

The President's Perspective

In May of this year I traveled to Louisville, KY, USA, for the Intel International Science and Engineering Fair (ISEF). There I met with students, parents, counselors, and volunteer judges and reviewed some of the projects submitted by the students. At the end of the event, I had the privilege of presenting the *IEEE Presidents' Scholarship* during the Special Awards Ceremony to James J. Jefferson, a fine young man whom I believe has a great future (see picture below).



EMERSON PUGH (left), IEEE Foundation President, presents James J. Jefferson (right), an 18 year old from Winona, Minnesota, USA, with the *IEEE Presidents' Scholarship* for his winning project, "Automatic packet reporting system (APRS): building a large scale geospatial database". Sponsored by the IEEE Foundation, this US\$10,000 scholarship is the largest single award given by an organization in the Special Awards Ceremony at ISEF.

I was energized by the excitement, enthusiasm, motivation, intellect and innovations of the hundreds of students who worked so hard to participate in this pre-college celebration of science. Young people with a love for math, science, and technology were everywhere I looked. But I also know that there are many millions of children throughout the world who still need someone or something to spark that love.

Sparking that love is one of the objectives of the IEEE Foundation. Through our grant-making program, the IEEE Foundation works to support programs that will have a far-reaching impact on the improvement of pre-college education in math, science, and technology.

In this issue of the *Focus*, you will read about just a few of the programs that the IEEE Foundation has selected to support. Please reflect on which activities you like most (or least) and let us know how you believe we could improve our efforts. You may reach me by email at supportieee@ieee.org with your comments and suggestions.

Best Regards,
Emerson Pugh
President, IEEE Foundation

IEEE Presidents' Scholarship: A Judge's Perspective

By: Rachel Wilson, A 2002 IEEE Presidents' Scholarship Judge

What's so special about the Intel International Science and Engineering Fair (ISEF)? Why should I spend a few days away from the office to interview and review hundreds of projects for the *IEEE Presidents' Scholarship*? Why would I want to subject myself to this physically grueling and mentally exhausting task? The answer is simply... the kids.

The high school students competing at ISEF spend hours upon hours working, testing, and theorizing how to transform a science project into a scholarship opportunity. Some of these young scientists have wonderful teachers and parents behind them while others beg to have this opportunity announced over their high school intercom. Some are guided by the best minds in engineering and science; while others scrape together ideas hoping one will work. Some have patents pending, while others wonder where their projects flopped. They are all gathered under one roof ready to show off their dedication and hard work to anyone who will stop and share a moment.

Over the course of two days, a group of judges from the IEEE Lexington and Louisville Sections narrowed hundreds of projects down to one to pick the winner of the *2002 IEEE Presidents' Scholarship*. The judges spent hours reviewing every electrical engineering related project, deciding which 30 or so were worthy of an interview, and continued until we narrowed it down to one. We considered many factors in a project such as scientific process, data collection, proper conclusions, improvements, applications, support from a research lab and/or teachers, professionalism, and direction furthering the project.



A GROUP photo of 2002 IEEE Presidents' Scholarship judges from the IEEE Lexington and Louisville Sections after a long and vigorous day of judging. Rachel Wilson is not pictured, as she is behind the camera.

The interviews are tough for both the students and the judges. These students have kept up their schoolwork and extra-curricular activities in addition to putting together their project. They are simply bursting to tell you why their project is the best. For the judges, it can be difficult persevering throughout an entire day battling tired feet, projects running together, and draining energy.

Though the judging itself is hard work, there are rewarding moments. For me, the most memorable moments are during the Awards Ceremony. You can feel the excitement level as the kids wait to be called. I remember last year when Mirangela Lisanti, the *2001 IEEE Presidents' Scholarship winner*, breathlessly exclaimed to her parents "I won!" And this year, James Jefferson (see front cover for photo) literally bounced on stage bursting with excitement. Michael Jordan does not even get that much air.

As a judge, this science fair is fertile ground to encourage all these young minds to chase their dreams. Although some walk away with accolades and others will try again next year, our words will linger in all their minds. As professionals, it is our duty to seize every opportunity to encourage these youngsters in every way.

MIT Technology Review Names 2001 IEEE Presidents' Scholarship Winner in the TR100

Mirangela Lisanti, the *2001 IEEE Presidents' Scholarship winner*, continues to win accolades for her work in nano-technology. Earlier this year, Lisanti was named by the MIT Technology Review as one of the top 100 innovators under the age of 35 in the TR100. The TR100 recognizes 100 innovators under the age of 35 whose work and ideas will change the world. She was one of only nine who were recognized in the field of nanotechnology. She said of her experience, "I was really surprised during the year to learn that I had been chosen as one of MIT Technology Reviews TR100. I attended the symposium and dinner, which landed right in the middle of finals. Being the youngest one there, and the only one still in college, I was the only honoree that had to worry about tests!" Lisanti will return to Harvard in September 2002 for her sophomore year, after working all summer with Professor Mark A. Reed at Yale University "on some really exciting stuff — all related to nanowires" she says.

