



Dr. Mohamed-Slim Alouini

- Distinguished Professor of Electrical and Computer Engineering
- Principal Investigator of Communication Theory Lab
- Holder of UNESCO Chair on Education to Connect the Unconnected
- King Abdullah University of Science and Technology (KAUST)
Thuwal, Makkah Province, Saudi Arabia



Biography

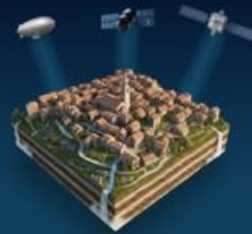
Mohamed-Slim Alouini, was born in Tunis, Tunisia. He earned his Ph.D. from the California Institute of Technology (Caltech) in 1998 before serving as a faculty member at the University of Minnesota and later at Texas A&M University at Qatar. In 2009, he became a founding faculty member at King Abdullah University of Science and Technology (KAUST), where he currently is the Al-Khwarizmi Distinguished Professor of Electrical and Computer Engineering and the holder of the UNESCO Chair on Education to Connect the Unconnected. Dr. Alouini is a Fellow of the IEEE, OPTICA, SPIE, African Academy of Sciences, and Academia Europaea and his research interests encompass a wide array of research topics in wireless and satellite communications. He is currently particularly focusing on addressing the technical challenges associated with the deployment of information and communication technologies (ICT) in underserved and disaster-prone areas.

Lecture Topics

► Talk 1

Digital Lifelines: Scaling Connectivity and Innovation for Rural Prosperity and Human Resilience

Abstract: Despite the rapid advances in digital technologies, nearly 3 billion people still lack reliable internet access mainly living in rural, remote, or underserved regions. This connectivity divide not only limits access to education, healthcare, and economic opportunity, but also hampers resilience in times of crisis, such as natural disasters or humanitarian emergencies. In this talk, we explore scalable strategies for connecting the unconnected from stratospheric high-altitude platform stations and satellite systems to solar-powered wireless networks and low-cost edge devices. We will showcase how these technologies are being adapted to support smart agriculture, enabling precision farming and market access in rural communities. We will also highlight how digital tools play a vital role in post-disaster response and refugee settings, where connectivity can mean access to life-saving information, coordination of relief, and restoring human dignity.



► Talk 2

Waves Around Us: Understanding EMF Exposure, Health, and the Evolution of Safer Wireless Technologies

Abstract: As mobile phones and wireless technologies have become part of our daily lives, so too have questions about their safety. What do we really know about electromagnetic field (EMF) emissions from cellular networks? Should we be concerned? And what is being done to ensure public health as these technologies evolve? This talk takes a balanced, evidence-based look at the science and policy surrounding EMF exposure from wireless communication systems. We will explore the current state of research on potential health effects, including what major scientific bodies and health organizations have concluded over the past two decades. We will also discuss the global regulatory landscape (such as ICNIRP and FCC exposure limits) and how engineering design choices, such as beamforming, power control, and site planning, contribute to compliance and safety. By bridging science, policy, and engineering, this talk aims to demystify public concerns and highlight how safety and innovation are being jointly addressed as we move into 5G, 6G, and beyond. The goal is to offer a clearer understanding of what is known, what is still being studied, and what is being done to make our connected world both smarter and safer.



► Talk 3

Towards Sustainable and Environment-Aware Wireless Networks

Abstract: The rapid expansion of wireless networks has revolutionized global connectivity but also raised concerns about energy consumption, spectrum efficiency, and environmental sustainability. This talk explores emerging strategies and technologies for building sustainable and environment-aware wireless networks. It highlights advances in energy-efficient communication, intelligent resource management, and the integration of renewable energy sources. The discussion also addresses how next-generation wireless systems (spanning terrestrial, aerial, and satellite segments) can be designed to minimize carbon footprints while enhancing connectivity equity. By embedding environmental awareness into network design and operation, we move closer to realizing a truly green and inclusive digital future.

