

## Effectively Addressing the Challenges to Uncertainties Induced by Modern Environment and Positioning Systems in Electromagnetic Compatibility and Antenna Measurements

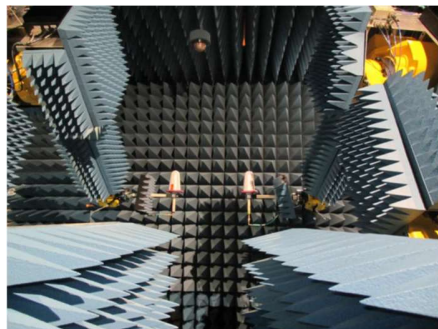
### Abstract

Any kind of measurement, particularly when carried out for scientific or professional purposes, requires consideration of inherent measurement errors. Evaluation of measurement uncertainty in electromagnetic compatibility and antenna characterization applications is the common thread that connects the presentations in this workshop. Sophisticated data processing techniques and novel measurement methods are presented aiming at enhancing the accuracy of electromagnetic field measurements with specific reference to errors induced by the measuring environment (reverberation chambers and anechoic chambers), robotic positioning systems and phaseless near field detection in the millimetre wavelength frequency range.

### Workshop outline:

We have invited several excellent speakers from industry, government/defense, and academia who are well-known researchers in the EuCAP and AMTA communities as shown below. Each speaker will present for approximately 35 minutes followed by a Q&A session to make the workshop very interactive between the speakers and the attendees.

- We encourage you to provide a graphical abstract: enclose a high resolution picture relevant to the workshop content (it is a responsibility of the proposers that the picture can be published on EuCAP webpage without IP violation).



### key speakers

- **Carlo Carobbi, University of Florence, Italy** (Associate Professor) teaches electronic measurements at the School of Engineering of the University of Florence, Italy. Carlo is currently the vice-chair of Commission E (Electromagnetic Environment and Interference) of the International Union of Radio Science (URSI). He is also involved in standardization for the International Electrotechnical Commission (IEC), both as a member and convener of working groups.
- **Zhong Chen, ETS-Lindgren**, Director of RF Engineering, is located in Cedar Park, Texas. He has over 25 years of experience in RF testing, anechoic chamber design, EMC antenna and field probe design and measurements. He is Chairman of Subcommittee 1 of ANSC C63® responsible for the antenna calibration (ANSI C63.5) and chamber/test site validation standards (ANSI C63.4 and ANSI C63.25 series). His interests include measurement uncertainty, time domain measurements for site validation and antenna calibration, and development of novel RF absorber materials. Zhong Chen received his M.S.E.E. degree in Electromagnetics from the Ohio State University at Columbus.
- **Dennis Lewis, The Boeing Company**, received his BS EE degree with honors from Henry Cogswell College and his MS degree in Physics from the University of Washington. He has worked at Boeing for 34 years and is recognized as a Technical Fellow, leading the enterprise antenna measurement capability for the Boeing Test and Evaluation Electromagnetics group. Dennis holds eleven patents and is the recipient of the 2013 and 2015 Boeing Special Invention Award. Dennis is a part time faculty member teaching a course on Measurement Science at North Seattle College and is chairman of the Technical Advisory Committee.
- **Yahya Rahmat-Samii, UCLA**, is a Distinguished Professor, holder of the Northrop-Grumman Chair in electromagnetics, member of the US National Academy of Engineering (NAE), winner of the 2011 IEEE Electromagnetics Field Award and the former chairman of the Electrical and Computer Engineering Department at UCLA. Dr. Rahmat-Samii was the 1995 President of the IEEE Antennas and Propagation Society and 2009-2011 President of the United States National Committee (USNC) of the International Union of Radio Science (URSI). Dr. Rahmat-Samii has authored or co-authored over 1000 technical journal articles and conference papers and has written over 40 book chapters and 6 books.
- **David Knight, NPL**, graduated in 1990 with BSc (Hons) Physics from Imperial College (London). After work at British Aerospace Space Systems designing satellite control systems, he completed an MSc in control theory in 1993. He joined NPL (Teddington, UK) where he is a senior research scientist, responsible for the VHF/UHF free field group, with focus on bespoke methods for novel antenna design projects. He has developed improvements in the calibration of standard types of antenna, for which he won an NPL Innovation Award. He contributes to national/international standard committees, such as the BSI GEL/210 (UK) and IEC CISPR/A (international).