1st International Conference

Nocturnal Atmosphere, Remote Sensing and Laser Ranging:

NOCTURNAL - Riga 2014

Agenda

University of Latvia, Raina blvd.19, Museum

Thursday, 16 October, 2014	
from 12.00	Registration
13.30	Welcome and Opening Remarks: *On behalf of Local and International Scientific Boards:* ***Arnolds Ubelis, Sune Svanberg*** *On behalf of National Authorities*: ***Dana Reizniece-Ozola***, Education, Culture and Science Committee, the Parliament of Latvia (Saeima) *On behalf of FOTONIKA-LV (FP7-REGPOT-2011-1 Project):* ***Andrejs Siliņš***, Chair of the Steering Committee
13.50	First Plenary Session: *Chair Arnolds Ūbelis* ***Invited keynote speakers***
13.50-14.25	Keynote Lecture *Optical probing of the atmosphere: atoms, molecules, particles, insects and birds* ***Sune Svanberg***, Lund University, Sweden
14.25-15.00	Keynote Lecture *The Future of Space related Technologies in the Africa Continent* ***Saleh Ahmed***, Space Technology and Science Group, Finland
15.00 -15.30	COFFEE BREAK(30 minutes)
15.30	Second plenary Session: *Chair Sune Svanberg* ***Advances in Photochemistry of Nocturnal Atmosphere***
15.30-16.00	*Kinetic processes in atmospheric and burning cluster plasma* ***Alexander Starik***, P.I.Baranov Central Institute of Aviation Motors, Russia
16.00-16.30	*Technology and equipment for evaluation of individual UV irradiation sensitivity of human skin* ***Petro Smertenko,*** *V.Naumov, V.Stepanov, V.Tochin, Yu.Myagchenko,* Institute of Fundamental Problems for High Technologiesion, Ukraine
16.30-17.00	*Progress in the Development of Satellite Laser Ranging Technologies for Application in Atmosphere Research* ***Elina Rutkovska,*** *M.Abele, J.Vjaters, A.Ubelis*, University of Latvia, Latvia
17.00	COME-TOGETHER

Friday, 17 October, 2014	
9.30	Third Plenary Session: *Chair Jānis Balodis* ***Advances in Remote Sensing***
9.30-10.00	*Tomographic profiling of atmospheric trace gas distributions: concept and simulation studies* ***Jānis Puķīte,****T.Wagner,* Max Planck Institute for Chemistry, Germany

10.00-10.30	*Shoreline Detection by Using Object-Oriented Approach: Case Study of Latvia-Riga* ***Bülent Bayram,*** *I.Janpaule, J.Kaminskis, P.Petersons, T.Ozkan, Y.C.Daşkın,*Yildiz Technical University, Turkey-Latvia
10.30-11.00	*Flight control and navigation for scalable and arbitrarily dimensioned UAVs and manned multicopters* ***Jan Zwiener****, R.Jäger,* Hochschule Karlsruhe - Technik und Wirtschaft, Germany
11.00-11.30	COFFEE BREAK(30 minutes)
11.30	Fourth Plenary Session: *Chair Kalvis Salmiņš* ***Challenging Problems of Satellite Laser Ranging Technologies***
11.30-12.00	*The SLR Space Segment – Recent and Future Developments* ***Ludwig Grunwaldt****,* GFZ German Research Centre for Geosciences, Germany
12.00-12.30	*Upgrading the calibration chain at Riga SLR station* ***Jorge del Pino,*** *Kalvis Salmins, Aivis Meijers,* University of Latvia, Latvia
12.30-14.00	LUNCHBREAK (90 minutes)
14.00-14.30	*Electronic shutter for photomultiplier for SLR* ***Mykhailo Medvedskyy****,* Main Astronomical Observatory of the National Academy of Sciences of Ukraine, Ukraine
14.30-15.00	*Reaching new limits of accuracy for distance measurements in satellite ranging by using technology of femtosecond frequency combs* ***Jānis Alnis***, University of Latvia, Latvia
15.00-15.30	COFFEE BREAK(30 minutes)
9.00 - 18.00 Meet the Author Hour: **15.30-17.30**	**Poster Session on Conference Topics** for students/ young researchers: *Chair Aigars Atvars*
17.30	SOCIAL EVENT

