

**BULGARIAN ACADEMY OF SCIENCES
SPACE RESEARCH AND TECHNOLOGY INSTITUTE
BULGARIAN ASTRONAUTICAL SOCIETY
REPRESENTATIVE OFFICE OF ROSSOTRUDNICHESTVO
IN BULGARIA**

***FIFTEENTH INTERNATIONAL
SCIENTIFIC CONFERENCE***

DEDICATED TO

**THE 150-th ANNIVERSARY OF THE BULGARIAN ACADEMY OF SCIENCES
THE 50-th ANNIVERSARY OF THE SPACE RESEARCH AND TECHNOLOGY
INSTITUTE - BAS
THE 40-th ANNIVERSARY OF THE MISSION OF THE FIRST BULGARIAN
ASTRONAUT GEORGI IVANOV**

**S P A C E
E C O L O G Y
S A F E T Y**

S E S 2019

P R O G R A M M E

**6 – 8 November 2019
Sofia**

Russian Culture and Information Centre

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***The titles of the reports are written in the languages
in which they will be delivered/posted***

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Bulgarian Academy of Sciences**

Bulgaria, Sofia 1113, Acad. G. Bonchev St., bl. 1, P.O.Box 799
Phone/fax: (+359 2) 988 35 03
e-mail: office@space.bas.bg; <http://www.space.bas.bg>

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**06.11.2019 10:30 Bulgarian Academy of Sciences – Hall “Prof. Marin Drinov”, 1 “15 Noemvri” Str.
Celebration of the 50-th ANNIVERSARY OF THE SPACE RESEARCH AND TECHNOLOGY INSTITUTE - BAS**

REGISTRATION

07.11.2019 09:30 – 10:30 Russian Culture and Information Centre

08.11.2019 09:00 – 11:00 Russian Culture and Information Centre

07.11.2019 (Thursday)

10:30 Official Opening

Moderator – Prof. Garo Mardirossian – Vice-Chairman of Organizational Committee

Welcome Speech – Corr. Member Petar Getsov – Chairman of Organizational Committee

Greeting Words – General Dr. Georgi Ivanov – First Bulgarian Astronaut

Greeting Words – Prof. Roumen Nedkov – Director of SRTI-BAS

Greeting words from the Bulgarian Academy of Sciences

Greeting Addresses

11:30 Plenary Session

Prof. Konstantinos Perakis – University of Thessaly, Greece
REMOTE SENSING AND DIGITAL IMAGE PROCESSING:
ALTERNATIVES USING FREWARE AND MOBILE DEVICES

Jordanka Semkova on behalf of FRENDA team
RADIATION ENVIRONMENT ABOARD EXOMARS TGO IN MARS
SCIENCE ORBIT IN 2018-2019 ACCORDING THE DATA FROM
LIULIN-MO DOSIMETER

Tsvetan Dachev et al.
CURRENT AND FUTURE SPACE EXPERIMENTS WITH *LULIN* TYPE
INSTRUMENTS

12:15 Opening of the Artistic Exhibition „Autumn impressions“ of Assoc. Prof. Dr. Petar Stoyanov

During the Conference a Round Table “Challenges and Opportunities for the Implementation of Remote Sensing for Sustainable Development and Environmental Protection” will be held.

08.11.2019 (Friday)

Hall 1

Session 1

Space Physics

Chairmen: Prof. Tsvetan Dachev,
Corr. Member Peter Velinov

Secretary: Assoc. Prof. Daniela Boneva

- 09:30** **Rumen Shkevov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, shkevov@space.bas.bg
Nikolay Erokhin, Vladimir Loznikov, Nadezhda Zolnikova, Ludmila Mikhailovskaya – Space Research Institute – Russian Academy of Sciences
Kostadin Sheiretsky – University of National and World Economy
ANALYSIS OF THE PHASE PLANE STRUCTURE AND PARTICLE TRAJECTORY ELEMENTS DYNAMICS FOR THE ELECTRONS SURFATRON ACCELERATION BY A WAVE PACKET IN SPACE PLASMA
- 09:45** **Victor Benghin, Vyacheslav Shurshakov, Sergey Drobyshev** – State Scientific Center of Russian Federation, Institute of Biomedical Problems, Russian Academy of Sciences, V_benghin@mail.ru
Igor Mitrofanov, Lev Zelenyi, Alexey Malakhov, Maxim Mokrousov, Anton Sanin, Maxim Litvak, Alexander Kozyrev, Vladislav Tretyakov, Dmitry Golovin, Sergey Nikiforov – Space Research Institute – Russian Academy of Sciences
Jordanka Semkova, Tsvetan Dachev, Stephan Maltchev, Borislav Tomov, Yurii Matviichuk, Plamen Dimitrov, Rositza Koleva, Krasimir Krastev – Space Research and Technology Institute – Bulgarian Academy of Sciences
СОПОСТАВЛЕНИЕ РЕЗУЛЬТАТОВ РАДИАЦИОННЫХ ИЗМЕРЕНИЙ ДОЗИМЕТРОМ ЛЮЛИН_МО НА БОРТУ КА ЭКЗОМАРС TGO ПРИ ПОЛЁТЕ ПО КРУГОВОЙ ОРБИТЕ С ОЦЕНКАМИ ДОЗЫ, ПОЛУЧЕННЫМИ НА БАЗЕ МОДЕЛЕЙ ГАЛАКТИЧЕСКИХ КОСМИЧЕСКИХ ЛУЧЕЙ
- 10:00** **Peter Velinov, Lachezar Mateev** – Space Research and Technology Institute – Bulgarian Academy of Sciences, pvelinov@bas.bg
EQUATIONS FOR IONIZING CAPABILITIES DUE TO NONRELATIVISTIC SOLAR ENERGETIC PARTICLES WITH LOW AND HIGH ANISOTROPY PENETRATIONS IN THE NEAR-EARTH SPACE

