

BOSTON



2019 IEEE SYMPOSIUM ON
PHASED ARRAY SYSTEMS
AND TECHNOLOGY

P.5

2019 HIGH
PERFORMANCE
EXTREME COMPUTING
CONFERENCE

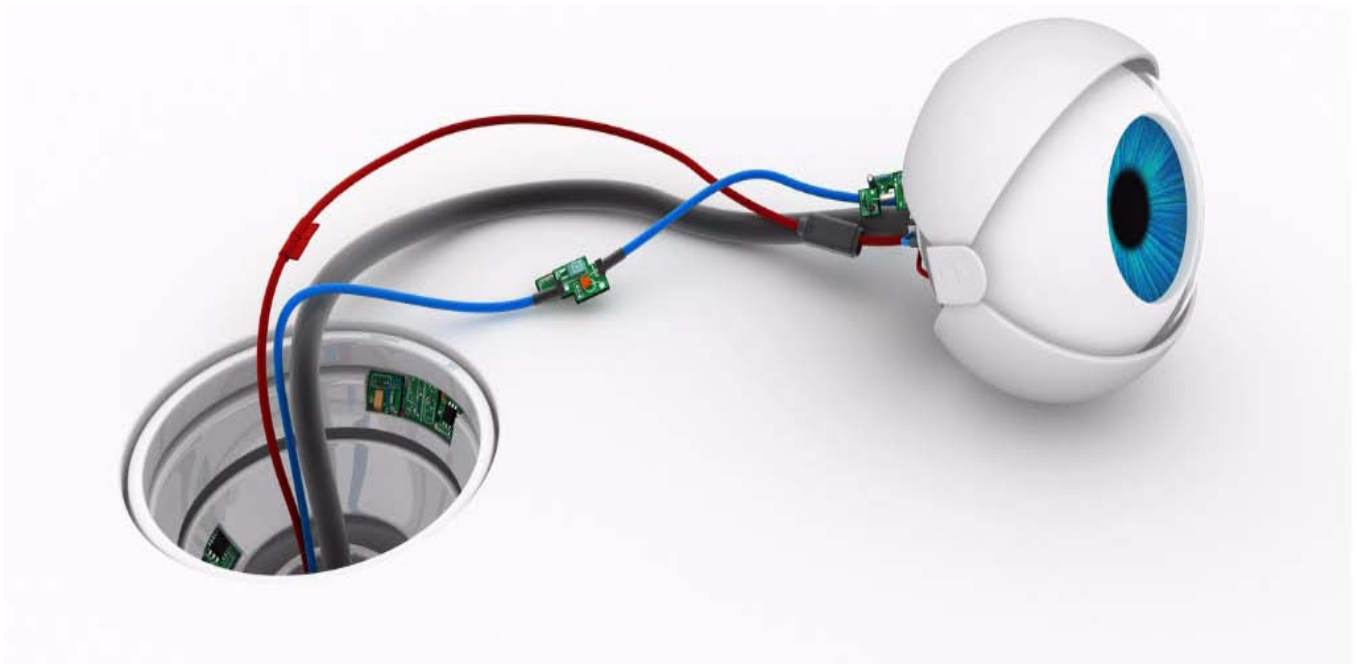
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2019 IEEE SYMPOSIUM
ON TECHNOLOGIES FOR
HOMELAND SECURITY

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THE REFLECTOR

ISSUE #7
JULY 2019



2018 Outstanding Section Membership
Recruitment and Retention Performance

Boston Section

 **IEEE**
*Advancing Technology
for Humanity*

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(CFP Deadline: July 7, 2019)



The Learning Journey

By Marie Tupaj, Treasurer and Secretary, IEEE Boston Section

In high school, what I really wanted to get out of each class was a grade somewhere in the A range. I was looking for a quick answer and a high mark so that I could go back to the ball field. This mentality eventually carried over to college. Unfortunately, receiving an A in college, especially in engineering classes, became much more difficult. At some point during sophomore year it finally hit me that I needed to not only work harder for a strong grade, but I needed to learn “this stuff” so that a future employer would hire me and keep me. I needed to perfect my craft in order to make money and rise up the ranks. Following this realization, my attention was quickly and equally divided towards receiving good grades and mastering concepts.

