The Second ENRI International Workshop on ATM/CNS
(EIWAC2010)
- For Safety, Efficiency, and Environment -

【Venue】
Akihabara Convention Hall, Tokyo, Japan

【Schedule】
11/10 Plenary Session 10:00～17:45
11/11 Technical Session 09:30～16:30
Plenary Session 09:30～16:30
11/12 & Technical Session
Program of the Second ENRI International Workshop on ATM/CNS (EIWAC2010) For Safety, Efficiency, and Environment

November 10-12, 2010
Akihabara Convention Hall, Tokyo, JAPAN

Wednesday, 10th November

Plenary Session 1

- Chair K. Yamamoto, ENRI

[EN-P1] Update of SESAR project
P. Hecker,
Single European Sky ATM Research (SESAR) Joint Undertaking, Germany

[EN-P2] CNS/ATM R&D Activities in Korea
D. M. Kim,
Korea Aerospace Research Institute (KARI), Korea

[EN-P3] Paving the Way for Future Air Traffic Management
F. S. Nieto,
Spanish Aviation Authority, Spain

Plenary Session 2

- Chair K. Nakatsubo, ENRI

[EN-P4] Update of the ENRI Long Term R&D Vision
K. Yamamoto,
Electronic Navigation Research Institute (ENRI), Japan

T. Nakada,
Civil Aviation Bureau of Japan (JCAB), Japan

[EN-P6] Boeing Air Traffic Management Overview and Status
M. Harris,
Boeing Commercial Airplanes, USA

Panel Discussion

- Chair K. Yamamoto, ENRI

Panelists
F. S. Nieto, Spanish Aviation Authority
K. Ito, Civil Aviation Bureau of Japan
P. Hecker, University of Braunschweig
S. Suzuki, University of Tokyo
T. Inagaki, University of Tsukuba
Y. Hirao, Nagaoka University of Technology

Thursday 11th November

Technical Session Navigation (GNSS)

- Chair K. Ito, ENRI

[EN-033] Diurnal and Seasonal Variation of Total Electron Content (TEC) at Chumphon and Bangkok, Thailand
S. Rungraengwajjake, P. Supnithi,
King Mongkut's Institute of Technology Ladkrabang, Thailand
National Institute of Information and Communications Technology (NICT), Japan

[EN-042] Development of GBAS Ionosphere Anomaly Monitor Standards to Support Category III Operations
M. Harris,
Boeing Commercial Airplanes, USA

[EN-047] Estimation of GPS Receiver Inter-Frequency Bias for Operational Ionosphere Monitoring in GBAS
J. Lee, S. Jung, E. Bang,
Korea Advanced Institute of Science & Technology (KAIST), Korea

[EN-046] Study of INS-Aided GPS Tracking Performance under Simulated Ionospheric Scintillation Associated with Plasma Bubbles
T. Tsuji, T. Fujiiwara, Y. Sagamuma,
Japan Aerospace Exploration Agency (JAXA), Japan
K. Matsunaga,
Electronic Navigation Research Institute (ENRI), Japan

Technical Session Surveillance 1

- Chair T. Koga, ENRI

[EN-105] Evaluation Results of Airport Surface Multilateration
H. Miyazaki, K. Koga, E. Ueda, Y. Kakubari, S. Nihei,
Electronic Navigation Research Institute (ENRI), Japan

[EN-113] Development of TIS-B system for situation awareness enhancement
T. Otuyama, S. Ozeki, M. Shioji,
Electronic Navigation Research Institute (ENRI), Japan

[EN-015] Global surveillance system based on 1090ES ADS-B and satellite-transmitters
V. Lavrov, A. Usoltsev,
Russcomos, Russia
A. Shilov,
Roscosmos, Russia
S. Trofimov,
Monitor Soft, Russia

Technical Session Surveillance 2

- Chair H. Miyazaki, ENRI

[EN-008] Improved radar coverage in Algeria, for a better integration of CNS / ATM concept
A. Boudani, A. Zabot, M. Lagha, S. Berghbeul, H. Saci,
Saud Dahlab University of Blida, Algeria

S. Schoenhale, M. Steen, P. Hecker,
Technische Universitaet Braunschweig, Germany
Thursday 11th November

Technical Session **Trajectory Management** -Chair S. Ozeki, ENRI

[EN-023] Aircraft Conflict Resolution by Genetic Algorithm and B-Spline Approximation
+ D. Delahaye, C. Peytoney, S. Puechmorel, École Nationale de l'Aviation Civile (ENAC), France
+ M. Mongeau, Université Toulouse, France

