



20th UN/IAF International Workshop on
GNSS Applications for Human Benefit and
Development

**24 - 25 September 2010, Prague, Czech Republic,
in conjunction with the 61st IAC**

**Co-sponsored by European Space Agency (ESA) and by International Committee
on Global Navigation Satellite Systems (ICG)**

Programme

(Tentative program as of 20 September 2010)

Venue of the Workshop: **Ministry of Education, Youth and
Sports (MEYS)
Room C081
Karmelitska 7
118 12 Praha 1, Czech Republic
Tel: +420-234-811-111**

Honorary Committee of the Workshop (in alphabetical order):

G. Brachet (Chairman, Committee for Liaison with International Organizations and Developing Nations, International Astronautical Federation (CLIODN/IAF))

B. Feuerbacher (President, International Astronautical Federation (IAF))

J. Kolář (Head, Czech Space Office, Czech Republic)

R. Oosterlinck (Director, Galileo Programme and Navigation-related Activities, European Space Agency (ESA))

M. Othman (Director, Office for Outer Space Affairs, United Nations (UN-OOSA))

D. Prunariu (Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), Romania)

Programme Committee of the Workshop (in alphabetical order):

C. Arevalo Yepes (Colombia)

S. Chernikov (UN-OOSA)

C. De Cooker (ESA)

A. Cornell (SGAC)

T. Doi (UN-OOSA)

S. Gadimova (UN-OOSA)

K. Hodgkins (USA)

O. Koudelka (Austria/SatNav Cmt. of IAF)

O. Novak (LOC)

M. Šunkevič (LOC)

P. Willekens (IAF)

Day 1, 24 September 2010

Registration - 08:00 – 09:00

Inaugural Session - 09:00 – 10:10

Master of ceremony – Mr. Ondrej Novak (LOC)

- 09:00 – 09:30 **Opening ceremony**
- **Mr. Krystof Hajn**, 1st Deputy Minister for Research and Higher Education, Ministry of Education, Youth and Sports, Czech Republic (on behalf of LOC)
 - **Prof. Dr. Berndt Feuerbacher**, President, International Astronautical Federation (IAF)
 - **Mr. Chris De Cooker**, Head, International Relations, European Space Agency (ESA)
 - **Mr. Ken Hodgkins**, Department of State, USA (on behalf of the ICG)
 - **Dr. Takao Doi**, Head, United Nations Programme on Space Applications, UN Office for Outer Space Affairs (UN-OOSA)
 - **Dr. Jan Kolář**, Head of Czech Space Office and Chairman of the IAC LOC
- 09:30 – 09:50 Keynote Address: A Climate of GNSS Innovation **Mr. Chris Gibson**, Trimble Navigation, USA (on behalf of IAF SatNav Committee)
- 09:50 – 10:10 Keynote Address II **Mr. Giorgio Solari**, Galileo Directorate, ESA
- 10:10 – 10:30 Brief introduction to the Workshop (programme of work, logistics, practical arrangements, etc.) **UN-OOSA, LOC**

Tea break - 10:30 – 11:00

Technical Session 1 - 11:00 – 13:00

- **Applications of GNSS technologies and services;**
- **Presentations on practical experiences and case studies by participants.**

Co-chairs: Mr. Ken Hodgkins, ICG/USA, and Mr. David Langr, Ministry of Education, Youth and Sports, Czech Republic

Rapporteur: TBA

- 11:00 – 11:20 Certification methods for ITS applications using GNSS systems **Mr. Vladimir Faltus**, Czech Technical University, Czech Republic
- 11:20 – 11:40 Aviation benefits of GNSS augmentation, **Mr. Jeffrey Auerbach**, Office of Space & Advanced Technology, Department of State, USA
- 11:40 – 12:00 GLONASS/GPS technology applications in the Russian economy **Prof. Alexey Romanov**, JSC “Russian Space Systems”, Russia
- 12:00 – 12:20 Development of a high precision geodetic network based on GPS measurements in Uzbekistan **Dr. Dilbarkhon Fazilova**, Astronomical Institute, Academy of Science, Uzbekistan

12:20 – 12:40	Satellite navigation for watershed development programme impact assessment	Prof. Vasala M. Rao, National Institute of Rural Development, India
12:40 – 13:00	Applications of GNSS technology in surveying and mapping using permanent stations	Mr. Ronaldo Gatchalian, National Mapping & Resource Information Authority, Philippines

Lunch - 13:00 – 14:00

Technical Session 2 - 14:00 – 18:15

- **Applications of GNSS technologies and services;**
- **Presentations on practical experiences and case studies by participants.**

Co-chairs: Mr. Giorgio Solari, ESA, and Mr. Martin Sunkevic, Czech Space Office
Rapporteur: TBA