After college, I was initially hired in the industry, then spent time in graduate school, and eventually took a position as a professor. At this point, I needed to start creating lesson plans. I wanted to incorporate the lessons that I learned up to this point in my career, so the students could avoid all my pitfalls (I hope they were listening!). I thought about, what types of problems would I review in class? And, what approach would I take? I wanted to keep the students engaged and learning efficiently. I also needed to work on problem solving skills, technical communication, and review questions for the FE/EIT exam, which all adds up to a lot of work for one semester. I realized that if I tried to discuss everything in detail, the information would sound rushed and unclear. A technical manager once said to me, “once you get out of school, you have only scraped the surface of knowledge [in the field].” Realistically, it takes years to reach the level of subject matter expert.

Today, my lecture notes, presentations, projects, and exams for all of my classes are prepared. Each semester much of this material doesn’t change since the fundamental concepts remain the same. Yet, I work hard to keep the topics in class relevant and interesting. New technologies evolve so quickly from ideas that weren’t around just a few years prior. I try to bring to class new software packages, examples of different groups making scientific advances, and anything in the news. So, I network with employers on who is doing what and the latest industry advances. I also work to develop new classes (and in the future, new programs) based on student interest and industry need. The ultimate goal is for the students to acquire the current skills needed to find jobs in this area. During my undergraduate years, the hot topics were the Y2K bug and the detrimental health effects of talking on a cell phone. Also, if you could create a web page, you could secure a good job anywhere!

My colleagues and I teach theoretical skills and hands-on technology. As an educator, I can attest that learning comes from more than inside the classroom. First as a student and now as a teaching professor, getting up to speed on the cutting edge technologies resulted from experiences networking and working with different groups. Becoming a well-rounded engineer did not just come through text book studying or having only one teacher or one mentor. It was the result of a “learning journey.”

The IEEE Boston Section offers many opportunities for learning each year including fall courses, spring courses, and technical conferences. Current course topics include DSP, Verilog, medical devices, Linux, and

software development. The IEEE Boston runs courses online and in-person for only a fraction of the cost of a course at a college or university. Course instructors are academic and industry professionals with expertise in their field.

A second option to refresh skills or learn cutting edge technologies is through attending IEEE Boston con-

ferences. The IEEE Boston organizes conferences and symposiums including High Performance Extreme Computing, Phased Array Systems, Homeland Security, and the Undergraduate Research Technology Conference at MIT. Conferences last one to three days. Information about an upcoming conference is available here online. Whether it is an IEEE class, IEEE conference, or IEEE event in Boston, hope to see you soon!

Look in our Augsut Digital Reflector and website for fall courses

Call for Articles

Now that the Reflector is all electronic, we are expanding the content the publication. One of the new features we will be adding are technical and professional development articles of interest to our members and the local technology community. These will supplement the existing material already in our publication.

Technical submissions should be of reasonable technical depth and include graphics and, if needed, any supporting files. The length is flexible; however, a four to five page limit should be used as a guide. An appropriate guide may be a technical paper in a conference proceeding rather than one in an IEEE journal or transaction.

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a fee or payment is required. A maximum length of two to three pages would be best.

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We are excited about this new feature and hope you are eager to participate!

Submissions should be sent to;
ieeebostonsection@gmail.com



2019 IEEE International Symposium on Phased Array Systems and Technology

Revolutionary Developments in Phased Arrays



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15–18 October 2019

Westin Waltham Hotel,
Greater Boston,
Massachusetts, USA
www.array2019.org



Join our Mailing List, Text PA2019 to 22828



Conference Registration Opens May 1, 2019



See www.array2019.org for details

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- Array Design
- Beamforming and Calibration
- T/R Modules
- Radar Systems
- Metamaterial Phased Arrays
- Signal Processing and Architectures
- 5G Arrays

