ISSUE 9

PAINLESS

An innovative training network (ITN) on

Energy-autonomous portable access points for infrastructure-less networks

NEWSLETTER DATE
May 2020

Inside this issue

PAINLESS and WINDMILL School Speakers and Overview

PAINLESS RESEARCH PROJECTS' UPDATES

PAINLESS has recently conducted its third Summer School Virtually In collaboration with WINDMILL

Hosted by AAU in Aalborg

Several world-renowned speakers took part in our school to discuss the state of the art in wireless communications & the mathematical tools underpinning it. Our School was well received with over 300 registered attendants from across the globe. Please check out our video recordings on our website and on youtube to catch up on what PAINLESS & WINDILL are up to!

3rd Summer School Speakers

Petar Popovski (Aalborg University)

PETAR POPOVSKI (Fellow, IEEE) received the Dipl.-Ing. and M.Sc. degrees in communication engineering from the University of Sts, and the Cyril and Methodius in Skopje and the Ph.D. degree from Aalborg University in 2005, where he is a Professor with Aalborg University, where he heads the Section on Connectivity. His research interests are in the area of wireless communication and communication theory.

Professor Popovski provided a comprehensive overview on Challenges and Possibilities for Wireless Connectivity on the Path beyond 5G.

Christian Raffelsberger (Lakeside Labs)

Aymen Fakhreddine (Lakeside Labs)

Christian Raffelsberger is senior Researcher and Project Manager in Lakeside Labs. Christian's expertise is ad hoc networks, 5G, delay-tolerant networks, multimedia communications, and disaster management. He holds a master and doctoral degree in informatics from U Klagenfurt. Before joining Lakeside Labs, Christian gained experience in a large European project.

Aymen Fakhreddine is senior Researcher in Lakeside Labs. Aymen's expertise is in wireless communications, networking, and localization. His current emphasis is on cellular-connected drone systems. He holds a doctoral and master degree in telematic engineering from the University Carlos III Madrid (Spain) and a master degree in wireless communication systems from École Supérieure d'Électricité (Centrale Supélec) in Paris (France).

Aymen and Christian provided a lecture on AV Communication Challenges.

David Gesbert (Eurecom)

David Gesbert (**Fellow, IEEE**) is a Professor and head of the Communications Systems Department of EURECOM. He is also heading the Foundations and Algorithms group. He has been named in the Thomson-Reuters List of Highly Cited Researchers in Computer Science. He is a Board member for the OpenAirInterface (OAI) Software Alliance. Since 2015, he is the holder of an Advanced ERC grant on the topic of Smart Device Communications. Since early 2019, he heads the Huawei-funded Chair on Adwanced Wireless Systems Towards 6G Networks. Since 2020, he holds a 3IA Chair funded on the topic of AI for future IoT Networks.

David provided a lecture on Learning from the Sky: Robot Aided Mapping, Radio Access and Localization

Elisabeth de Carvalho (Aalborg University)

Elisabeth de Carvalho received the Ph.D. degree in electrical engineering from Telecom ParisTech, France. She was a Post-Doctoral Fellow with Stanford University, Standford, CA, USA, and then with industry in the field of DSL and wireless LAN. Since 2005, she has been an Associate Professor with Aalborg University. Her main expertise is in signal processing for MIMO communications, with recent focus on massive MIMO, including channel measurements, channel modelling, beamforming, and protocol aspects.

Elisabeth introduced WINDMILL Project.

3rd Summer School Speakers

Christos Masouros (University College London)

Tamas Kerekes (Aalborg University)

Ioannis Krikidis (University of Cyprus)

Dennis Sherwood (Silver Bullet)

Gert Spender-Andersen (Aalborg University)

Christos Masouros is currently a full professor in the Department of Electrical and Electronic Engineering, University College London. His research fields include wireless communications, interference mitigation and exploitation, MIMO and multi-carrier communications, and communication and radar coexistence.

Christos Introduced PAINLESS Project.

