last year's, was exemplary. It was all a just reward for what, according to Fonteno, was an "ongoing effort for eight months at least."

If anything, next year will be even harder. Instead of waiting for months like last time, Fonteno began planning for next year this Saturday,

having already lined up a keynote speaker for next year.

The convention, which last year had only an attendance of about 200, this year had over 300. Space in the Childhood Education Center, while sufficient, was "tight." Fonteno hopes to use the Smith Center for next year's convention and hopefully, the Newark Campus for 2008's.

"We're going to suggest to Dr. Treadway a desire to have that Early Childcare conference at the Newark Campus in 2008," said Fonteno.

Next year, said Fonteno, diversity will be a theme still. In fact, diversity will always be a theme there, just as it is a theme throughout childhood.