

***United Nations/Croatia Workshop on the
Applications of Global Navigation Satellite Systems***

Organised jointly by

**The United Nations Office for Outer Space Affairs and the
Faculty of Maritime Studies of the University of Rijeka**

Co-organized and/or co-sponsored by

International Committee on Global Navigation Satellite Systems (ICG)

Hosted by

Faculty of Maritime Studies of the University of Rijeka

21 – 25 April 2013

Baška, Krk Island, Croatia

PROGRAMME

Sunday, 21 April 2013	
08:30 – 09:30	Registration
09:30	Introductory Remarks
	<ul style="list-style-type: none"> ▪ <i>Objectives of the Workshop, Ms. Sharafat GADIMOVA, United Nations Office for Outer Space Affairs, and Mr. Renato FILJAR, Croatia</i>
10:00	Tutorials
	Global Navigation Satellite Systems and Satellite-based Augmentation Systems
10:00	<ul style="list-style-type: none"> ▪ <i>International Committee on Global Navigation Satellite Systems (ICG), Ms. Sharafat GADIMOVA, United Nations Office for Outer Space Affairs</i>
10:45	<ul style="list-style-type: none"> ▪ <i>Economic benefits of using industry-sector monitoring systems based on GNSS, Ms. Olga NUGAEVA, Russian Federation</i>
11:30	Coffee Break
12:00	<ul style="list-style-type: none"> ▪ <i>BeiDou Programme Update, Mr. Jingnong WENG, China</i>
12:45	Lunch Break
14: 30	<ul style="list-style-type: none"> ▪ <i>GNSS positioning error budget, Mr. Serdjo KOS, Croatia</i>
15:15	<ul style="list-style-type: none"> ▪ <i>Space Weather effects on GNSS performance and operation, Mr. Renato FILJAR, Croatia</i>
16:00	Coffee Break
16:30	<ul style="list-style-type: none"> ▪ <i>Multimedia in training of specialists in GNSS: Russian experience, Mr. Pavel KAZAKOV, Russian Federation</i>
17:15	<ul style="list-style-type: none"> ▪ <i>Laboratory work: Practical GNSS performance analysis using the open source tool, David BRČIĆ, Croatia (Participants are invited to bring their own personal computers)</i>
18:00	Adjourn
19:30	Dinner
Monday, 22 April 2013	
08:00 – 10:00	Registration
10:00	Opening Ceremony and Welcome Remarks
	<i>Moderator: Mr. Marija Simic Hlaca, Croatia</i>
	<ul style="list-style-type: none"> ▪ <i>Full Professor Ivo JOSIPOVIC, President of the Republic of Croatia (video message)</i>
	<ul style="list-style-type: none"> ▪ <i>Mr. Petar SKANSI, Assistant Minister at Ministry of Education, Science and Sport of the Republic of Croatia</i>
	<ul style="list-style-type: none"> ▪ <i>Mr. Toni JURANIC, Mayor of Municipality of Baska, Croatia</i>
	<ul style="list-style-type: none"> ▪ <i>Full Professor Pero LUCIN, Rector of the University of Rijeka</i>
	<ul style="list-style-type: none"> ▪ <i>Mr. Serdjo KOS, Dean of the Faculty of Maritime Studies, University of Rijeka, Croatia</i>
	<ul style="list-style-type: none"> ▪ <i>Ms. Sharafat GADIMOVA, United Nations Office for Outer Space Affairs</i>
	<ul style="list-style-type: none"> ▪ <i>Mr. Colin BEATTY, President of the Royal Institute of Navigation, London, United Kingdom</i>