14:00 – 14:20	GNSS dependability assessment for land transport safety-related systems	Mr. Ales Filip, Laboratory of Intelligent Systems, Railway Infrastructure Administration, Czech Republic
14:20 – 14:40	SSTL's approach to the design, development and production of the navigation payloads	Mr. Alex Da Silva Curiel, Surrey Satellite Technology Ltd (SSTL), United Kingdom
14:40 – 15:00	Approaches to Global Navigation Satellite System applications in Belarus large-scale farm production	Mr. Yuri Fedulov, United Institute of Informatics Problems, Belarus
15:00 – 15:20	GNSS applications in monitoring, warning and emergency response of environment	Mr. Zhongping Sun, Satellite Environment Center, Ministry of Environmental Protection, China
15:20 – 15:40	Using high accuracy GPS equipment, software for estimation of the movement of construction building at coastal zone of Vietnam	Ms. Minh Y Tran, Space Technology Institute (STI), Vietnam Academy of Science and Technology (VAST), Vietnam
15:40 – 15:00	Continuous monitoring of Thai geodetic network after the 2004 Sumatra-Andaman and 2005 Nias earthquakes using GPS observations	Prof. Chalermchon Satirapod, Chulalongkorn University, Thailand

Tea break - 16:00 – 16:30

16:50 – 17:10	GNSS and high resolution satellite image application to farm areas and rural cadastre mapping	Mr. Eddy De La Cruz, National Aerospace Research and Development Commission (CONIDA), Peru
17:10 – 17:30	GPS readings for effective water resources management	Mr. Yahya Al-Tayeb, Remote Sensing Authority, Sudan
17:30 – 17:50	GNSS permanent station system LatPos in Latvia and its applications	Mr. Janis Zvirgzds, Geospatial Information Agency, Latvia
17:50 – 18:15	Workshop discussion	

Reception organized by the Local Organizing Committee – 18:30 – 22:00

Day 2, 25 September 2010

Technical Session 3 – 09:00 – 12:30

- International and regional frameworks, initiatives and cooperation
- Capacity building

Co-chairs: Prof. Otto Koudelka, Austria/SatNav Cmt. of IAF, and Ing. Martin Pichl, Ministry of Transport, Czech Republic

Rapporteur: TBA

09:00 – 09:20	International Committee on Global Navigation Satellite Systems (ICG)	<i>Ms. Sharafat Gadimova,</i> United Nations Office for Outer Space Affairs
09:20 – 09:40	Let's cooperate at Galileo via Galileo User Forum Workshops	<i>Mr. Ondrej Svab,</i> Ministry of Transport, Czech Republic
09:40 – 10:00	Capacity building in developing countries for successful use of GNSS technologies and services	<i>Prof. Mustapha Amghar,</i> Galileo Morocco Group, Morocco
10:00 – 10:20	ARCSSTEE's capacity building efforts for Africans South of the Sahara	<i>Ms. Lami Ali-Fadiora,</i> African Regional Centre for Space Science and Technology Education in English, Nigeria
10:20 – 10:40	Capacity building in GNSS - some European examples of education, training, and research	<i>Prof. Bernhard Hofmann-Wellenhof,</i> Institute of Navigation & Satellite Geodesy, Graz University of Technology, Austria
10:40 – 11:00	The Geocentric Reference Systems for the Americas SIRGAS - an advancing example of cooperation based on GNSS	<i>Mr. William Martinez-Diaz,</i> Agustin Codazzi Geographic Institute, Colombia

Tea break - 11:00 – 11:30

11:30 – 11:50	EUPOS (European Position Determination System) as the "Service of Services" for integrated infrastructural projects	<i>Dr. Ivo Milev,</i> Technet GmbH, Germany
11:50 – 12:10	Work of Space Generation Advisory Council on promoting understanding of GNSS applications among youth	<i>Ms. Stephanie Wan,</i> Space Generation Advisory Council (SGAC)
12:10 – 12:30	Applications of GNSS technologies and services for sustainable development	<i>Mr. Foy Kum Hubert,</i> Institute for Security Studies, South Africa
12:30 – 12:45	Workshop discussion	

Working Groups Meetings – 12:45 – 13:00

Two Working Groups will be established to prepare for the Round Table discussion in addressing questions on critical issues/focal themes identified at the technical sessions.

