ISPA 2017
International Symposium on Precision Approach and Performance Based Navigation
08 - 09 November 2017, Munich

Programme

organised by the
German Institute of Navigation
Deutsche Gesellschaft für Ortung und Navigation e. V. (DGON)

in cooperation with

German Aerospace Center
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)
Tuesday, November 07, 2017

19:00 - 21:00  Get Together Party  (Maritim Munich hotel bar)

Wednesday, November 08, 2017

08:00  Conference Registration

09:00  Conference Opening

Dirk KUEGLER, General Chair
Maurizio SCARAMUZZA, Technical Chair

09:10  Key Note

Michael STANDAR, Chief Strategy & External Affairs
SESAR Joint Undertaking, Brussels, Belgium

Session 1  Flight Procedures & Surface Navigation

Chair: Werner LANGHANS  Co-Chair: Thomas FEUERLE

09:30  PBN Hybrid Procedures as an Enabler for Airport Accessibility in Challenging Terrain
Philipp Daniel SCHAAD, Austro Control, Vienna, Austria

10:00  On the feasibility of SBAS LPV approaches in complex terrain: the case of Innsbruck from the procedure design perspective
Carlos GONZAGA-LÓPEZ, Florian BUCHMANN, Austro Control, Vienna, Austria
Thomas DAUTERMANN, Thomas LUDWIG
German Aerospace Center (DLR), Braunschweig, Germany

10:30  Coffee

11:00  Adoption of True North as the Reference for Aviation Headings
Bart BANNING, Netherlands Institute of Navigation, The Netherlands
Simon GASKIN FRIN, International Association of Institutes of Navigation, United Kingdom
Anthony MACKAY, NAV CANADA, Canada

11:30  Risks of ground operations in general
Karel MÜNDEL, Honeywell International, Brno, Czech Republic

12:00  Independent RNP Approaches to enable Noise Abatement Approach Procedures on parallel Runways
Bernd KORN, German Aerospace Center (DLR), Braunschweig, Germany

12:30  Lunch

Session 2  Flight Guidance & Automatic Landing

Chair: Maarten UIJT DE HAAG  Co-Chair: Jochen BREDEMeyer

13:30  Advanced RNP to xLS Approaches with Optimized Speed Profiles and Automatic Landings: Flight Testing Procedures with an A320
Thomas DAUTERMANN, Thomas LUDWIG, Robert GEISTER, Lina ALTENSCHIEDT
German Aerospace Center (DLR), Braunschweig, Germany
14:00  
C2LAND – Increasing Safety of Automatic Landing Systems for General Aviation Aircraft by Optical Runway Detection  
Nils Christian MUMM, Martin KÜGLER, Florian HOLZAPFEL  
Technical University, Munich, Germany  
Alexander SCHWITAL, Technische Universität Braunschweig, Germany

14:30  
Evaluation of the Flight Technical Error of a Trajectory Controller during Final Approach  
Nils Christian MUMM, Simon SCHATZ, Florian HOLZAPFEL  
Technical University, Munich, Germany

15:00  
Coffee

Session 3  
Ground Based Augmentation System (GBAS)

Chair: Jolana DVORSKA  
Co-Chair: Pascal TRUFFER

15:30  
Inspection of GAST-D Approach and Taxi Guidance Systems  
Claus-Sebastian WILKENS, Patrick THOMSEN, Aerodata AG, Braunschweig, Germany  
Per Martin SCHACHTEBECK, Mirko STANISAK, TU Braunschweig, Germany

16:00  
GBAS Flight Trials with General Aviation Aircraft  
Thomas FEUERLE, Mirko STANISAK, TU Braunschweig, Germany  
Erik WISCHMANN, Stefan MUHR, Felix BLUMRICH  
f.u.n.k.e. AVIONICS GmbH, Ulm, Germany

