



United Nations/Belarus International Workshop on Space Technology Applications for Socio-Economic Benefits

**Hosted by the the Belarusian State University (BSU) on behalf of
the Government of Belarus**

Co-sponsored by the Secure World Foundation (SWF)

Programme

(as of 14/11/2013)

Dates: 11-15 November 2013

**Venue: Council Hall
Belarusian State University
Bobruiskaya str., 5a, Minsk, Belarus**

Day 1 – Monday, 11 November 2013

08:45 – 09:30 **Registration**

Inauguration ceremony

09:30 – 10:00 **Opening remarks by representatives of:**

- *Prof. A.I. Zhuk, Ministry of Education*
- *Prof. S.Y. Kilin, National Academy of Sciences*
- *Prof. S.V. Ablameyko, Belarusian State University (BSU)*
- *Mr. Sergei Chernikov, UN Office for Outer Space Affairs (UN-OOSA)*
- *Prof. M.I. Makarov, Khrunichev State Research and Production Space Center*
- *Ms. Agnieszka Lukaszczyk, Secure World Foundation (SWF)*

10:00 – 10:20 **Keynote address: Creation of the Belarusian Space System for Remote Sensing of the Earth - an Important Factor of Scientific, Technical and Socio-Economic Development of Belarus**
Prof. S.V. Ablameyko, Dr. S.A. Zolotoy, Mr. O.A. Semenov, Prof. A.V. Tuzikov. BSU, UE "Geographic Information Systems", UIIP of the National Academy of Sciences of Belarus

10:20 – 10:40 **Overview of the past United Nations Workshops on Space Technology Applications for Socio-economic Benefits**
Dr. Eugenio Gonzalez Aguilo, Executive Director , Natural Resources Information Center (CIREN), Chile

10:40 – 11:00 **Introduction to the objectives of the workshop and its logistics**
UN-OOSA, LOC

11:00 – 11:20 **Coffee break**

Technical session 1: International and regional cooperation

Co-Chairs: Dr. S. Stankevich, SCAR, Ukraine and Ms. Agnieszka Lukaszczyk, SWF
Rapporteur: TBA

11:20 – 11:40 **Presentation of UN-OOSA activities**
Mr. Sergei Chernikov, UN Office for Outer Space Affairs (UN-OOSA)

11:40 – 12:00 **ISPRS - Serving Society with Information from Images**
Prof. V. Seredovich, Siberian State Academy of Geodesy (SSAG), Novosibirsk, Russia

12:00 – 12:20 **International Collaboration in Space Technology Experiments Through Educational Center of IKI RAS**
Dr. A. Sadovski, Prof. L. Zelenyi, Space Research Institute of Russian Academy of Sciences (IKI), Moscow, Russia

12:20 – 12:40 **The state and Perspectives of Development of Russian Remote Sensing System**
Dr.V. Z.aichko, M.N. Haylov OJSC «Research-and-Production Corporation «REKOD», Russia

- 12:40 – 13:00 **Russian - Belarusian Student Research Nanosatellite**
 Prof. S.V. Ablameyko, Prof. S.G. Emelyanov, Dr. V.V. Ponaryadov, Prof. V.A. Saechnikov, Dr. S.N. Samburov, Prof. O.I. Atakischev, Dr. V.A. Pikkiev.
Belarusian State University, Minsk, Belarus, South-west State University, Kursk, Russia
- 13:00 – 13:20 **Russian-Peruvian Student Small Satellite “CHASQUI-1”**
 Dr. V.A. Pikkiev, Mr. A.A. Lutsenko, Dr. S.N. Samburov
South-west State University, Kursk, Russia.
- 13:20 – 13:30 **Principles and Mechanisms for Creation of the Pan-African Remote Sensing Center for Forest Monitoring**
 Mr. Leonidas Niyuonkuru, University of Burundi, Bujumbura, Burundi
- 13:30 – 14:30 Lunch**

Technical session 2: Space technology for national socio-economic development programmes

Co-Chairs: Prof. A. Shelestov, NULESU, Ukraine and Dr. Eugenio Gonzalez Aguilo, CIREN, Chile

