

Promoting Engineering Among Chicago's Youth: A Partnership between IL-ITE and CEF

By Erik Cempel

When did you first decide to be an engineer? Was one of your parents an engineer, or did you have a mentor? When was the first time in your life that you had a rough but at least an accurate sense of what engineers did? After you started down your educational and career path, was there a point at which new information about different fields of engineering of which you had never dreamed caused you to change course?

The Illinois Section of ITE teamed up earlier this year with the Chicago Engineers' Foundation of the Union League Club (CEF) to help share these kinds of experiences with high school students around Chicago and encourage them to pursue careers in engineering. The CEF High School Outreach Program has already attracted over 15 volunteers from a variety of disciplines, including many from the transportation realm.

This nascent program matches groups of two to three engineer volunteers with high schools in the City of Chicago for one-hour presentations during or after the school day. Volunteers introduce themselves, their companies, their roles, and their field of engineering. They talk about their own path to discovery, their early interests, and their educational experiences, as well as examples of how they are currently applying those college skills in specific projects now.

"people with engineering backgrounds – due to their analytical ability to solve problems – are in demand for just about any type of job a student could want."

(e.g., roads and trains) that get a student's parents to work, designing better affordable houses, bringing water to villages in Africa, and designing alternative energy systems to build our energy independence and reduce global warming. These same engineers could land themselves in leadership positions in areas such as finance, business consulting, law, or politics.

Another key goal of this program is to tell high school students that if they pursue engineering, there are organizations that are willing to pay them. The core mission of CEF, in fact, is to provide incentive awards to graduating seniors of Chicago high schools who are admitted to accredited college or university engineering programs. For those award winners who maintain satisfactory grade point averages, the CEF continues to make annual awards throughout their college careers and at graduation. The awards increase with each year that a student qualifies and participates in the program. Organizations like ITE and others also provide scholarships to students once they are in college.



We hope to not only encourage students to pursue engineering, but to encourage Chicago youth who previously never considered attending college due to financial limitations.

CEF volunteers made their first outings to two schools in Spring 2013. Sashank Musti and CEF Board member Michael Kharouta presented at Northside College Prep, and Nathan Hirsch and IL-ITE Board Member Tracy Shandor presented at Lane Tech. "It was a great experience having the opportunity to discuss engineering with high school students," says Tracy of her experience. "Many of the students were interested in going to school to study a specific science, and were aware that they could study engineering. However, similar to when I was in high school, they didn't really have a good understanding of what it would mean to study engineering in college even though many of the students were taking an introduction to engineering class. The experience reminded me of my own uncertainties as I began college, and reinforced the importance of reaching out and encouraging students to consider obtaining a degree in engineering."

At Northside, CEF Board Member Michael Kharouta tells how at his session with Sashank Musti "students stayed for over an hour after the presentation to ask questions about engineering education and careers, and participate in the biomedical equipment demonstration. The students had some very thoughtful questions about pursuing a career in engineering, and I had a wonderful time helping them find some answers. Frankly, their interest was inspiring, and I cannot wait to do it again this Fall."

Volunteering is easy. Any members of Illinois ITE interested in participating in this program and sharing their experience with Chicago's high school students are encouraged to contact Erik Cempel at ecempel@camsys.com. We are also seeking contacts at high schools that might be interested in hearing from our volunteers.

Information about CEF's Incentive Awards Program and application information can be found at its website at www.chicagoengineersfoundation.org or by emailing info@chicagoengineersfoundation.org. CEF has been supporting Chicago high school graduates pursuing university engineering degrees since 1963. In 2013, CEF awarded \$89,000 to 99 college students, including ten college graduates with degrees in Civil, Industrial, Mechanical, and Chemical Engineering and Engineering Physics.

Mr. Cempel is the director of the Technical Group and has been working towards a prosperous partnership between ILITE and CEF.

* Figure 1: Top-Paying Majors for New College Graduates in 2012

Major	Average Starting Salary
Computer Engineering	\$70,400
Chemical Engineering	\$66,400
Computer Science	\$64,400
Aerospace/Aeronautical/Astronautical Engineering	\$64,000
Mechanical Engineering	\$62,900
Electrical/Electronics and Communications Engineering	\$62,300
Civil Engineering	\$57,600
Finance	\$57,300
Construction Science/Management	\$56,600
Information Sciences and Systems	\$56,100

* Source: January 2013 Salary Survey, National Association of Colleges and Employers