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IEEE-IIT'S PRODUCTIVE FIRST MONTH

IEEE at IIT started the Fall 2006 semester a bit unstable. Lacking an advisor and low on funds, it was unsure how well September would progress. The first general meeting of the year took place on September 15th, and immediately things began picking up. President Adam Berg announced the appointment of the new advisor: new recruit Professor Chi Zhou (see bio next page). Many students attended, including a larger than expected amount of graduate students. It was resolved that a greater effort to involve the graduate student community would be made in the future.

The next Friday was to be the intended day of the IEEE-run ECE Student/Professor mixer. Unfortunately, it was discovered that the mixer had been scheduled at the same time as an ECE faculty meeting, and that food would be served at this meeting. Instead of stuffing professors beyond their limit, the officers of IEEE decided to move the mixer back one week.

So, on September 22nd, on a slightly damp afternoon, the IEEE officers set up 18 feet (5.49 m) worth of sandwiches, and watched as the hungry students rolled in. Through the course of an hour and a half, grads and undergrads alike were able to meet, converse, network, and share a bit to eat with such professors as Dr. Anjali, Dr. Saniie, Dr. Wong, and even ECE department chair Dr. Shadhidepour.

Now it's time for IEEE to get down to business. Ahead in this issue you'll find a tentative schedule for the events planned for the months ahead.

ECE students and Professors enjoy sandwiches and soft drinks at the Student/Professor Mixer on September 22nd, 2006 in Seigal Hall



CONTRIBUTE!

After a long journalistic drought, the student branch of the IEEE at IIT is just now starting up its newsletter and would like you, the IEEE member on IIT's campus, to contribute. Send in anything you want that is at least somewhat related to our organization and our professional field. Send essays about your internship or work experience. Send a story about building a robot or a computer over the summer. Send constructive criticism or complaints. Send classifieds for your used equipment, books, or tools. Send job or internship openings and opportunities. If you're interested in being a permanent staff writer, you can submit pieces on meetings and events. Or just send a humorous ECE-related anecdote. Professors! Kindly give us pieces about your research or teaching experience, or simply send helpful advice for the struggling student. If you have ANYTHING, please end it to ieee@iit.edu, or directly to the editor at dcpoli@ieee.org. Thanks!

WEBSITES TO REMEMBER

- WWW.IEEE.ORG
- WWW.EWH.IEEE.ORG/R4/CHICAGO/
- Chicago section of the IEEE
- WWW.SPECTRUM.IEEE.ORG - The IEEE Spectrum Online
- IEEEXPLORE.IEEE.ORG
- An online database of countless of IEEE's journal and magazine publications

INSIDE THIS ISSUE:

FIRST MONTH	1
CONTRIBUTE	1
ZHI CHOU	2
STEVE BANASKA	3
IEEE CALENDAR	4

ECE'S NEW PROFESSOR, AND IEEE'S NEW ADVISOR— DR. CHI ZHOU

IEEE at IIT needed a new faculty advisor by the Student Organization Fair in order to be considered an official student organization. After an exhaustive search that included more than 3 candidates and a broken deadline (we sat in on the fair anyway), we were finally assigned an advisor. Dr. Chi Zhou comes to us from Tsinghua University and Northwestern. Here is her life in her own words.



I grew up in a small town, Shuangyang, in the northeast part of China.

Though my family moved to the city when I was in college, I considered myself a country girl. People in the country side were friendly and the life was slow-paced. Owing to this, I grew up with an optimistic personality.

My mother inspired me the most in all those years. She used to be the principal of an elementary school, and now is retired. Being an educator, she knows the importance of education. When I was a little girl, she always told me I should go to college. Naturally it became my dream.

Whenever I was asked what I wanted to do when I grew up, I always said that I wanted to go to Tsinghua University, the best science and engineering university in China, and become a scientist, though I didn't know what a scientist really was at the time. Finally, I did go to Tsinghua University and became an engineer- not scientist, but quite close. My mother also inspired me to work in academia. I was drawn to academia because of the academic freedom. That is, I have the freedom to do research in the areas I have interests in, so that I can keep up with technological advancement. But what I was afraid of was the teaching part. I always thought I might get bored with teaching as I would have to repeat the same material over and over again. I talked to my mother about my concerns. She told me that good teachers changed their teaching notes every time to make improvement and good teachers changed students' lives, which was the most significant part of being an educator. With her encouragements, I became an educator and then I realized how very right she was. I carefully prepare the notes and make modifications even when I lecture. That is the reason that I usually do not provide my notes to students, as my notes are different from students' notes. When I lecture, I look at all those innocent eyes and feel so responsible and excited. I hope my excitements would inspire them to want to learn more. Besides doctors, I think educators have the most direct and significant impacts on people's lives. Now I am most proud of my teaching, as I have seen how my teaching has inspired students and then further changed their lives. I am so proud of my occupation.

The reason that brought me to IIT is that I see the opportunities to develop my career here. I see the enormous administrative support in communications area from the department chair Prof. Shahidehpour to the college dean Prof. Arastoopour, the great mentorship provided by senior faculty Prof. LoCeciro, Prof. Ucci, and Prof. Atkin, and the friendly working environment provided by all ECE faculty and staff.

