

January 2006See us on the WEB at: <http://www.ewh.ieee.org/r2/susquehanna>**January 2006 Section Meeting****Nanotechnology Today!**

Join us this month to learn about one of the hottest topics in science and engineering: Nanotechnology. Presenters will do an outstanding job telling about the latest innovations and technical opportunities. Students are specially encouraged to participate.

- Date:** Tuesday, January 10, 2006
Time: 6:30 PM
Location: Penn State Harrisburg, Special Activities Room (behind the Cafeteria) in the Olmsted Building,
Dinner Cost: Members/Non-members/Retirees; \$15, Students; \$7
Program: Nanotechnology Today!
Presenters: Robert K. (Bob) Ehrmann, Penn State University, Director of Center for Nanotechnology Education and Utilization and William E. (Bill) Mack – Harrisburg Area Community College
Contact: (by email if possible) Larry Brown, E-mail: lbrown007@comcast.net, Phone: 717-561-9803, by noon on Monday 1/9/06 for dinner reservations. Dinner no-shows will be charged if not canceled by noon on Monday 1/9/06. Also, we cannot guarantee late dinner reservations. There is no charge for attending the speaker or tour segment of the meeting provided that you register in advance and clearly specify that you are not interested in the dinner.

What is nanotechnology? What challenges and rewards lie ahead? Why should you and Pennsylvania students know about this emerging field? How is Nanotechnology impacting your lives today? Do you know about the career opportunities that exist in nanotechnology?

This presentation will define Nanotechnology and describe how the technology can be applied to a variety of fields including but not limited to Biology, Chemistry, and Physics. The concept of scale and the uniqueness of the material properties that exist at the nano-scale will be reviewed. Different career choices are explained emphasizing that the career opportunities are not only limited to the semiconductor industry. Research, education, forensics, water purification,

the medical field, communication, optoelectronics, and so on are just a few examples of careers that relate to Nanotechnology.

Did you know the Pennsylvania Nanofabrication Manufacturing (NMT) Partnership has been in existence since 1999? The NMT Partnership consists of a partnership between Pennsylvania State University, the 14 Community Colleges in Pennsylvania, the Penn State University Commonwealth Colleges, and the State System of Higher Education. This unique program enables a student to start his undergraduate journey at one of these institutions and then spend an 18 credit capstone semester at the Center for Nanotechnology Education and Utilization at Penn State. This experience includes a mix of comprehensive lecture and greater than 100 hours of hands-on laboratory experience utilizing state of the art nanofabrication and nano-characterization tools at Penn State.

Directions

The entrance to Penn State Harrisburg is located on PA 230, West of Middletown.

From PA Turnpike (I-76): Get off at exit 247 (Harrisburg East). Follow PA 283 East toward the Harrisburg International Airport. Follow signs for the airport and the college. Before entering the airport complex, take the exit for PA 230. Turn left at the junction of 230. Proceed on 230 East for approximately 1 mile. The college entrance is on the left.

From Lancaster and points East: Take Route 283 West toward Harrisburg. Follow signs for the airport and the college. Before entering the airport complex, take the exit for PA 230. Turn left at the junction of 230. Proceed on 230 East for approximately 1 mile. The college entrance is on the left.

From Harrisburg and points North: Follow signs for Harrisburg International Airport/283 East. Take 283 East to the Harrisburg International Airport exit. Follow signs for the airport and the college. Before entering the airport complex, take the exit for PA 230. Turn left at the junction of 230. Proceed on 230 East for approximately 1 mile. The college entrance is on the left.

From the Section Chair

As the incoming Section Chair for 2006, I'm writing to all of our members but especially to two groups: those who recently entered our profession and those who've been at it a while. If you're new to the profession, I'd like to invite you to get something from the IEEE to help your career. Many of us have used experiences from IEEE activities to further our growth. The payback you get from a little time spent is leadership experience that will benefit your own future.

Most specifically, while you will find the incoming 2006 leaders listed elsewhere in this newsletter, we are still looking for nominees for the role of Secretary. The Secretary is a really straightforward job and you will get invited to the twice-a-year Officer Group planning meetings, which serve as our "ExCom" meetings. For that matter, we'll invite any member to those meetings with the intent of getting you involved in a role that will work for you in the future. If you are interested in this, please email me at telson@ieee.org. Our next meeting of this type will be in early February and we would love new faces at the Section-sponsored dinner meeting.