- 10:15** **Rolf Werner, Dimitar Valev, Veneta Guineva, Atanas Atanassov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, rwerner@space.bas.bg
Boyan Petkov – Institute of Atmospheric Sciences and Climate
Andrey Kirillov – Polar Geophysical Institute
 FORECAST SCHEME OF THE LOCAL UV-INDEX OVER BULGARIA – FIRST TEST RESULTS
- 10:30** **Krasimira Yankova** – Space Research and Technology Institute – Bulgarian Academy of Sciences, f7@space.bas.bg
 ADVECTION INTO A MULTIDIMENSIONAL MEDIUM
- 10:45** **Coffee Break**
- 11:00** **Penka Stoeva, Alexey Stoev** – Space Research and Technology Institute – BAS, Department in Stara Zagora, stoev52@space.bas.bg
Sergey Kuzin, Andrey Percov, Beshir Marzuk – Физически Институт "Лебедев", РАН, Москва, Русия, kuzin@mail1.lebedev.ru
 РЕЗУЛТАТИ ОТ СПЕКТРАЛНИ И ФОТОМЕТРИЧНИ НАБЛЮДЕНИЯ НА ВЪТРЕШНАТА КОРОНА НА СЛЪНЦЕТО ПО ВРЕМЕ НА ПСЗ НА 02. 07. 2019 Г.
- 11:15** **Penka Stoeva, Alexey Stoev** – Space Research and Technology Institute – BAS, Department in Stara Zagora, stoev52@space.bas.bg
Sergey Kuzin, Andrey Percov – Физически Институт "Лебедев", РАН, Москва, Русия, kuzin@mail1.lebedev.ru
 ИЗУЧАВАНЕ НА РАЗПРЕДЕЛЕНИЕТО НА ЯРКОСТТА НА НЕБЕТО И ОРЕОЛНИ ЯВЛЕНИЯ ПО ВРЕМЕ НА ПЪЛНО СЛЪНЧЕВО ЗАТЪМНЕНИЕ
- 11:30** **Eva Boujurova, Ognjan Ognjanov** – Astronomical observatory and Planetarium "N. Kopernik", Varna
Alexey Stoev, Penka Stoeva – Space Research and Technology Institute – BAS, Department in Stara Zagora, stoev52@space.bas.bg
 SATELLITE TRAJECTORIES, OBSERVATIONS, AND OTHER DATA USED TO CONSTRUCT PHYSICS AND ASTRONOMY PROBLEMS AND SOLUTIONS
- 11:45** **Ognjan Ognjanov, Yavor Shopov** – Kl. Ohridski Sofia Universiti , Faculty of Physics, Sofia
Alexey Stoev, Penka Stoeva – Space Research and Technology Institute – BAS, Department in Stara Zagora, stoev52@space.bas.bg
 SATELLITE ASTROMETRY BY THE DATA FROM COOPERATIVE OBSERVATION CAMPAIGNS
- 12:00** **Atanas Atanassov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, at_m_atanassov@yahoo.com
 DEVELOPMENT OF NEW FUNCTIONALITIES FOR A SPACE MISSIONS SIMULATION PROGRAM SYSTEM

12:15 **Angel Manev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, amanev@abv.bg*
ТРОПИЧЕСКАТА ГОДИНА И ТОЧНОСТТА НА КАЛЕНДАРИТЕ

