



Stony Brook
University

Alumni & Friends

April 16, 2013

Dear Alumni & Friends,

Remember Carbocation Rearrangements?

Perhaps not, but 1,000 Stony Brook students will return to school and join a large crowd of approximately 500 students in one classroom to study the structure and reactivity of molecules containing carbon—better known as Orgo. This large science class is often a bad memory for those pursuing the dream of entering a health profession. Many reflect, “Organic chemistry was too hard. It was all memorization. It was not relevant to anything that I do now. It was the prime “weed-out” course, the major obstacle between me and medical school.”

Fortunately, this situation has changed at Stony Brook. Professor Frank Fowler has been applying known advances in the cognitive sciences, in combination with new technologies, to achieve the fundamental goal of the organic chemistry course: to teach students how to take a complex set of data and use it to solve problems. Students take possession of data, and then organize and apply it. In class, they learn to work together to solve complex, time-consuming problems, bringing social and communicative skills into the problem-solving mix. During all of this, they also learn organic chemistry, which gives them the requisite knowledge and skills to follow careers in the health sciences, agriculture and manufacturing, and energy and materials. These industries solve the multitude of problems facing today’s world.

So how does this work in a room with 500 students? Stony Brook makes it happen by moving the center of focus from the instructor to the students. Professor Fowler works with Undergraduate Learning Assistants (ULAs) who tour the room, converse, challenge and help students find the answers to their questions, and all the while encouraging discussion.

These ULAs took the course the previous year, and generously donate their time (in exchange for a few course credits) to give back to the course. We think they should be better rewarded. So does Professor Fowler.

That is why he has posed the Fowler Challenge: He has donated \$25,000 to endow fellowships for ULAs and is challenging our alumni to match the gift.

The traditional lecture in organic chemistry is a thing of the past at Stony Brook. Please help us sustain Professor Fowler's vision and meet the [Fowler Challenge](#) by June 30, 2013.

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P.S. Still wondering about carbocations? Check out the exam note card above from one of our recent students for the answer.

