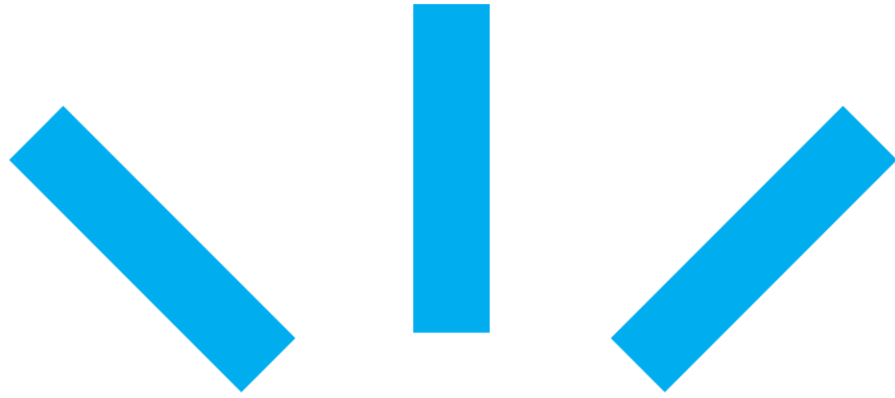




IEEE AP-S DL Workshop Oulu

Sept 28, 2026

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**UNIVERSITY
OF OULU**

IEEE AP-S DL Workshop Oulu

Date : September 28, 2026

Location : Tellus Backstage, Linnanmaa Campus, University of Oulu

Attendance : 42 participants onsite, [livestream](#) on 6G Flagship [YouTube](#)

Audience Profile: Master students, Doctoral and Postdoc Researchers

1.1. Executive Summary

The Centre for Wireless Communication (CWC) and 6G Flagship hosted the IEEE AP-S Distinguished Lecturers (DL) Workshop as part of the IEEE AP-S DL Program's Northern Europe Tour 2026. This tour initiative was coordinated by Prof. Levent Sevgi, the IEEE Antennas and Propagation Society (AP-S) DL Program Chair. On the other hand, the local organization and coordination of this one-day program is coordinated by Prof. Jack Soh and Adj. Prof. Pekka Kyösti, with the support of the staff from CWC and 6G Flagship, and students from the IEEE Student Branch Oulu. The event is technically sponsored by the IEEE Finland AP/ED/MTT Chapter and sponsored by the PLM Group.

1.2. Scientific Program

This event, which was held at Tellus Backstage, Linnanmaa campus of the University of Oulu, was opened by Prof. Soh, who extended a warm welcome to distinguished lecturers and participants. Besides that, he emphasized the significance of such event in garnering the interest of young researchers in antenna and propagation research, besides the opportunities to interact directly with the five distinguished lecturers who came from four different countries.

The workshop featured five internationally renowned IEEE AP-S Distinguished Lecturers, each delivering a lecture on electromagnetic fields, ranging from metamaterials and computational electromagnetics to antenna innovation and electromagnetic propagation, sensing and imaging.

1. **Metamaterials and Composites: Electromagnetic Description and Unexpected Effects:** Prof. Ari Sihvola from Aalto University, Finland, in this segment the variety of ways how one is able to characterize the macroscopic dielectric and magnetic behaviour of composite materials with given properties of the constituents and the geometrical microstructure.

2. **Magic World of Transformation Electromagnetics: Invisibility and Beyond:** Prof. Ozlem Ozgun from Hacettepe University, Türkiye, delved into the transformation electromagnetics (TEM), with particular emphasis on clarify the underlying physics and design principles. This was followed by the presentation of a set of representative and surprising applications that highlight the versatility of transformation-based approaches in both electromagnetics and computation.
3. **How Many Spatial Degrees of Freedom Are There? From Antennas and Near-Field Communications to Imaging and Computation:** Prof. Mats Gustafsson from Lund University, Sweden, lectured on a topic about the spatial degrees of freedom, which relates to how much independent information can be transmitted, received, or represented by an electromagnetic system. It also reviews fundamental results on spatial degrees of freedom and introduces an analytical approach for estimating the NDoF between arbitrarily shaped transmitting and receiving regions.
4. **Non-Hermitian Electromagnetics and Its Applications:** Prof. Pai-Yen Chen from the University of Illinois Chicago, presented non-Hermitian physics and its unique singularities have redefined wave engineering, which has facilitating breakthroughs in signal generation, routing, and sensing. This includes a discussion of its recent advancements and applications in the RF and microwave domains.
5. **Electromagnetic Wave Propagation: Modelling and Simulation:** Prof. Levent Sevgi from Istanbul Technical University, Türkiye, focused on electromagnetic wave propagation for medium and long-range communication as well as radar systems. Besides that, he also presented a numerical propagation tool that calculates path losses between any two points marked on their digital maps which account various EM effects, such as, the irregular terrain profile, the vegetation, the Earth's curvature, the atmospheric refractivity, the presence of buildings, cars, and other obstacles, etc.

