



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

## **SEMINAR**

# **Navigational Aids for Air Traffic Management**

***Maximilian Arpaio, MSc***

**Project Manager, Thales Italia S.p.A. – Air Operations Divisions  
Gorgonzola (MI), Italy**

**2 December 2015, 11.00**

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

**Abstract:** Global air traffic has grown steadily since 2003. To adapt air traffic management infrastructure to future demand, civil and military aviation authorities need to upgrade their current systems to develop new applications. In response to increasing air traffic volumes at the busiest airports, Thales group developed integrated gate-to-gate solutions that encompass the en-route, approach and airport phases. To better address the lecture through the above path, conventional navigation aids will be thus shown and explained including their principles of operation, with a special emphasis on their strengths as well as on their current weak points. Technological innovations that are advancing on the market will be then introduced, with a special focus on systems that are based on GNSS technology like ADS-B, MLAT and GBAS. For some of them, the main implementation issues of operation will be briefly discussed as well, together with some practical cases. The seminar will end with some thoughts on the future technologies as applied to air navigation aids.

**Bio:** Maximilian Arpaio received the Master degree in Telecommunications Engineering from the University of Parma in 2005 with an experimental thesis on the design of an antenna for Digital Audio Broadcasting (DAB) applications. He attended a specialization course in Wind Engineering and aerodynamics at the Department of Aerospace Engineering of the Polytechnic of Milan in 2007, during which he studied the wind load of blunt bodies applied to radio and television transmitting antenna systems. He received his Post graduate Master in Project Management from the Faculty of Economics of the University of Verona in 2012, with a thesis on communication in multicultural projects. After a short period of research at the university, since 2006 he has been working in "Telecomunicazioni Aldena" company Milan as technical manager and designer of radio and television transmitting antenna systems, as well as junior designer for many RF/MW passive components like filters, combiners and power splitters. In 2008 he joined Thales group, within the Air Operations Division, Navigation and Airport Solutions. He worked in Milan as a project and system engineer for new generation surveillance systems and conventional air navigation aids, with particular reference to Multilateration and ADS-B technologies. Since mid-2011 he joined the Project Management Department, where he currently manages civilian and military international projects, especially those with a special imprint on strong technological innovation components. Maximilian Arpaio is currently a member of the Project Management Institute (PMI) and the PMI North Italian Chapter. His current interests are focused on antennas and the RF propagation within different environments. He has been collaborating for many years with various Italian universities by promoting technical seminars and scientific collaborations.

### **Organizers**

**Prof. Marco Pasian**

### **Ph.D. Coordinator**

**Prof. Paolo Di Barba**

Seminar in English

For more information: [marco.pasian@unipv.it](mailto:marco.pasian@unipv.it)