

Advanced Education Program in ICT *Information and Communication Technologies*

Friday, July 10, 2015 - 3:00 p.m. to 6:00 p.m.
DITEN - Room D1 - Via Opera Pia 11, Genoa

INTERNATIONAL SEMINAR

Safe Train Position Determination

Based on Satellite Navigation for Advanced Signalling

Dr. Aleš Filip, *Laboratory of Intelligent Systems, University of Pardubice, Czech Republic*

PROGRAMME

- ETCS safety requirements for GNSS based train Location Determination System (LDS) - recapitulation
- LDS safety concept for ETCS
- Augmentation of multi-constellation GNSS for LDS
- Relation between aviation Integrity Risk (IR) and railway Tolerable Hazard Rate (THR)
- Impact of excessive GNSS error correlation on railway safety integrity and protection against it
- Impact of Common Cause Failure (CCF) on LDS safety integrity and protection against CCF
- Protection against excessive multipath effect
- Initialization of train LDS in ETCS Staff Responsible mode
- Re-initialization of train LDS after GNSS Signal-In-Space (SIS) re-acquisition
- Significance of dual / multi-constellation GNSS for train LDS – summary
- International standardization of GNSS for safety-related systems in rail and other land transport sectors

Aleš Filip

Dr. Ales Filip is an Associate Professor of Electrical Engineering at University Pardubice, Czech Republic, and the founder of the AZD - Laboratory of Intelligent Systems. He has 19-year experience in the field of GNSS for railway safety-related systems and published more than 90 papers in this area. His research interests include design and safety analysis of train location determination systems based on GBAS and SBAS, which are intended for ERTMS/ETCS. Currently he is working on the safety case for the EGNOS-R/SBAS-R railway interface compliant with Safety Integrity Level 4. He also gives lectures to students on safety and dependability of electronic systems including GNSS.

REGISTRATION

La partecipazione è obbligatoria per tutti gli studenti ISICT. In caso di assenza è obbligatorio inviare una mail giustificativa a segreteria@isict.it.

Per la partecipazione di altri studenti dell'Università di Genova e del personale dei Soci di ISICT è richiesta la prenotazione mediante invio di una email a segreteria@isict.it. Le iscrizioni verranno accolte fino a esaurimento posti. La segreteria dell'Istituto ISICT, su richiesta, rilascerà un attestato di frequenza.

VENUE

DITEN (Department of Electrical, Electronic, Telecommunications Engineering, and Naval Architecture)

Via Opera Pia 11, Genoa - Room D1 (ground floor)

To reach DITEN: http://www.diten.unige.it/index.php?option=com_contact&view=contact&id=1&Itemid=498&lang=it

FOR INFORMATION

ISICT Secretariat Tel. 010 3532016 ▪ Email segreteria@isict.it ▪ Internet www.isict.it