Poster session

- 1-1** **Peter Tonev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, ptonev@bas.bg*
GROUND-LEVEL MODIFICATIONS IN GLOBAL ATMOSPHERIC ELECTRICAL CIRCUIT DURING SOLAR PROTON EVENTS
- 1-2** **Igor Shibaev** – *IZMIRAN, Troitsk, Russia, ishib@izmiran.ru*
AN OLD AND NEW VERSION OF A SERIES OF WOLF NUMBERS: CONSISTENCY OF THE RELIABLE AND INSTRUMENTAL PARTS OF ROWS
- 1-3** **Rumiana Bojilova** – *National Institute of Geophysics, Geodesy and Geography – Bulgarian Academy of Sciences, rbojilova@geophys.bas.bg*
РЕГРЕСИОНЕН АНАЛИЗ МЕЖДУ РЕЛАТИВНИТЕ КРИТИЧНИ ЧЕСТОТИ НА ЙОНОСФЕРНИЯ СЛОЙ F2 И ГЕОМАГНИТНАТА АКТИВНОСТ
- 1-4** **Rumiana Bojilova** – *National Institute of Geophysics, Geodesy and Geography – Bulgarian Academy of Sciences, rbojilova@geophys.bas.bg*
РЕГРЕСИОНЕН АНАЛИЗ МЕЖДУ РЕЛАТИВНИТЕ КРИТИЧНИ ЧЕСТОТИ НА ЙОНОСФЕРНИЯ F2 СЛОЙ И КЪСОПЕРИОДИЧНИТЕ ВАРИАЦИИ НА СЛЪНЧЕВАТА АКТИВНОСТ
- 1-5** **Daniela Boneva** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, danvasan@space.bas.bg*
Evgeny Mikhailov, Maria Pashentseva – *M. V. Lomonosov Moscow State University*
MODELING MAGNETIC FIELDS OF ACCRETION DISCS IN BINARY STARS USING NO-Z APPROXIMATION
- 1-6** **Tsvetan Tsvetkov, Nikola Petrov** – *Institute of Astronomy and National Astronomical Observatory – Bulgarian Academy of Sciences, tstsvetkov@astro.bas.bg*
Rositsa Miteva – *Space Research and Technology Institute – Bulgarian Academy of Sciences*
Emil Ivanov, Velimir Popov – *Konstantin Preslavsky University of Shumen*
Yoana Nakeva – *King's College London*
Ljube Bojevski – *Ss Cyril and Methodius University in Skopje*
Tobias Damm – *Free researcher*
WHITE-LIGHT SOLAR CORONA AND ATMOSPHERIC CONDITIONS REGISTERED DURING TOTAL SOLAR ECLIPSES

- 1-7** **Krasimir Krastev, Jordanka Semkova, Rositza Koleva** – Space Research and Technology Institute – Bulgarian Academy of Sciences, werholak@abv.bg
Victor Benghin, Sergey Drobyshev – State Scientific Center of Russian Federation, Institute of Biomedical Problems, Russian Academy of Sciences, V_benghin@mail.ru
TEMPORAL VARIATIONS OF THE MEASURED FLUXES OF GALACTIC COSMIC RAYS IN MARS ORBIT BY THE LIULIN INSTRUMENT
- 1-8** **Kostadin Sheiretsky** – University of National and World Economy, ksheiretsky@space.bas.bg
Rumen Shkevov – Space Research and Technology Institute – Bulgarian Academy of Sciences, shkevov@space.bas.bg
Nikolay Erokhin – Space Research Institute – Russian Academy of Sciences
AN ANALYTICAL APPROACH FOR STUDY OF NONLINEAR PENDULUM
- 1-9** **Veneta Guineva, Rolf Werner** – Space Research and Technology Institute – Bulgarian Academy of Sciences, v_guineva@yahoo.com
SUBSTORM ACTIVITY DURING THE GEOMAGNETIC STORM ON 25 AUGUST 2018
- 1-10** **Milen Zamfirov** – Sofia University St Kliment Ohridski, m.zamfirov@fppse.uni-sofia.bg
Korneli Grigorov – Space Research and Technology Institute – Bulgarian Academy of Sciences
ИЗМЕРВАНЕ НА ЛАЗЕРНИ ХАРАКТЕРИСТИКИ НА НЕ-НЕ ЛАЗЕР, НАПОМПВАН ОТ ПРЕРАБОТЕНА СЛЪНЧЕВА ЕНЕРГИЯ

07.11.2019 (Thursday)