Special Sessions

- European Phased Array Systems and Technology
- Asia-Pacific Phased Array Systems and Technology
- Dual-Polarization Weather Radar Arrays
- Wideband Array Apertures
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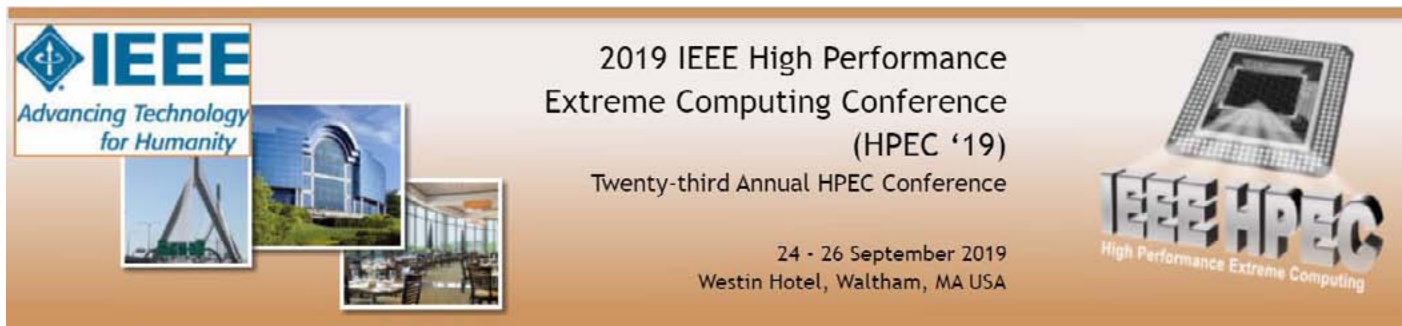
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The IEEE High Performance Extreme Computing Conference (HPEC '19) will be held in the Greater Boston Area, Massachusetts, USA on 24 – 26 September 2019

Presentations that describe advances in high performance extreme computing technologies will be presented at this conference which is to be the premier conference in the world on the confluence of HPC and Embedded Computing.

Confirmed Distinguished Speakers:

[Marc Hamilton](#) (Nvidia VP of Solutions Architecture and Engineering) - GPU Accelerated Machine Learning

[Honorable Zachary J. Lemnios](#) (IBM VP Physical Sciences and Government Programs) - HPC systems for Machine Learning, Natural Language Processing and Graph Analytics

[Stan Reiss](#) (Matrix Partners) - Brilliant Technologists Building Cool Stuff

[Prof. Julian Shun](#) (MIT CSAIL) - Large-Scale Graph Processing

[Mark Hamilton](#) (Microsoft) - Microsoft MLSpark: Unifying Machine Learning Ecosystems at Massive Scales

[Jaya Shankar](#) (Mathworks) - Deploying High-Performance Deep Learning Applications



GraphChallenge submission deadline is July 15, 2019 – [SUBMIT NOW!](#)

Challenges such as YOHO, MNIST, HPC Challenge, ImageNet, and [VAST](#) have played important roles in driving progress in fields as diverse as machine learning, high performance computing, and visual analytics.

GraphChallenge encourages community approaches to developing new solutions for analyzing graphs and sparse data derived from social media, sensor feeds, and scientific data to enable relationships between events to be discovered as they unfold in the field.

IEEE-HPEC.ORG



2019 IEEE International Symposium on Technologies for Homeland Security

information@ieee-hst.org

November 5 - 6, 2019 Woburn, MA USA

MARK YOUR CALENDAR!

**HST Symposium Coming
5 – 6 November 2019**

The 19th annual IEEE Symposium on Technologies for Homeland Security (HST '19),

will be held

5 - 6 November, 2019

in Woburn MA USA.

This symposium brings together innovators from leading academic, industry and business, Homeland Security Centers of Excellence, and government programs to provide a forum to discuss ideas, concepts, and experimental results.

Produced by IEEE with technical support from IEEE, IEEE Boston Section, and IEEE-USA and organizational support from MIT Lincoln Laboratory and Raytheon, this year's event will once again showcase selected technical papers and posters highlighting emerging technologies in:



Humanitarian Assistance & Disaster Relief



Land/Maritime Borders & Critical Infrastructure Protection



Biometrics & Forensics



Cyber Security



Frontier and Emerging Technologies

See IEEE-HST.ORG for more details or [click here](#) to join the 2019 HST mailing list for up-to-date news!

