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IEEE SE MN2021-Q4

Editorial

The Outgoing board of the IEEE Sweden section welcomes every member to another great year. We have documented the numerous activities that happened in 2021. It shows that the pandemic did not stop our goal and what we set to achieve in the past year. The most outstanding progress

has been the international collaboration and the free flow of talent and ideas from every member that cut across industry and academia. I am particularly grateful for the opportunity to serve IEEE Sweden board as Newsletter Editor since 2017 and I wish to solicit your cooperation for the incoming Newsletter Editor. The IEEE Sweden section remains committed to providing a safe, productive, and welcoming environment to all conferences, events, and meeting participants who engage with IEEE in these discussions.

Dr. Celestine Iwendi
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 Newsletter Editor

A message to IEEE Sweden Section members

Dear IEEE Member,

The Section board finally completed transition to the new Treasurer and Auditor and obtained bank access. The next year's budget is prepared.

The Chapter Chair workshop was held October 29 in a hybrid mode (in Linköping University and Zoom). The materials are available on Section Web site.
<https://r8.ieee.org/sweden/archive/>

R8 area meeting occurred as a physical gathering in Frankfurt, Germany in November 2021. I represented the Section and was glad to meet other chairs from neighbouring Sections.
<https://ieeer8.org/category/committee/meetings/2021-november-frankfurt-am-main/>

The Section Board met in October and December. The Nomcom prepared the elections based on interviews and a call for volunteers for next year's board.

The Annual General Meeting (AGM) is scheduled for March 24th, 2022 in a hybrid format (Linköping+Zoom). Please register here:
<https://forms.gle/tax4uGZdY2aQ6yq9>

Best wishes. Stay safe.



Prof. Andrei Gurtov
 Chair IEEE Sweden Section
gurtov@ieee.org



United Europe, Asia, and Africa: 117th IEEE Region 8 Committee Meeting held in Frankfurt am Main, from Saturday 6 November 2021 to Sunday 7 November 2021



IEEE Sweden Section Chapter Chairs Workshop 2021

The IEEE Sweden Section Chapter Chairs Workshop 2021 was held on October 29, 2021 at 9:00 to 16:00. The workshop was organized in a hybrid mode, with possibility to attend in person and online. Rooms were booked in Linköpings University for the workshop with online information available to participants.

IEEE Action for Industry - Spring 2022

Swedish industry is coming back from the pandemic, with people celebrating “Fettisdagen”, “fika Semlor” with colleagues in the office. The overall health of the industry continues improving, looking forward to the corona-free future. Many companies continue experiencing shortage of the competent workforce, announcing the expansion in near time. These are also new challenging times for Sweden and Europe to urgently strengthen the defence capacity in addressing the threats from the East, in light with the recent open military conflict in Ukraine. We expect the growing extra demand of talented and well-educated engineers in the defence sector in both short and long-term. In meantime, many companies have organized donations from employees and business to help and support people in Ukraine.

IEEE has been always associated with experience and knowledge, as the largest engineering organization. AFI in Sweden believes that IEEE can bring a great value to companies facing those competency issues, both regarding the knowledge base and finding good engineers and programmers. AFI in Sweden would like to follow successful examples in Region 8 and is ready to discuss and to sign Memorandums of Understanding (MoU) with Swedish companies who want to establish a deeper relationship with IEEE, from local internships and IEEE knowledge databases to a global talent acquisition.



Fettisdagen - Semla

The AFI Sweden proposal in 2022 is to organize 3-4 geographically distributed industrial events in several locations in Sweden, afiWeAllProgrammers in Linköping, afiWeAllElectrical in Västerås/Eskilstuna, afiWeAllConnected in Göteborg and afiWeAllEntrepreneurs in Stockholm.

Please, contact Viacheslav Izosimov, Vice-Chair, at izosimov@kth.se for MoUs with industry entities and regarding organization of the AFI industrial events.

IEEE Sweden and Norway, Reliability Society Joint Section Chapter

The IEEE Sweden and Norway, Reliability Society Joint Section Chapter has been formed from May 21, 2021. The Chapter Chair is Janet Lin (Associate Professor, Luleå University of Technology, Sweden) and the Vice Chapter Chair is Yiliu Liu (Associate Professor, NTNU, Norway). Nowadays, from a global collaboration's view, IEEE Reliability Society has 28 chapters in total. Among them, 13 are from North America, 9 are from Asia, and only 6 is from Europe. In Europe, those chapters are from Czechoslovakia, Croatia, France, Italy, Switzerland and UK (joint with Ireland). Although, the most well-known reliability distribution, Weibull, was born in a Scandinavian country (Sweden).

