NOTES
FROM DEAN CLARK

Feb. 15, 2016

Dear members of the Hajim School community:

Here's a great example of the cutting edge research being conducted in the Hajim School: **The new shape-memory polymer** developed by faculty member **Mitch Anthamatten and graduate student Yuan Meng**. The polymer **reverts back to its original shape when exposed to body heat**, opening the door for new medical and other applications. "Tuning the trigger temperature is only one part of the story," Mitch, an Associate Professor in Chemical Engineering, explains in a story written by Peter Iglinski of UR Communications. "We also engineered these materials to store large amounts of elastic energy, enabling them to perform more mechanical work during their shape recovery." **These shape-memory polymers are capable of lifting an object one-thousand times their weight**. For example, a polymer the size of a shoelace— which weighs about a gram — could lift a liter of soda. Applications could include sutures, artificial skin, body-heat assisted medical dispensers, and self-fitting apparel. This is really exciting work!

So is this: **ADAMM — the Automated Device for Asthma Monitoring and Management** — which was developed as a result of a collaboration between **Mark Bocko**, Chair and Distinguished Professor of Electrical and Computer Engineering, and **Hyekyun Rhee**, Associate Professor of Nursing. The lightweight, wearable iOS device, which records data vital to asthma management, was **recognized for innovation at the Wearable Technologies annual conference** last month. ADAMM was **named the best innovation in the Healthcare and Wellness category**, and the device's maker, Health Care Originals, Inc., was named Innovator of the Year for 2016. Congratulations to Mark, who also **credits UR Ventures and its director, Scott Catlin**, for helping move this exciting technology from the lab to a marketable product.

Congratulations as well to **Michael Scott** of Computer Science, our Arthur Gould Yates Professor of Engineering, who has **received a Google Research Award** of $69,083 to **characterize the causes of "stumbling" and to reduce both its mean and its variance**. As Michael explains: "In modern data centers, threads of control in a program frequently make brief requests for service (from the graphics processor, the network, a solid-state disk, or another thread) and then wait for a response. When the response arrives, the thread tends to 'stumble' back to work, as the operating system and the hardware work to restore its active state. This stumbling has become a major performance problem for Big Data companies like Google." The award, a follow-on to Michael's sabbatical last year as a Visiting Scientist at Google's lab in Madison, WI., will **support a graduate student for a year**.

The **Computer Science Undergraduate Council** wants to get the word out about the **4-8 hours of free, walk-in tutoring it provides to all undergraduate students taking computer science courses**. Tutoring takes place in Hylan 301 and "is a very informal setting where people can ask their questions to one of our volunteer undergraduate tutors," says **Hassler Thurston** '17, the tutoring chair for CSUG. "In the past, people have found the program useful for debugging, understanding basic programming and theoretical concepts, and for forming study groups." For more information, including the tutoring schedule, policies, and how to come prepared, visit bit.ly/cs-tutoring. In addition, **Mikayla Konst** '17 of Computer Science, a CETL tutor, offers **free walk-in tutoring hours in Carlson Library from 2-4 p.m. on Sundays**. A full

schedule of CETL's free walk-in tutoring hours can be found here.

A warm welcome to **Cindy Fitzgerald**, who recently **joined the Department of Chemical Engineering as a Senior Technical Associate**, helping to set up and conduct the undergraduate labs. This semester she's working with about 60 juniors. Click here to read her observations on transitioning to academia from Kodak, where she worked for 35 years in the entertainment imaging division as a systems engineer, much of the time as a systems team leader.

Several of the Hajim students who studied abroad last semester did so with the support of **Hajim School International Experience Scholarships**. These awards of $500 to $1,000 help **defray the costs of tuition, room and board, books, local transportation, insurance and international airfare**. If you are planning to study abroad this summer or fall, consider applying. **All applications should be turned in by 5 p.m., April 1, at 305b Lattimore Hall**. Click here for more information about the award and an application form.

As always, keep me updated — and have a great week!

Sincerely,

Robert L. Clark
Professor and Dean