

## Special Interest Articles:

- AGM News
- IEEE R8

## Individual Highlights:

AGM and Lecture	2
IEEE R8 Meting	3
Bud Lecture	4
New Executives	5

IEEE SE MN2018-Q1

## Editorial

It is a new start with the emergence of new hands to pilot the affairs of the IEEE Sweden section for another year. The team will endeavour to provoke your potentials and provide avenues when you can exercise your wisdom as a master thinker because collectively there is more inside of each one of us. One of my admired mentors once said "There is nothing extraordinary on its own

rather, it is man's extraordinary input that make things extraordinary. Therefore, continuous training is a vital requirement both to generate impact and sustain relevance".

We at the IEEE Sweden section will continue to put together, packages that will enhanced your career. You cannot be connected to IEEE Sweden section and be stagnated with resources for your engineering growth. This body is the right channel

to enhance your knowledge and connect you to the right people that will add flavour to your creativity.

*This newsletter aims at sharing information with the IEEE Sweden Section Members. The Newsletter is subject to continuous improvements. Hence we kindly ask for contributions, feedback and involvement from our readers. Please submit to the Newsletter Editors, Dr. Celestine Iwendi [celestine.iwendi@ieee.org](mailto:celestine.iwendi@ieee.org)*

## A message from the Sweden Section Chair

Dear IEEE Members,

A new year has begun and a new board for the IEEE Sweden Section has been elected. I welcome the new members wholeheartedly and look forward to a fruitful year ahead.

If we were to summarize the year 2017 for IEEE Sweden Section- it was an exceptional year with outstanding activities and awards. From the first IEEE milestone awarded to Sweden for the first HVDC link to Gotland; to the Bud Lawson's lecture. The Young Professional, Women in Engineering, and Students played their parts very well too.

Looking forward: It's very important we keep the momentum built up in the previous year's going on. The different chapters have a key role to play in this ambition and I look forward to discussing this at the annual Chapter Chairs workshop, later in autumn this year.

The membership development has never been better. We are at the moment approximately

2300 members in the Section.

Finally, I would like to thank the outgoing members of the board from the last year: Mats Edvinsson, Rune Persson and Luis Guillermo for their enormous

contribution to the Section in the past years. We hope you continue to be associated with us and IEEE in the future.



**Samarth Deo,**

Chair IEEE Sweden Section FY-2018

[samarthdeo@ieee.org](mailto:samarthdeo@ieee.org)

## News about AGM held March 14<sup>th</sup> and Lecture

The Sweden Section held its Annual General Meeting for Fiscal Year 2017 at KTH main campus on 14th March 2018. The new Sweden Section Board for FY 2018 is listed at the end of this Newsletter.

Prof Bengt Lennartsson, Chalmers, held a very well performed and much appreciated IEEE Fellow Technical Lecture on Industry 4.0 and digitalization, with focus on industrial implementations. The session was very interactive and included discussion with audience.

The starting point was 'the Tweeting Factory' - a flexible online and event-based information architecture, where simple messages (tweets) from all kinds of equipment are combined into high-level knowledge. Thus avoiding hard coded communication and dedicated solutions with ad hoc integrations. Chalmers developed the platform with Volvo Cars, Scania, KTH and LTH.

Another 4.0 topic is the industrial challenge of integrated product, production and automation design. Bengt illustrated approaches to develop both mechanical and software design in a more integrated way, addressing operations both from a product view and a resource view.

Industrial robots could be used much more efficiently. Bengt illustrated some negative consequences of today's robot patterns (often optimized on time), and presented approaches for better usage and energy consumption; A new specific KPI is based on a new efficient optimization procedure for hybrid systems and Petri Nets. Constraint Programming is used to reduce the discrete search space, and no physical models are included in the energy minimization. Evaluations on industrial robots have recently shown that it is possible to obtain energy reduction up to 30% and peak power reduction up to 60%. In this context, one should be aware of conflicts between energy usage vs system robustness vs system stability.

