

Membership in these counties: Bucks, Chester, Delaware, Montgomery, Philadelphia, (PA)
Burlington, Camden, Gloucester (NJ)

Almanack



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IEEE-USA Special Award.

The Section has honored people. IEEE -USA found that the ongoing project at Enon Baptist Church by three members deserved recognition. The award was announced in 2020 and the trophy was delivered recently, See the Picture. The citation reads:

Mark Soffa, Kai A. Flowers, and James Joseph Talley Montgomery
For creation and implementation of an innovative STEM education model during COVID-19 restrictions.



IEEE Philadelphia Section Night

Date: November 16 2021

Sponsored by Computer Society

Speaker: James K Beard

Title: *Multiple Target Tracking: Tracking and Data Fusion with a Requirements Perspective*

Details on page 3.

FUTURE CITY

IT'S THAT TIME OF YEAR!!!

As we start the planning for the 2021-2022 competition year, it is not clear whether we will be able to have an in-person competition or will need to do it virtually, as we did in 2021.

Whether virtual or in-person, we will still need many volunteers for the competition. Activities include working directly (virtually and/or in-person) with the student teams, virtual judging of essays prior to the competition, judging models and presentations, conferencing platform technical support (if virtual), evaluating for special awards, general tasks, and serving on the Steering Committee to help plan the competition.

The Future City Competition is a project-based learning program for 6th through 8th grade students around country that introduces them to the principles of engineering while allowing them to use teamwork and creativity to solve problems that face the world. The program helps advance STEM learning in Middle Schools in our region and encourages students to consider careers in engineering in the future. In recent years the regional competition has grown to include over 500 participating students and teachers in the Philadelphia area, but we are short on volunteer mentors. This is a great way to give back to the community and share your experience with the next generation of engineers!

The immediate needs is for mentors. If you have any time available to share your experience with

students who are learning about what engineers and planners do, please consider volunteering! Mentors work with a student team to build their model and prepare for the competition. Teams may be meeting virtually this year so you may be asked to work with a team outside your geographic area. Even if your team is meeting in-person, you could work with them virtually. Mentors are needed at Middle Schools throughout the Greater Philadelphia region. Currently, the following schools are in need of mentors:

- AIM Academy – Conshohocken, PA
- Cinnaminson Middle School – Cinnaminson NJ
- Congreso de Latinos Unidos – Philadelphia
- Holy Rosary – Plymouth Meeting, PA
- Mother Teresa Regional Catholic School – King of Prussia, PA
- New Medina Learning Institute – Philadelphia, PA
- Penn Wood Middle School – Darby, PA
- School Lane Charter – Bensalem
- Springtime Lake Middle School – Media, PA
- Stewart Middle School – Norristown, PA
- St. Elizabeth Parish School – Chester Springs, PA
- St. Hilary of Poitiers – Rydal, PA
- St. Martin de Porres Catholic School – Philadelphia
- Walkenpaupack Middle School – Hawkey, PA
- William Penn Charter School – Philadelphia, PA
- Belmont Hills – Bala Cynwyd, PA
- Southern Lehigh – Center Valley, PA

Time Commitment - The schools in need of mentors could use any help you can offer! There are plenty of ways to help using technology such as Skype or GoToMeeting for virtual meetings, or corresponding via email. Normally, the teachers could use help every other week for the first month or two, then more frequently as the deadlines approach.

Schedule – Mentors are need as soon as possible, as these schools are already working towards their first deliverables in mid-December. The competition will be held in on January 22, 2022 .

Spread the Word – These schools are in desperate need of help from engineers and planners! Please share this email with friends/coworkers who may interested. And please feel free to partner up with a colleague, coworker, or friend to work as a team in serving as co-mentors.

For more information on mentoring, please contact: Mike McAtee at mjmcaatee@urbanengineers.com. There are also volunteer opportunities on the day of the competition (January 22, 2022), including special awards evaluator, preliminary judge, and general volunteer. We also have a need for volunteers in advance of the competition, including virtual city judge and city essay judge. If you are interested in getting involved, please visit <http://www.futurecityphilly.org/fcvolops.html> to sign up.