	Saturday, 18 October 2014
10.00	Fifth Plenary Session: *Chair Amara Graps* ***Geodynamics, Geodesy and Advances in Astronomy***
10.00-10.30	*Research activities at the Institute of Geodesy and Geoinformatics* ***Gunārs Silabriedis,*** *J.Balodis, A.Zariņš, A.Rubans, I.Janpaule, D.Haritonova, I.Lasmane,* University of Latvia, Latvia
10.30-11.00	*Reduction of data of digitized scans of astronomical plates from Schmidt telescope* ***Ilgmārs Eglītis****, Māra Eglīte,*University of Latvia, Latvia
11.00-11.30	*Project of multi-purpose optical tracking system* ***Ansis Zariņš,*** *I.Janpaule, D.Haritonova, A.Rubans,* University of Latvia, Latvia
11.30-12.00	COFFEE BREAK
12.00-12.30	*Spectroscopy of the extremely metal-poor red giant HE0056-3022* ***Atis Klavins,*** *A.Barzdis, O.Smirnova,* University of Latvia, Latvia
12.30-13.00	*Developing the Moon the next great step for mankind* ***Vidvuds Beldavs,*** NSC FOTONIKA-LV, Latvia
13.00-13.30	***Closing remarks***
Monday 20 October – Wednesday 22 October	Research Training Course for Young Researchers: *Moderator Dārta Ūbele* Adventure of Nocturnal Atmosphere: From Earth to Night Sky - Riga 2014 *(Advances in Remote Sensing, Satellite Laser Ranging and Geodynamics)*

9.00 - 18.00 Meet the Author Hour: **15.30-17.30**	**Poster Session on Conference Topics** for students/ young researchers: *Chair Aigars Atvars* *3D Face Modelling from Multiple Images* – T.Ozkan, Y.C.Daskin, H.Kartal, E.M.Acar *A Concept of High-Accuracy DIY 3D Plasmotron Printer for Medical Applications* – Janis Blahins, Karlis Gross,Fedor Pliavaka, Sergey Gorbatov, Aigars Apsitis, Darta Ubele *Atmospheric photochemistry of carbon clusters* – A.K.Saxena, S.B.Banerjee, K.P.Subramanian, BhasBapat *Comparison of object-oriented based fuzzy and region growing methods for patient specific segmentation and 3D modelling of the heart chambers in CT images* – Serap Erk *Design of new Satellite Laser Ranging telescope for atmosphere research and monitoring* – Janis Vjaters, M.Abele, A.Treijs, E.Rutkovska, A.Ubelis *Determination of the spin period of Envisat by one SLR station* –ViktorPap *Differential Approach and Radiation Amplification Factor* – V.Naumov, P.Smertenko, V.Stepanov, G.Ol'khovik *Dust particle counting in ambient laboratory air* – Jāzeps Rutkis, Jānis Alnis *GNSS More Than a Tool for Navigation* – Inga Brice, JānisAlnis *High Accuracy Latvian Geoid Model for GNSS Measurements* – I.Janpaule, A.Zarins, A.Rubans, et al *High-Performance Timing System: Research, Development and Design* – Katrina Belasheva, V. Bespal'ko, E. Boole, V. Vedin, G. Ozolins *Laser beam autotracking system used for laser beam coaxial direction active stabilization in space between linked platforms* – M.Abele, J.Vjaters, E.Rutkovska, A.Treijs *Low-budget solutions in computerisation and exploitation of precious experimental equipment* – ArmanBzhishkyan, IljaFescenko, AigarsApsītis, Jānis Blahins *Optimisation of continuous wave excitation for ROFLEX-type iodine EDSLs sources* – A.Apsītis, U.Gross *Overview of advances in research in photochemistry of nocturnal atmosphere* – Kaspars Miculis *Photonics innovation ecosystem* – VidvudsBeldavs *Polish Scientific Satellites* – Tomasz Zawistowski *Project of multi-purpose optical tracking system: design and deformations of optical system's transmitting path* – D.Haritonova, A.Zarins, I.Janpaule, A.Rubans *Satellite Laser Ranging Station "Alchevsk"* – S.Horelnykov, K.Frolkov, I.Liubich, S.Melkov, V.Murga *The new edition of Borowiec SLR station* – PawelLejba, Tomasz Zawistowski *The project "Nocturnal Atmosphere", FP7-PEOPLE-2011-IRSES, G.A.294949* – Arnolds Ubelis *Use of fuzzy logic for vegetation mapping in landsat-8 satellite image* – K.Chabs, M.Cekule, B.Bayram, I.Janpaule

