

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

***FOURTEENTH INTERNATIONAL  
SCIENTIFIC CONFERENCE***

**DEDICATED TO**

**THE 30-TH ANNIVERSARY OF THE SHIPKA SCIENTIFIC PROGRAMME  
AND THE MISSION OF THE BULGARIAN ASTRONAUT  
ALEXANDER ALEXANDROV**

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

**S E S 2018**

**P R O G R A M M E**

**7 – 9 November 2018  
Sofia**

**Russian Culture and Information Centre**

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Bulgarian Academy of Sciences**

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## REGISTRATION

**07.11.2018** 15:00 – 17:00 *Russian Culture and Information Centre*  
**08.11.2018** 09:00 – 11:00 *Russian Culture and Information Centre*

### 07.11.2018 (Wednesday)

**09:00** Training session for Copernicus data thematic processing with SNAP - provided by Copernicus Support Office

**16:00** Official Opening

Welcome Speech – Corr. Member Petar Getsov

Greeting words from the Bulgarian Academy of Sciences

Greeting Words and Addresses

**16:30** Plenary Session

**Rainer Reuter** – University of Oldenburg "Carl von Ossietzky",  
*rainer.reuter@uni-oldenburg.de*

CLIMATE CHANGE, A MESSAGE FOR SCIENCE EDUCATION IN HIGH SCHOOLS

**Zdenek Nemecek** – Charles University in Prague

ENERGY TRANSFER IN SUN – MAGNETOSPHERE – IONOSPHERE – ATMOSPHERE SYSTEM

**Jordanka Semkova and FREND team**

LATEST RESULTS FOR SPACE RADIATION ENVIRONMENT PROVIDED BY FREND LIULIN-MO DOSIMETER ABOARD EXOMARS TGO

**17:30** Awarding Prizes from International Inventors Exhibition INVENT ARENA 2018 – Czech Republic

**17:45** Opening of the Artistic Exhibition „Space – 75” of Assoc. Prof. Dr. Petar Stoyanov

**18:00** Welcome Party

08.11.2018 (Thursday)

Hall 1

Session 1

## Space Physics

Chairmen: Prof. Tsvetan Dachev,

Corr. Member Peter Velinov

Secretaries: Assoc. Prof. Maria Dimitrova,

Assoc. Prof. Daniela Boneva

- 13:00 Invited Paper  
**Nikolay Erokhin, Vladimir Loznikov, Nadezhda Zolnikova, Ludmila Mikhailovskaya** – Space Research Institute - Russian Academy of Sciences, [nerokhin@mx.iki.rssi.ru](mailto:nerokhin@mx.iki.rssi.ru)  
**Rumen Shkevov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [shkevov@space.bas.bg](mailto:shkevov@space.bas.bg)  
FLUX VARIABILITY OF ELECTRONS AND POSITRONS IN COSMIC RAYS
- 13:15 **Rumen Shkevov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [shkevov@space.bas.bg](mailto:shkevov@space.bas.bg)  
**Nikolay Erokhin, Vladimir Loznikov, Nadezhda Zolnikova, Ludmila Mikhailovskaya** – Space Research Institute - Russian Academy of Sciences, [nerokhin@mx.iki.rssi.ru](mailto:nerokhin@mx.iki.rssi.ru)  
DYNAMICS ANALYSIS OF THE ELECTRONS SURFATRON ACCELERATION BY A WAVE PACKET IN SPACE PLASMA
- 13:30 **Tsvetan Dachev, Nikolay Bankov, Borislav Tomov, Yurii Matviichuk, Plamen Dimitrov, Jordanka Semkova, Rositza Koleva** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [tdachev@bas.bg](mailto:tdachev@bas.bg)  
**Kalin Lilovski** – Linitrex, LTD, Sofia, Bulgaria  
**Vyacheslav Shurshakov, Victor Benghin** – Institute of Biomedical Problems, Russian Academy of Science  
**Donat-Peter Häder** – Friedrich-Alexander Universität Erlangen-Nürnberg  
**Gerda Horneck, Günter Reitz** – DLR, Institute of Aerospace Medicine, Köln, Germany  
DESCRIPTION OF THE DATABASE WITH LIULIN TYPE INSTRUMENTS' COSMIC RADIATION DATA
- 13:45 **Tsvetan Dachev, Nikolay Bankov, Borislav Tomov, Yurii Matviichuk, Plamen Dimitrov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [tdachev@bas.bg](mailto:tdachev@bas.bg)  
HIGH ENERGY DEPOSITING EVENTS OBSERVED INSIDE AND OUTSIDE OF THE EARTH'S MAGNETOSPHERE