IEEE recognized and celebrated the following individuals during

⇨ **1ST ROW LEFT TO RIGHT:** Rick Tsai, *IEEE Corporate Innovation Recognition – Taiwan Semiconductor Manufacturing Company, Ltd.*, Michael S. Adler, *IEEE President-Elect*, Herbert Kroemer, *IEEE Medal of Honor*, Raymond D. Findlay, *IEEE President*, Edward Hammer, *IEEE Edison Medal*, Hideaki Yasukawa, *IEEE Corporate Innovation Recognition – Seiko Epson Corporation*
2ND ROW LEFT TO RIGHT: Richard Gowen, *Eta Kappa Nu*, Fumio Arakawa on behalf of Sakae Yamamura, *IEEE Lamme Medal*, Ashok Sinha on behalf of James C. Morgan, *IEEE Honorary Membership*, Tsuneo Nakahara, *IEEE Alexander Graham Bell Medal*, Robert T.H. Alden, *IEEE Haraden Pratt Award*, Yoshio Nishi, *IEEE Robert N. Noyce Medal*
3RD ROW LEFT TO RIGHT: James W. Cooley, *IEEE Jack S. Kilby Signal Processing Medal*, Raymond Bingham, *IEEE Corporate Innovation Recognition – Cadence Design Systems, Inc.*, Dan Elias on behalf of his father Peter Elias, *IEEE Richard W. Hamming Medal*, Bradford W. Parkinson, *IEEE Simon Ramo Medal*, David K. Barton, *IEEE Dennis J. Picard Medal for Radar Technologies and Applications*, Robert W. Lucky, *IEEE Richard M. Emberson Award*, Petar V. Kokotovic, *IEEE James H. Mulligan, Jr. Education Medal*, Thomas E. Everhart, *IEEE Founders Medal*



1st IEEE Region 10 Student Congress "Building the Bridge"

By: **Darrel Chong Sau Foong**, Chairman of the 1st IEEE Region 10 Student Congress & 2001/2002 Chairman, IEEE Student Branch at National University of Singapore

Six months of effort reaped a lifetime of returns.

The 1st IEEE Region 10 Student Congress was the best thing that had ever happened to the student leaders in Asia Pacific. All delegates came to Singapore with anticipation. All of them left for home satisfied and motivated. Everyone was praising the event with their thumbs up as they enjoyed every moment of the Congress.

The Congress began with an opening ceremony with Dr. Wallace Read, IEEE Foundation Member-at-Large, as our Guest of Honor and Professor Teck Seng Low, IEEE Region 10 Director, as our Keynote Speaker. The 50 plus delegates from eight different countries were captivated by their well-delivered speeches.

Delegates benefited bountifully from the presentation session. The session took six hours. What amazed us was the group-break-out session when all delegates spontaneously went into a series of discussion and

sharing that lasted for more than an hour! It was late but their spirits were high. The scene was encouraging telling the organizers that our efforts were all worth it.

During the strategic planning session, delegates were assigned into small groups to discuss outstanding issues pertaining to IEEE student branches. After which, a spokesperson from each group presented their ideas. Through the session, many queries and suggestions were raised. It was a time when the IEEE fire was kindled in them.

Besides IEEE and leadership training workshops, there were team-building games led by local students, which knitted the delegates closer together. In just two days, the barriers were down and the delegates were communicating freely despite the wide range of cultures and languages. The Congress ended with a formal dinner held at the National University of Singapore.

At the end of the event, not only one, but a number of delegates came forward to request to organize the next IEEE Region 10 Student Congress. This showed the amount of passion within them and the willingness to sacrifice for a good cause. What a change we were seeing! As my committee toiled day and night to put up the Congress, we benefited more than we had given. The common response from my committee members was, "The Congress was great and it changed my perspectives of IEEE".

This Congress has impacted the next generation of IEEE Region 10 leaders. The value it brought was tremendous. We hope that this event will continue — ensuring networking as part of every IEEE student members' experience.



STUDENT delegates at the 1st IEEE Region 10 Student Congress learning to work as a team during a team-building game.

2001 Honor Roll of Donors Corrections

The following information was erroneously listed in the 2001 Honor Roll of Donors. The IEEE Development Office makes every effort to ensure the accuracy of the listings, however mistakes do sometimes occur.

The corrections are as follows:

- Robert V. Hugo was mistakenly listed as deceased.

We thank you for helping us to succeed in our mission and we apologize for any inconvenience.

the 2002 IEEE Honors Ceremony for their involvement in the Power of

⇨ HERBERT KROEMER

(center) received the **2002 IEEE Medal of Honor** for his pioneering work in heterostructure-based transistors and light-emitting devices. Kroemer's work led to the design of semiconductor lasers and high-performance transistors, such as those used in satellite links, mobile phones, CD players and the fiber optics that make up the Internet. The IEEE Foundation sponsors the **IEEE Medal of Honor**. (L to R) IEEE President Raymond D. Findlay, Dr. Kroemer, IEEE Foundation President Emerson W. Pugh.



⇨ DR. KROEMER

takes a moment away from the celebration to pose next to the cover of the June 2002 issue of **IEEE Spectrum**, which featured his story.

