

ALMANACK

The Official Philadelphia Section Monthly Newsletter

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**I Change the World.
I am an Engineer.**

Discover IEEE Women in Engineering

- Network with a global community of women in technology
- Discover local and global IEEE WIE activities
- Access members-only awards, grants, and discounts

IEEE WIE is a global network that advances women in technology.



Connect. Support. Inspire.

Explore wie.ieee.org



WOMEN'S HISTORY MONTH

In celebration of Women's History Month, IEEE would like to invite you to discover how to become an ally and support of women in STEM fields who have made a lasting impact on our communities around the world. IEEE WIE is one of the world's leaders in changing the face of engineering. Our global network connects nearly 20,000 members in over 100 countries to advance women in technology at all points in their life and career.

JOIN NOW

UPCOMING EVENTS



MARCH 5

Rowan IEEE General Meeting

MARCH 6 - MARCH 7

Rowan ProfHacks 2021

MARCH 9

Section Administrative Committee Meeting

MARCH 19

Rowan IEEE General Meeting

MARCH 20

Trenton Computer Festival 2021

MARCH 23

Distribute *Dynamic State Estimation* with Network Agents



PROFHACKS 2021

**Prepping for an event on March
6-7. Stay safe!**

Rowan University's student branch of the IEEE (Institute of Electrical and Electronics Engineers) is hosting its sixth hackathon! Rowan University is proud to host this event and welcomes anyone, from first-timers to full-stack devs. If you have a cool technology idea that you want to make happen, this event is for you!

[**Register**](#)

[**Hacker Guide**](#)



TCF'21TM



NJ Makers Day Partner

Twitter:
@TCFfestival

The First, and the Oldest, Computer Fair in the World!
Saturday, March 20, 2021 hosted by The College of New Jersey, Ewing NJ



Focus on Artificial Intelligence

3:40 pm ET

Keynote Speaker:

Jerry Foster

CTO & a founder of Plex Systems,
on "How I Learned to Stop Worrying
and Love Artificial Intelligence"

There is much talk these days about machine learning and artificial intelligence (AI), and for good reason. AI is the enabler that drives exponential value from all other technologies; for any process that generates data, it is no longer optional, but a requirement. This keynote provides an overview of Artificial Intelligence, from its humble beginnings to disruptive force, with an eye towards the significant positive impact on our world.

Jerry Foster is the CTO and one of the founders of Plex Systems, which today helps more than 600 manufacturers worldwide run their businesses. Jerry continues to set the pace of the innovation in the cloud, leading the company's technology strategy and research initiatives that drive the industry forward.

**50+ Talks, Workshops, Tutorials,
Demos and Special Events!**

**Windows 10 with Dave Soll:
Win 10 Tips and Tricks**

Robotics

Drones

**No Registration Needed. Just go to
website to Attend.**

Voluntary Donations Appreciated.

IEEE Integrated STEM Education Conference (ISEC)^{*}**
Saturday, March 13, 2021 - 8:00 am - 5:00 pm ET
Virtual Online Event
Theme: iSTEM: Lead, Engage, Succeed!
Info: <http://ewh.ieee.org/conf/stem/>

^{***}The ITPro (Friday) and ISEC Conferences require separate registrations.

To Donate to TCF'21: Go to <https://give.tcnj.edu/give-now/>
Click a donation button. Then in "Designation" menu scroll to end,
select Other. Type in TCF. Then fill out Payment info. Finally, click Donate!

For additional TCF'21 info,
go to the TCF website:
www.tcf-nj.org

The 2021 TCFTM is sponsored by The College of New Jersey, its School of Engineering and supported organizations.

Virtual Festival via Zoom
FREE Admission to Saturday's TCF
Details on website:

To attend go to www.tcf-nj.org

Host: The College of New Jersey, Ewing, NJ

Saturday, March 20, 2021

10:00 am - 5:00 pm ET

Ham Cram starts at 9:00 am; Talks start at 10:15 am.