Prof Bengt Lennartsson, IEEE Fellow, is Head of the Division of Systems and Control at the Department of Electrical Engineering, and since 1999 Chair of Automation at Chalmers University of Technology, Gothenburg, Sweden. Recent collaboration with industry involves Volvo, Daimler, Kuka, and TetraPak. He has been Associate Editor for Automatica and IEEE Transaction on Automation Science and Engineering, General Chair of CASE 2015, WODES 2008 and Dean of Education at Chalmers



**From left to right: Samarth Deo (Sweden Section Chair), Christofer Sylfvenius (Treasurer), Bjorn Sonerud (Board Member), Prof. Arnold Pears (Board Member), Bengt Lennartsson (IEEE Fellow), Mats Edvinsson (Past Chair), Harold "Bud" Lawson (IEEE Fellow), Alberto Lorente Leal (YP chair)**



## IEEE Region 8 Meeting

The 110<sup>th</sup> IEEE Region 8 meeting was held in Athens from the 9<sup>th</sup> to the 11<sup>th</sup> of April 2018. Samarth Deo, then incoming chair and now chair; Mats Edvinsson, then Chair and now past-chair attended the meeting from the IEEE Sweden Section. Besides Margaretha Eriksson, who is the IEEE Region 8 Director, was also present, presiding over most of the meetings.

Mats Edvinsson and Samarth Deo presented a poster (on the right) at the poster session, showcasing the awards and activities in the past years. It not only gathered interests from other section volunteers but also won praises from IEEE President James A. Jefferies.

One of the key areas of focus for the entire region is to be closer to the industry in order to give more to IEEE members who are vastly in industry. The “Action for Industry” initiative is meant for sections to use it as a tool to connect professionals across industries, with academia, students and young professionals. More information can be found on

<http://ieeer8.org/category/technical-activities/action-for-industry/>

Another area of focus is the “Action for Africa”, where IEEE is trying to leverage activities across the African continent to ensure the we are doing our best as engineers and IEEE members- *Advancing Technology for Humanity* in the less privileged areas across the globe. In view of this, there was a vote on forming the “IEEE Africa Council.”

The students and young professionals presented their ambitious plan for the next IEEE R8 Students and Young Professionals Congress, to be held at Porto from the 24<sup>th</sup> to 29<sup>th</sup> July 2018. All Sections were encouraged to send student branch and YP chairs.

There were also voting on changes to the IEEE R8 by-laws, which is considered to be a living-document. The primary changes were in relation to changing the term “GOLD” to “YP”; change from “Industry Actions” to “Action for Industry”; Make Women in Engineering from an appointed representative to a standing committee; besides changes to Humanitarian Activities subcommittee; IEEE Fellow grade requirements and adding the area information in the operations manual.



Picture from the IEEE R8 Meeting, in Athens

## Bud Lawson's Lecture- Events that Changed the IT World

Our IEEE Fellow Harold  
"Bud" Lawson's lecture

### Events that Changed the IT World - Experiences and Reflections of a Computer and Systems Engineering Pioneer

HAROLD "BUD" LAWSON is Inventor of the Pointer Variable and Recipient of the prestigious IEEE Charles Babbage Computer Pioneer Award as well as the INCOSE Systems Engineering Pioneer Award. Recently he has been nominated to the very prestigious Major Annual IEEE Computer Society Simon Ramo Medal Award in Systems Engineering. Bud is the chief-architect of the fundamental and important International Standard ISO/IEC/IEEE 15288:2015 Systems and Software Engineering — System Life Cycle Processes.

Tuesday on the 4<sup>th</sup> of April at Kista and Thursday on the 8<sup>th</sup> of June in Linköping last year our Fellow Member Professor Emer. Harold "Bud" Lawson held two very well-attended lectures with the title "Events that Changed the IT World - Experiences and Reflections of a Computer and Systems Engineering Pioneer". Please, have a look at the survey below! he was asked to provide

a chapter for the book IFIP – Springer LNCS Series – Reflections on the History of Computing – Processing Memories and Sharing Stories, Edited by Arthur Tatnall. The book was published in 2012. Since then, he has updated the chapter as it presents a rather comprehensive presentation of his professional career. The abstract for the chapter explains the contents as follows:

Abstract: I have divided this personal history into three phases; namely computer industry, computer-based systems and complex systems. While the years indicated are approximate and there is significant overlap, it provides a structure to conveying the essence of my career. I have worked with many talented people during my career and we have learned from each other. I thank them all and identify many of them. Further, I take the opportunity to provide some reflections that may have occurred during the experience or in several cases later in my career. I also provide a summary of what I consider to be my most important publications.