Hall 1

Session 2

Aerospace Technologies and Biotechnologies

Chairman: Corr. Member Petar Getsov

Secretary: Assistant Jordan Tzvetkov

- 14:30** *Petar Getsov, Dimitar Yordanov* – Space Research and Technology Institute – Bulgarian Academy of Sciences, *getsovp@mail.space.bas.bg*
НАСТРОЙКА НА МОДЕЛ В “MATLAB-SIMULINK” ЗА
ИЗСЛЕДВАНЕ НА СИСТЕМАТА ЗА УПРАВЛЕНИЕ
- 14:45** *Svetoslav Zabunov* – Space Research and Technology Institute – Bulgarian Academy of Sciences, *svetoslavzabunov@gmail.com*
ONLINE POSTFIX COMPLEX SCIENTIFIC CALCULATOR FOR MOBILE DEVICES
- 15:00** *Malina Jordanova* – Space Research and Technology Institute – Bulgarian Academy of Sciences, *telepsychology@gmail.com*;
mjordan@bas.bg
Frank Lievens – Executive Secretary of the International Society for Telemedicine & eHealth, Belgium & Switzerland
FINDING THE RIGHT TERM: FROM TELEMEDICINE TO DIGITAL HEALTH
- 15:15** *Anna Bouzekova-Penkova* – Space Research and Technology Institute – Bulgarian Academy of Sciences, *a_bouzekova@space.bas.bg*
Yordan Mirchev – Institute of Mechanics – Bulgarian Academy of Sciences
DESTRUCTIVE AND NON-DESTRUCTIVE TESTING
OF THE MECHANICAL PROPERTIES OF ALUMINUM ALLOY
ENHANCED BY NANODIAMOND AND TUNGSTEN EXPOSED
IN THE OUTER SPACE
- 15:30** *Dimitar Teodosiev, Georgi Stanev, Roumen Nedkov,*
Anna Bouzekova-Penkova, Korneli Grigorov – Space Research and Technology Institute – BAS, *dteod@space.bas.bg*
Stanislav Klimov – Space Research Institute – RAS
Jaroslav Vojta – Institute of Atmospheric Physics – Academy of Sciences of the Czech Republic
Petar Tzvetkov, Alexandar Svetoslavov – Institute of General and Inorganic Chemistry – BAS
ИЗСЛЕДВАНЕ НА ИЗМЕНЕНИЯТА В СТРУКТУРНИТЕ
ХАРАКТЕРИСТИКИ НА ОБРАЗЦИ С ПОКРИТИЕ ОТ
СТЪКЛОВЪГЛЕРОД СЛЕД ПРЕСТОЙ В ОТКРИТИЯ КОСМОС

15:45

Coffee Break

Poster session

- 2-1** **Konstantin Metodiev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, komet@space.bas.bg*
WEIGHING SCALES DESIGN FOR BALANCING LONGITUDINALLY AN UNMANNED AERIAL VEHICLE
- 2-2** **Zoya Hubenova, Konstantin Metodiev, Svetla Dimitrova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, zhubenova@space.bas.bg*
ПРИЛОЖЕНИЕ НА АЙТРЕКИНГА ЗА ОЦЕНКА НА ЧОВЕШКИЯ ФАКТОР ПРИ ЕКСПЛОАТАЦИЯ НА БЕЗПИЛОТНИ ЛЕТАТЕЛНИ СИСТЕМИ
- 2-3** **Pavlin Gramatkov, Julian Karadjov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, pgramatkov@space.bas.bg*
Valentin Savov – *Sofia University St. Kliment Ohridski*
Raycho Totorov – RAYT - AEROSPEYS - PCHELAKI EOOD
BIOTECHNOLOGICAL INSTALLATION FOR PARALLEL EXPERIMENTS FOR ENERGY PARAMETERS AND BIOCARDS OF PLANTS WITH SPACE APPLICATION
- 2-4** **Pavlin Gramatkov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, pgramatkov@space.bas.bg*
NEW POWER ELECTRONICS TECHNOLOGIES WITH AEROSPACE APPLICATION
- 2-5** **Radostina Hristova, Antonio Andonov** – *T. Kableshkov University of Transport*
Zoya Hubenova – *Space Research and Technology Institute – Bulgarian Academy of Sciences, zhubenova@space.bas.bg*
СВОЙСТВА И ПРИЛОЖЕНИЕ НА НЕСИНУСОИДАЛНИ ЦИФРОВИ НОСЕЩИ В СВРЪХШИРОКОЛЕНТОВИ АВИАЦИОННО КОСМИЧЕСКИ РАДИОЛИНИИ ЗА ВРЪЗКА И УПРАВЛЕНИЕ
- 2-6** **Peter Petkov** – *Technical University of Sofia, pjpetkov@tu-sofia.bg*
EXPERIMENTAL SETUP FOR DBS-BAND VSAT SYSTEM
- 2-7** **Ludmil Markov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, lmarkov@space.bas.bg*
ДЕТОНАЦИОНЕН СИНТЕЗ НА УЛТРАДИСПЕРСЕН ДИАМАНТ

07.11.2019 (Thursday)