[EN-039] Facilitation of Continuous Descent Arrivals with Improved Efficiency and Predictability by the Use of Tailored Descent Wind Forecasts
+ G. N. McDonald, J. Bronsvoort, Airservices Australia, Australia
+ R. Potts, Australian Government Bureau of Meteorology, Australia
+ E. Gutt, (formerly with) Emirates Airlines, UAE

[EN-024] Clustering radar tracks to evaluate efficiency indicators
+ R. Winkler, A. Temme, C. Boesel, German Aerospace Center (DLR), Germany
+ R. Kruse, Otto-von-Guericke University, Germany

[EN-103] Development of Trajectory Prediction Model
+ Y. Fukuda, M. Shirakawa, A. Senoguchi, Electronic Navigation Research Institute (ENRI), Japan

Technical Session **Traffic Capacity & Congestion Management** -Chair K. Kageyama, ENRI

[EN-012] Validation of En Route Capacity Model with Peak Counts from the US National Airspace System
+ J. Welch, J. Andrews, MIT Lincoln Laboratory, USA
+ J. Post, Federal Aviation Administration (FAA), USA

+ X. Ruiz-Hernández, J. M. Ríquez, V. F. Gómez, Ingeniería y Economía del Transporte S.A., (INECO), Spain

[EN-042] Designing 3D ATC Sectors by using a “Genetic Algorithm”-based methodology
+ J. M. Ríquez, V. M. Bustos, V. F. Gómez, Ingeniería y Economía del Transporte S.A., (INECO), Spain

Technical Session **ATM Modeling** -Chair Y. Fukuda, ENRI

[EN-037] Airborne Conflict Modeling and Resolution for UAS Insertion in Civil Non-Segregated Airspace
+ C. A. Persiani, + S. Bagassi, University of Bologna, Italy

[EN-020] A Queueing Model with Scheduled Arrivals under 4D Trajectory-Based Operations
+ T. Nikoleris, M. Hansen, University of California, USA

[EN-029] Fluctuation Scaling in the Air Traffic Controller Communication Activities
+ Y. Wang, M. Hu, Nanjing University of Aeronautics & Astronautics, China
+ V. Duong, EUROCONTROL, France

[EN-102] Study of Traffic Synchronization
+ C. Gwiggner, Electronic Navigation Research Institute (ENRI), Japan

Thursday 11th November

Technical Session **Safety Research** -Chair S. Nagaoka, ENRI

[EN-044] Safety nets performance assessment: the encounter-model methodology as a cornerstone to provide quantified results for ACAS and STCA
+ J. M. Loscos, C. Aveneau, Direction des Services de la Navigation Aérienne (DSNA), France

[EN-032] High Density en Route Airspace Safety Level and Collision Risk Estimation Based on Stored Aircraft Tracks
+ E. García, F. Saez, R. Arnaldo, Universidad Politécnica de Madrid (UPM), Spain

[EN-049] Risk Compensation in General Aviation: The Effect of Ballistic Parachute Systems
+ C. Hartman, I. Dubipi, J. Dodoo, J. Burrows-McElwain, University of Maryland Eastern Shore, USA

[EN-110] Safety Analysis for Reduction of Longitudinal Time Separation Minima on Oceanic Routes
+ R. Mori, Electronic Navigation Research Institute (ENRI), Japan

Technical Session **Human factors 1** -Chair C. Gwiggner, ENRI

[EN-019] Understanding the effect of alcohol consumption by Airline Passengers in Safety Sensitive Aises
+ J. B. Burrows-McElwain, I. K. Dubipi, C. E. Hartman, J. Dodoo, University of Maryland Eastern Shore, USA

[EN-111] Development of “cereameter”
+ K. Shiomi, Electronic Navigation Research Institute (ENRI), Japan

[EN-0114] Introduction to the SESAR WP E Research Network : HALA! (Higher Automation Levels in ATM)
+ F. Saez, + E. Garcia, Universidad Politécnica de Madrid (UPM), Spain
+ D. Schaefer, EUROCONTROL, France

Technical Session **Human factors 2** -Chair T. Tsujiya, Univ. of Tokyo

+ J. Homola, T. Prevot, J. Mercier, C. Brasil, L. Martin, C. Cabrall, San Jose State University / NASA Ames Research Center, USA