Lou Justice
Leads the
WordPress Bootcamp



Mike Redlich & Chuck Knight
Conduct OOP University
Python & Java



Author Barry Burd on New
Insights in Quantum Computing:
Using Flutter in Mobile Devel.



Donn Fishbein on
Stock Market Investing
using Neural Networks



Joe Jesson on
the New 5G Internet Machine
of Things (IoT)



Randall Cole on
Machine Learning
with Azure



Katalin Frolio leads
Arduino Tutorial
for Beginners

LoRa - IoT Unlicensed Wireless Networks

**Ham Cram Session & Exam:
Get an Amateur Radio License in
one day at TCF! Cram begins at 9:00 am.**

IEEE/ACM IT PROFESSIONAL CONFERENCE
Friday, March 19, 2021 - virtual online this year^{***}.
The Saturday part continues as planned as part of TCF.
For details see the ITPC website:
Info: <http://princetonacm.acm.org/tcfpro>

IEEE PHILADELPHIA CHAPTER OF CSS/CASS/SMCS
PRESENTS

**DISTRIBUTED DYNAMIC STATE ESTIMATION WITH NETWORKED AGENTS:
CONSISTENCY, CONFIDENCE, AND CONVERGENCE**

by
DR. WEI REN

PROFESSOR
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
UNIVERSITY OF CALIFORNIA, RIVERSIDE, CA 92521

Date: Tuesday, March 23, 2021; **Time:** 7:00 pm to 8:00 pm; **Location:** Online Webinar (link provided to registrants)

Abstract:

The problem of distributed dynamic state estimation using networked local agents with sensing and communication abilities, has become a popular research area in recent years due to its wide range of applications such as target tracking, region monitoring and area surveillance. Specifically, we consider the scenario where the local agents take local measurements and communicate with only their nearby neighbors to estimate the state of interest in a cooperative and fully distributed manner. A distributed hybrid information fusion algorithm is proposed in the scenario where the process model of the target and the sensing models of the local agents are linear and time varying. The proposed distributed hybrid information fusion algorithm is shown to be fully distributed and hence scalable, to be run in an automated manner and hence adaptive to locally unknown changes in the network, to have agents communicate for only once during each sampling time interval and hence inexpensive in communication, and to be able to track the interested state with uniformly upper bounded estimate error covariance. It is also explored very mild conditions on general directed time-varying graphs and joint network observability/detectability to guarantee the stochastic stability of the proposed algorithm.

Biography:

Dr. Wei Ren is currently a Professor with the Department of Electrical and Computer Engineering, University of California, Riverside. He received the Ph.D. degree in Electrical Engineering from Brigham Young University, Provo, UT, in 2004. Prior to joining UC Riverside, he was a faculty member at Utah State University and a postdoctoral research associate at the University of Maryland, College Park. His research focuses on distributed control of multi-agent systems and autonomous control of unmanned vehicles. Dr. Ren was a recipient of the IEEE Control Systems Society Antonio Ruberti Young Researcher Prize in 2017 and the National Science Foundation CAREER Award in 2008. He is currently an Associate Editor for Automatica and IEEE Transactions on Automatic Control. He is an IEEE Fellow.



ITC2021 is now accepting abstracts and papers. Submit your paper through our Easy Chair Link.

The ITC2021 Call for Papers is now available [here](#).

Visit the [ITC Website](#) for complete information, including submission instructions and topics of interest.

Due Dates for submissions are:

- Abstracts are due April 16, 2021.
- Final papers are due April 23, 2021.

Submission deadlines are firm. Travel in October may be still restricted or limited. ITC2021 will include a virtual component to enable accepted authors to present their work remotely.

ITC CONFERENCE

Marvin Weilerstein and Peter Silverberg

[This is an update of an original article from Sept. 2014. The section is the sponsor of the International Test Conference. The profits from this fund a lot of section activities. Also, our members could contribute more technical papers.]