Hall 2

Session 3

Remote Sensing and Geoinformation Systems

Chairman: Assoc. Prof. Lachezar Filchev

Secretary: Assoc. Prof. Iva Ivanova

- 13:30** ***Paraskevi Evita Gkatzoura** – Laboratory of Informatics in Spatial Planning, Department of Planning and Regional Development, University of Thessaly, isplab@uth.gr, evitagkatz@gmail.com*
***Manetos, P., Gitsakis, N., Perakis, K.** – Department of Planning and Regional Development, University of Thessaly*
EXPLORING REMOTE SENSING TRENDS AND OPPORTUNITIES:
GOOGLE EARTH ENGINE APPLICATION ON GREEN URBAN AREAS
- 13:45** ***Rosen Iliev** – Space Research and Technology Institute – Bulgarian Academy of Sciences, ilievrosen88@abv.bg*
***Boyko Ranguelov** – Mining and Geology University “St. Ivan Rilski”*
***Antoaneta Frantzova** – Climate, Atmosphere and Water Research Institute – Bulgarian Academy of Sciences*
COMPARATIVE ANALYSIS OF THE LUNAR POLES USING FRACTAL DIMENSION
- 14:00** ***Vasil Kavardzhikov, Georgi Stoilov, Dessislava Pashkouleva, Ivan Nikolov** – Institute of Mechanics – Bulgarian Academy of Sciences, kavarj@imbm.bas.bg*
МОНИТОРИНГ НА СТРУКТУРНОТО ЗДРАВЕ НА ИНЖЕНЕРНИ СЪОРЪЖЕНИЯ ЧРЕЗ ДИСТАНЦИОННИ ИЗСЛЕДВАНИЯ
- 14:15** ***Hristo Nikolov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, hristo@stil.bas.bg*
***Toma Shishkov** – Institute of Soil Science, Agrotechnology and Plant Protection “Nikola Pushkarov”*
REGIONAL SOIL SPECTRAL LIBRARY FOR THE CATCHMENT OF STRUMA RIVER
- 14:30** ***Hristo Nikolov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, hristo@stil.bas.bg*
***Mila Atanasova** – National Institute of Geophysics, Geodesy and Geography – Bulgarian Academy of Sciences*
SAR INTERFEROMETRY IN STUDYING LANDSLIDE AREAS
- 14:45** Coffee Break

15:00 **Angel Manev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, amanev@abv.bg*
СПЪТНИКОВИ ИЗСЛЕДВАНИЯ НА КАСПИЙСКО МОРЕ

15:15 **Ventzeslav Dimitrov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, vdimitro@stil.bas.bg*
Youlin Tepeliev, Radka Koleva – *University of Forestry*
Yulia Kroumova, Nadezhda Ilieva, Todor Lubenov – *National Institute for Geophysics, Geodesy and Geography – Bulgarian Academy of Sciences*
Borislava Borisova – *Ministry of Agriculture, Food and Forestry*
МОНИТОРИНГ НА ЗЕМНАТА ПОВЪРХНОСТ ПО ПРОГРАМАТА „КОПЕРНИК” ПРЕЗ 2017-2018 Г. ЗА БЪЛГАРИЯ - ОСНОВНИ РЕЗУЛТАТИ

15:30 **Georgi Jelev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, gjelev@space.bas.bg*
ВИДОВЕ КАМЕРИ, ИЗПОЛЗВАНИ НА ДРОНОВЕ

Poster session:

3-1 **Tanja Dreischuh, Zahari Peshev, Ljuan Gurdev, Atanaska Deleva, Ivan Grigorov, Georgi Kolarov, Dimitar Stoyanov** – *Institute of Electronics – Bulgarian Academy of Sciences, tanjad@ie.bas.bg*
LIDAR MONITORING OF THE NEAR-SURFACE ATMOSPHERIC AEROSOL CONTENT OVER SOFIA URBAN ZONES

3-2 **Ivan Dimitrov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, idimitrov@space.bas.bg*
НЯКОИ ГРЕШКИ В ТОПОГРАФСКИТЕ КАРТИ НА НИКУЛИЦЕЛ

3-3 **Ivan Dimitrov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, idimitrov@space.bas.bg*
ЕСКИЗНА РЕКОНСТРУКЦИЯ НА ТРИКОНХАЛНА ЦЪРКВА В РАЙОНА НА КРЕПОСТТА КРАЙ НИКУЛИЦЕЛ

3-4 **Ivan Dimitrov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, idimitrov@space.bas.bg*
ЕСКИЗНА РЕКОНСТРУКЦИЯ НА ДВОРЕЦА НА АСПАРУХ И ТЕРВЕЛ КРАЙ НИКУЛИЦЕЛ

3-5 **Paraskevi Evita Gkatzoura, Gitsakis, N., Perakis, Konstantinos** – *Laboratory of Informatics in Spatial Planning, Department of Planning and Regional Development, University of Thessaly, isplab@uth.gr, evitagkatz@gmail.com*
USING UAV REMOTE SENSED VIDEO DATA FOR EARTH SURFACE OBJECTS RECOGNITION

