

RChem students journey to Thailand, give presentations on research

BY CONNIE CHU

This year, NCSSM was invited to send two teams to the first International Thailand Science Fair. Dean of Science and Research in Chemistry advisor Dr. Halpin accompanied seniors Courtney Fox, May Liu, and Quinn Morris on an all-expenses paid trip over Thanksgiving break.

The Science Fair took place in Bangkok with accommodations provided by the Mahidol Wittayanusorn School (MWITS), the National Science School of Thailand, which is a boarding school like NCSSM.

"Most of the Science Fair consisted of the opening ceremony," said Fox. "The school was visited by the princess of Thailand. Then, on Friday and Saturday, we gave oral presentations of our research. It was a lot of fun for everyone there because it wasn't actually a competition. That lowered the stress level a lot."

"There were not awards or prizes given out in the end, as they set up this fair to be more of a cultural and intellectual exchange," said Liu. "The country is beautiful, and the weather was gorgeous. Not only did we get to see other research projects from around the world, but we were also able to learn about Thai customs, eat Thai food, and attempt to speak some Thai words. The students were so welcoming and the sight-seeing tours showed us a large variety of places in and around Bangkok. Meeting the princess was definitely a highlight, but the entire experience was truly amazing."

"My favorite part of the trip was definitely the trip to MBK, the main shopping center in Thailand and the biggest mall in Asia," said Morris. "We spent several hours there, and didn't even begin to see all of the stores. ... We got to do a lot more touring and learning about the culture than I expected."

"My favorite part of the trip was probably our trip to the Grand Palace, or maybe the JJ Market," said Fox. "Everything

in the market was so cheap."

According to Liu, even Thai cafeteria food is "incredibly cheap and good ... about 20 baht (equivalent to 50 cents) for a full plate for dinner."



Thailand

However, "There was no air-conditioning or hot water. That was pretty bad," Morris said.

Also, Liu said, "Sometimes, it was hard to communicate to Thai people who were not students that had learned English, but we learned that smiling and nodding are universal!"

"The experience exceeded all of my expectations," said Fox. "Thai hospitality definitely rivals that of the South. I learned a great deal of Thai etiquette from the students at the school. For instance, it is rude to point your foot at another person."

"[T]hey don't use a fork in the same way we do," Morris added. "They only use the fork to push stuff on to the spoon." "We found out that it is extremely impolite to put a fork in your mouth while you are eating," said Liu, "so we learned how to use the fork to put food on a spoon before [eating]."

"This is the first international science fair of its type," said Liu. "[H]opefully, NCSSM can send some students to next year's in Korea!"

"To my knowledge," said Halpin, "this is the first time that students have competed out of the country." Fox, Liu, and Morris started researching

together second trimester last year, along with senior Suman Medda, who was unable to attend the Thailand Science Fair.

"Everyone wanted to work with fuel cells," said Morris. "Basically, one day we went to Google, looked at the millions of articles, found an article, and became interested in seeing what ... a bacterial fuel cell [is], ... Could we build one, and would it work?"

Fox, Liu, Morris, and Medda succeeded in mak-

ing a fuel cell by filling a beaker that had dialysis tubing, a semi-permeable membrane, with bacteria and sugar. Bacterial fuel cells use the voltage difference that results when bacteria break down carbohydrates and produce electrons. A molecule called a mediator is put in as the electrons flow through the electron transport chain in this process.

Prior to the Thailand Science Fair, the group had taken their project on bacterial fuel cells to the Biotech 2005 Conference in Philadelphia, where they were received one of the four prizes awarded, and to an international science fair in Phoenix. In addition, the team entered a competition through NASA and was able to test the effects of

low G forces on bacterial fuel cells by sending three sets of two bacterial fuel cells into space. According to Morris, "One set of cells supported our hypothesis that lower G forces correspond with higher outputs; the second set of cells was pretty inconclusive."

Fox and Liu also did research over the summer on the enzymatic synthesis of the anticoagulant heparin sulfate. Heparin sulfate had already

Thai continued on page 4

Julie Brown leaves

Brown continued from page 1

receive instruction from a new teacher after winter break. Currently, we candidates are being interviewed for the opening position in the biology department. Brown asks that her students treat the new teacher with respect.

"Don't be too hard on him or her. Everybody has a different teaching style. Be patient, and work just as hard for them as you've worked for me," Brown said.

