



IEEE Rochester Section

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February 2021 Newsletter

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Message from the Chair

Dear Colleagues,

Rochester Section volunteers are well underway in planning activities for 2021. Our first major event for 2021 will be the Geoscience and Remote Sensing Society (GRSS) organized STRATUS Conference on May 17-19. Planning is also underway for the Signal Processing Society (SPS) organized Western NY Image and Signal Processing Workshop (WNYISPW) this fall. Both events are designed as hybrid events with virtual and in-person (if permitted) attendance, which can easily pivot to all virtual attendance if needed.



In addition to events, IEEE is also focusing on supporting our members, and future members, after a very challenging 2020. The IEEE Board of Directors recently approved a 50% discount for new and renewing student members. This provides financial relief to students affected by the global pandemic and subsequent economic hardships, and helps students gain access to IEEE resources supporting their education and professional development. To claim this discount, students must use the promotion code FUTURE50 when registering or renewing their membership online.

The IEEE Rochester Section will also continue to sponsor local STEM pre-college activities and is creating/revitalizing IEEE Eta Kappa Nu (HKN) chapters at RIT and UofR. HKN recognizes excellence among IEEE members and prepares future engineering leaders. Students, alumni, and other professionals who demonstrate exceptional academic and professional accomplishments and leadership can be members.

The next IEEE Rochester Section virtual ExCom meeting will be on February 2nd and March 2nd from noon until 1pm via WebEx (vTools# 255220 and 255221, respectively).

Stay healthy, and best regards,

Save the Date: STRATUS 2021

The STRATUS (Systems and Technologies for Remote Sensing Applications Through Unmanned Aerial Systems) conference is from May 17th to May 19th. It will be held in hybrid mode, with on-line access and, New York State COVID-19 opening regulations permitting, in-person at the Center for Tomorrow of the University of Buffalo in Buffalo, New York.

The stratus-conference.com website explains:

The emergence of low-cost and easy-to-use Unmanned Aerial Systems (UAS), commonly referred to as drones, has led to an explosion of their use for numerous applications. In particular, these new platforms have enabled new imaging and earth remote sensing technologies and applications previously unavailable due to the high cost of manned aircraft or satellites.

This event is the 4th conference of STRATUS that will bring together academics, industry representatives, and domain specialists to share perspectives on this rapidly evolving topic.

Dr. Peter Webley is a Research Associate Professor of Remote Sensing at the Geophysical Institute, University of Alaska Fairbanks and is the Associate Director of Research at ACUASI. Peter earned his Ph.D. in Remote Sensing from the University of Reading, UK. Dr. Webley's keynote speech will discuss systems developed in and for Alaska: small to large unmanned aircraft systems, various sensors used (including onboard for flight and detect and avoid), and applications and missions to collect information on the dynamics of natural hazards and other extreme events.

Rising Stars Conference

The IEEE Rising Stars Global conference informs and motivates engineering young professionals and students. Abdelrahman Qoutb, a Ph.D. student studying electrical and computer engineering at the University of Rochester, attended the IEEE Rising Stars Conference January 2-4, 2021. He provided this summary of the meeting:

The on-line meeting comprised two parallel lecture tracks, recorded sessions and interviews, and mixer chat rooms. The two tracks were full of presentations and panels about IEEE activities, AI-based applications, and future technologies. The mixer chat rooms were the best – you could share your thoughts with different IEEE organization representatives and network with people from all over the world.



Adapting Deep Neural Networks to Point Cloud Data

On February 9th, Dr. Miguel Dominguez will discuss his results in adapting convolutional neural networks to problems with point cloud data. The point cloud data is an unordered list of points, but most results for the convolutional neural networks assume a regular lattice. Register (see the link in the events table) and learn how this work is applied to the standard point cloud vision benchmarks, Large Hadron Collider data, and computational fluid dynamics simulation.

The speaker, Miguel Dominguez, is a machine learning engineer at VisualDx where he works on automatically diagnosing skin diseases with machine learning. He received his PhD in Engineering at Rochester Institute of Technology this year. His research interests include deep learning, point cloud analysis, graph theory, speech processing, and biomedical imaging.

Volunteer as a Science Fair Judge!

The Terra Rochester Finger Lakes Science and Engineering Fair is seeking judges for the fair. This fair is for middle- and high-school students (grades 5 – 12) in Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne and Yates Counties. No judging experience is required, and as a judge, you will base your conversations with the students around these three questions:

1. What did you do?
2. What did you learn?
3. What do you want to do next?

The fair is held on-line this year, so no travel is required. For more information, contact TRFSEF@terraed.org. You may register as a judge at <https://ny-trfsef.zfairs.com/>. Interested students may use the same site to register and get additional information.



IEEE Rochester Section Events

Please check the events to ensure they are as scheduled below. Visit events.vtools.ieee.org/m/vtools# for details about any of these events.

Event	Vtools #	When	Where
EXCOM Meeting	255220	February 2 nd , 11:50 – 13:00	Via Webex
ADAPTING DEEP NEURAL NETWORKS TO POINT CLOUD DATA	249914	February 9 th , 18:00 – 19:00	Via Webex
EXCOM Meeting	255221	March 2 nd , 11:50 – 13:00	Via Webex
Terra Rochester Finger Lakes Science and Engineering Fair		March 6 th – March 20 th	On-line
EXCOM Meeting	255223	April 6 th , 11:50 – 13:00	Via Webex
STRATUS – GeoHazards and Extreme Events		May 17 th – May 19 th	Hybrid: on-line and at the Center for Tomorrow, University at Buffalo NY (New York state COVID-19 opening permitting)