

# ENGINEERS *of the* FUTURE

With this feature, we invite you to come alongside

three engineering students as they learn

and grow at MSU. In each issue, for the

next several issues, we will give you

updates on each of these students as

they progress through their programs.

Six students were first featured in

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installment. (Back issues are available

upon request; or view previous install-

ments online at [www.egr.msu.edu/egr/](http://www.egr.msu.edu/egr/)

[publications/archive.php](http://publications/archive.php).)

## Jacob Kirshman

SENIOR (LINDEN, MICHIGAN)  
MECHANICAL ENGINEERING

► *What were your highlights/challenges during spring semester?*

Spring semester, I was once again working at DENSO Manufacturing Michigan Incorporated. This was my fourth and final rotation for my cooperative education. Throughout my co-op at DENSO, I have rotated between the process and die design departments. During my final rotation I worked with the mold/die design group.

While working at DENSO spring semester, I was continually challenged with new projects that would prepare me for working in the real world. I was able to work on projects that involve testing, designing, and implementation of various parts—like designing slide retention into molds, improving air leak issues, and adding material guides to stamping dies.

The mold/die design department had been changed since I was there last time; it now includes stamping, so I was able to become involved with stamping dies. While this was challenging to learn, I am thankful that I was able to learn more aspects of DENSO's manufacturing processes before I left.

Throughout my four terms working at DENSO, I have learned the value of doing a co-op. There are many things that I have learned on the job that I could never learn in a classroom. If there are any young engineering students reading this, I would *definitely* recommend doing a co-op while at college.

Another highlight of my spring semester was that working—and not taking classes—allowed me to have time to come home and not worry about studying! I had time to try to learn to play the guitar. I also enjoyed being able to play basketball and soccer to keep me active.

The main highlight of spring semester, though, was going on spring break with Cutting Edge Ministry. The group drove 18 vans

down to Orlando, Florida. It was an amazing trip—spending time with my friends, studying the Bible, and hearing our speaker, Tom Harmon.

► *What are your plans for the summer?*

This summer I will be going to school full-time. The first summer session, I will be taking ME 410 (Heat Transfer) and MSE 250 (Materials Science and Engineering). The second summer session, I will be taking STT 351 (Probability and Statistics for Engineers) and IAH 211C (Area Studies and Multicultural Civilizations: The Americas).

In addition to going to classes, I will be enjoying my summer weekends. I have plans to go camping, fishing, and jet skiing in Michigan. I also hope to make trips out of state to Cedar Point Amusement Park, Chicago, and wherever else I have time for. Unfortunately, I do not have any plans to go skydiving or run a marathon this summer, but who knows!

► *When will you be graduating?*

I will be going to school during summer, fall, and spring semesters. I will get another job for the following summer, possibly back at DENSO. Then I will finish up my schooling and graduate in the fall of 2006.

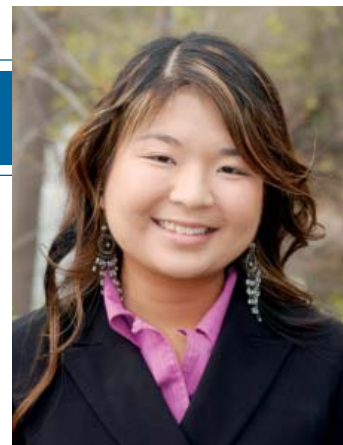
## Greg Kehrier

SENIOR (BAY CITY, MICHIGAN)  
CHEMICAL ENGINEERING & MATERIALS SCIENCE

► *What were your highlights/challenges during spring semester?*

This spring I was taking the three classes that I needed to add the biochemical engineering option onto my chemical engineering degree. I also took two other classes that I was interested in taking—a math class and another chemical engineering elective class. Biology isn't my best subject, so microbiology and biochemistry were my biggest challenges in terms of class work.

This spring was also my sixth consecutive



Left to right: Jacob Kirshman, Greg Kehrier, and Tracy Kamikawa.

semester teaching pre-calculus as a math TA, and I was pleasantly surprised in April when I received an award from the Department of Mathematics for undergraduate teaching excellence. I had always tried my best to be a great TA, so it was very nice to be recognized.