	<ul style="list-style-type: none"> ▪ <i>Mr. Theodore FISHER, Consuller Officer at the Embassy of the United States of America, Zagreb, Croatia</i>
	<ul style="list-style-type: none"> ▪ <i>Mr. Zdenko ANTESIC, Deputy Minister at Ministry of Maritime Affairs, Transport and Infrastructure of the Republic of Croatia</i>
11:00	<i>Coffee Break</i>
11:20	Presentation Session 1: GNSS user applications
	<i>Chairperson: Mr. Janis ZVIRGZDS, Latvia</i> <i>Rapporteur: Mr. Peter BRAUNMÜLLER, Hungary</i>
11:20	<ul style="list-style-type: none"> ▪ <i>Global Positioning System and its applications, Mr. Theodore FISHER, United States of America</i>
11:40	<ul style="list-style-type: none"> ▪ <i>GNSS User Protection – The Future, Mr. Wolfgang SCHUSTER, United Kingdom</i>
12:00	<ul style="list-style-type: none"> ▪ <i>Innovative GNSS Interference Mitigation Technique based on Electric Field Vector Cancellation via Polarization Nulling Approach, Mr. Enik SHYTERMEJA, Albania</i>
12:20	<ul style="list-style-type: none"> ▪ <i>Topcon GNSS Solutions supporting mapping, surveying activities and disaster management, Mr. Laszlo SZENTPETERI, The Netherlands</i>
12:40	<ul style="list-style-type: none"> ▪ <i>Possibilities and benefit of the online GNSS PPP – free services for GNSS applications, the accuracy and reliability, Ms. Medzida MULIC, Bosnia and Herzegovina</i>
13:00	<i>Lunch Break</i>
14:30	Presentation Session 2: GNSS user applications: Case studies and opportunities for collaboration
	<i>Chairperson: Ms. Keranka VASSILEVA, Bulgaria</i> <i>Rapporteur: Ms. Livia NISTOR-LIPATENCO, Moldova</i>
14:30	<ul style="list-style-type: none"> ▪ <i>Using Location-based Social Media for Crowd Sourced Transportation Systems and Apps, Mr. Tal DEKEL, Israel</i>
14:50	<ul style="list-style-type: none"> ▪ <i>EGNOS Extension to Eastern Europe: First Flight Trials in Romania, Mr. Vlad OLTEANU, Romania</i>
15:10	<ul style="list-style-type: none"> ▪ <i>Analysis of Architecture and Characteristics of Compass Location based Service Network, Mr. Jun ZHAO, China</i>
15:30	<ul style="list-style-type: none"> ▪ <i>Installation and configuration of the combined GPS/GLONASS receiver for monitoring the scintillation impact on ionosphere, Jasmin ĆELIĆ and Sanjin VALČIĆ, Croatia</i>
16:00	<i>Coffee Break</i>
16:30	Presentation Session 2: GNSS user applications: Case studies and opportunities for collaboration (continues)
	<i>Chairperson: Mr. Vlad OLTEANU, Romania</i> <i>Rapporteur: Ms. Karin KOLLO, Estonia</i>
16:30	<ul style="list-style-type: none"> ▪ <i>Recent research achievements in the field of satellite navigation in Croatia, Mr. Tomislav KOS, Croatia</i>
16:50	<ul style="list-style-type: none"> ▪ <i>GNSS Technology Developments in Pakistan, Mr. Muhammad IQBAL, Pakistan</i>
17:10	Panel Discussion 1: Building upon the results of the regional workshops on the Applications of GNSS <i>Moderators: Ms. Sharafat GADIMOVA, United Nations Office for Outer Space Affairs and Mr. Renato FILJAR, Croatia</i>
	<ul style="list-style-type: none"> ▪ <i>International Committee on GNSS (ICG) and its Programme on GNSS Applications</i> ▪ <i>Assess the practical benefits of the follow-up actions resulting from the past workshops held annually since 2001 and their contribution to capacity-building for sustainable development in the utilization of GNSS, as well as deploying instruments for the International Space Weather Initiative (ISWI);</i>

