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Our Summer Students: ITS hosts young scholars from Beirut and Washington, D.C.

Omar El Ayach, Nicolas Kseib and Rami Aboujaoude at CCIT

There are some new faces this summer at ITS from Beirut and Washington, D.C. Seven engineering undergraduate students from the American University of Beirut (AUB) are working on a variety of projects under the direction of ITS researchers. Two additional students are visiting from Howard University.

The summer program for AUB students began four years ago as the result of a long-standing friendship between **Adib Kanafani**, former ITS director, and **Ibrahim Hajj,** Dean of Engineering at AUB. Kanafani and Hajj were undergraduates in engineering together at AUB, and later did their graduate work in engineering at UC Berkeley.

“Engineering students at AUB are required to spend the summer between their third and fourth years overseas working in private industry or at a research university,” explained Kanafani, “So Ibrahim and I put together a collaboration agreement to facilitate exchanges between students and faculty at our campuses.”

This summer, three AUB students are working at California Center for Innovative Technology (CCIT). **Omar El Ayach**, who is majoring in computer communications engineering, is working on the Berkeley Highway Lab, setting up a new method for transferring information from loop detectors and cameras to computers. **Nicolas Kseib**, a mechanical engineering student, is working on a project aimed at improving predictions of travel time on Bay Area freeways. **Rami Aboujaoude** is also a mechanical engineering student whose summer project involves improving the graphical interface Caltrans uses to configure its changeable message signs.

“This is my third year working with the AUB students, and we’ve always been very happy with their work,” said Jean-David Margulici, acting director of CCIT.

Twenty-year-old **Roula Rbeiz** is one of this year’s students who hopes to return to Berkeley for graduate studies. The Beirut native grew up with a father who was a civil engineer, and from the age of 10 has wanted the same career. “He did not put any pressure on me to become a civil engineer, but I was introduced through him to the field. In fact, when an older brother told the family he was thinking about majoring in civil engineering, Rbeiz says she was furious. “That was my choice,” she says laughing. She is primarily interested in structural and materials engineering, and this

Roula Rbeiz analyzes concrete samples

Tarek Ibrahim, Nahi Ojeil, and Anwar Ghoch build a better drifter

summer is working with Paulo Monteiro, Professor of Civil and Environmental Engineering, in the Structural Engineering, Mechanics, and Materials program. Her project involves the use of X-ray tomography to identify alkali-silica reaction in concrete samples.

Tarek Ibrahim, Anwar Ghoch, and **Nahi Ojeil** are participating in a project aimed at modeling currents in bodies of water. Working in the basement of McLaughlin Hall, they are improving the design of drifters, which are made of PVC pipe and plastic sheeting, and float through the water collecting data.

Ibrahim is majoring in the field of architecture and engineering. Ojeil, a computer and communications engineering major, said his work on the project is aimed at getting the GPS data, which is collected from the drifter, sent and stored to a server in Berkeley. “We’re used to having reading assigned,” added Ojeil. “Here it’s more about doing.” Ghoch, who is majoring in civil engineering, is designing a hull for the drifter that will enable researchers to get it in and out of the water more easily and efficiently.

“The main benefit for the project is to have undergrads who can figure out solutions to relatively simple problems of a non-theoretical nature. We give them a very concrete problem that is very beneficial for the project,” explained Civil and Environmental Engineering Assistant Professor **Alexandre Bayen**, who has overseen projects with AUB students for two years. “It’s a good way for undergrads to be embedded in a research project and be productive right away. And, they have a complete achievement at the end of the eight weeks.”

Most of the AUB students live at International House for the summer. Last year when war broke out in Lebanon, many of the students were unable to go home, and ITS faculty helped them extend their stay at I-House, as well as enroll in classes at Berkeley for the semester until they were able to return to Beirut.

Many of those students said they forged strong friendships at I-House, and hoped to eventually return as graduate students at UC Berkeley. Several students from past years have returned to Berkeley for graduate studies. Bayen said three of the undergrads he has worked with in the past on an air traffic control project have returned to the U.S. for graduate school: one to Berkeley, another to Stanford, and a third to Massachusetts Institute of Technology.

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