Any questions please contact me via e-mail (kmcmanuels@aeceng.net) or phone (610-389-5692). Please feel free to forward this e-mail to your friends, co-workers, and technical society members.

Karen R. McManuels, PE
Philadelphia Regional Volunteer Coordinator
kmcmanuels@aeceng.net

610-688-3980 x132

Section Participation: The section has a participation in Future City. (1) There is an IEEE Philadelphia Section Special Award for the best use of technology. (2) The section provides special award judges for the final competition. If you want to be a judge, contact Karen McManus. The commitment is approximately half a day. ◇

Gordon award

By Peter Silverberg

International Test Conference was held virtual Oct. 12-15. The Philadelphia Section is the sponsor of this. One founder of ITC was Gerald Gordon. In his memory, every year a student paper is honored with the Gerry Gordon Award. This year it went to Christopher Muench of Karlsruhe Institute of technology. The section is the sponsor of this award.

The next ITC will be (hopefully) in Anaheim CA, October 27-29. ◇

Delaware Valley Engineers Week 2022 - Starting to Happen

As you may be aware, Engineers Week 2022 is coming up -it will be celebrated locally from February 17-26 and will include our usual two main events as well as others being considered at this time. We would remind you that our Engineers Week awards are now open for nominations and the applications and submission instructions, along with deadlines, are available on the Club website. We look forward to your nominations for Engineer of the Year, Young Engineer of the Year, and Outstanding Service, as well as our Teacher and High School Student awards, College Scholarships, and Student Paper competition. We are planning a return to in-person events for 2022, restrictions permitting, and more information will be available on these as the dates get closer.

A reminder that nominations for Delaware Valley Engineer of the Year are due on

October 29, so your last chance for this is approaching (We probably missed).

Nominations for Delaware Valley Young Engineer of the Year and Outstanding Service Awards are due on December 3.

We have also opened our fundraising efforts and this year's brochure is available on our website.

We thank those of you who sponsored and participated in our recent Philadelphia Engineering Foundation/Engineers' Club golf outing on October 11. It was a very successful event, and it was nice to see everyone there in person instead of on a virtual screen! The proceeds of this outing will support student scholarships and prizes made available and awarded during Engineers Week.

IEEE Philadelphia Section Night

Date: November 16, 2021

Time: 7 – 8 pm

Location: Virtual (register with vTools)

Sponsored by Computer Society Chapter

Speaker: James K Beard

Title: Multiple Target Tracking: Tracking and Data Fusion with a Requirements Perspective

Abstract

Mission and requirements are the cornerstone of any system function, and we present that context for multiple target tracking in a dense environment. Technical focus is on the tracker functions, and how performance and robustness is best served by a multiple tier tracker architecture, with the workhorse most often being a multiple hypothesis tracker or other track-before-detect mechanism, and decisions are occasionally supported by an estimator focused on that decision. Sensor fusion is addressed as integrated into estimation of tracked object position.



James K Beard received a BS degree from the University of Texas at Austin in 1962, an MS from the University of Pittsburgh in 1963, and the Ph.D. from the University of Texas at Austin in 1968, all in electrical engineering. Between 1959 and 2004, he worked in Government laboratories, industry, and as an individual consultant. Employers include precursors or current divisions of Northrop Grumman, Raytheon, and Lockheed Martin, most recently Lockheed Martin MS2 in Moorestown, NJ. He is currently an individual consultant and researcher based in Medford, NJ near Philadelphia.

He is the author of a number of journal and conference papers and a book, "The FFT in the 21st Century" (Springer [originally Kluwer], ISBN 978-1402076756, 2003), and has a patent, "Digital Radio Frequency Tag," Patent 6,870,501 awarded March 22, 2005, assigned to Raytheon Company. Current research interests include system engineering solutions to homeland defense issues, estimation and decision theory, radar and communications concept and waveform design, and digital radar concepts.