Besides that, invited talk entitled “Electromagnetic Design Beyond Parameter Sweeps” provided an overview into the new features of Dassault Systèmes’ CST Studio Suite. This was also presented by Simulation Specialist Ms. Vesna Somero from the PLM Group. A detailed program of the day is presented in Table 1 and is also available from the [event page](#). Finally, Prof. Kyösti ended the day by expressing his sincere appreciation to all parties involved in the organization, participants and distinguished lecturers. This is then followed by a lab visit to CWC’s RF/EMC Lab and by dinner.

Table 1. Detailed Program of the IEEE APS DL Workshop Oulu

Time	Program/Activities
0845-0915	Coffee and networking
0915-0920	Opening Address: Prof. Ping Jack Soh
0920-1020	Distinguished Lecture 1: <i>Metamaterials and Composites: Electromagnetic Description and Unexpected Effects</i> , by Prof. Ari Sihvola, Aalto University, Finland.
1020-1120	Distinguished Lecture 2: <i>Magic World of Transformation Electromagnetics: Invisibility and Beyond</i> , by Prof. Ozlem Ozgun, Hacettepe University, Türkiye.
1120-1210	Lunch served at Backstage + Networking
1210-1230	<i>Electromagnetic Design Beyond Parameter Sweeps</i> , by Vesna Somero, PLM Group
1230-1330	Distinguished Lecture 3: <i>How Many Spatial Degrees of Freedom Are There? From Antennas and Near-Field Communications to Imaging and Computation</i> , by Prof. Mats Gustafsson, Lund University, Sweden.
1330-1430	Distinguished Lecture 4: <i>Non-Hermitian Electromagnetics and Its Applications</i> , by Prof. Pai-Yen Chen, University of Illinois Chicago, USA.
1430-1530	Distinguished Lecture 5: <i>Electromagnetic Wave Propagation: Modelling and Simulation</i> , by Levent Sevgi, Istanbul Technical University, Türkiye.
1530-1535	Closing Address: Prof. Pekka Kyösti

1.3. Interaction and Participation

The workshop was fruitful, featuring rich academic discussions and active on-site interaction. Several feedback received from participants are as follows:

1. *The lectures covered five fundamental topics in the field of electromagnetics, with a comprehensive topic layout, forming a complete academic perspective. Besides that, the lectures are of high quality and provided a better understanding on how fundamental electromagnetic concepts can be connected to emerging research challenges and provided the audience with new perspectives beyond their current research.*
2. *The lectures have integrated rich academic resources, reflecting the inclusiveness and forward-looking nature of related research fields. Attendees thought that the talks were very beneficial for expanding their knowledge base and inspired new research ideas. Besides that,*

they were also inspired and motivated by the DLs' (and their group's) achievements in the field.

3. *Participants actively interacted with the DLs after the lectures and during the lunch/breaks and the overall atmosphere of the activity was relaxed and pleasant. This was personally motivating and encouraging for us early researchers to continue developing our research career in antennas and electromagnetics.*

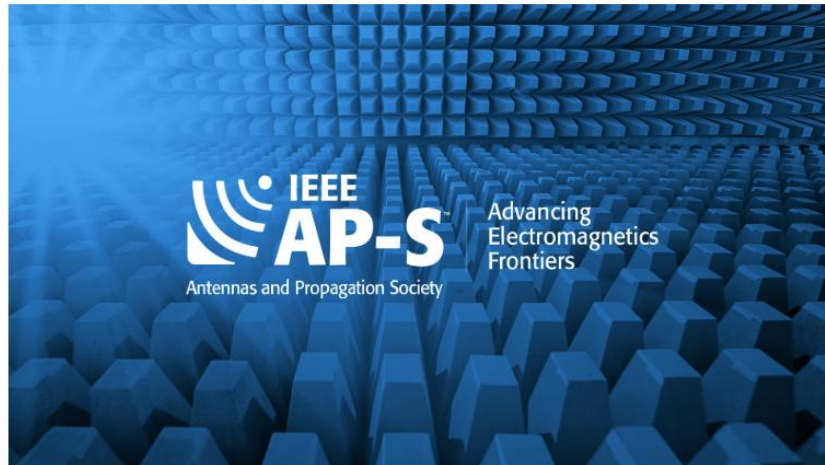
The event also served as a platform for academic exchange in the field of electromagnetics, contributing to the in-depth development of related academic research and enhancing the academic experience of all participants

1.4. Conclusion

The event hosted by the Centre for Wireless Communications, 6G Flagship and the IEEE Student Branch Oulu turned out to be a success. This is hoped to position the University of Oulu as the regional platform for communication and cooperation in the area of antennas and propagation. With topics ranging from metamaterials and computational electromagnetics to antenna innovation and electromagnetic propagation, sensing and imaging, the workshop not only expanded the participants' academic horizons but also facilitated sustained development and enhanced the visibility of the AP-S community at Oulu.