Tamas Kerekes (Senior Member, IEEE) received Ph.D. degree in analysis and modeling of transformerless PV inverter systems from the Department of Energy Technology, Aalborg University, in 2009. He is currently as an Associate Professor with Aalborg University. His research interests include grid connected renewable energy systems focusing on different grid forming and grid following control algorithms for power electronic converters for renewable energy systems with storage solutions.
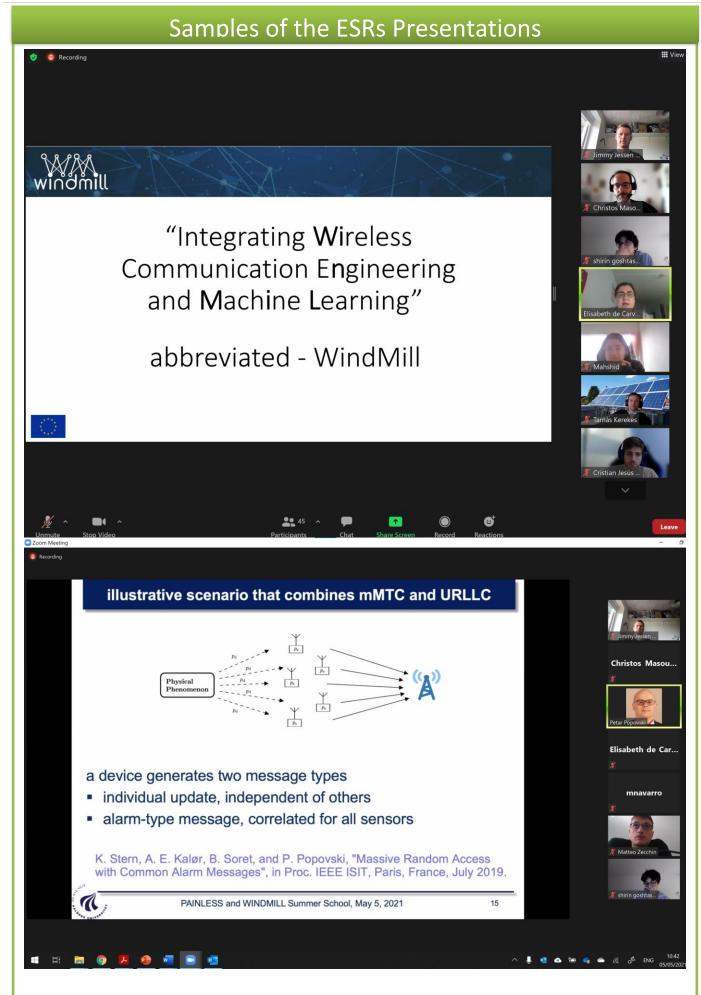
Ioannis Krikidis (**Fellow, IEEE**) is an associate Professor in the Department of Electrical and Computer Engineering at the University of Cyprus. He is the director of the IRIDA Research Centre for Communication Technologies and the Mobile Communications and Networking (MCN) laboratory, which conduct research in the broad area of communication theory, communication signal processing, wireless communication and networks. His research focus is on Wireless Communications.

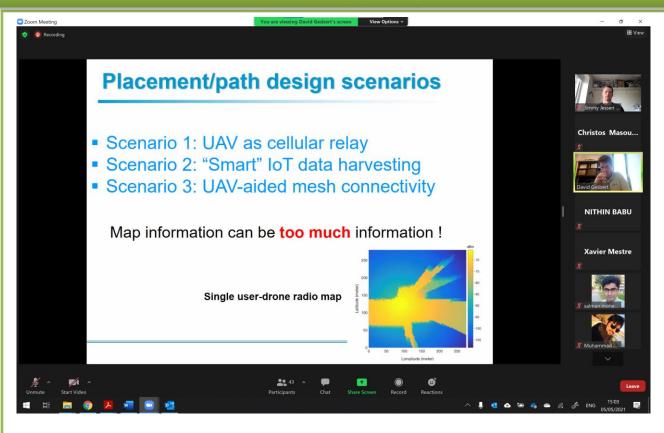Tamas and Ioannis provided a lecture on Machine learning.

Dennis Sherwood education was as a scientist, reading physics at Clare College, Cambridge, followed by taking an MPhil at the Department of Molecular Biophysics and Biochemistry at Yale University, and a PhD in biology at the University of California at San Diego. Dennis is also a Sloan Fellow, with distinction, of London Business School. Dennis's passion for creativity and innovation led him to found *Silver Bullet* in 2001. Dennis provided a course entitled "Yes, you too can be creative!"
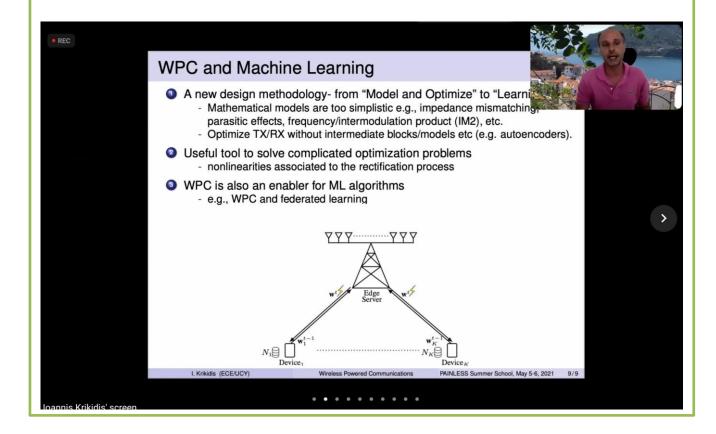
Gert Spender-Andersen is Special consultant in AAU Innovation, Aalborg University. Gert has more than 25 years of experience being an entrepreneur.

