



**University of Pavia**  
**Ph.D. School of Electrical and Electronics Engineering and Computer Science**

# **SEMINAR**

## **The history of car radar and autonomous driving in order to predict the road to the future**

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**Automotive Radar Expert**

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**Aula seminari ex Dipartimento di Elettronica, piano D**

**Abstract:** Automotive radar and thus ADAS based on radar has been in development over decades – already in 1998 Mercedes-Benz went into series production with 77 GHz radars for premium cars. Other premium car manufacturers followed quickly. Until mid 2015, Infineon had sold 10 million 77-GHz chipsets worldwide, Hella alone has sold 20 million 24-GHz BSD (Blind Spot Detection) units until July 2016, Mercedes-Benz installed more than 3,5 Mio. Radar units in 2015 only. Today we have more than 100 million radar sets on road worldwide. New cars out of today's production are equipped with a lot of different ADAS units - based on radar, lidar or cameras. Concerning the semiconductor industry and the area of radar a hot debate is ongoing on the subject of central vs. de-centralized processing. OEMs like Audi or GM are preferring standardized central processing (zFAS – zentrales Fahrer Assistenz System) while companies like Infineon, NXP, TI or NI, not to forget ADI are fostering the de-centralized approach.

**Bio:** Holger H. Meinel joined the AEG-TELEFUNKEN Advanced Technology Department in Ulm, Germany, in 1973 after graduating with a Diploma in Microwave Engineering. He started to design mm-wave components, among others for a 35 GHz collision avoidance radar. Never changing company but only their names over about 40 years, he switched his location and role of work nearly every 5 years. He is author and co-author of over 180 technical papers, mostly on millimeter-wave integration and application. He holds or has held 14 patents and among other things has been involved in key-functions with the European Microwave Association (EuMA). He especially fostered application oriented contributions to EuMW, as well as he supported and enhanced the student involvement in EuMA. In 2011 – during the EuMW in Manchester, UK, - he was awarded with the EuMA Distinguished Service Award for his lifelong contributions to the microwave community. Since September 2014, he has officially been in retirement. However, since then he has been actively involved in different conferences and events, concerning automotive radar and autonomous driving. In January 2015, Holger H. Meinel was appointed by the EuMA BOD to be the speaker of the EuRaMIG (European Radio and Microwave Interest Group), one of three core groups within EuMA, for the next 2 years.

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