[EN-031] Human Factors in General Aviation: FAA and ASF efforts to mitigate accidents and Fatalities
+ J. N. D. Dodoo, I. K. Dubipi, C. Hartman, J. B. Burrows-McElwain, University of Maryland Eastern Shore, USA

[EN-022] An integrated Wake Vortex Visualization Concept for existing Cockpit Display Systems
+ S. Kocks, S. Bode, + T. Feuerle, C. Paetzold, S. Schoenhals, P. Hecker, Technische Universität Braunschweig, Germany

[EN-018] Human factors in general aviation flight instruction authenticity: A measure of student's perceived satisfaction
+ J. B. Burrows-McElwain, I. K. Dubipi, C. E. Hartman, J. Dodoo, University of Maryland Eastern Shore, USA
Friday 12th November

Technical Session Communication & Information Sharing 1 - Chair J. Kitaori, ENRI

R. Jehlen, M. Tanino, Federal Aviation Administration (FAA), USA

[EN-014] The ESA Iris Programme – a new satellite communication system for Air Traffic Management ATM
N. Ricard, C. Morlet, A. Santovincenzo, European Space Agency (ESA), Netherlands

Technical Session Navigation (GNSS) - Chair M. Kudo, ENRI

[EN-005] GBAS CAT II/III concepts for flexible approach procedures
T. Feuerle, M. Bitter, P. Hecker, R. Geister, Technische Universität Braunschweig, Germany

[EN-107] Impact of the low latitude ionosphere disturbances on GNSS studied with a three-dimensional ionosphere model
S. Saito, N. Fujii, Electronic Navigation Research Institute (ENRI), Japan

[EN-030] Using SBAS to Enhance GBAS User Availability: Results and Extensions to Enhance Air Traffic Management
S. Pullen, M. Luo, T. Walter, P. Enge, Stanford University, USA

[EN-108] Highly-Accurate Positioning Experiment System Using QZSS at ENRI
K. Ito, T. Sakai, S. Fukushima, Electronic Navigation Research Institute (ENRI), Japan

Technical Session Communication & Information Sharing 2 - Chair Y. Sumiya, ENRI

[EN-027] Aeronautical satellite propagation channel characteristics using multiple antennas
T. A. Myrvoll, J.E. Hakegard, B. Holter, SINTEF ICT, Norway

[EN-028] On the use of MIMO in aeronautical communications
B. Holter, J.E. Hakegard, T.A. Myroll, SINTEF ICT, Norway

T. Koga, Electronic Navigation Research Institute (ENRI), Japan

Plenary Session 3 - Chair K. Yamamoto, ENRI

[EN-P6] Update of NextGen project
J. Merkle, Federal Aviation Administration (FAA), USA

Technical Session Airport Management 1 - Chair N. Yonemoto, ENRI

[EN-001] Potential Impact of Data Variance on the Prediction of Key Performance Indicators (KPI) as a Decision Variable for Airport Pretactical Decision Making within a Total Airport Management (TAM) Airport Operations Center (AOPC)
F. Piekert, German Aerospace Center (DLR), Germany

[EN-026] Field Observations During Aircraft Turn-Round Process: Applying a Qualitative Cognitive Model
M. Groppe, R. Pagliari, D. Harris, Cranfield University, UK

Technical Session Traffic Capacity & Congestion Management - Chair M. Harigae, JAXA

[EN-007] A Prototype of an pre-tactical Airport Centered Flow Management
S. Marx, K. Nachtigall, Technische Universität Dresden, Germany

[EN-010] Facilitating Free Flight Conflict Resolution using Nautical Minute Discretion
P. Simon, C. Bil, Royal Melbourne Institute of Technology, Australia

[EN-100] Runway Capacity Estimation for Haneda Airport with 4th Runway
T. Hirata, A. Shimizu, T. Yai, Tokyo Institute of Technology (Tokyo Tech), Japan

Technical Session Airport Management 2 - Chair S. Fukushima, ENRI

H. Falck, University of Žilina, Slovakia

[EN-025] Analyzing airlines potential cost savings when reducing delays in international air traffic
M. Kreuz, AT-One, Germany

I. Yamada, H. Aoyama, Y. Fukuda, R. Mori, Electronic Navigation Research Institute (ENRI), Japan