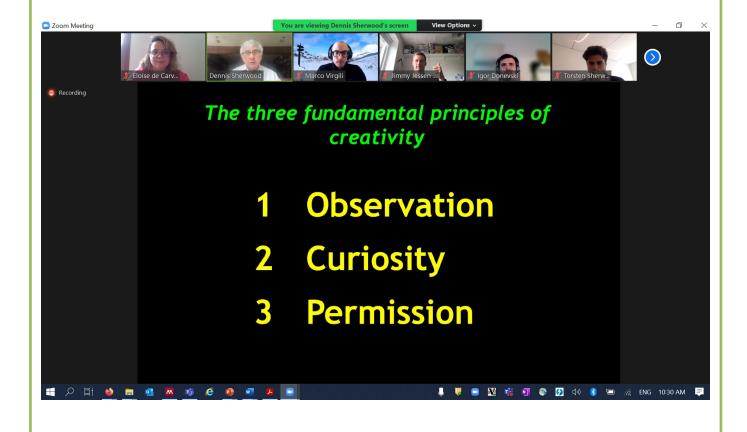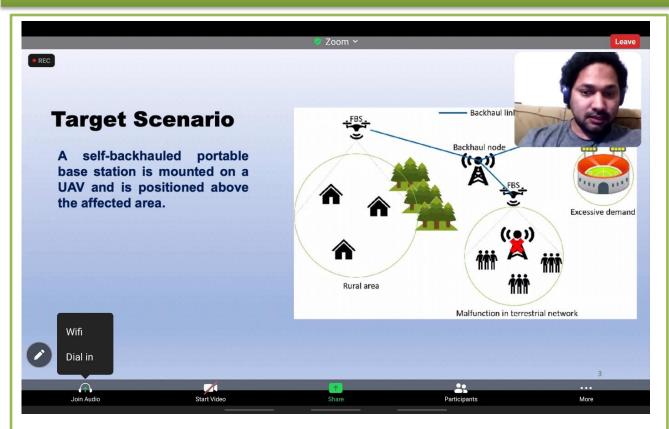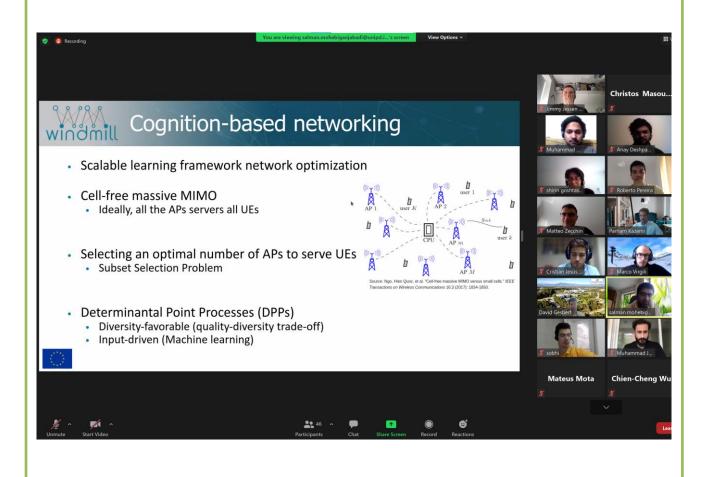Gert provided a lecture entitled "From Research to business"

Samples of the ESRs Presentations

PAINLESS Research projects' Updates

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1) Performance Analysis of Wireless Mesh Backhauling Using Intelligent Reflecting Surfaces.
2) IRS-Assisted UAV Communications with Imperfect Phase Compensation.

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An Overview of Federated Learning:
Do UAVs Fit In?

Igor Donevski
May, 2021

PAINLESS Research projects' Updates