	<ul style="list-style-type: none"> ▪ <i>United Nations-affiliated Regional Centres for Space Science and Technology Education (India, Jordan, Mexico/Brazil, Morocco, Nigeria), which also serve as the Information Centres for ICG.</i>
18:00	Adjourn
19:30	Mayor's reception
Tuesday, 23 April 2013	
09:00	Presentation Session 3: GNSS reference station networks and services
	<i>Chairperson: Muhammad IQBAL, Pakistan</i> <i>Rapporteur: Mr. Vlad OLTEANU, Romania</i>
09:00	<ul style="list-style-type: none"> ▪ GNSS Permanent Stations as the Part of Integrated Geodetic System in Estonia, <i>Ms. Karin KOLLO, Estonia</i>
09:20	<ul style="list-style-type: none"> ▪ Geodynamical Study of the Territory of Balkan Peninsula from GPS Solutions, <i>Ms. Keranka VASSILEVA, Bulgaria</i>
09:40	<ul style="list-style-type: none"> ▪ Refection of National Geodetic Infrastructure using GNSS Technique, <i>Mr. Said TOUAM, Algeria</i>
10:00	<ul style="list-style-type: none"> ▪ Seismic Deformation Analysis Using GNSS Technology and the Chilean Reference Frame: 2010 Maule Earthquake, <i>Mr. Lautaro RIVAS, Chile</i>
10:20	<ul style="list-style-type: none"> ▪ GNSSnet.hu – Experience and developments, <i>Mr. Peter BRAUNMÜLLER, Hungary</i>
10:40	<ul style="list-style-type: none"> ▪ Determination of Transformed Parameters between CS42 and WGS84 for Uzbekistan Territory, <i>Mr. Erkin MIRMAKHMUDOV, Uzbekistan</i>
11:00	Coffee Break
11:40	Presentation Session 4: Space Weather and GNSS
	<i>Chairperson: Ms. Medzida MULIC, Bosnia and Herzegovina</i> <i>Rapporteur: Mr. Lautaro RIVAS, Chile</i>
11:40	<ul style="list-style-type: none"> ▪ GNSS Space Weather Resilience Scheme, <i>Mr. Renato FILJAR, Croatia</i>
12:00	<ul style="list-style-type: none"> ▪ Status and Plans of GNSS Applications for Space Weather Monitoring in Indonesia, <i>Mr. Buldan MUSLIM, Indonesia</i>
12:20	<ul style="list-style-type: none"> ▪ Ionospheric Response to Space Weather During Satellite Anomalies, <i>Ms. Bola ABDULRAHIM, Nigeria</i>
12:40	<ul style="list-style-type: none"> ▪ Sun Activity Influence on Measurements in GNSS Reference Station System LatPos, <i>Mr. Janis ZVIRGZDS, Latvia</i>
13:00	Lunch Break
14:30	Presentation Session 5: Capacity building, training and education in the field of GNSS
	<i>Chairperson: Ms. Bola ABDULRAHIM, Nigeria</i> <i>Rapporteur: Mr. Enik SHYTERMEJA, Albania</i>
14:30	<ul style="list-style-type: none"> ▪ Progress of the International Centre for GNSS Science, Technology and Education, <i>Mr. Jingnong WENG, China</i>
14:50	<ul style="list-style-type: none"> ▪ GNSS Applications in the Educational System of the Technical University of Moldova, <i>Ms. Livia NISTOR-LIPATENCO, Moldova</i>
15:10	<ul style="list-style-type: none"> ▪ GLONASS Education Centre, <i>Mr. Pavel KAZAKOV, Russian Federation</i>
15:30	<ul style="list-style-type: none"> ▪ Continuously Operating Reference Stations (CORS) Network for Disaster Management and Emergency Response, <i>Mr. Muhammad Muneeb SHAIKH, Pakistan</i>
15:50	<ul style="list-style-type: none"> ▪ GNSS Data Acquisition and Processing Application for Sustainable Development of the Transportation Infrastructure, <i>Ms. Desislava STAYKOVA, Germany</i>
16:10	Coffee Break

16:30	Panel Discussion 2: Capacity building and follow-up activities <i>Moderators: Ms. Sharafat GADIMOVA, United Nations Office for Outer Space Affairs and Mr. Renato FILJAR, Croatia</i>
	<ul style="list-style-type: none"> ▪ Issues, concerns and approaches for pilot projects/initiatives, requirements of implementing, mechanisms and resources of implementing ▪ Type and level of training required for addressing enabling space technologies and their applications ▪ Possible follow-up projects and initiatives and proposals for future workshops/training courses
18:00	Adjourn
19:30	<i>Dinner</i>
Wednesday, 24 April 2013	
09:00	Informal discussions/drafting of session reports and recommendations in groups lead by chairs of sessions
09:00	Organization of Work: <i>Ms. Sharafat GADIMOVA, United Nations Office for Outer Space Affairs and Mr. Renato FILJAR, Croatia</i>
09:30 – 13:00	Informal consultations of the chairpersons <ul style="list-style-type: none"> ▪ Preparation of the reports by the chairpersons of the sessions ▪ Chairpersons in cooperation with interested participants
11:00	<i>Coffee Break</i>
11:20	Informal discussions/drafting of session reports and recommendations in groups lead by chairs of sessions (continues)
13:00	<i>Lunch Break</i>
14:30 –	Conclusions and Recommendations of the Workshop
	<i>Co-chairs: Ms. Sharafat GADIMOVA and Mr. Levent CANTURK, United Nations Office for Outer Space Affairs, Mr. Renato FILJAR, Croatia</i>
	<ul style="list-style-type: none"> ▪ <i>Report by the chairpersons</i> ▪ <i>Discussion: Assess the practical benefits of the follow-up actions resulting from the Workshop and its contribution to the ICG and its Working Groups</i> ▪ <i>Conclusions and Recommendations</i>
15:30	Concluding Remarks <ul style="list-style-type: none"> ▪ <i>Ms. Sharafat GADIMOVA, United Nations Office for Outer Space Affairs</i> ▪ <i>Mr. Renato FILJAR, Croatia</i>
16:00	<i>Coffee Break</i>
19:30	<i>Dinner</i>
Thursday, 25 April 2013	
08:00	Technical Visit: GNSS Space Weather Laboratory, Faculty of Maritime Studies in Rijeka
10:30	Departure for Zagreb Airport
13:00	Arrival to Zagreb Airport