12:45 – 13:00	Introduction to the Working Groups (WG) meeting and formation of WGs: WG 1 – On Capacity Building, Institutional Strengthening and International Cooperation WG 2 – On GNSS Applications for Sustainable Development	UNOOSA, IAF
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Lunch - 13:00 – 14:00
Meeting/Working lunch of RT moderator, RT panelists and WG chairs – 13:00 – 14:00

Working Groups Meetings – 14:00 – 15:30
(continued)

Tea break - 15:30 – 16:00

Round Table Discussion - 16:00 – 17:30

Moderator: Dr. D. Prunariu, Chairman of COPUOS

A concluding Round Table discussion will be organized with participation of top-level representatives of space agencies and other relevant national/regional/international institutions and organizations from both space faring and non-space faring countries in order to establish a direct dialogue with the Workshop participants on how GNSS technologies, applications and services can contribute into sustainable economic and social development programmes, primarily in developing countries. The round table will also discuss issues and problems in participants' countries as well as open an exchange of pragmatic ideas between decision-makers and leaders from the above-mentioned organizations and participants of the Workshop. The round table will attempt to draw conclusions and to formulate recommendations that will serve as a partial input to the IAC Plenary Event on satellite navigation systems organized by IAF SatNav Committee.

Round Table Panelists: Dr. Jan Kolář (Head of Czech Space Office and Chairman of the IAC LOC), **Mr. Ken Hodgkins** (Director, Office of Space & Advanced Technology, Department of State, USA/ICG), **Dr. Yury Urlichich** (Director General, JSC "Russian Space Systems", Russia), **Prof. Bernhard Hofmann-Wellenhof**, Institute of Navigation & Satellite Geodesy, Graz University of Technology, Austria/IAF SatNav Committee), **Mr. Giorgio Solari** (Galileo Directorate, ESA), **Prof. Mustapha Amghar** (Director of Galileo Morocco Group, Morocco).

Concluding Session – 17:30 – 18:00

Co-chairs: Dr. Gerard Brachet, IAF/CLIODN, and Dr. Takao Doi, UN-OOSA

17:30 – 17:50	Closing remarks	LOC, ESA, IAF, UN-OOSA, Chairman of COPUOS, ICG
17:50 – 18:00	Briefing on the 2011 event	LOC – South Africa

Presentations scheduled for poster sessions, 24 – 25 September:

24 September PM	Bangladesh SPARRSO and its satellite technology (GNSS) applications and earth observation studies	Dr. Muzibur Rahman Howlader , Bangladesh Space Research and Remote Sensing Organization (SPARRSO)
24 September PM	Using space application in managing trans-boundaries natural disasters related to volcanic eruption for human benefit: Case of Lake Nyos threat in West Africa	Mr. Tomukum Chia , Global Centre for Compliance, Hazards and Disaster Management (GLOCECOHADIM), Cameroon
24 September PM	Monitoring slow ground movements around Tunis City	Dr. Chaabane Ferdaous , Higher School of Communication of Tunis (SUPCOM), Tunisia

24 September PM	Impact of GNSS in national environment	Mr. Kamil Balwar, Air Force, Czech Republic
24 September PM	GNSS potential civil regulated applications for Egypt	Prof. Moustafa Baraka, Faculty of Engineering, Cairo University, Egypt
24 September PM	Precision cadastre and displacement monitoring of tectonic plates in Guatemala	Mr. Willy Cabanas, Universidad de San Carlos, Guatemala
25 September AM	GNSS applications: EO and soil moisture measurements	Mr. Rushi Ghadawala, Aryavarta Space Organization, India
25 September AM	Space technology applications in Lao PDR	Mr. Sith Siripraphanh, Department of Space Technology (DST), National Authority for Science and Technology (NAST), Laos
25 September AM	Implications and stakeholders of GNSS in Pakistan	Mr. Sayed Zahid Jamal, SUPARCO, Pakistan
25 September AM	Integrating GNSS with mobile applications: A review of integrated satellite applications for safe drinking water and basic sanitation (MDG 7)	Mr. Simon Adebola, International Geospatial Society, Switzerland
25 September AM	GNSS implementation plan development for Rwanda	Mr. Emmanuel Sabiti, Civil Aviation Authority (RCAA), Rwanda
25 September AM	Assessment of the current status and the potential for GNSS related applications in Sri Lanka	Mr. Sanath Panawennage, Arthur C. Clarke Institute for Modern Technologies, Sri Lanka
25 September PM	Case study: Identification and area estimation of summer camps using remote sensing technique	Mr. Ahmad Yaghi, General Organization of Remote Sensing (GORS), Syria
25 September PM	GNSS network of Tunisia	Mr. Kamel Naouali, Office La Topographie et du Cadastre, Tunisia
25 September PM	Agricultural aerial robot	Dr. Ozan Tekinalp, Aerospace Engineering Department, Middle East Technical University, Turkey
25 September PM	GNSS applications at the Venezuelan ground stations	Ms. Marglad Bencomo, The Bolivarian Agency for Space Activities (ABAE), Venezuela
25 September PM	GNSS and its relevance in Nigeria	Mr. Kio Michael Tamuno Elekima, National Space Research Organization (NASRDA), Nigeria