This year marks the 52 nd International Test Conference. It will be held in Anaheim, California, October 8-17. The Philadelphia Section and its members have played an important supporting role in The International Test Conference since its inception. Our Section is the sponsor of the conference. Many of our Philadelphia Section members have made important contributions to ITC -Stu Levy (a Past Chair of our Section) was the first conference chair in 1970.

-Bob Merkert was a General Chair of ITC.

-Dan Graham served in many posts on ITC's Steering Committee including Financial Chair and General Chair.

-The late Gerry Gordon served as Philadelphia Section's representative to the Steering Committee from the Conference's inception until 2002. He was also a General Chair of the Conference. The student paper award is in his name.

-Marvin Weilerstein was the Philadelphia Section rep to the Steering Committee 2002 to 2019. Peter Silverberg is filling that post starting in 2020.

The Beginning: In 1970, engineers facing the test challenges posed by the then-novel semiconductor memory device organized a symposium on IC testing. That meeting—at the Rickshaw Inn in Cherry Hill, NJ—drew a crowd of 147 people. That symposium is now a week-long conference attended by thousands of engineers from around the world. In its 51-year history, International Test Conference has become the world's leading electronics test conference.

ITC CONFERENCE

Marvin Weilerstein and Peter Silverberg

No other industry has changed as much—or changed the world as much—in those thirty years as semiconductor technology. ITC has kept pace, always seeking to develop new and innovative ways to fulfill its primary objective: the exchange of technical information.

ITC Brings the Test Industry Together: Over the years, the conference has evolved into the “annual meeting” of the test industry. Technical sessions, complemented by tutorials and exhibits of test equipment and related services, have provided an opportunity for participants to see and discuss the latest available products and systems. Today, ITC is the largest single exposition of semiconductor test products, systems and services in the world. Now, more than ever, as semiconductor technology and testing issues become more complex, challenging and global, ITC is playing an increasingly important role as the industry’s meeting place, its principal forum for exchange and its harbinger of change. As “Cherry Hill” lingers on as a fondly familiar nickname, it is interesting to contemplate what ITC will be like in the future.

Conference highlights and themes: Early conferences focused on semiconductor memory test. Microprocessor test followed. Then reliability, design for test, test facilities and techniques, and test languages emerged as hot topics in the mid ‘70s. Test of LSI and VLSI devices, and Board Test followed in the ‘80s. The 90s saw increased emphasis on speed and cost of test. Since 2000 the conference has addressed the challenges of very small (nanometer) and very fast devices, and the integration of test with design, manufacturing and field needs. In 2020, automotive applications are a new topic. ITC is now the world’s premier conference dedicated to technologies that ensure robust operation of electronic systems. ITC addresses outstanding design, validation and test challenges—ranging from immediate concerns blocking progress today to major obstacles in future technologies.

ITC CONFERENCE

Marvin Weilerstein and Peter Silverberg

ITC covers the complete cycle from design verification, design-for-test, design-for-manufacturing, post-silicon validation and debug, manufacturing test, diagnosis, failure analysis and yield improvement, system testing at the hardware-software interface, error detection and testing in the field (including adaptation to variations induced by manufacturing and operating conditions), hardware security and trust, then all the way back to process and system design improvements.

The pandemic made 2020 interesting. The original location was in Washington, D.C. Instead, the whole week went virtual. As a result, everything had to be planned differently. This year, it seems that the vaccines may make it possible for some people to attend. The 2021 plan is for one-third of “normal” head count. The location plan is for Anaheim 2021, 2022, and 2023. The Orange County Section of IEEE is going to be a technical supporter. (To make that clear – Philadelphia is the Sponsor. We provide financial backing and have a vote. Orange County has members and companies that can help the program committee.)

SPECIAL GRANTS

Peter Silverberg, Past Chair

We have some funds available to benefit students. These are from estate bequests in the care of the IEEE Foundation. It is kind of a use it or lose it situation. These are short descriptions. Contact the administrators if you want to draw on the funds. Because we turn over students annually, this gets forgotten. It appears possible that conferences will be hybrid or live in the second half of 2021.