IEEE Boston Section Online Courses:

(Students have 90 day access to all online, self-paced courses)

Verilog101:Verilog Foundations

Full course description and registration at ,
<http://ieeeeboston.org/verilog-101-verilog-foundations-online-course/>

System Verilog 101: Design Constructs

Full course description and registration at ,
<http://ieeeeboston.org/systemverilog-101-sv101-design-constructs-online-course/>

System Verilog 102: Verification Constructs

Full course description and registration at ,
<http://ieeeeboston.org/systemverilog-102-sv102-verification-constructs-online-course/>

High Performance Project Management

Full course description and registration at ,
<http://ieeeeboston.org/high-performance-project-management-online-course/>

Introduction to Embedded Linux Part I

Full course description and registration at ,
<http://ieeeeboston.org/introduction-to-embedded-linux-part-i-el201-online-course/>

Embedded Linux Optimization - Tools and Techniques

Full course description and registration at ,
<http://ieeeeboston.org/embedded-linux-optimization-tools-techniques-line-course/>

Embedded Linux Board Support Packages and Device Drivers

Full course description and registration at ,
<http://ieeeeboston.org/embedded-linux-bsps-device-drivers-line-course/>

Software Development for Medical Device Manufacturers

Full course description and registration at ,
<http://ieeeeboston.org/software-development-medical-device-manufacturers-line-course/>

Fundamental Mathematics Concepts Relating to Electromagnetics

Full course description and registration at ,
<http://ieeeeboston.org/fundamental-mathematics-concepts-relating-electromagnetics-line-course/>

Reliability Engineering for the Business World

Full course description and registration at ,
<http://ieeeeboston.org/reliability-engineering-business-world-line-course/>

Design Thinking for Today's Technical Work

<http://ieeeeboston.org/design-thinking-technical-work-line-course/>

Fundamentals of Real-Time Operating Systems

<http://ieeeeboston.org/fundamentals-of-real-time-operating-systems-rt201-on-line-course/>

Entrepreneurs' Network – 6:45PM, Thursday, 18 July

ENET 2019 Boston Harbor Sunset Networking Cruise

Meeting Location: Rowes Wharf, Boston, MA

IEEE Boston Entrepreneurs' Network will hold its 17th annual Sunset Cruise & Networking Evening on Boston Harbor aboard the M/V Music City Queen, on Thursday, July 18, 2019 at Rowes Wharf, Boston, MA. We board the boat at 6:45 p.m., and cruise from 7:15-9:30, with additional networking on the boat dockside until 9:45 pm. The event includes a light dinner catered again this year by the well-respected Off the Vine Catering, who received many compliments for the food the last four years. There will also be a cash bar.

Registration:

ENET Member – \$35.00

ENET Members register with your spouse or significant other. Price is \$35 for ENET member + \$35 for spouse/significant other.

Non-ENET Member – \$45.00

Early bird rate of \$45.00 for non-members will increase to \$55 after July 9.

For more information: <https://www.eventbrite.com/e/ieee-boston-enets-annual-boston-harbor-net-working-sunset-cruise-entrepreneurship-2019-tickets-63399511646>



IEEE Boston Section Social Media Links:

Twitter: <https://twitter.com/ieeeboston>

Facebook: <https://www.facebook.com/IEEEBoston>

YouTube: <https://www.youtube.com/user/IEEEBostonSection>

Google+: <https://plus.google.com/107894868975229024384/>

LinkedIn: <https://www.linkedin.com/groups/IEEE-Boston-Section-3763694/about>

Call for Course Speakers/Organizers

IEEE's core purpose is to foster technological innovation and excellence for the benefit of humanity. The IEEE Boston Section, its dedicated volunteers, and over 8,500 members are committed to fulfilling this core purpose to the local technology community through chapter meetings, conferences, continuing education short courses, and professional and educational activities.

Twice each year a committee of local IEEE volunteers meet to consider course topics for its continuing education program. This committee is comprised of practicing engineers in various technical disciplines. In an effort to expand these course topics for our members and the local technical community at large, the committee is publicizing this CALL FOR COURSE SPEAKERS AND ORGANIZERS.