- 14:00** **Ognian Ognyanov** – Institute of High Technology in Industry 4.0, [ognianov@acceco.com](mailto:ognianov@acceco.com)  
**Yavor Shopov** – Sofia University "Kl. Ohridski"  
**Petar Getsov, Penka Maglova, Alexey Stoev** – Space Research and Technology Institute – Bulgarian Academy of Sciences  
 ESTABLISHING A NETWORK FOR SPACE SURVEILLANCE AND TRACKING (SST) IN BULGARIA – FIRST RESULTS
- 14:15** **Coffee Break**
- 14:30** **Krasimir Krastev, Jordanka Semkova, Rositza Koleva** – Space Research and Technology Institute – Bulgarian Academy of Sciences  
**Victor Benghin, Sergey Drobyshev** – Institute of Biomedical Problems, Russian Academy of Science  
 ПРОСТИ МОДЕЛИ ЗА ОЦЕНКА НА ДОЗИ И ПОТОЦИ ГКЛ ВЪЗ ОСНОВА НА ДАННИТЕ, ПОЛУЧЕНИ ОТ ЛЮЛИН – МО
- 14:45** **Lev Dorman** – IZMIRAN, Russian Academy of Sciences/Israel Cosmic Ray Center, Qazrin  
**Peter Velinov, Lachezar Mateev** – SRTI-BAS, [pvelinov@bas.bg](mailto:pvelinov@bas.bg)  
**Alexander Mishev** – Space Climate Research Unit, University of Oulu, Finland  
**Dimitrinka Tomova** – Sofia University  
 ANOMAL ENHANCEMENT OF COSMIC RAYS DURING G3 GEOMAGNETIC STORM ON 26.08.2018 IN SPECIAL POSITION OF SUN-EARTH-MOON SYSTEM
- 15:00** **Boian Kirov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [bkirov@space.bas.bg](mailto:bkirov@space.bas.bg)  
 ВРЪЗКА МЕЖДУ СЛЪНЧЕВАТА АКТИВНОСТ, СКОРОСТТА НА ВЪРТЕНЕ НА ЗЕМЯТА И АТМОСФЕРНАТА ЦИРКУЛАЦИЯ
- 15:15** **Simeon Asenovski** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [asenovski@space.bas.bg](mailto:asenovski@space.bas.bg)  
 VARIATION OF THE SOLAR WIND PARAMETERS IN SOLAR CYCLE 24
- 15:30** **Penka Stoeva, Alexey Stoev** – Space Research and Technology Institute - Bulgarian Academy of Sciences, [penm@abv.bg](mailto:penm@abv.bg)  
**Sergey Kuzin** – Lebedev Physical Institute - Russian Academy of Sciences  
 РАЗПРЕДЕЛЕНИЕ НА ЕЛЕКТРОННАТА ТЕМПЕРАТУРА В БЯЛАТА И ЕМИСИОННА КОРОНА НА СЛЪНЦЕТО ПО ВРЕМЕ НА ПЪЛНИТЕ СЛЪНЧЕВИ ЗАТЪМНЕНИЯ ПРЕЗ 2006 И 2008
- 15:45** **Alexey Stoev, Penka Stoeva** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [stoev52@abv.bg](mailto:stoev52@abv.bg)  
**Sergey Kuzin** – Lebedev Physical Institute – Russian Academy of Sciences  
 СПЕКТРАЛНИТЕ НАБЛЮДЕНИЯ НА СЛЪНЦЕТО КАТО ТЕМА ЗА ЛАБОРАТОРНА РАБОТА В ШКОЛИТЕ ПО КОСМИЧЕСКА ФИЗИКА И АСТРОНОМИЯ

