George Crabtree on "The Sustainability Energy Challenge"

By Utsav Gandhi
CAMPUS EDITOR

George Crabtree *(Photo courtesy Utsav Gandhi)*

Sustainability expert George Crabtree, Professor at University of Illinois at Chicago and Distinguished Fellow at the Argonne National Laboratory, was invited this past Wednesday to speak on "The Sustainable Energy Challenge". This talk was co-sponsored by the chemistry division of the College of Science and Letters Department of Biological, Chemical, and Physical Sciences (BCPS) and the Wanger Institute for Sustainable Energy Research (WISER).

Starting off with some suggested reading on the topics of sustainability, including 'Physics World', 'Past Partisan Power', and 'Rising Above the Gathering Storm,' he stressed the fact that the dependence on oil and other fossil fuels for over 80 percent of our energy and the continued emission of carbon dioxide are threatening the stability of Earth's climate. The main problem, he said, is the unpredictable oil supply. Look at the facts. America spends $350 billion a year on oil, which is half of Obama's stimulus package. Europe, considered equally 'affluent', spends half the money. Our consumption curve is running way above the production curve, and it is worth noting that the last time oil got significantly expensive, we used 10% less. Deforestation, vehicular exhaust, coal plants – these are causing our carbon footprints to increase exponentially. Considering that 'the cost of accommodation may be higher than preventive costs', (a statement he strongly believes in), what does all this tell us? Simply that we must look for practical alternatives. And that we need to rethink our energy, environmental and economic policy.

Tapping unused energy flows in sunlight and wind, producing electricity without carbon emissions from clean coal and high efficiency nuclear power plants, and replacing oil with biofuel or electricity are some of the alternatives being discussed. Implementing these more sustainable alternatives requires new materials of increasing complexity and functionality that control the transformation of energy between light, electrons and chemical bonds at the nanoscale level. It is also important to discuss the challenges and opportunities for developing the complex materials and controlling the chemical changes that enable greater sustainability. The main questions to ponder on are – how long does the alternative energy source last? Do its by-products have any harmful effect on the environment? And finally, does it leave any resonating change?

But every new alternative suggested – solar power and the question of its storage and higher efficiency, carbon sequestration (capturing coal that's leaving exhausts) and its related leakage and health concerns; and nuclear power and its radioactive nature – comes with its own set of challenges which must be overcome for them to become viable and practically implemented.

Sustainability and buying

By The Office of Campus Energy and Sustainability

IIT has taken great strides toward becoming the most sustainable urban campus in the United States. With the leadership of the Office of Campus Energy and Sustainability (OCES), the university has significantly improved its sustainability standards and is progressively reducing its carbon footprint.

One of the important areas that will help IIT achieve this goal is Supply Chain and Waste Management (SCWM). SCWM encompasses all materials purchased, used and discarded. From a high level observation, IIT is a black box, and SCWM looks at materials flowing in and out, or the life cycle of materials used at IIT.

Life cycle analysis is a tool for SCWM to use that involves material efficacy, which explores how to minimize environmental effects of materials. It is not currently stressed at IIT. The OCES with Gangreen and others on campus have made strides in improving this, like donating used furniture and office equipment instead of trashing it. Our Hawk recycling program uses a multiple-stream waste collection system to capture waste as efficiently as possible.

On the other hand, IIT has many material needs to support its core missions. SCWM initiatives can assist in evaluating the quality and implementing processes around materials purchased and received. IIT currently has a decentralized purchasing system that does not emphasize the importance of life cycle analysis. In order to follow the mantra of "reduce, reuse, recycle," the life cycles of goods should be considered, looking at the possibility of future uses should also be factored into purchasing decisions. For example, it may be cheapest to buy a basic laser printer, but thinking a bit more about the decision may reveal that a "more expensive" all-in-one printer will not only reduce the need for future purchases and be able to be used by more people, it will also reduce the amounts of ink and paper purchased, and may last a lot longer than the basic laser printer. It may be so much so that the initial higher upfront cost will more than make up for itself through subsequent savings of materials used, reduced maintenance and improved efficiency. This way we end up reducing the number of printing products being bought and are able to reuse the current one extensively. More and more companies are making decisions this way, reviewing not only the immediate costs, but also the costs of use over time, as well as the environmental and community aspects.