However, in the recent decades, the voices of Reliability professions from Scandinavian seem weak. Therefore, the motivation that led to forming this Scandinavian Chapter is to promote recognition of the Reliability and reliability related professions and Develop and disseminate *Best Practices* for effective reliability professionals from Scandinavian. The forming of this unit will develop and provide technical information to the members through publications, conferences, standards, technical library IEEE Xplore, technical committees, and chapter support. It will also provide the members a professional platform to share experience, learn, and develop together. Moreover, it will raise the voices of reliability professionals from Scandinavian to the world; through which, the members recognition would be promoted to the world.

We have started our Linkedin Webpage, and please try to connect and introduce it to people who may also need the new platform: <https://www.linkedin.com/company/ieee-sweden-and-norway-reliability-society-joint-section-chapter/?viewAsMember=true>

By the way, we appreciate that if you are still interested in any of the volunteer positions in our Adcom team and would like to let us know!

IEEE Photonics Society (PS) Sweden Chapter

Optics and Photonics in Sweden @ OPS-2022 (Postponed)

Due to the COVID-19 situation in Oct-2021 the **Optics and Photonics in Sweden** (OPS-2021) conference organized by IEEE Photonic-Sweden and Umeå University, has been postponed to Oct-2022. This year, the conference venue will be at Umeå University with the general chair, Prof. Ove Axner, Department of Physics, Umeå University. The conference will be held from the 5th of October to the 6th, with the aim of giving an overview of Optics and Photonics in Sweden and Scandinavia and offer a good platform for creating new collaborations. Keynote speakers will highlight European research and developments. A poster session will provide an additional opportunity to display to the most recent developments. An exhibition and a session with company presentations will be held in parallel to the technical sessions to provide industry, institutes and associations, an opportunity to display their products and services and bridge the gap between science and industry. Since 2016 the IEEE-PS Sweden Chapter has sponsored the **Best Poster Awards** at OPS. This year it will be three (3) Awards: 1x Best Poster Award (3 000 SEK) and 2x Best Poster Distinctions (1 000 SEK each). See [Link to more info and registration](#)

IEEE DL webinar on Computational Nano-photonics

IEEE Photonics Society (PS) Sweden Chapter is proud to present **Prof. Salah Obayya**, Zewail City of Science and Technology, Giza, Egypt, as a speaker at this webinar entitled “**Computational Nano-photonics: Basics, Challenges and Future Perspectives**”. Prof. Obayya is one of six lecturers in the [IEEE Photonics Society Distinguished Lecturer \(DL\) Program](#). The program was designed to honor excellent speakers who have made technical, industrial, or entrepreneurial contributions to the field of photonics and to enhance the technical programs of the IEEE Photonics Society Chapters. Due to the COVID-19 pandemic, it was a virtual conference on 17-February @16:00- 17:00. Nano-photonics modeling for 21st century applications is becoming vital. The computational modeling provides a fundamental understanding of the relying physics behind the operation of photonic devices. However, computational modeling is still a challenge as some of the existing modeling techniques fail to capture the correct behavior of nano-photonic devices. In this regard, this talk has introduced an overview of the existing computational modeling tools for analyzing photonic devices, in general, and highlighting their salient features and shortcomings.

WISE-IEEE WIE SEMINAR WITH S. FAROKH ATASHZAR AND ALESSANDRA PEDROCCHI

The WISE-IEEE seminar was held on the 14-December-2021 @12:00- 13:30 with two speakers. The first Speaker, Professor S. Farokh Atashzar spoke on the topic titled “A cross continental career trajectory in time and space through the pandemic toward being a professor of bio-engineering”. The second speaker, Associate professor Alessandra Pedrocchi, lectured on the topic “The cultural and social challenge of promoting the professional value of parenthood”

The seminar was held by Sweden Section Affinity Group, WIE in the Chalmers University of Technology, Gothenburg, Sweden. You can see more info on the website: <https://r8.ieee.org/sweden/women-in-engineering-wie-affinity/>

IEEE on-line seminar “Integration of Inverter-Based Resources, an example of ERCOT” by Dr Julia Matevosyan

The Integration of Inverter-Based Resources was an online seminar by Dr. Julia Matevosyan. It was held on the 9th of December, 2021 @3:30-5:00 PM. The presentation discussed some challenges and solutions applied by Electric Reliability Council of Texas (ERCOT) to accommodate growing number of wind, solar and storage resources. The presentation specifically focused on stability challenges in weak grid areas, inertia and frequency control challenges and improvements in study tools and modeling accuracy.

Swedish Energy Agency Lighting Week Dec 6-10, 2021

The Swedish Energy Agency Lighting Week was an exciting week of free online lighting seminars, arranged by the Swedish Energy Agency for the 11th year and organized by IEEE SSIT Sweden. The seminar was held for 5 days, with 7 selected topics as seen below.