IEEE Antennas and Propagation Society Distinguished Lectures Oulu

September 28 @ 08:45 - 15:30



The Centre for Wireless Communications at the University of Oulu is pleased to host the IEEE Antennas and Propagation Society (AP-S) Distinguished Lectures in Oulu on Monday, 28 September 2026, at Tellus Backstage, Linnanmaa Campus.

Hosted by Prof. Jack Soh and Adj. Prof. Pekka Kyösti, the event is organized in collaboration with the IEEE Finland AP/ED/MTT Chapter, 6G Flagship, and IEEE Student Branch Oulu, with sponsorship from PLM Group.

The event brings the IEEE AP-S Distinguished Lecture program to Oulu, offering an opportunity to hear from leading experts in antennas and propagation and to connect with researchers, students, and professionals in the field.

Image 1. Screenshot of the event page ([Link](#)).



Image 2. Live streaming of the event on 6G Flagship's YouTube channel ([Link](#))



Image 3. A collection of photos from the workshop.



Image 4. Another collection of photos from the workshop.

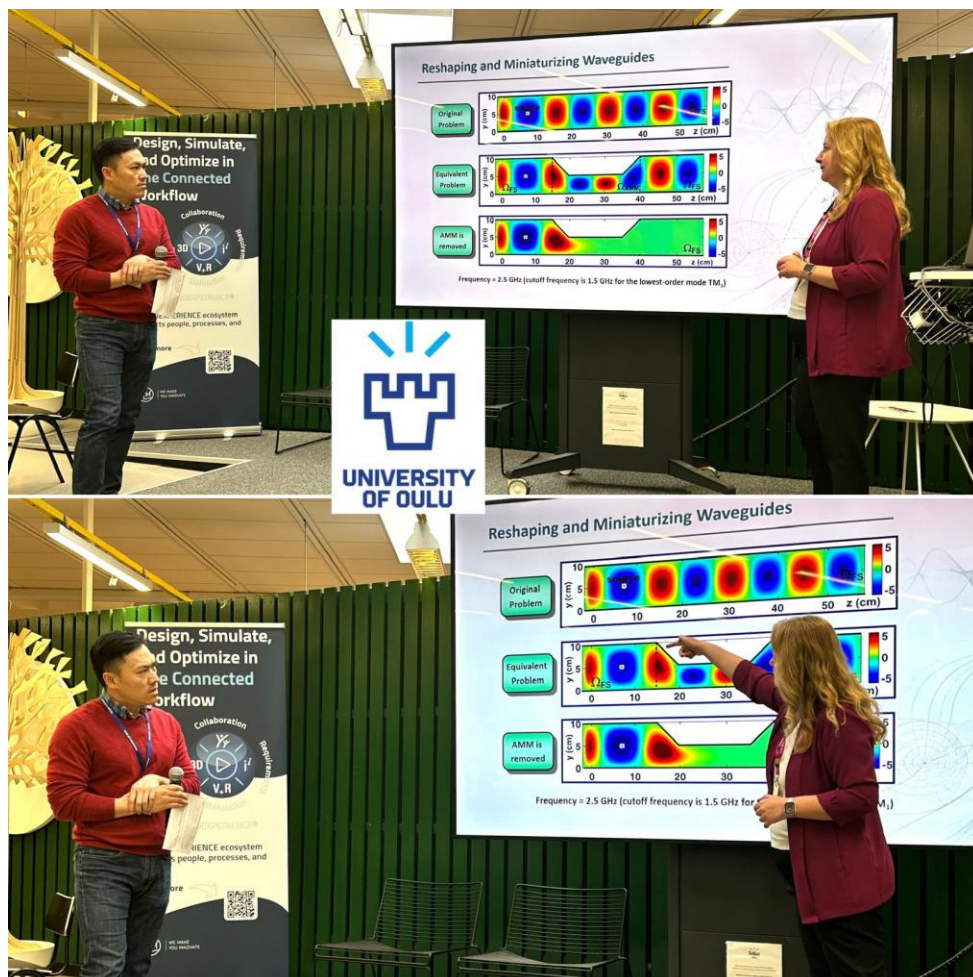


Image 5. Another collection of photos of the discussion from the workshop.



Image 6. Discussion from the workshop during lunch.