- 3-6** **Dessislava Ganeva, Eugenia Roumenina** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, dganeva@space.bas.bg*
ОЦЕНКА НА СЪСТОЯНИЕТО НА ПОСЕВИ ОТ ЗИМНА РАПИЦА В СЕВЕРОИЗТОЧНА БЪЛГАРИЯ ЧРЕЗ СПЪТНИКОВИ И НАЗЕМНИ ДАННИ
- 3-7** **Daniela Avetisyan, Roumen Nedkov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, davetisyan@space.bas.bg*
Galya Cvetanova – *Agriculture experimental station – Lom, Agricultural Academy*
WATER STATUS ASSESSMENT IN MAIZE AND SUNFLOWER CROPS USING SENTINEL – 2 MULTISPECTRAL DATA
- 3-8** **Dora Krezhova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, dkrezhov@stil.bas.bg*
PLANT DISEASE DETECTION BY MEANS OF REMOTELY SENSED HYPERSPECTRAL REFLECTANCE DATA
- 3-9** **Zlatomir Dimitrov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, zlatomir.dimitrov@space.bas.bg*
Christian Berger, Clémence Dubois – *Wissenschaftlicher Mitarbeiter, Friedrich-Schiller-University Jena, Institute of Geography, Department for Earth Observation*
INTERFEROMETRIC PROCESSING OF BISTATIC DATA FROM TANDEM-X OVER MOUNTAINOUS TEST AREAS IN BULGARIA
- 3-10** **Milen Chanev, Lachezar Filchev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, m_apiaster@abv.bg*
STUDYING CEREALS IN ORGANIC FARMING WITH EARTH OBSERVATION - A REVIEW

08.11.2019 (Friday)

Hall 2

Session 4

Ecology and Risk Management

Chairman: Prof. Garo Mardirossian

Secretary: Tsveta Srebrova, MS

- 09:30** **Boyko Ranguelov, Orlin Dimitrov** – Mining and Geology University “St. Ivan Rilski”, *branguelov@gmail.com*
ARCHAEOSEISMOLOGICAL STUDIES – BULGARIA-RUSSIAN COOPERATION
- 09:45** **Boyko Ranguelov, Orlin Dimitrov** – Mining and Geology University “St. Ivan Rilski”, *branguelov@gmail.com*
CABARET PROJECT AND WP7 PERSPECTIVES
- 10:00** **Dimitar Dimitrov** – National Institute of Geophysics, Geodesy and Geography – Bulgarian Academy of Sciences, *clgdimi@abv.bg*
РЕЗУЛТАТИ ОТ ИЗСЛЕДВАНЕ И МОНИТОРИНГ НА СЕИЗМОГЕННАТА ЗОНА „КРУПНИК“ В ЮГОЗАПАДНА БЪЛГАРИЯ
- 10:15** **Emil Oynakov, Valentina Protopopova, Emil Botev** – National Institute of Geophysics, Geodesy and Geography – Bulgarian Academy of Sciences, *emil.ilievmg@gmail.com*
SOME RESULTS OF A RETROSPECTIVE MULTIFRACTAL ANALYSIS OF MICROSEISMIC NOISE BEFORE EARTHQUAKES IN BULGARIA AND ADJACENT LANDS
- 10:30** **Dimitar Valev, Veselin Tashev, Rolf Werner, Veneta Guineva** – Space Research and Technology Institute – Bulgarian Academy of Sciences, *valev@gbg.bg*
СТАТИСТИЧЕСКИ АНАЛИЗ НА ВРЪЗКАТА МЕЖДУ ТЕМПЕРАТУРАТА И СУМАРНАТА СЛЪНЧЕВА ЕНЕРГИЯ В БАЗОВА ОБСЕРВАТОРИЯ ПРИ ИКИТ, СТАРА ЗАГОРА
- 10:45** **Coffee Break**
- 11:00** **Yavor Chapanov** – Climate, Atmosphere and Water Research Institute – Bulgarian Academy of Sciences, *yavor.chapanov@gmail.com*
Cyril Ron, Jan Vondrak – Astronomical Institute – Czech Academy of Sciences
SOLAR ORIGIN OF COMMON INTERANNUAL CYCLES OF EARTH ROTATION, MSL AND CLIMATE

