



IEEE Antennas and Propagation Society

## Workshop on Industrial Initiative in Antenna Systems: *A fascinating journey from ideas to ready-to-market products*

Thursday 12<sup>th</sup> December 2019 10:30 am – 4:00 pm

**Gatti Conference room**  
**Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB)**  
**Politecnico of Milano**

Most of the systems where electromagnetic propagation is employed, rely on intriguing solutions deeply and ingeniously thought by antenna, RF and microwave engineers and scientists. For an idea to become a ready-to-market solution and a product, additional efforts must be pursued that young engineers and scientists are not, in most cases, fully aware of. The aim of the workshop is to present the experience of eminent experts coming from industry and from applied research, to show all the steps typically involved in the production process, so that a brilliant idea can eventually develop into a successful product.

The Industrial Initiatives Committee (IIC) of the IEEE Antennas and Propagation Society (AP-S) is organizing a series of Industry Presentation events around the world to promote the antenna, electromagnetics, and microwave industrial community and encourage entrepreneurship.

### Featured Speakers:

Dr. Daniele PIAZZA <i>ADANT Technologies Inc.</i> Padova, Italy	Dr. Daniela PISTOIA Dr. Antonio MANNA <i>ELETTRONICA Spa</i> Rome, Italy	Eng. Roberto FLAMINI <i>HUAWEI Technologies</i> Milan, Italy	Prof. Umberto SPAGNOLINI <i>Politecnico di Milano</i> Milan, Italy
---	---	--	--

**Scientific and organizing committee:** Rod Waterhouse, Agostino Monorchio, Roberto Flamini

### Agenda:

10:30 am	Welcome and Introduction
11:00 am	Dr. Daniele PIAZZA, <i>ADANT Technologies Inc.</i> , “ <i>Smart antenna systems - from research to commercial products</i> ”
11:45 am	Dr. Daniela PISTOIA, Dr. Antonio MANNA, <i>ELETTRONICA Spa</i> , “ <i>Integrated RESM-CESM: A single mast solution</i> ”
12:30 am	Lunch ( <i>on your own</i> )
1:30 pm	Prof. Umberto SPAGNOLINI, Politecnico di Milano, “ <i>Broadband millimeter wave massive MIMO and hybrid beamforming</i> ”
2:15 pm	Eng. Roberto FLAMINI, HUAWEI Technologies Italy, “ <i>Research and innovation to create value and market leadership</i> ”
3:00 pm	Panel Session
4:00 pm	Reception and Networking

**Sponsored by:** IEEE AP-S Industrial Initiatives Committee and Huawei Technologies Italy.



Daniele Piazza is founder and CEO at Adant, a company that develops and commercializes a novel class of advanced and smart antenna systems with the goal of making wireless communications reliable, secure and smart. He holds a PhD in Electrical and Computer Engineering from Drexel University and two masters of science in Telecommunication Engineering from Drexel University and Politecnico di Milano. Prior founding Adant in 2010 Daniele worked as researcher at Politecnico di Milano. During his research studies Daniele developed a novel class of reconfigurable antenna systems that constitute now the core technology of Adant products. Daniele has deep experience in wireless communications and has led the development and launch of multiple advanced antenna products for WiFi, RFID, and LTE devices. Daniele has authored several publications between international journals and conferences and holds more than twenty international patents.



Daniela Pistoia was born in Italy. She received her degree in Electronic Engineering in Rome and a diploma for Executive Management at Bocconi University in Milan. Since 1988, she has worked as System Engineer for Alenia Marconi Systems (formerly Selenia S.p.A.) Missile Systems Division. She has been responsible for the group of RF Sensors Simulation and Design Studies in the Engineering Dpt. of the Missile System Division. She has also been Director of System Studies and Advanced Concepts in the Seeker Division of MBDA Missile Systems. Since 2003, she has joined ELETTRONICA Group (ELT). As VP for Research and Advanced Systems Design, she managed the creation and development of the Company Product Portfolio which actually covers Electronic Warfare Radar, Communications, EW Electro-optical and Cyber. Since Jan. 2013, she is the Company Chief Scientist, to technically enhance the Company value proposition in terms of Capability Portfolio, offering a variety of solutions in terms of Electronic Warfare suites, products and technologies.



Antonio Manna was born in Aversa, Italy, in 1980. He received the degree and the Ph.D. in electronics engineering from the Seconda Università degli Studi di Napoli, Naples, Italy, in 2004 and 2008, respectively. Since 2006, he has been a Microwave and Antenna Designer in HW Development Dept., Elettronica S.p.A., Rome, Italy, where he was involved in the design of UWB antennas and microwave components for EW systems. From 2014, he has been responsible for Microwave and Antenna Dept and in 2018, he moved to the R&I (Research and Innovation) Dept where he is currently the Principal HW Engineer. His research interests are mainly focused in the field of enabling HW technologies for the new generation EW systems (i.e. UWB antennas, RF SOC, UWB Direct Sampling Architecture, Microwave Photonics, UWB GaN HPA, SiGe RF chip).



Umberto Spagnolini has been a Faculty Member with the Dipartimento di Elettronica, Informazione e Bioingegneria (ICT Dep.), Politecnico di Milano, since 1990, and he is currently a Professor in statistical signal processing and communication systems. His research has been focusing on applied statistical signal processing, methods and performance analysis in wireless communication systems, and advanced topics in signal processing for remote sensing. Within these areas, he has authored more than 300 papers on peer-reviewed journals/conferences and he filed 24 patents. He has authored a book titled *Statistical Signal Processing in Engineering* (Wiley Edition, 2018). The specific areas of interest include channel estimation and space-time array processing for wireless communication systems (from GSM, UMTS, WiMAX, LTE, now 5G and mmW), diffusive communication, cooperative and distributed systems, parameter estimation/tracking and wavefield interpolation for radar and oil exploration. He was recipient/co-recipient of Best Paper Awards from EAGE on geophysical signal processing methods (1991, 1998), and IEEE on array processing (ICASSP 2006) and distributed synchronization for uncoordinated wireless networks (SPAWC 2007, WRECOM 2007). He served as part of IEEE Editorial boards as well as member in technical program committees of several conferences for all the areas of interests. Since 2019 he is Director of the Joint Lab Huawei and Politecnico di Milano.  
More info: <http://spagnolini.faculty.polimi.it/>



Roberto Flamini was born in Tuscany, Italy in 1983. He received the degree in Telecommunication Engineering at the University of Roma La Sapienza, focusing his studies in Electromagnetics. Roberto has more than 10 years of experience in the Radio Frequency industry spent in Communication, Automotive and Military industries. He has been an Antenna Design Engineer in Elettronica Spa (Rome), for ESM and ECM systems, then he worked as Antenna Design Engineer for the Sub-6GHz Base Station Antenna Systems in the Munich Research Center of Huawei Technologies. At a later time he has been a Hardware Design Engineer and EM Simulation Experts in Magneti Marelli Italy (Turin) for Vehicle Access Systems and Body Control Modules. He is currently an Antenna Design Engineer in the Italian Research Center of Huawei Technologies Italy (Milan), working on microwave and millimeter-wave technologies for 5G and beyond wireless communications. Roberto is currently member of the IEEE AP-S Industrial Initiatives Committee (IIC) - <https://www.ieeeaps.org/news/91-current-committee-members/industrial-initiatives>.