Rapporteur: TBA

- 14:30 – 14:50 **Socio-Economic Benefit of the Land Systematic Registration Based on Satellite Technologies**
 Dr. S. Shavrov, Dr. M. Vaskovich, Belarusian State University, Minsk, Belarus, KTH Royal Institute of Technology, Sweden
- 14:50 – 15:10 **Socio-Economic Benefit of the Union State Scientific and Technology Programs “Kosmos”**
 Prof. M.I. Makarov, Dr. A.N. Korolev, Dr. G.V. Korovin, FSUE Khrunichiev State Research and Production Space Center, A.A. Maksimov Space Systems Research Institute, Korolev, Russia
- 15:10 – 15:30 **Forestry Applications of Remote Sensing in Belarus**
 Mr. I. Tolkach, Mr. A. Pushkin, Mr. S. Minkevich, Belarusian State Technological University, Belarusian Forest Inventory Enterprise «Belgosles», Minsk, Belarus
- 15:30 – 15:50 **The Path to Change of El Salvador - Creating the Foundations of a Democratic Society, Inclusive and Equitable Conditions**
 Mr. D. A. G. Toledo, Secretariat of the Presidency, San Salvador, El Salvador
- 15:50 – 16:20 Coffee break**
- 16:20 – 16:40 **Organization, the Main Results and Experiences on the Use Results of Space Activities in the Regions of the Russia**
 Dr. S. V. Pushkarskiy, Dr. V. Z. aichko, OJSC «Research-and-Production Corporation «REKOD», Russia
- 16:40 – 17:00 **Applications of Satellite Images in the Organizations of Ministry of Natural Resources and Environmental Protection of the Republic of Belarus**
 Dr. V. Sipach, Ministry of Natural Resources and Environmental Protection, Minsk, Belarus
- 17:00 – 17:20 **Prospects of Space Technology Application in Daily Activities of Belarusian Armed Forces**
 Dr. A.P. Busla, Dr. S.N. Kovalenko, Research Institute of the Armed Forces of the Republic of Belarus, Minsk, Belarus
- 17:20 – 17:40 **Satellite Agricultural Monitoring in Ukraine**
 Prof. A. Shelestov, National University of Life and Environmental Sciences of Ukraine (NULESU), Ukraine

- 17:40 – 18:00 Workshop discussion
- 18:00 – 20:30 Gala dinner hosted by BSU**

Day 2 – Tuesday, 12 November 2013

Technical session 3: Earth observation for land use, environmental monitoring and natural resources management (1)

Co-Chairs: Prof. V. Sereдовich, SSAG, Russia and Prof. V. M. Rao, Institute of Rural Development, India
Rapporteur: TBA

- 09:30 – 09:50 **The Role and Place of Space Technologies in General Geomonitoring Systems**
Prof. M.Zhuravkov, Prof. V. Krasnoproshin, prof. V.Gubin and Dr. A.Kanavalau, Belarusian State University (BSU), Minsk, Belarus
- 09:50 – 10:10 **Quantitative Assessment of Vegetation Cover Multi-Temporal Changes and Prediction of Erosion-Prone Areas in the Shirvan National Park of Azerbaijan**
Dr. E. R. Bayramov, British Petroleum Baku, Azerbaijan
- 10:10 – 10:30 **Assessing Conditions and Trends of Ecosystem Services at the Thadee Watershed Based on Different Land Use and Climate Change Scenarios**
Prof. Yongyut Trisurat, Kasetsart University, Bangkok, Thailand
- 10:30 – 10:50 **Desert Movement Prediction Center: Earth Observation as a Mean to Combat Desertification**
Mr. R. Topham, EUROCONSULT, France
- 10:50 – 11:10 **GEOMED Project: Objectives, Impacts and Accomplishments**
Dr. Ferdaous Chaabane, Higher School of Communication of Tunis, Tunisia
- 11:10 – 11:40 Coffee break**
- 11:40 – 12:00 **Land Degradation and Desertification in Libya**
Mr. E.A. Ladewish, Mr. S.M. Rabha, Mr. E.O. Shbeli, Libyan Center for Remote Sensing &Space Science (LCRSSS), Tripoli Libya
- 12:00 – 12:20 **Application of Participatory GIS on Soil Erosion Mapping and Financial Analysis Tools in Soil Conservation Planning: Case Study of Phewa Watershed, Nepal**
Mr. K.P. Bhandari, Tribhuvan University, Kaski, Nepal
- 12:20 – 12:40 **Measuring Urban Sprawl on Geospatial Indices Using Remote Sensing and GIS Techniques**
Dr. Norzailawati Mohd Noor, International Islamic University, Kuala Lumpur, Malaysia
- 12:40 – 13:00 **Aerospace Monitoring Quarries of Building Materials for Controlling Mining Companies**
Dr. E. Shestopalova, Department of aerospace research "Scientific Practical of Geology", Belarus

