The Physical Layer of Wireless Communication

Andreas Molisch

Professor, Electrical Engineering Head, Wireless Devices and Systems Group Director, Communications Sciences Institute

CURRENT RESEARCH

Providing the basis for ultra-fast wireless data transmission and precision localization systems

In a world where watching a newly released movie no longer requires a trip to Redbox but rather, is just a click away on the computer or more pressingly, doctors in rural parts of the world are able to correspond with those in the developed world to assess the best treatment for a patient, the increased speed of wireless communications systems is becoming increasingly important. Dr. Andreas Molisch, Professor of Electrical Engineering at the University of Southern California, studies physical-layer wireless communications, trying to answer how wireless signals get from one location to the other "over the air," and transport information in the most efficient way. This research leads to a large number of different applications including localization systems for emergency responders, breathing monitoring for elderly care, and video streaming systems that provide improved entertainment and reduce the general pressure on the wireless Internet. Therefore, while Dr. Molisch's research itself is basic in nature, it has the potential to influence any application that uses wireless data.

Dr. Molisch's research is defined by extensive collaborative work with researchers throughout the US and abroad alongside his team of postdocs and graduate students. Over the years, he has worked with more than 100 researchers worldwide, greatly benefiting from the synergies that his and other groups' complementary knowledge enables. Such collaboration allows for the important integration between theoretical work and experimental; Dr. Molisch's group work closely with both avenues of science. In so doing, he and his team are effectively providing the basis for ultra-fast wireless data transmission and precision localization...

Read More at benefunder.com/

AFFILIATION

University of Southern California

EDUCATION

- D.Sc., Mobile Communications, 1999 , Technical University Vienna, Vienna, Austria
- Ph.D., in Electrical Engineering with Highest Honors, 1994 , Technical University Vienna
- M.Sc., in Electrical Engineering with Highest Honors, 1990 , Technical University Vienna

AWARDS

- Fellow of the AAAS (American Association for the Advancement of Science), 2013
- Eric Sumner Award of the IEEE (Technical Field Award of IEEE), 2012
- Elected Member of the Austrian Academy of Sciences, 2011
- Donald G. Fink Prize Paper Award of the IEEE, 2011
- James Evans Avant-Garde Award of IEEE Vehicular Technology Society, 2010
- and 1 more...

RESEARCH AREAS

Technology, Telecommunications, IOT, Devices, Data

FUNDING REQUEST

Your contributions will support the research of Dr. Andreas Molisch, of the University of Southern California, as he continues to provide the basis for ultra-fast wireless data transmission and precision localization systems. Donations will fund the necessary $100K/year required for each project which enables the successful support for graduate students, and fund lab personnel that will allow better continuity and more productivity in experimental research. Join in the effort to more quickly and reliably get wireless data from point A to point B!