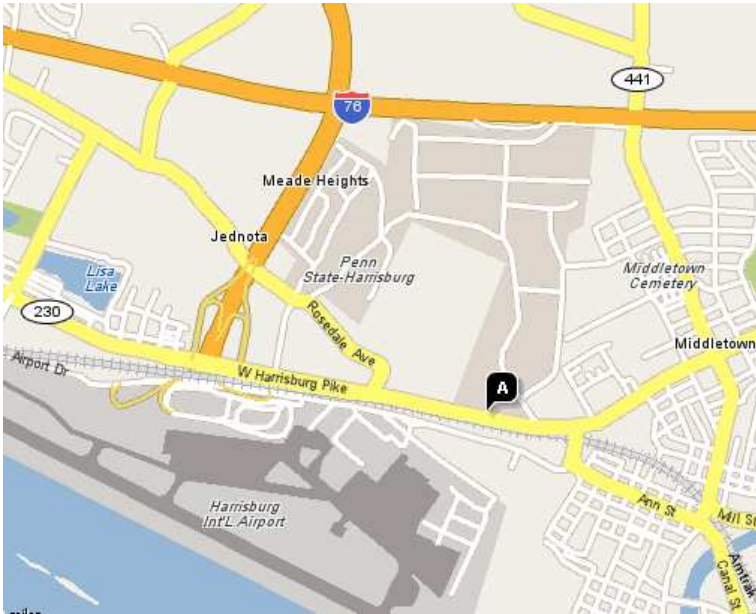
If you are in that other group, with a little more experience, I invite you to find someone you know who could benefit from the contributions of volunteering, and invite you or them to email me if you are interested. Or you could bring them along to a Section meeting to benefit from the fellowship and professional development unique to our local Section. And if you have a leadership role in a local company or other organization, take a moment to think about who you might ask to get involved. It will benefit you, them, and your organization.

Thanks also go to Ed Simoncek, our immediate past Section Chair for both 2004 and 2005, for his fine service to the Section. Under his, and the Officer Team's leadership, the Section has consistently conducted strong local programs and activities, including our granting of awards to local technically-oriented high school students, participating in (and having an IEEE award winner recognized within) the Central Pennsylvania Engineer's Week activities (coming-up in February), contributing to the IEEE Regional, USA, and worldwide activities and much more.

I'd like you to join me in looking forward to a mutually valuable IEEE year, and hope to see you at our programs (and perhaps at the Officer Group meeting mentioned above).

Warm Regards,

Stan Telson



November's Program

The November meeting of the Susquehanna Section was a talk by Yale Eastman on starting a small business. Yale spoke to an audience of 17 members and two guests. The talk was very practical and included capitalization or funding, incorporation and organization, innovation and change, and organizational structures and support. Of great interest was a discussion of why small businesses fail and how to avoid that problem. The accounting view is under-capitalization or simply running out of money. Yale explained the many reasons that can lead to that situation and some strategies to avoid them. Funding was discussed extensively, including self-funding or funding from friends and relatives, angel investors or venture capital firms, and Government programs such as SBIR grants. Yale stated that starting a small business is one of the hardest things you can ever take on. It can also be one of the most satisfying.

2006 Tentative Schedule of Events

Tuesday, January 10
 Thursday, February 23
 Engineering Week
 Tuesday, March 14
 Tuesday, April 11
 Free for students
 Tuesday, May 9
 Generally no meetings in June, July & August
 Tuesday, September 12
 Tuesday, October 10
 Free for students
 Tuesday, November 14
 Tuesday, December 12

Inclement Weather

If the meeting is canceled due to bad weather or other emergency conditions, an attempt will be made to contact those with confirmed reservations via telephone or email. If possible, leave your phone number when making reservations. Also, please use email, if possible, for making your reservations. This will allow us to include you in our email list for announcements. The receipt of every email will be confirmed. You can also use your best judgment in extreme weather conditions.

Professional Activities Committee for Engineering: PACE

What is PACE? We promote professional activities among IEEE membership. Within our section, there are many possibilities for one or more PACE activities this year. These may include:

- An Engineering Job Fair.
- Career, Retirement, or Financial Management Workshops.
- Consulting, Leadership, or Licensure Workshops.
- Continuing Professional Education.
- Member Professional Awareness Conference, or MPAC.

The PACE committee seeks input on what you want to happen within your Section as well as two or more volunteers willing to invest less than 5 hours each in order to make our PACE program a success.

Contact Roy Hoffer, P.E., IEEE Senior Member, at 717-569-9332 or forensicingineer@ieee.org, with your ideas. Thank you!

Useful Information Column

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Q/A-C Column

Do you have any questions or comments? Call, email or FAX it to our Chair at the above addresses.

Newsletter Mailing or WEB Page Notification

If you do not receive your Newsletter, please notify AB Shafaye mes121@psu.edu or Mohammad-Reza Tofighi mtofighi@psu.edu. If you would like to convert from paper copy mailing of the Newsletter to WEB page delivery, please notify AB Shafaye, who serves as our Publisher.

Address Changes and Updates

There are several ways to correct member information with IEEE. They update their directory from the information you provide, and pass the changes to us monthly. Keeping your address information up to date will ensure accurate mailings.

There is a WEB based interactive "change of address" form at: <http://services1.ieee.org/membersvc/coa/intro.htm>

You can send an email to: address-changes@ieee.org

Call IEEE Member Services at 1-800-678-IEEE

Mail changes to

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 445 Hoes Lane
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 Piscataway, NJ 08855-1331

FAX changes to 1-732-981-9667

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