- 13:00 – 13:20 **Creating Space Measurement Systems, Processing and Information Protection Methods for Monitoring Natural and Anthropogenic Objects**
Prof. B.I. Belyaev, Dr. L.V. Katkovsky, Prof. P.V. Kuczynski, Dr. V.A. Sosenko. Research Establishment «Institute of applied physical problems named after A.N. Sevchenko» , Belarusian State University, Research Institute of Fire Safety and Emergencies (RIFSE) , Minsk, Belarus
- 13:20 – 13:30 Workshop discussion

13:30 – 14:30 Lunch

Technical session 4: GNSS and satellite communications

Co-Chairs: Prof. A.V. Tuzikov, UIPI, Belarus and Dr. X. Xue, Anyang Normal University, China
Rapporteur: TBA

- 14:30 – 14:50 **Benefits for Belarus Satellite Communication Network through VSAT Terminals**
Dr. A.V.Gusinski, Mr. D.A.Kondrashov, Mr.M.S.Svirid, Mr.A.V.Saykov, Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus
- 14:50 – 15:10 **Using Location-Based Social Applications for Socio-Economic Benefit**
Mr. Tal Dekel, Tel Aviv University, Tel Aviv, Israel
- 15:10 – 15:30 **Navigation Technologies: 20 Years of the Navigation and Timing Support System of Belarus**
Dr. Y. Samul, State Military-Industrial Committee of the Republic of Belarus (Goscomvoynprom) , Minsk, Belarus
- 15:30 – 15:50 **A Technical Review on GPS-Based Navigation Systems of Agriculture Autonomous Off-Road Vehicles**
M. Ghorbani Poshtmashhadi, Armaghan Kavir Co. Kashan, Iran
- 15:50 – 16:00 Workshop discussion
- 16:00 – 16:30 Coffee break**

Technical session 5: Space applications for disaster management and emergency response

Co-Chairs: Prof. I. Gulis, Belarusian State University, Belarus and Prof. N. Kussul, Space Research Institute, Ukraine
Rapporteur: TBA

- 16:30 – 16:50 **Flood Monitoring Activities in the UN-SPIDER RSO-Ukraine**
Prof. Natalia Kussul, Space Research Institute NASU-SSAU, Kiev, Ukraine
- 16:50 – 17:10 **Activities of the UN-SPIDER Regional Support Office in Iran**
Mr. A.S. Naeini, UN-SPIDER RSO, Iran
- 17:10 – 17:30 **Social Media in Disaster Management**
Ms. Anastasia ANTONIOU, Secure World Foundation (SWF)
- 17:30 – 17:50 **Satellite Monitoring for Fire Risk Assessment within Residual Radiation Hazard Exclusion Zone: Fukushima Case Study**
Dr. S. Stankevich, Scientific Centre for Aerospace Research of the Earth, (SCAR), Kiev, Ukraine