- 11:15** **Yavor Chapanov** – *Climate, Atmosphere and Water Research Institute – Bulgarian Academy of Sciences, yavor.chapanov@gmail.com*
SOLAR INFLUENCE ON RIVER STREAMFLOW
- 11:30** **Stojan Velkoski, Mihail Velkoski, Jane Velkoski** – *GAPE Institute, Skopje, contact@igape.edu.mk*
PROTECTION AGAINST ELECTROMAGNETIC RADIATION BY TRANSFORMATION OF THE RADIATION ITSELF
- 11:40** **Stojan Velkoski, Mihail Velkoski, Jane Velkoski** – *GAPE Institute, Skopje, contact@igape.edu.mk*
SOUND PROTECTION BY A DIRECTED ELECTROMAGNETIC CURTAIN
- 11:50** **Anelya Klisarova** – *Medical University-Varna, philip.philipoff@gmail.com*
Simeon Panev – *Technical University-Sofia*
Philip Philipoff – *Institute of Mechanics – Bulgarian Academy of Sciences*
Diana Bankova – *Sofia University “St. Kliment Ohridski”*
Garó Mardirossian, Georgi Sotirov – *Space Research and Technology Institute – Bulgarian Academy of Sciences*
Yanko Shumkov, Deian Rangelov – *STREZA EOOD*
Ilian Dinev – *GPS Control SA*
Blagovest Simeonov – *LEVINS Corporation*
Plamena Dimitrova – *Virment Finance EOOD*
Silvia Mitkova – *Architecture studio - PENTAHRON EOOD*
Stoian Velkosky – *IGAPE Manager, Skopje, R. Nord Macedonia*
AIR SHIELDS FOR (HUMAN AND ANIMAL) INDIVIDUAL OR GROUP PROTECTION BY LIGHTNINGS
- 12:00** **Anelya Klisarova** – *Medical University-Varna, philip.philipoff@gmail.com*
Simeon Panev – *Technical University-Sofia*
Philip Philipoff – *Institute of Mechanics – Bulgarian Academy of Sciences*
Diana Bankova – *Sofia University “St. Kliment Ohridski”*
Garó Mardirossian, Georgi Sotirov – *Space Research and Technology Institute – Bulgarian Academy of Sciences*
Yanko Shumkov, Deian Rangelov – *STREZA EOOD*
Ilian Dinev – *GPS Control SA*
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Plamena Dimitrova – *Virment Finance EOOD*
Silvia Mitkova – *Architecture studio - PENTAHRON EOOD*
Stoian Velkosky – *IGAPE Manager, Skopje, R. Nord Macedonia*
SOME PSYCHOLOGICAL, MEDICAL AND TECHNICAL ASPECTS OF RESCUE OPERATION IN THE BLACK PEAK REGION (VITOSHA MOUNTAIN)

- 12:10** **Gennadiy Maklakov** – *Petersburg Institute for Informatics and Automation - Russian Academy of Sciences, gmaklakov@mail.bg*
Momchil Karaivanov – *Regional Administration of Smolyan*
 ИЗСЛЕДВАНЕ НА БИОЕНЕРГИЙНИ ЗОНИ В РОДОПИТЕ
 ПО МЕТОДА БИОЕЛЕКТРОГРАФИЯ
- 12:25** **Erol Buyukliev** – *PhD Military and Political problems of Security, Member of the Union of Scientist in Bulgaria, Freelance analyst, erol.buyukliev@gmail.com*
 МИЛИТАРИЗАЦИЯТА НА КОСМОСА, КАТО ПРОБЛЕМ НА
 СИГУРНОСТТА
- 12:40** **Antoaneta Frantzova** – *Climate, Atmosphere and Water Research Institute – Bulgarian Academy of Sciences, afrantzova@gmail.com*
 HOLISTIC AND MULTIFACTORIAL METHODOLOGY FOR NATURAL
 DISASTER RISK ASSESSMENT
- 12:55** **Nadya Marinova** – *New Bulgarian University, n.marinova@nbu.bg*
 КОНЦЕПЦИИ И СИСТЕМИ ЗА МОНИТОРИНГ НА ОПАСНИ
 ПРИРОДНИ ЯВЛЕНИЯ
- 13:10** **Nadya Marinova** – *New Bulgarian University, n.marinova@nbu.bg*
 РИСКЪТ ПРИ УПРАВЛЕНИЕ НА АЕРОКОСМИЧЕСКИТЕ ПРОЕКТИ

Poster session:

- 4-1** **Ralitza Berberova, Bilyana Kostova** – *New Bulgarian University, rberberova@nbu.bg*
 СВЛАЧИЩНИ КРИЗИСНИ СЪБИТИЯ НА ТЕРИТОРИЯТА НА
 Р. БЪЛГАРИЯ ЗА ПЕРИОДА 2010-2017 Г.
- 4-2** **Dimitar Ilkov, Ralitza Berberova, Georgi Petrov** – *New Bulgarian University, rberberova@nbu.bg*
 ПРИЛОЖЕНИЕ НА РАДИОТЕЛЕКОМУНИКАЦИОННИТЕ СРЕДСТВА
 ЗА ПРЕВЕНЦИЯ И РЕАКЦИЯ ПРИ ПРИРОДНИ БЕДСТВИЯ
- 4-3** **Maria Dimitrova, Plamen Trenchev, Roumen Nedkov, Deyan Gochev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, maria@space.bas.bg*
Emilia Georgieva, Nadya Neykova, Rozeta Neykova, Dimitar Sirakov, Blagorodka Veleva, Dimitar Atanasov, Tatyana Spasova – *National Meteorological and Hydrological Institute*
 SEASONAL CHANGES OF AEROSOL POLLUTANTS OVER BULGARIA