Brown plans to continue her teaching career at Gaston Community College, where she will teach part-time. She also hopes to enroll at UNC-Charlotte to earn her teaching license. Although Brown has taught for several years, she must have a license before she can teach at public schools in Charlotte.

While Brown is excited about the move and the opportunities it brings, she will miss NCSSM.

"I'm dreading my last day of class. I'm afraid I'm going to cry," Brown said.

Brown wishes "good luck" to her students in their future endeavors at NCSSM and beyond.

School mystery: a case of disappeared plates

BY STACY KYTT

A large number of students criticize the PFM, yet very few avoid eating there. Each day you can observe enormous lines of hungry juniors and seniors, and sometimes even SLLs and teachers, waiting to receive their meal. Nobody looks too disappointed neither with the food, nor with the service, but there is one little problem which drives everyone crazy.

Of course, we're civilized humans, we cannot eat lasagna with our fingers, if for not any other reason but because it is HOT! However, when a poor hungry student goes to get a fork, he probably won't find one, unless it is his lucky day. Most students settle out with getting a spoon (do not ever use a knife for that purpose- it is too dangerous!) or a plastic fork. They may feel silly for eating macaroni with a teaspoon, but at least that is a civilized way (and an easier one than using chopsticks, unless you're Asian). Yet the mystery remains unsolved: where are the forks?

In fact, the forks are not the only problem. About a month ago or so the cafeteria experienced a "plate crisis"- that is, there weren't enough plates to last through a single meal course. You probably saw desperate signs around the school as well as boxes in your hall lounges for dish pick-ups.

The "Plate Preservation" campaign was only moderately successful, though. Right now, cafeteria uses disposable plates along with washable ones, and it seems that most people prefer using the throwaway kind. However, there are some drawbacks to that. First of all, this way is very impractical: too much waste is created; extra money is being constantly spent on new utensils; and poor cafeteria workservice students are stripped of their jobs! (Just kidding on that last statement.)

Yet what happened to those nice, fun-colored plates? Is it possible that overly hungry students accidentally ate them with their breakfast waffles? Or did some math geeks steal them to find their volumes?

You do not have to be Mr. Sherlock to figure this out. We as students tend to rob ourselves without even realizing it. When we leave the cafeteria messy, for example, it is only to our disadvantage, since this will only mean more control. Same is true for cafeteria utensils: in

the past (and this year especially) we thoughtlessly carried dishes from the cafeteria to enjoy meals elsewhere (so that nobody would know we actually eat at PFM?) Then, of course, the dirty cafeteria plates never got back and now they sit somewhere in a lounge, or even under somebody's bed (yikes!).

Some of the poor dishes may made it somehow back to cafeteria, but most of them keep stacking up elsewhere around the school. An even worse fate awaits the forks and spoons: these utensils are small and standard-looking enough to be snuck out from cafeteria without any of the workers noticing. Even if the workers do notice, they have no way of knowing whether that is a cafeteria utensil or your own. What is truly horrible about the fork situation, however, is that students sometimes throw the metal utensils into trash. This happens mostly by accident, but means no more chances of seeing the poor forks or spoons ever again. Sigh.

So, this is elementary. Watson! However, just being



Forks missing from silverware tray in cafeteria

aware does not help to solve the problem. On the other hand, through simple actions you can improve the situation! First of all, listen to your consciousness and find a minute to bring any random plates from your closet back to cafeteria. Also bring any suspiciously simple looking forks and spoons: these probably belong to PFM as well.

If you care about cutting back trash, bring your own plates. (Notice: the cafeteria servers cannot accept your plates, but you may transfer the food from the cafeteria plate to yours). Bringing your own cups and utensils is also a good idea (you'll never be caught eating lasagna with a spoon, and also can get a larger glass of juice/water).

Lastly, be a good neighbor and take care to get any utensils you find anywhere outside the cafeteria back in. Also, if you see someone carrying out a cafeteria utensil, kindly remind him to return it (as the cafeteria staff cannot constantly keep an eye on all people).

Believe me, the plates will thank you if you follow any of the advice above, and as a result, PFM food would taste much better.

WANT TO LEARN TO SING?

VOICE LESSONS CAN HELP

45 MINUTE LESSONS HELD AT NCSSM

CONTACT MIRIAMJANDERSON@JUNO.COM FOR DETAILS