- 17:50 – 18:10 **The Next 100 Generations of Risk Assessment, Resilience and Early Warning Systems for Weather/Climate Related Hazards for the Benefit of Humanity: IAA - IGMASS Action and New Development in ACP Countries**
Mr. T. Chia, Global Centre for Compliance, Hazards and Disaster Management (GLOCECOHADIM), Belo, Cameroon
- 18:10 – 18:30 **Ionospheric Precursors of Local Earthquakes Observed Using Kitab GPS Station Data During 2013**
Mr. K. E. Eshkuvatov, Ulugh Begh Astronomical Institute, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan
- 18:30 – 18:50 Workshop discussion

Day 3 – Wednesday, 13 November 2013

09:00 – 18:00 **Technical tour**

Day 4 – Thursday, 14 November 2013

Technical session 6: Capacity building in space science and technology

Co-Chairs: Prof. V.A. Saetchnikov, BSU, Belarus and Prof. O.I. Atakischev, South-west State University, Russia
Rapporteur: TBA

- 09:30 – 09:50 **Aerospace Education in the Republic of Belarus**
Prof. S.V. Ablameyko, Mr. V.V. Ponariadov, Prof. V.A. Saetchnikov, Prof. A.I. Zhuk, Belarusian State University, Ministry of Education of Republic of Belarus, Minsk, Belarus
- 09:50 – 10:10 **Capacity-Building Activities of the Regional Centres for Space Science and Technology Education, Affiliated to the United Nations**
Ms. Sonia Beharovic, UN-OOSA
- 10:10 – 10:30 **Design and Development of Village GIS and Development of the Village Through Community Participation, Optimization of Resource Use and Convergence**
Prof. V. M. Rao, National Institute of Rural Development, Hiderabad, India
- 10:30 – 10:50 **Socio-Economic Benefits of Geo-Information Space Created and Used on the Basis of Space Technologies**
Mr. Alexander P. Karpik, Mr. Dmitry V. Lisitskiy, Prof. Vladimir A. Seredovich, Siberian State Academy of Geodesy, Novosibirsk, Russia
- 10:50 – 11:00 **Ionospheric Precursors of Local Earthquakes Observed Using Kitab GPS Station Data During 2013**
Mr. K. E. Eshkuvatov, Ulugh Begh Astronomical Institute, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan
- 11:00 – 11:30 **Coffee break**

Technical session 7: Development of space technologies, systems and equipment

Co-Chairs: Prof. N.V. Kuleshov Belarusian National Technical University, Belarus and Dr. M.I. Makarov, FSUE Khrunichev State Research and Production Space Center, Russia
Rapporteur: TBA

- 11:30 – 11:50 **Satellite-Based Air Traffic Surveillance in Non-Radar Airspace**
Mr. J. Behrens, German Aerospace Centre (DLR), Bremen, Germany
- 11:50 – 12:10 **Modern Laser Technologies for Fabrication of Solar Cells**
Dr. V.E. Kisel, Dr. A.E. Gulevich, Prof. N.V. Kuleshov, Belarusian National Technical University, Minsk, Belarus
- 12:10 – 12:30 **The Research on Parallel Fusion of Remote Sensing Images and its Applications**
Dr. X. Xue, School of Computer and Information Engineering, Anyang Normal University, Henan, China
- 12:30 – 12:50 **Medium Resolution Imaging Payload for Microsatellites**
Mr. T.V. Klimovich, Mr. M.N. Kotov, Mr. S.O. Marach, Joint-stock company "Peleng", Minsk, Belarus
- 12:50 – 13:10 **Technology Transfer in Space Research**
Prof. V.I Mayorova, Dr. V.I. Kostenko, Mr. R.R. Nazirov, Mrs. G.S. Ustinova, Mr. A.M. Chernenko, Bauman State Technical University, Space Research Institute of RAS, Moscow, Russia
- 13:10 – 13:30 **Environmental Disaster (TBC)**
Mr. C.C. Ihugba, Regional office of the World Meteorological Organization (WMO), Abuja, Nigeria.
- 13:30 – 13:40 **Spectra-Zonal Equipment for Remote Monitoring**
Prof. B. Belyaev, Dr. V. Sosenko, Mr. A. Chumakov, Dr. Y. Belyaev, Dr. A. Sizikov, Research establishment "Institute of Applied Physical Problems named after A.N. Sevchenko" Belarusian State University, Minsk, Belarus
- 13:40 – 14:30 Lunch**

