IEEE

SPARKS
Daytona Section Newsletter
February 2018
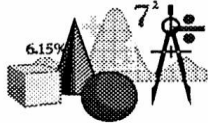
FEBRUARY SECTION MEETING
SPECIAL ENGINEER'S WEEK PROGRAM
**** NOTE DATE AND LOCATION ****
Thursday February 22nd
Presentation 6:00 PM
Embry-Riddle Aeronautical University
Lehman Bldg. Atrium, 1st floor
600 S. Clyde Morris Blvd
Daytona Beach

PRESENTATION TOPIC

A Moving Target Defense Framework for Distributed Systems
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CHAIR'S REPORT

Happy February, everyone! Every month seems to be a busy month and February is no different. Engineer's Week, EWeek, is held from the 18th to the 24th. That means that our monthly Section meeting will be held at ERAU instead of the Yacht Club. Our speaker is a researcher at the Air Force Research Lab in Rome, NY. We hope to see you there.

I'm pleased to announce that student branches at B-CU and ERAU are fielding teams for the student competition at this year's SoutheastCon (19 - 22 April, St. Petersburg, FL). While the student branches have been active, this is the first time in several years that they have fielded teams. We look forward to hearing from them at our April meeting.

Keith

JANUARY'S PRESENTATION

Dr. Masood Towhidnejad, Professor of Software Engineering at ERAU gave an enlighting presentation on Artificial Intelligence (AI) which is becoming a major component of our day-to-day life. His talk involved the Past, Present and Future, the Good, Bad and the Ugly of AI. Dr. Towhidnejad discussed the differences and limitations between human intelligence and artificial intelligence.

Section Chair Dr. Keith Garfield presents Dr. Towhidnejad with our Section Mug.

SpeakER Series/National Engineering Week – Special Presentation
Tuesday, Feb. 20, 7 p.m. – Willie Miller IC, Lemerand Auditorium

Award winning PBS Science Reporter Miles O'Brien
PBS science reporter Miles O'Brien has traveled the globe for the PBS NewsHour, often to dangerous places, such as the crippled Fukushima nuclear plant in Japan. In 2015, an injury during another reporting trip became life-threatening and resulted in the amputation of his left arm. He joins moderator Marc Bernier to talk about his life in science and to help celebrate National Engineering Week, with Q & A from the audience. This event is free and open to the public.

FEBRUARY'S PRESENTATION – Daytona Section Meeting

A Moving Target Defense Framework for Distributed Systems
The traditional defensive security solutions employ techniques such as; parameter-based defenses, data encryption, attribute-based access control, redundancy and replications, to safeguard systems. With the rise of sophisticated cyber-attacks from intelligent adversaries in recent years, given sufficient time and resources, all of these methods can be defeated. Moving Target Defense (MTD) is a promising new defensive security solution that aims to change the adversary's gain-loss balance by continuously shifting

the system's attack surface. In this talk, I will discuss the design, implementation and experiments of a MTD framework for distributed systems on virtualized cloud platforms (i.e., Openstack).

OUR SPEAKER

Dr. Noor O. Ahmed is a computer scientist at the Air Force Research Laboratory in Rome NY since 2003. He holds a BS from Utica College (2002), MS from Syracuse University (2006), and PhD from Purdue University (2016), all in Computer Science. His research areas include resiliency and reliability in distributed systems with special emphasis on Moving Target Defense, semantic computing, Blockchain, and security issues in publish/subscribe, Service Oriented Architectures and cloud computing.

ANOTHER TALE FROM THE OLD PROFESSOR

And They're Off….

It's a beautiful day here it at Daytona Downs. The horses are ready to run the annual 6.28 furlong complicated Esplain Derby here at the Daytona Circuit. This race promises to be an electrifying event. Today we are hosting a field of 11.25 horses; 11 thoroughbreds and one quarter horse. The weather is perfect, the track is dry and we are ready for post time.

And they're off. First out of the gate is Nyquist Rate followed by Aliasing. Some of the gates are not opening. It seems those gates are AND gates and one of the horses, Beetle Bomb, is not ready. Now he is. He's out followed by Bode's Plot, Fay's Margin and Schrödinger's Cat.

In to the clubhouse turn Nyquist Rate is in the lead with Shannon's Limit close behind and Schrödinger's Cat lagging. What's this? Aliasing seems to be going in the wrong direction. There is a dense pack of horses and it's hard to see who is leading and who is lagging.

Heading into the back stretch, the race is becoming quite complex. Suddenly Polezero has taken the lead with Root Locus close behind. (*Polezero, one of our international entries, is out of the famous Knott Stables in Warsaw where they train horses to keep to the left to win.*) Inductor is reacting to Polezero's sudden move and is gaining on Capacitor followed closely by Millie Ohm, one of two fillies in the race. Oh! Schrödinger's Cat has run astray and has been scratched from the race. The stewards have put him in a faraday cage for his protection.

In the backstretch, Coulomb is starting to charge ahead and is currently in second place. Coulomb is closely followed by Watts New, a young powerful horse. But Jewel has found a burst of energy and she is closing in. The race is becoming so complex that your announcer is finding it hard to follow the horses. It takes a sharp eye to sort out the queue. You can only imagine what it's like out there on the circuit.

Coming around to the final stretch it's Nyquist Rate, Bode's Plot, Shannon's Limit, Fay's Margin, Polezero, Millie Ohm, Capacitor and Inductor are parallel, neck and neck, Jewel, and Beetle Bomb, dead last. Aliasing is crossing the finish line in the wrong direction.

Wait! Wait! Beetle Bomb has passed Jewel and found a surge of energy and is passing the entire field. It looks like….yes…the winner will be……yes…it's….. BEETLE BOMB!

Al Helfrick, a.k.a. The Old Professor

DAYTONA SECTION SHIRTS

We are pleased to offer Daytona Section polo shirts for our Section members. The shirts are embroidered with the IEEE Logo and DAYTONA SECTION on the left and your name and grade, if desired, on the right. The shirt is a high quality 5 oz, 65/35 poly/cotton pique in Royal Blue with white embroidery. Available in S - 2XL in men's as well as ladies sizes. Price is $30, including tax, for S-XL size's, 2XL size is $3 additional.
For more information or to order shirts contact: Allan Jusko 386-671-3706 or a.jusko@ieee.org.

IEEE MEMBERSHIP PINS
We have IEEE Membership pins available for years of IEEE membership. See Richard Kent or Allan Jusko if you're interested

FUTURE MEETING DATES:
The dates for the spring sessions are: Mar 22, Apr 26

EDITORS NOTES
The **SPARKS** newsletter is also available on our website   **http://www.ieee.org/go/daytona**

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ENGINEERING HUMOR

FEBRUARY 2018 MEETING

Thursday February 22nd at Embry-Riddle Aeronautical University
Lehman Bldg. Atrium, 1st floor
600 S. Clyde Morris Blvd
Daytona Beach

TOPIC– A Moving Target Defense
Framework for Distributed Systems

SPEAKER – Dr. Noor O. Ahmed
Air Force Research Laboratory

AGENDA
5:30 PM Buffet (optional)
6:00 PM Presentation

Dinner Menu
Italian Buffet

Members and guests $20.00 each
Students $5.00

**Please contact Allan Jusko by <u>Wednesday February 21st at noon</u>
to give us a count for dinner or for further information**

If you make reservations and are unable to attend, call prior to the event to cancel.

The Section is charged for all dinners ordered, please let us know if your plans change

Allan Jusko   Editor   386-671-3706   a.jusko@ieee.org