**16:00** **Mina Spassova** – *Institute for the Study of Societies and Knowledge - Bulgarian Academy of Sciences, mina.stoeva@gmail.com*  
**Alexey Stoev, Penka Stoeva** – *Space Research and Technology Institute - Bulgarian Academy of Sciences, stoev52@abv.bg*  
ИНТЕРДИСЦИПЛИНАРЕН ПОДХОД ПРИ СЪСТАВЯНЕ НА СИСТЕМА  
ОТ УПРАЖНЕНИЯ В УНИВЕРСИТЕТСКИ КУРС ПО  
АРХЕОАСТРОНОМИЯ

**16:15** **Krasimira Yankova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, f7@space.bas.bg*  
ФУНДАМЕНТАЛНА АДВЕКЦИЯ

**16:30** **Natalya Kilifarska** – *NIGGG – BAS, nkilifarska@geophys.bas.bg*  
**Tsvetelina Velichkova**  
GEOMAGNETIC FOCUSING OF COSMIC RAYS IN THE LOWER  
ATMOSPHERE

### Poster session

**1-1** **Rositsa Miteva, Dimitar Danov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, rmitova@space.bas.bg*  
**Susan W. Samwel** – *National Research Institute of Astronomy and Geophysics (NRIAG), Helwan, Cairo, Egypt*  
CATALOGS OF SOLAR ENERGETIC ELECTRONS AND THEIR RADIO  
EMISSIONS IN SOLAR CYCLES 23 AND 24

**1-2** **Krasimira Yankova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, f7@space.bas.bg*  
INFLUENCE OF THE BOUNDARY IN THE SYSTEM DISK-CORONA,  
OVER THE DEVELOPMENT CORONARY COMPONENT

**1-3** **Rolf Werner, Dimitar Valev, Veneta Guineva** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, rolwer52@yahoo.co.uk*  
**Andrey Kirillov** – *Polar Geophysical Institute (PGI)*  
**Boyan Petkov** – *Institute of Atmospheric Sciences and Climate (ISAC)*  
DETERMINATION OF THE UV-INDEX USING MEASUREMENTS  
PERFORMED BY THE GUV 2511 INSTRUMENT AT STARA ZAGORA

**1-4** **Igor Shibaev** – *IZMIRAN, Troitsk, Russia, ishib@izmiran.ru*  
ТРАНСФОРМАЦИЯ ХАРАКТЕРИСТИК КВАЗИДВУХЛЕТНИХ  
ВАРИАЦИЙ В НОВОЙ ВЕРСИИ РЯДА ЧИСЕЛ ВОЛЬФА

**1-5** **Igor Shibaev, Vladimir Garbatsevich** – *IZMIRAN, Troitsk, Russia, ishib@izmiran.ru*  
ПРОЯВЛЕНИЕ ХАРАКТЕРИСТИК ЛУНЫ ПРИ РЕГИСТРАЦИИ  
МОДУЛЯ МАГНИТНОГО ПОЛЯ ЗЕМЛИ

- 1-6**      **Daniela Boneva** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, danvasan@mail.space.bas.bg*  
SIGNATURES OF SMALL-SCALE BRIGHTNESS VARIABILITY OF THE BINARY STAR SYSTEM NQ GEM
- 1-7**      **Kostadin Sheiretsky** – *University of National and World Economy, ksheiretsky@space.bas.bg*  
**Rumen Shkevov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences*  
**Nikolay Erokhin** – *Space Research Institute - Russian Academy of Sciences*  
ВЪРХУ ЕДИН МЕТОД ЗА ИЗСЛЕДВАНЕ НА ПАРАМЕТРИЧЕН РЕЗОНАНС
- 1-8**      **Veneta Guineva, Rolf Werner** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, v\_guineva@yahoo.com*  
MID-LATITUDE SUBSTORMS DURING THE GREAT GEOMAGNETIC STORM ON 24 MARCH 1991
- 1-9**      **Simeon Asenovski** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, asenovski@space.bas.bg*  
HIGH SPEED SOLAR WIND CONTRIBUTION TO THE SOLAR-TERRESTRIAL SYSTEM
- 1-10**     **Angel Manev, Veselin Tashev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, amanev@abv.bg*  
**Tanyo Tanev, Dinko Gospodinov**  
КОСМИЧЕСКИ РЕПЕРИ В ХРОНОГРАФИЯТА НА ТЕОФАН ИЗПОВЕДНИК