I always want to work on the cutting-edge technologies. I majored in Automatic Control when I was in college. Then I decided to switch to communications and networks when I did my graduate study in Northwestern University, as I realized the communications and networks, especially, the wireless communications and mobile networks, was going to grow dramatically in the near future. Over the years, my research areas have shifted and broadened along with the wireless technology advancements. My specific research interest include power control/resource allocation for multimedia cellular networks, Quality of Service (QoS) provisioning in Wireless Local Area Networks (WLAN), power-aware routing and cooperation enforcement for ad hoc networks, integration of heterogeneous networks, target classification and tracking in sensor networks, reliable communications over Orthogonal Frequency Division Multiplexing (OFDM) or Multiple Input Multiple Output (MIMO) systems, and etc.

STUDENT EXPERIENCE: STEVE BANASKA AT ARGONNE

Hello, my name is Steve Banaska. I'm a 4th year undergrad in the ECE department. This summer and fall I've had the opportunity to work as a co-op at Argonne National Lab assisting in the testing of batteries and fuel cells as well as work on modifications of existing electronics.

Argonne National Laboratory is a research center for the Department of Energy (DOE) that opened in 1946. The original focus of the laboratory was the development of nuclear technology for peaceful purposes. Today, Argonne is one of the nation's largest research centers and works on many different aspects of science and engineering.

Within the Chemical Engineering Division, the Electrochemical Analysis and Diagnostics Laboratory's (EADL) focus is on battery and fuel cell technology. The EADL is used by the DOE as an independent test facility for emerging technologies. Companies will send their prototypes to the EADL where they will be tested in various categories. A typical test could simulate the load of an electric-vehicle, hybrid-electric vehicle, utility load-leveling, or standby/uninterruptible power source. The goal is to stress the device under the conditions of normal use. The results will be used to determine the success or failure of a new technology.

The EADL employs engineers and co-op students to set-up a test, perform a test, and analyze the data. As a co-op student, I have the opportunity to work on multiple tests simultaneously. Each test provides its own unique challenges that must be resolved. Some electrical concepts that are relevant to testing are the charging and discharging of batteries/fuel cells, signal amplification, power isolation, digital-analog conversion, and analog-digital conversion.

The ability to gain valuable experience in the field of electrical engineering is highly recommended, though it requires effort to acquire the opportunity. Searching for a position and getting an interview takes time and patience, so put effort into your resumes and cover letters, they will separate you from the rest of the field. The Career Development Center can help you in your search.



UPCOMING TUTORIAL SESSIONS BY TY SOPKO

Session 1 (this Friday) --

Session 2 (date TBA) --

Session 3 (date TBA) --

Students will get an introduction to PSpice, its capabilities, and a tutorial will follow. This tutorial will describe text input (netlist) as well as schematic (graphic) methods, and step through several types of analysis on various circuits.

Introduction to different types of PCBs (Printed Circuit Boards), component types, and production steps. Design considerations are discussed, including component placement, trace layout, and EMI (Electromagnetic Interference). The free ExpressPCB package will be used for demonstrations.

Rapid prototyping and circuit debug techniques are discussed. Students will learn about how to construct small prototype boards, as well as methods to produce prototype PC boards inexpensively. Good soldering techniques will be taught, and a limited number of students will be given the chance to build / solder a circuit. (The fabrication may happen on a different day.)

CALENDAR

SCHEDULE OF EVENTS

- Friday, October 6th- Technical Team Leader Ty Sopko will offer a tutorial in PSpice for ECE students, or for anyone who needs to use the program. Attendance is highly recommended, as you will learn how to easily model and analyze various circuits. (1:00-1:40 PM)
- Friday, October 27th- (tentative), Argonne representative Lee Walker will be our guest speaker this evening.
- To Be Scheduled- Ty Sopko will also be offering tutorials in PC boarding, rapid prototyping, and circuit debugging at various times during the semester. See his column on the previous page for more detailed descriptions.

OCTOBER 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

IEEE SUDOKU

Medium difficulty

7		1					8	
	3				8			9
		9	3	6		4		
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		6		3	7	8		
4			9					3
	1					7		2

Let us know if this was too easy, too hard, too boring, too exciting, or too frustrating, and what other diversions you'd like to see in future issues.

ENGINEERING JOKES

The graduate with a Science degree asks, "Why does it work?"
 The graduate with an Engineering degree asks, "How does it work?"
 The graduate with an Accounting degree asks, "How much will it cost?"
 The graduate with an Arts degree asks, "Do you want fries with that?"

To the optimist, the glass is half full.
 To the pessimist, the glass is half empty.
 To the engineer, the glass is twice as big as it needs to be.

Q: How do you drive an engineer completely insane?
 A: Tie him to a chair, stand in front of him, and fold up a road map the wrong way.

Q: Why did the engineers cross the road?
 A: Because they looked in the file, and that's what they did last year.

Courtesy <http://www3.baylor.edu/asm/jokes.htm>

No offense to Arts majors, wherever you are. You are VERY useful.



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The Institute of Electrical and Electronics Engineers (IEEE) is a global authority in all things electronic. IEEE is, at its foundation, a professional organization, serving to provide community among the world's electrical engineers through conferences, awards, and various events. It has also become one of the most important entities involved in the creation of industry standards, as well as a major publisher of literature in the fields of engineering and computer science.

Worldwide, there are over 365,000 members of the IEEE. Members are divided among 10 geographic regions and over 311 localized sections for close member networking. Additionally, 1,430 student branches operate at universities across the globe. Members may also join any of the 39 technical societies within the IEEE.

IEEE@IIT is a student branch in the Chicago Section of Region 4.