Keywords: personal history, computer

industry, computer-based systems, complex systems  
This updated chapter is available in pdf via the following link:

<http://www.thesystemslandscape.com/author>

He used this chapter as the basis for several seminars delivered at Mälardalens University, Dataföreningens Veteraner, SICS and Swedsoft sponsored seminars at Kista and in Linköping.

*According to IEEE Fellow Lawson "It is important to understand the historical developments that have taken place. Many of our current problems with computer technology have their root causes in events that have changed the IT World"*

In his brief biography, he was very fortunate to begin his professional career at Remington-Rand Univac under the direction of the legendary Rear Admiral Dr. Grace Murray Hopper. Amazing Grace has a special place in his heart. From her he learned to question the status quo, to seek deeper meaning, to explore alternative solutions and at least implicitly to always try to find the guiding concepts and principles.

This has continuously affected his approach to the many problems and opportunities that he has faced in dealing with complex systems.



IEEE Fellow  
Harold "Bud"  
Lawson

At the seminar he gave his explanations focusing on Computer industry, Computer based Systems and Complex Systems.

Book Publication Activities

Based on his interest in complex systems, he published the book: A Journey Through the Systems Landscape in 2010 with College Publication at Kings College in London. Later with the support of Stevens Institute of Technology and the Bertalanffy Center for the Study of Systems Science. There are now nine volumes in the System series and it continues to grow.

## Coming Events

1st IEEE Workshop on NEXt level of Test Automation 2018. Date: April 9<sup>th</sup>. Venue: Aros Congress Center, Västerås, Sweden

### 11th IEEE Conference on Software Testing, Validation and Verification

April 10 - April 12

Venue: Aros Congress Center, Västerås, Sweden

### Swedish Microwave Days. May 24 - May 25

Registration: 1875SEK - 3125SEK Organizer: Lund University

### 40th International Conference on Software Engineering

May 27 - June 3.

Venue: Congress center Gothia Towers Göteborg, Sweden

## IEEE EPS Nordic Chapter with Prof Emeritus Jim Morris @ Chalmers

On December 7th, IEEE EPS Nordic Chapter, together with Chalmers University of Technology, hosted a lecture as a part of IEEE Distinguished Lecturer program. The speaker was Prof Emeritus Jim Morris, of Portland State University, with the title "Topics in Nanopackaging". As a much-renowned veteran in the field, Prof. Morris gave his view on the emerging research in nanopackaging, and three key

areas of interest: the use of nanoparticles in electronics packaging, nanoparticle thin-films, and carbon nanotube for packaging.

The presentation opened up for a fruitful discussion, and for the first time at Chalmers, the lecture was streamed online through the IEEE Webex system,

allowing participants from all over the nordic area (and the world) to listen in and contribute to the discussion. The streaming went well and will definitely be repeated for future events.



**Prof Emeritus Jim Morris at IEEE EPS Nordic Chapter with Chalmers University**

## IEEE Sweden Section New Executives – Fiscal Year 2018

### The Sweden Section Board:

Chair: **Samarth Deo**  
Vice-Chair: **Viacheslav Izosimov**  
Treasurer: **Christofer Silfvenius**  
Industrial Relations: **Viacheslav Izosimov**  
Membership Development: **Prof. Arnold Pears**  
Newsletter & Information: **Dr. Celestine Iwendi**  
Past Chair: **Mats Edvinsson**  
Board Member: **Prof. Andrei Gurtov**  
Board Member: **Prof. Qinghua Wang**  
Board Member: **Dr. Bjorn Sonerud**

### Adjunct to the board:

Women in Engineering Chair: **Elena Vasileva**  
Young Professionals Chair: **Alberto Lorente Leal**  
SB CTH Chair: **Andreas Nylander**  
SB KTH Chair: **Sara Saeidian**  
SB BTH Chair: **Akash Neelap**

Auditor, elected by the AGM:  
**Tea Marjamakki**

<http://sites.ieee.org/sweden/home/executive-committee/>