

3rd IEEE Nordic Student and Young Professionals Congress.

A Personal Reflection

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The IEEE Nordic Student and Young Professional (SYP) Congress is an event promoting cooperation and sharing of ideas between the Nordic student branches, young professionals and women in engineering affinity groups and chapters. The 3rd IEEE Nordic Student and Young Professionals Congress featured 3 days of scientific talks and activities spread out across Sweden and Finland with 3 congress locations. The theme of the Congress for 2019 is sustainability. This congress had about 20 speakers to educate and inform on different sustainability themes. The trip from Stockholm to Helsinki and from Helsinki back to Stockholm was on a Cruise ship. When we arrive on the morning of 26 October in Finland, the congress venues took place in Aalto University in Helsinki. We shared the weekend congress at Helsinki with alumni students from the Universities in Finland. The program started off on the 25th of October at 15:00. The rest of the programs for the congress were organized as follows:

Day 1

- Registration and welcome program to the Nordic SYP 2019.
- Introductory talks and lectures by the organizers of the congress.
- Distribution of the Nordic SYP hoodies to all the participants
- Sailing the Cruise from Sweden to Finland, Helsinki.
- Representatives of both Sweden and Finland chairs welcome to the Nordic SYP talks inside the Cruise.
- Student Activities Committee introduction by IEEE Region 8 Vice-Chair and R8 SAC Chair.
- IEEE Young Professionals introduction by the chairs of young professional chairs of IEEE Region 8.
- IEEE style Pub Quiz activity.
- Grand buffets dinner onboard at the Symphony.

Day 2

- Breakfast buffet onboard at the Symphony.

- Travel to Aalto University.
- Welcome talks by Finland IEEE Young Professionals and board chairs.
- Electric Vehicles – Benefits and Challenges. This talk was given by Mahdi Pourakbari Kasmaei.
- Lunch provided at Aalto University
- Sandvik – Electrification & digitalization of underground mining. This talk was given by the congress co-host and co-organizer, Jenni Rekola. Jenni said that Sandvik is a world-leading company producing underground and surface mining machines.
- Eaton Energy efficiency improvements of UPS. This talk was given by Rebeccah Kimotho and Joel Kärkkäinen. The speakers said that Eaton is a world-leading producer of uninterruptible power supplies (UPS) offering those in large power scale from kilowatts to megawatts.
- Nokia - 5G Network Automation and machine learning. This talk was given by Dr.Dmitry Petrov, a senior researcher at Nokia Bell Labs, Finland.
- Panel Discussion: Sustainability - The engineering responsibility. This was a panel discussion between our speakers and invite questions from the audience around a topic.
- WIE - Women Engineers and Equality. This talk was given by the chair of WIE IEEE Region 8. This talk was mainly on how women engineers can transform challenges into opportunities by addressing the visibility problem of women in top management positions. The talk also addresses some of the ideas and projects considered by the IEEE Region 8 Women in Engineering Sub Committee.
- Finally, benefits of IEEE membership and IEEE Student branch talks were given by Levgen Pichkalov and Dr. Andrejs Romānovs.
- Gala dinner onboard at the Symphony.

Day 3

- Breakfast buffet onboard at the Symphony.
- Introduction talks by the IEEE Young Professionals Sweden branch.
- Introduction talks to WIE Sweden. The WIE Sweden section gave a talk on the challenges and problems facing WIE chapters throughout R8. The talk highlighted some of the obstacles faced by WIE chapter today and how they have tried to overcome them.
- Volvo Cars – "A vision of the future". This talk was given by Waled Elsayed from Volvo Cars.
- Extreme Environment Electronics for Venus. This talk was given by Carl-Mikael Zetterling, a professor in solid-state electronics at KTH Royal Institute of Technology. His talk focused on focus on the research to develop electronics that can withstand harsh environments. Professor Carl-Mikael Zetterling said the electronics are based on silicon carbide, a semiconducting material that can withstand the extremely harsh climate on Venus.
- Reduced GHG-emissions through electrification of agriculture. This talk was given by Dr. El Houssein Chouaib Harik and in his talk on the ongoing research at the Center for Precision Agriculture aimed at reducing the use of fossil fuels in agriculture. He addressed the concept of innovative technical solutions from a research perspective and methodologies applicable at the farm level.
- Securing the Internet of things with Artificial Intelligence (AI). This talk was given by Professor Celestine Iwendi, Senior Member of the Institute of Electrical and Electronics Engineers IEEE, a board member of IEEE Sweden, a Chartered Engineer and a Fellow of The Higher Education Academy, United Kingdom. He focused mainly on securing the practical challenges of securing the Internet of Things (IoT) infrastructure.
- DNV - The power grid in 2050. This talk was given by Ambra Sannino and on her talk, she focused on her recently published Energy Transition Outlook, ETO, report for 2019.
- Vattenfall - Fossil free living within one generation. This talk about sustainability and Vattenfall was given by Gustav Frid.

- Pressing challenges and opportunities that can be found at the intersection of engineering and sustainability. This talk was given by Ruben DeMoor - Chief Compromise Officer: The engineer as an architect of sustainable growth.

Summary

On both the first and second boat nights, I had the opportunity to roam around the boat and explore the nighttime activities available onboard at the Cruise. For me, attending the 3rd IEEE Nordic Student and Young Professionals Congress was really useful to exchange ideas with participants who are pursuing research careers on machine learning, deep learning, Artificial Intelligence and exchange new research ideas. In addition to this, I also had a great opportunity to listen to interesting presentations and panel-discussions on professionals working both in the industry and academia. The panel discussion was on how young professionals and students can improve sustainability in the future. Besides the academic discussions, I had the opportunity to introduce COINS for a couple of the participants I met at the event and ask them to join some of the future activities organized by COINS. The 3rd IEEE Nordic Student and Young Professionals Congress gave me an opportunity to expand my knowledge and do networking with other participants and organizers. I learn a lot from this congress especially on the 5G network automation and machine learning talk from Nokia. The other interesting topic for me was securing the Internet of Things (IoT) with Artificial Intelligence (AI). I would, therefore, give my strongest recommendation for any COINS member to apply and participate in the upcoming events of the congress. Finally, I would like to thank COINS for covering my travel and accommodation costs to attend the 3rd IEEE Nordic Student and Young Professionals Congress.



Figure 1: Lecture on 5g, Network automation and Machine Learning