Also this year I was one of the Symposium Day co-chairs on the AIChE (American Institute of Chemical Engineers) board. My job was to organize the 15th annual AIChE Symposium Day, an event held at the Kellogg Center where speakers from various industries and academic settings give presentations to Chemical Engineering and Materials Science students. It required a huge amount of effort to raise the \$5,000 budget from corporate donations, and to recruit speakers, organize facilities and food service at the Kellogg Center, sign up students for the event, and so on. In the end, the day was a huge success. We had speakers from General Motors, DaimlerChrysler, Pfizer, Eli Lilly, the University of Michigan, and Shell Oil Products. The keynote address was given by John Hockstra, a very entertaining speaker formerly of Dow Chemical. I felt incredibly relieved when the day was over and all the efforts that AIChE expended in organizing it were finally rewarded.

► *How does it feel to be graduating? What are your plans for the summer?*

It feels exciting and scary. I'm excited to know I've earned a degree and I'm very confident in my abilities to succeed. On the other hand, it's scary because I'm not completely sure what I want to do next. I'm trying to decide if I want to start working, or stay in school longer. It's a tough decision. The two companies I previously interned with didn't offer me a position, and I don't have a job lined up yet. So far this summer I have been looking for a job and doing a little

soul-searching, trying to figure out whether or not to stay in school, and if I do, what to study. Should I apply for graduate school in chemical engineering, or maybe stay for a second bachelor's degree in something else I'm interested in, like computer science or math? I'm having trouble deciding.

### Tracy Kamikawa

GRADUATE STUDENT (HONOLULU, HAWAII)  
BIOSYSTEMS ENGINEERING

► *What were your highlights/challenges during spring semester?*

I had a heavy course load spring semester, but I enjoyed my classes. I learned a lot about food protection and defense, which I hope to apply in my future career as I develop a biosensor for the detection of foodborne pathogens. I am also looking to expand my work into SARS (severe acute respiratory syndrome) and anthrax. I still have a great interest in homeland security, and am excited to continue work in the field with regard to food protection as well as public health.

Outside of coursework, my greatest challenge spring semester came with my diagnosis of thyroid cancer. My doctor found a small lump in my throat during a routine checkup, and after a series of consultations and a battery of tests, I underwent a near-total thyroidectomy in late April. They say if you're going to have cancer, this is the one to have, as treatment typically does not extend after the surgery. It has only been a week since I came out of the hospital, and I already feel fine. My mom used the procedure as an excuse to visit from Hawaii, so we were able to spend some time together. At first I did not inform any of my friends or professors of my illness to pre-

vent them unnecessary worry, but as the surgery fell right before finals, I wanted to make them aware of my situation. I truly appreciate all of the amazing support and kindness that I received in the past few weeks.

► *Last time, you said that you were working to organize a partnership with MSU and the National Institutes of Health in Bethesda, Maryland. What is the status of that?*

We've made great progress, and found many potential relationships. Currently, I am discussing a partnership with the FDA Center for Biologics. There is great overlap in our interests, and we hope to form a collaborative relationship that will benefit both of our research needs. There I will have access to the foremost scientists studying BSE (bovine spongiform encephalopathy, or mad cow disease), anthrax, and SARS.

► *Do you have plans to return to the DC area soon?*

I am currently living in Arlington, Virginia, and taking MSU classes online. I hope to finish my courses by next fall so that I can focus entirely on my research in Bethesda.

► *What are your plans for the summer?*

I do not yet have firm summer plans for course or lab work, but I will most likely spend some time in the lab and take a couple classes to finish up my requirements. My sister, a junior in high school in Hawaii, will be staying with me for a few weeks here in Arlington. We will travel to New York for one of those weeks, to shop and to see as many Broadway shows as we can. It will be her first trip there and my second, and will surely be exciting. I am looking forward to somewhat of a break after this last year, and intend to enjoy it while I can! 🌸