Technical session 8: Earth observation for land use, environmental monitoring and natural resources management (2)

Co-Chairs: Dr. S. Semenovich, BSU, Belarus and Mr. R. Topham, EUROCONSULT, France
Rapporteur: TBA

- 14:30 – 14:50 **Monitoring of the Most Valuable Natural Ecosystems of Belarus**
Dr. A. Pontys, Department of aerospace research "Scientific Practical of Geology", Minsk, Belarus
- 14:50 – 15:10 **Implementation Precision Farming Technology in Egypt to Optimizing the Crop Production**
Dr. A.-A. Belal, National Authority for Remote Sensing and Space Sciences (NARSS), Cairo, Egypt
- 15:10 – 15:30 **Geospatial Technology and Remote Sensing for Chilean Agriculture**
Dr. Eugenio Gonzalez Aguilo, Natural Resources Information Center (CIREN), Santiago, Metropolitan Region, Chile
- 15:30 – 15:50 **FARMABOOTHs: Assisting Farming Communities Through Earth Observation**
Mr. R. Topham, EUROCONSULT, France
- 15:50 – 16:10 **Hyperspectral Images for the Earth Surface Monitoring**
Prof. R. Sadykhov, Dr. D. Pertsev, Belarussian State University of Informatics and Radioelectronics, Minsk, Belarus
- 16:10 – 16:40 Coffee break**
- 16:40 – 17:00 **Developing Hydro-Sources for Environment and Sustainability in Turkey: The South Eastern Anatolia Project (GAP) as a Case Study**
Mr. B. Acma, Anadolu University, Eskisehir, Turkey
- 17:00 – 17:20 **Estimation of Regional Water Storage Variations Inferred from the Gravity Recovery and Climate Experiment (GRACE)**
Mr. A. Agoune, Ministry of Agriculture, Kebili, Tunisia

17:20 – 17:30 Workshop discussion

Working Groups Meeting

Two or three Working Groups will be established to prepare observations and recommendations of the Workshop as well as to develop proposals for follow up projects

- 17:30 – 17:45 Introduction to and formation of Working Groups:
- establish two or three Working Groups, identify themes of each group;
 - identify group lead and rapporteur for each group, and their responsibilities;
 - objectives of the Working Groups are: discuss issues and concerns in the thematic area; discuss potential solutions with using space technologies; prepare observations and recommendations of the Workshop; develop project ideas for follow up actions.
- 17:50 – 19:00 Working Groups Meeting (in parallel)

Day 5 – Friday, 15 November 2013

Working Groups Meeting

- 10:00 – 12:00 Working Groups Meeting (continued)
12:00 – 12:30 **Coffee break**

Closing Session

Co-Chairs: Prof. S.V. Ablameyko, BSU and Mr. Sergei Chernikov, UN-OOSA

- 12:30 – 13:00 Presentation of WGs observations & recommendations (by chairs of WGs)
13:00 – 13:30 Discussion and adoption of the Workshop observations and recommendations
13:30 – 14:00 Closing remarks:
- *Prof. S.V. Ablameyko, Belarusian State University (BSU)*
 - *Mr. Sergei Chernikov, UN Office for Outer Space Affairs (UN-OOSA)*
 - *Ms. Agnieszka Lukaszczyk, Secure World Foundation (SWF)*
- 14:00 End of the Workshop
- 14:00 – 15:00 Lunch**

Presentations scheduled for posters sessions :

Day	Title	Author
Monday, 11 November	Gender Differences in the Effects of Socio-economic Background - Recent Cross-National Evidence	<i>Mr. A. A Oluwatosin,</i> <i>Ministry of Environment and Sanitation, Osun State, Nigeria</i>

**Tuesday,
12
November** The Use of Remote Sensing Data in Local
Monitoring at Enterprises within the Framework of
National System of Environmental Monitoring in the
Republic of Belarus

Dr. A. Babko
*Environmental Monitoring
Department Belarusian
Research Centre "Ecology",
Minsk, Belarus*