The Campus Sustainability Plan presents goals to work toward solutions in this area. One identified solution may be a premium vendor system. This system would incentivize purchases using established best practices as stated by the purchasing department with the OCES, and would allow for identifying goods that are crucial to enable IIT's development towards its sustainability goals: electronics being EPA Energy Star compliant, establishing clear preferences to clearly defined sustainable products and services as well as implementing a system that can manage surplus product in

TechNews Corrections

In our previous issue, two articles about Finance Board were mistakenly attributed to Kevin O'Leary, current Finance Board Chair. The articles were actually written by Grant Austin.

TechNews regrets the error.

Camras Weekend: A visiting student's perspective

By Li-Yiang Chen
TECHNEWS WRITER

Photo courtesy Li-Yiang Chen

When I first arrived at IIT, I had no idea what I was getting myself into. As I worked my way against the wind toward Perlstein Hall, my stomach was in knots stressing over my 10 o'clock interview. As one of many Camras finalists, I was invited to stay for the weekend on campus. My stay included an interview with a faculty member from my major, rooming with one of the current students of the university, and time to explore the campus.

As I opened the door to Dr. Derek Kamper's office, I stressed over how I was going to present myself for the interview. To my surprise, the interview was very casual, yet formal at the same time. Instead of questions grilling my academic background and extracurricular activities, I was simply asked about my Taiwanese background and how I was adjusting to life in America. We talked about all the clubs and organizations the university offers and I was given a deeper insight to the field of biomedical engineering. The interview ended up being a pleasant conversation instead of a serious interview; I saw it as a chance to get to know the faculty and for them to know me better.

A part of my weekend was staying on campus overnight with the Kappa Phi Delta Sorority. As it turned out, sorority life isn't as scary as the movies capture. My hosts, Ginta and Alex, were super sweet and nice toward me. They took the time to show me around the campus, answer any questions I might have, and introduce me to their sisters and classmates. For the night I stayed in a cozy and warm dorm, and the idea of sharing a bathroom isn't really as bad as people might think. Overall, I got the chance to interact with people and experience the daily routine of an IIT student.

A part of this weekend was also getting to know the university itself better. As I walked around the campus, I loved how all the buildings looked really modern, especially the MTCC. I admit it was confusing, and I got lost sometimes, but everyone was really nice to me in showing me the way around. The buildings were close to each other and it was easy getting around on foot. I got the chance to see the Crown Hall, with its many architecture projects going on inside; the BME labs with all their technical equipments\; the library and the Commons with all the services they provide.

I would say the Camras weekend was a great opportunity for the finalists to get to know the faculty, the students and the campus. I really hope I get the chance to be a part of IIT, and I must admit, even if I didn't get the scholarship, I would seriously still consider attending this great university.

St. Lucian IIT Visionaries celebrates St. Lucia 32nd independence anniversary

By Office of Technology Services

On Tuesday February 22nd, the St. Lucian Visionaries group is celebrating the independence of their home country St. Lucia. Under the theme "Recovering through Resilience; Rebuilding with Determination", St. Lucia celebrates its 32nd anniversary. The island was devastated as a result of Hurricane Tomas last fall and the theme represents the collective spirits of the islanders. This Caribbean isle has a rich and unique history. It was seen by the colonial British and French forces as a pivotal location during their quest for the new world and as a result, the country exchanged ownership 14 times during various battles and treaties. Ultimately, the French ceded control to Britain which lasted until February 22nd 1979. For this occasion, the St. Lucian Visionaries are having a display on the MTCC's bridge from 11:30am-1:30pm.

ST. LUCIAN Visionaries