IEEE Michael Goutmann Memorial Fund (F#1105)

Administrator: Dr. R. Barnett Adler (adler@ece.villanova.edu)

This fund was established 11/8/2008. The Goutmann Student Travel Grant program provides travel stipends of amounts up to \$1000 each to Undergraduate or Graduate IEEE Student Members for conferences sponsored or co-sponsored by one of three IEEE Societies: Information Theory, Signal Processing, or Communications. This program is limited to IEEE Student Members actively pursuing degrees in one of the following colleges or universities: Drexel, Penn State Brandywine, University of Pennsylvania, Rowan, Swarthmore, Temple, Villanova, Widener, and Lehigh. A preference will be given to those applicants who are on the conference program to present a technical paper.

IEEE William R. Mann Memorial Fund (F#1124)

Administrator: Marvin Weilerstein

This fund was established 6/25/2010. Two annual travel stipends of \$500 are available to students of the list above (excluding Lehigh). One grant is for the IEEE International Test Conference and one for a IEEE VLSI workshop. It is not clear that the student has to present a paper or poster.

MEMBERSHIP DISCOUNT



IEEE members can save on insurance and a variety of products and services (where available) as a benefit of IEEE membership. Discover what IEEE Member Discounts can offer you. We would like to inform you of the following exciting updates to the IEEE Member Discounts Program.

- The MGA Board approved the following two new member discounts in 2020:
 - Wolfram - Mathematica technical computing software, available to students and professional members worldwide
 - GradFin- student loan refinance advisory available for US borrowers
 - More new discounts coming in 2021
- Now, members may register for the “Insurance Circuit”, a free, monthly newsletter from Mercer, which covers news and information about the IEEE Member Group Insurance Program and financial wellbeing.

LEED CERTIFICATION

IEEE Member Discount Use the discount code 'sust' for \$50 off the course price!

LEED is simply a sustainability scorecard for green buildings. Buildings can become LEED Certified as can people! The best way to break into the sustainability space is to attain the LEED Green Associate. It also shows employers and clients you have certified knowledge in the field. Since the LEED GA exam doesn't have a stellar pass rate, the value of the extra letters behind your name will carry even more weight. My workshops have helped nearly 10K professionals learn the material cold (important for interview prep) AND clear the exam with a very high passing rate.

Instructor :Lorne Mlotek BASc., LEED AP BD+C, O+M, Head LEED Trainer at LeadingGreen

Live Webinars

I will be offering live webinars that can be streamed on any of the following dates:

March 11 2021 – 5:00PM – 9:30PM EST

March 27 2021 – 1:00PM – 5:30PM EST

April 16 2021 – 3:00PM – 7:30PM EST

May 8 2021 – 1:00PM – 5:30PM EST

June 5 2021 – 1:00PM – 5:30PM EST

****The above options are all identical. Register for a webinar or start today with our on-demand recorded workshop which can be completed anytime at your own pace here. <https://leadinggreen.com/online>This course is instructed by a USGBC Faculty member and is the most effective way to pass. The USGBC charges a \$250 fee for the actual exam which can now be taken online from home. Save money by reserving your spot today and make a positive difference in your career! Please contact the instructor Lorne directly with any questions at info@leadinggreen.com ([CLICK HERE TO REGISTER FOR LIVE OR ON-DEMAND SESSIONS](#))**

Connect With Us

IEEE SECTION OFFICERS



Emilio M. Salgueiro

Section Chair

emiliosalgueiro@ieee.org



Taso Malatesta

Section Vice Chair

t.malapetsas@gmail.com



Dennis Silage

Section Treasurer

silage@temple.edu



Chris Deitch

Section Secretary

chris.Deitsch@ieee.org



Peter Silverberg

Past Chair

psilverberg3@comcast.net



Robert Johnston

Finance Co-Chair

rlj1620@gmail.com

ALMANACK STAFF



Emilio M. Salgueiro

Publisher

emiliosalgueiro@ieee.org



Zizi Elgamal

Editor

zizi.elgamal@ieee.org



Peter Silverberg

Assistant Editor

psilverberg3@comcast.net