16:30  
Future dual-frequency multi-constellation GBAS modes  
Michael FELUX, Mihaela-Simona CIRCIU, Daniel GERBETH, Maria CAAMANO  
German Aerospace Center (DLR), Wessling, Germany

17:00  
End of Day 1

19:00 - 21:30  
Symposium Dinner

Thursday, November 09, 2017

Session 4  
Radio Frequency Interference (RFI) & Monitoring

Chair: Erich KLOCK  
Co-Chair: Marc TROLLE

09:00  
Clustering-based Solution Separation Algorithm against GNSS Spoofing Attacks  
Kewei ZHANG, Panos PAPADIMITRATOS  
Networked Systems Security Group, KTH Royal Institute of Technology, Stockholm, Sweden

09:30  
Assessment of the susceptibility of pseudo range to RF interference  
Pascal TRUFFER, Maurizio SCARAMUZZA, Marc TROLLE  
Skyguide, Swiss Air Navigation Services Ltd., Wangen, Switzerland
10:00 Assessment of the GPS Constellation Variation and its Impact to the Navigation Performance in Mountainous Area
Marc TROLLER, Maurizio SCARAMUZZA, Pascal TRUFFER
Skyguide, Swiss Air Navigation Services Ltd., Wangen, Switzerland
Alain GEIGER, ETH Zurich, Switzerland

10:30 Assessment of Aircraft Tracks by Automated, Passive, High Precision Optical Tracking with Q-Daedalus
Sébastien GUILLAUME, Alain GEIGER, ETH Zurich, Switzerland
Maurizio SCARAMUZZA, Skyguide, Swiss Air Navigation Services Ltd., Wangen, Switzerland

11:00 Coffee

Session 5 Alternative Positioning Navigation and Time (APNT)
Chair: Stefan NAERLICH  Co-Chair: Dirk KÜGLER

11:30 Achievable Navigation Performance with LDACS as Upgrade of VDL Stations
Giuseppe BATTISTA, Rachit KUMAR, Thomas GRÄUPL, Okuary OSECHAS
German Aerospace Center (DLR), Wessling, Germany

12:00 Mode N - Modern Navigation & APNT for Aviation
Steffen MARQUARD, DFS Deutsche Flugsicherung GmbH, Langen, Germany

12:30 Preliminary Model for Modular-APNT Service Provision
Rachit KUMAR, Giuseppe BATTISTA, Okuary OSECHAS, Michael MEURER*
German Aerospace Center (DLR), Wessling, Germany
* as well Chair of Navigation, RWTH Aachen University, Germany

13:00 Lunch

Session 6 Unmanned Aircraft System (UAS)
Chair: Robert GEISTER  Co-Chair: Maurizio SCARAMUZZA

14:00 Augmentation of Ground-based ILS Measurements using UAS
Jochen BREDEMEYER, FCS Flight Calibration Services GmbH, Braunschweig, Germany
Thorsten SCHRADER, Physikalisch-Technische Bundesanstalt, Braunschweig, Germany
Ralf DIETZEL, Heiko MÜLLER, DFS Deutsche Flugsicherung GmbH, München, Germany

14:30 DEMONA (Demonstration of UAS Integration for VLL Airspace Operations)
Julia Sophie SCHARTNER, Sascha BARTL, Philipp BERGLEZ
TeleConsult Austria GmbH, Graz, Austria
Klaus KAINRATH, FH JOANNEUM, Graz, Austria
Bernhard HOFMANN-WELLENHOF, TU Graz, Austria

15:00 Innovative and Efficient Visual Inspection Method of Air Navigation Facilities with the Help of Drones
Marco HAPPENHOFER, Erich KLOCK, Austro Control, Vienna, Austria

15:30 Assured Cooperative Navigation of a Small UAS Swarm
Maarten UIJT DE HAAG, Joel HUFF, Adam SCHULTZ, Ohio University, Athens, USA

16:00 Closing Remarks
16:15 End of Symposium