The Boston Section is one of the largest and most technically diverse sections of the IEEE. We have over 20 active chapters and affinity groups.

If you have an expertise that you feel might be of interest to our members, please submit that to our online course proposal form on the section's website (www.ieeeboston.org) and click on the course proposal link (direct course proposal form link is

<http://ieeeboston.org/course-proposals/> .

Alternatively, you may contact the IEEE Boston Section office at ieeebostonsection@gmail.com or 781 245 5405.

- Honoraria can be considered for course lecturers
- Applications oriented, practical focused courses are best (all courses should help attendees expand their knowledge based and help them do their job better after completing a course)
- Courses should be no more than 2 full days, or 18 hours for a multi-evening course
- Your course will be publicized to over 10,000 local engineers
- You will be providing a valuable service to your profession
- Previous lecturers include: Dr. Eli Brookner, Dr. Steven Best, Colin Brench, to name a few.

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Submissions should be sent to;
ieeebostonsection@gmail.com

2019 MIT IEEE Undergraduate Research Technology Conference Call for Submissions



Conference: Oct 11-13, 2019

Massachusetts Institute of Technology, Cambridge
MA, USA

Early paper submission deadline/notification of
acceptance: July 7, 2019/August 4, 2019

Paper submission deadline/notification of acceptance:
August 4, 2019 at 11:59 PM EDT/September 8, 2019

Poster and lightning talk submission
deadline/notification of acceptance: September 8,
2019 at 11:59 PM EDT/September 15, 2019

Submit to: [https://ieee-r1-
studentconference.myreviewroom.com](https://ieee-r1-studentconference.myreviewroom.com)

The conference theme is "Meet Innovative Technology,"
and the eight technical tracks include:

1. Machine Learning and Artificial Intelligence
2. Security and Communications
3. Human-Computer Interaction and Graphics
4. Robotics and Controls
5. BioEECS and Applied Physics
6. Computer Systems
7. Circuits, Materials, and Nanotechnologies
8. Theoretical Computer Science and Mathematics

Authors may submit content in the form of a technical paper, poster, or lightning talk.

All submissions must be written in English. Paper submissions must be no longer than 4 pages, single-spaced, with a minimum of 10 point font, and submissions may include figures, illustrations, and graphs. Abstract submissions for the poster and lightning talks are limited to 500 words.

All submissions will be peer-reviewed by faculty, graduate students, and industry professionals. Submissions are online, with a deadline of August 4, 2019. Notification of acceptance will be sent via email by September 8, 2019. Please join the mailing list (MIT-Conference@ieee.org) for more information and updates on submission, the technical program, registration, and accommodation.

A conference proceeding of all the accepted papers that have been presented at the conference may be published and included in the IEEE Xplore journal. Electronic and online media containing all accepted submissions will be distributed to all registered attendees.

MEET INNOVATIVE TECHNOLOGY



Sponsored by the MIT IEEE Student Branch and IEEE Boston Section
<http://ieee.scripts.mit.edu/conference>



Envisioning a technical conference targeted towards undergraduate students all over the globe, the MIT IEEE Student Branch in 2015 inaugurated the IEEE MIT Undergraduate Research Technology Conference. This year we are organizing it again with the goal to make the conference a venue where undergraduate students can meet to present, discuss, and develop solutions advancing technology. Participants can attend a rich program with renowned speakers, technical sessions, a student design competition, exhibits, networking, and social activities, as well as a great opportunity for students to interact with leading industry experts. Our 2017 conference had 267 attendees, including several internationals and students from across the US, with a technical paper acceptance rate of 38%.

3 Days of Keynotes, Technical Sessions & Workshops/ Product Demos



SPEAKERS



Mike Violette



Anil Pandey



Caroline Chan



Eli Bookner



Eric Bogatin



James Drewniak



Joseph Guerici



Scott McMorrow



Ken Wyatt



Robert Smith



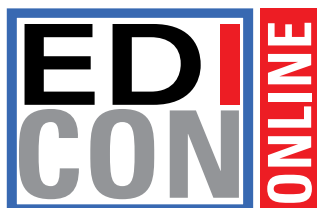
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