- 4-4** ***Maria Dimitrova, Roumen Nedkov, Deyan Gochev, Plamen Trenchev** – Space Research and Technology Institute – Bulgarian Academy of Sciences, maria@space.bas.bg*
***Dimitar Sirakov, Emilia Georgieva, Blagorodka Veleva, Dimitar Atanasov, Tatyana Spasova** – National Meteorological and Hydrological Institute*
 IDENTIFICATION OF OPTIMAL SATELLITE DATA FOR USE IN THE AIR QUALITY MODELING SYSTEM BGCWFS
- 4-5** ***Antoaneta Frantzova – Mihailova, Desislava Kostova, Georgi Belev** – Climate, Atmosphere and Water Research Institute – Bulgarian Academy of Sciences, afrantzova@abv.bg*
 ЕКОЛОГИЧНИ ПРОБЛЕМИ В ГОРСКИЯ ФОНД НА СТРАНДЖА ИЗРАЗЕНИ ЧРЕЗ АНАЛИЗ НА ДАННИ ОТ САТЕЛИТНИ ИЗОБРАЖЕНИЯ
- 4-6** ***Svetla Dimitrova** – Space Research and Technology Institute – Bulgarian Academy of Sciences, svetla_stil@abv.bg*
***Famil Mustafa** – Shamakhy Astrophysical Observatory named after N.Tusi, Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
***Elchin Babayev** – Baku State University, Shamakhy Astrophysical Observatory named after N.Tusi, Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
 GEOMAGNETIC ACTIVITY VARIATIONS OF SOLAR ORIGIN AND DYNAMIC OF SUDDEN CARDIAC DEATHS
- 4-7** ***Ventseslav Stoyanov** – University of Chemical Technology and Metallurgy, vensy.stoyanov@gmail.com*
***Dobromir Popov** – Academy of the Ministry of Interior, Department of Safety and Prevention*
***Vilma Petkova** – New Bulgarian University, Department of Natural Sciences*
***Ekaterina Serafimova** – University of Chemical Technology and Metallurgy, Department of Engineering Ecology*
 СТРУКТУРНИ ИЗСЛЕДВАНЕ НА БЕТОННИ СМЕСИ С ЕСТЕСТВЕН И РЕЦИКЛИРАН ЕДЪР ДОБАВЪЧЕН МАТЕРИАЛ ПРИ ВИСОКИ ТЕМПЕРАТУРИ
- 4-8** ***Ventseslav Stoyanov** – University of Chemical Technology and Metallurgy, vensy.stoyanov@gmail.com*
***Vilma Petkova** – New Bulgarian University, Department of Natural Sciences*
***Ekaterina Serafimova** – University of Chemical Technology and Metallurgy, Department of Engineering Ecology*
 РЕЦИКЛИРАНЕ НА ОТПАДЪЧНА БИОМАСА И ВАРОВИКОВ ШЛАМ
- 4-9** ***Ekaterina Serafimova** – University of Chemical Technology and Metallurgy, Department of Engineering Ecology, ekaterina_sr@abv.bg*
***Vilma Petkova** – New Bulgarian University, Department of Natural Sciences*
 ИЗСЛЕДВАНЕ НА ТЕЖКИ МЕТАЛИ В КОЗМЕТИЧЕН ПРОДУКТ ЗА ОЦЕНКА НА ЗДРАВНИЯ РИСК

4-10 **Ekaterina Serafimova** – *University of Chemical Technology and Metallurgy, Department of Engineering Ecology, ekaterina_sr@abv.bg*
Vilma Petkova – *New Bulgarian University, Department of Natural Sciences*
КОМПОСТИРАНЕ В ГРАДСКИ УСЛОВИЯ - ФИЗИКОХИМИЧНИ
ИЗСЛЕДВАНИЯ

4-11 **Mila Ilieva-Obretenova** – *Mining and Geology University, milailieva@abv.bg*
ВИРТУАЛНА ТОПОЛОГИЯ ЗА ВНЕДРЯВАНЕ НА IoT В SMART GRID

Hall 2

14:00 **Closing of the Conference**

Marble Hall

15:00 **Closing Party**

A G E N D A

06.11.2019 Wednesday	<p>14:30 – 17:30</p> <p>Visit to The Space Research and Technology Institute: Meetings, Observation of the exhibition <i>Bulgarian Space Instrumentation</i>, etc.</p>
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Date	Marble Hall
07.11.2019 Thursday	<p>09:30 – 10:30 Registration</p> <p>10:30 Opening Ceremony S E S 2019</p>

Date	Hall 1	Hall 2
07.11.2019 Thursday	<p>14:30 – 16:00 <i>Session 2</i> “Aerospace Technologies and Biotechnologies”</p>	<p>13:30 – 15:45 <i>Session 3</i> „Remote Sensing and GIS”</p>
08.11.2019 Friday	<p>09:00 – 11:00 Registration</p>	
08.11.2019 Friday	<p>09:30 – 12:30 <i>Session 1</i> “Space Physics”</p>	<p>09:30 – 13:20 <i>Session 4</i> „Ecology and Risk Management”</p>
08.11.2019 Friday	<p>14:00 Closing of the Conference</p>	-

Date	Marble Hall
08.11.2019 Friday	<p>15:00 Closing Party</p>

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