Training course for Young Researchers

Adventure of Nocturnal Atmosphere: From Earth to Night Sky - Riga 2014

(Advances in Remote Sensing, Satellite Laser Ranging and Geodynamics)

University of Latvia, Institute of Atomic Physics and Spectroscopy

Old Town, Šķūņu str.4, Auditorium

Monday, 20 October, 2014	
from 9.00	Registration
9.30	***Advances in Remote Sensing***
9.30-11.00	Basic Principles of LRR design ***Ludwig Grunwaldt****, GFZ German Research Centre for Geosciences, Germany*
11.30-13.00	Data extraction with similar techniques: satellite images and medical images ***Bülent Bayram****,* Yildiz Technical University, Turkey
13.00-14.30	LUNCHBREAK (90 minutes)
14.30	***Challenging Problems of Satellite Laser Ranging Technologies***
14.30-16.00	Problems of SLR System Calibration ***Ludwig Grunwaldt****, GFZ German Research Centre for Geosciences, Germany*
16.30-18.00	Modelling spectral band ranges of satellite images on blue band case with artificial neural networks& Face recognition analysis by developing feature operators in virtual reality ***Bülent Bayram****,* Yildiz Technical University, Turkey

Tuesday, 21 October, 2014	
9.30-11.00	UAV sensor fusion and control algorithms ***Jan Zwiener****,* Hochschule Karlsruhe - Technik und Wirtschaft, Germany
Continued as	***Day of Photonics - Ground floor***

Wednesday, 22 October, 2014	
9.00	***Geodynamics, Geodesy and Advances in Astronomy***
9.00-10.30	Cosmic Dust Charging and Dynamics ***Amara Graps****, University of Latvia, Latvia*
10.30-11.00	COFFEE BREAK (30 minutes)
11.00-13.00	Colloquium “Advances in Satellite Ranging Technologies”
13.00	CLOSURE OF TRAINING COURSE FOR YOUNG RESEARCHERS

Tuesday, 21 October, 2014	
Day of Photonics - Šķūņu str.4, Ground floor	
DAY OF PHOTONICS is an annual event that promotes "photonics" towards the general public. Companies, research organisations, and organisations involved in photonics reach out to their communities to raise awareness about what is photonics and why it is important, and promote the role of their organisation in the photonics ecosystem and value chain. On 21 October 1983, the General Conference of Weights And Measures adopted the value of 299,792.458 km/s for the speed of light. At the occasion of the anniversary, over 100 activities will be organised over more than 20 countries in the world and encompass all kinds of demonstrations and discussions on the impact of photonics on our day-to-day life: day-of-photonics.org/activities-on-21-october-2014. The Association FOTONIKA-LV at the University of Latvia is a member of EPIC – The European Photonics Industry Consortium and is supporting the EPIC initiative to organise the Photonics-open-day on October 21.	
10.00-18.00	Information dissemination stands (prototypes, posters, booklets, etc.)
11.00-11.30	Scene setting
11.30-13.00	*Science block:* Quantum sciences, space sciences and related technologies highlights in Latvia and in Baltics
13.00-14.00	LUNCH BREAK & NETWORKING (60 minutes)
14.00-15.30	*Industry block:* Quantum sciences, space sciences and related technologies - SME success Stories in Latvia and across in Baltics
15.30-16.00	COFFEE BREAK (30 minutes)
16.00-17.00	*Science policy block:* Chances for pan-Baltic smart specialisation
17.00-18.00	Summary, action items

Conference Local Organising Committee	*Scientific Program Committee*
Arnolds Ūbelis – Chair	Dr. Annette Ladstätter-Weißenmayer
Dina Bērziņa – Head of the Conference Secretariat	Dr. Amara Graps
Dārta Ūbele – Moderator of Training course for Young Researchers	Dr. Maris Abele
Vidvuds Beldavs	Prof. Dainis Dravins
Aigars Atvars	Dr. Jorge del Pino
Aigars Apsītis	Dr. Ludwig Grunwaldt
Ilgmārs Eglītis	Prof. Vjacheslav Kochelap
Kalvis Salmiņš	Prof. Markku Poutanen
Gunārs Silabriedis	Dr. Janis Pukite
Miķelis Svilans	Dr. Alexander Starik
Edgars Šmaliņš	Dr. Alfonso Saiz-Lopez
	Dr. Arnolds Ubelis