- **Smart Lighting and Green Houses**
- **Lighting and Load Balancing of the power grid**
- **Nordic Lighting Collaboration**
- **Business Opportunities in the EAC and SADC regions via the EELA project (Energy Efficient Lighting and Appliances)**
- **Swedish Research Projects, Lighting Strategy and Lighting Call**
- **Chat Lunch with a Lighting Collaboration Network**
- **Circadian Lighting Developments**

The seminar collaborators were: [IEEE Smart Lighting Project](#) IEEE Sweden Society of Social Implication of Technology Chapter, [Light Collaboration Network](#), [Mount Sinai Hospital Light and Health Research Center](#), Stockholm City, [UNIDO EELA](#). For more information please visit Website: <http://r8.ieee.org/sweden/ssit/>

The 9th Swedish Workshop on Data Science

SweDS is a national event with a focus of maintaining and developing Swedish data science research and its applications by fostering the exchange of ideas and promoting collaboration within and across disciplines. This annual workshop was organized by and held in Linnaeus University which was held on the 02-12-2021 to the 03-12-2021. It brought together researchers and practitioners of data science working in a variety of academic, commercial, industrial, and other sectors.

Towards Trustworthy AI – Integrating Reasoning and Learning

Europe has taken a clear stand that we want AI, but we do not want just any AI. We want AI that we can trust. This talk presented the European approach to Trustworthy AI and gave an overview of some of the interesting research problems related to Trustworthy AI. Special emphasis was placed on the need to integrate reasoning and learning to combine the power of data-driven methods with the formal guarantees and general solutions provided by reasoning-based approaches. The talk was partly based on the ongoing work in the H2020 ICT-48 network TAILOR which has the goal of developing the scientific foundations for Trustworthy AI through integrating learning, optimisation and reasoning. This seminar was presented by Dr. Fredrik Heintz who is an Associate Professor of Computer Science at Linköping University, Sweden. Dr. Fredrik Heintz research focus is artificial intelligence especially Trustworthy AI and the intersection between knowledge representation and machine learning. The talk was held on 2021-11-10 @15:00 – 16:15.

Upcoming events

OPS-2022: The Optics and Photonics in Sweden (OPS-2021) conference is organized by IEEE Photonic-Sweden and Umeå University. The venue is Umeå University with the general chair, Prof. Ove Axner, Department of Physics, Umeå University on 5-October to the 6- 2022. IEEE Photonics Society Sweden Chapter will sponsor the Best Paper and Best Poster Awards.

AGM-2022: The Annual General Meeting (AGM) is scheduled for **March 24th, 2022** in a hybrid format (Linköping+Zoom). Please register here: <https://forms.gle/tax4uGvZdY2aQ6yq9>. The event will be accompanied with a talk by our new IEEE Fellow Prof. Valeriy Vyatkin from LTU, "Is there any room for cyber-physical systems in industrial automation?" See personal page: <https://www.ltu.se/staff/v/valvya-1.96049?l=en>

The first live OptoPub-meeting after the pandemic in Kista/Stockholm

The first live OptoPub-meeting after the pandemic was held on 2021-11-04 @17:30- 20:30. This meeting was organized by IEEE Photonics Society (PS) Sweden Chapter and Lennart BM Syensson (Photonic-Sweden) in Kista/Stockholm. The organizers of this meeting made sure that all participants were either vaccinated or symptom-free, and also made sure to send the OptoPub online via Zoom from the live event. Presentations were made by Dr. Rafael Puerta [Ericsson Research] on “***Mobile fronthaul for cell-free MIMO***” and Dr. Xiaodan Pang [KTH] on “***Ultrahigh-speed THz wireless transmissions enabled by photonics***”. After the presentations, pre-registered participants were invited for mingle with food and drinks sponsored by IEEE-PS-Sweden through an IEEE-PS Annual Chapter Grant.

IEEE Seminar on “High Power Density Converter Designs – New Circuit Topologies, Control Techniques, and Packaging to Achieve Extreme Size Reductions in Applications Ranging from Datacenter Power Delivery to Electric Aircrafts.” by Professor Robert Pilawa-Podgurski, UC Berkeley

A paper presented by Professor Robert Pilawa-Podgurski, UC Berkeley on Thursday Nov 4, 2021, at 15:00-16:30, CET. The venue for the meeting was the Hybrid Event at both KTH Campus and on Zoom (address/link was sent upon registration). The paper discussed some recent advances in this space, such as new circuit topologies, control methods, and integration techniques. See Website: <http://r8.org/sweden/pepel-chapter/> for more information.

Sites for Success

IEEEExplore: <http://ieeexplore.ieee.org>

IEEE ResuMeLab http://www.ieee.org/membership_services/membership/resumelab

IEEE Job Site <https://jobs.ieee.org>

IEEE Student scholarships, grants and fellowships:

<https://www.ieee.org/membership/students/scholarships-grants-and-fellowships.html>

IEEE Membership

<https://www.ieee.org/membership/index.html>

IEEE Women in Engineering

<https://www.facebook.com/ieewomeninengineering>

IEEE University Partnership Program:

<https://www.facebook.com/ieee.upp>

IEEE Member and Geographic Activities Operations Manual

<https://mga.ieee.org/board-committees/operations-manual>