08.11.2018 (Thursday)

Hall 1

Session 2

## Aerospace Technologies and Biotechnologies

Chairman: Corr. Member Petar Getsov

Secretary: Assoc. Prof. Zoya Hubenova

- 09:30** *Petar Getsov, Dimitar Jordanov, Stefan Getsov – Space Research and Technology Institute – Bulgarian Academy of Sciences, director@space.bas.bg*  
*Wang Bo – Ningbo University of Technology, China*  
МОДЕЛИРАНЕ ГРЕШИТЕ НА ПИЛОТА ОТ НЕКООРДИНИРАНИ КОМАНДИ ПРИ ВЛИЗАНЕ ВЪВ ВИРАЖ
- 09:45** *Petar Getsov, Pavlin Gramatikov – Space Research and Technology Institute – Bulgarian Academy of Sciences, director@space.bas.bg*  
*Ruslan Yanev – REYA-97 EOOD*  
*Wang Bo – Ningbo University of Technology, China*  
МОТОГЕНЕРАТОРНА СИСТЕМА ЗА ЗАДВИЖВАНЕ НА БЕЗПИЛОТНИ ЛЕТАТЕЛНИ АПАРАТИ (БЛА)
- 10:00** *Dimo Zafirov – Space Research and Technology Institute – Bulgarian Academy of Sciences, zafirov@big97.com*  
VERTICAL TAKE-OFF AND LANDING UNMANNED AIRPLANES
- 10:15** *Dimo Zafirov – Space Research and Technology Institute – Bulgarian Academy of Sciences, zafirov@big97.com*  
PROPULSIONS FOR VERTICAL TAKE-OFF AND LANDING UNMANNED AIRPLANES
- 10:30** Coffee Break
- 10:45** *Georgi Sotirov – Space Research and Technology Institute – Bulgarian Academy of Sciences, gsotirov@space.bas.bg*  
АНАЛИЗ НА РЛС ИЗПОЛЗВАНИ ОТ БЛА
- 11:00** *Georgi Sotirov – Space Research and Technology Institute – Bulgarian Academy of Sciences, gsotirov@space.bas.bg*  
*Svetlozar Assenov, Angelina Chozhgova – TU - Plovdiv*  
*Mihail Vladov – Comelpro SRL, Moldova*  
СИСТЕМИ ЗА МОНИТОРИНГ НА ТЕХНИЧЕСКОТО СЪСТОЯНИЕ НА ВЕРТОЛЕТИТЕ

**11:15** **Plamen Trendafilov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, pl\_trendafilov@abv.bg*  
УСТОЙЧИВОСТ НА РАДИОВЗРИВАТЕЛИТЕ СРЕЩУ СМУЩЕНИЯ

**11:30** **Milen Zamfirov** – *Sofia University “St. Kliment Ohridski”, milen\_zamfirov@abv.bg*  
ПОВИШАВАНЕ ЕФЕКТИВНОСТТА НА СИЛИЦИЕВИ ФОТОЕЛЕМЕНТИ ЧРЕЗ ОБЛЪЧВАНЕ С ЛАЗЕРНО ЛЪЧЕНИЕ КАТО ВЪЗМОЖНОСТ ЗА ЕНЕРГИЙНО ВЪЗСТАНОВЯВАНЕ НА ИЗКУСТВЕНИ СПЪТНИЦИ НА ЗЕМЯТА

**11:45** **Elissaveta Alexandrova** – *Bulgarian Astronautical Society, e\_alexandr@mail.bg*  
МАНИПУЛАЦИИ ЗА СМЕТКА НА ТЕХНОЛОГИЧНИЯ ПРОГРЕС. ПРИМЕРИ В ОБЛАСТТА НА СПЪТНИКОВИТЕ КОМУНИКАЦИИ

### **Poster session**

**2-1** **Konstantin Metodiev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, komet@space.bas.bg*  
ПРОГРАМНО-АПАРАТНО УПРАВЛЕНИЕ НА CAD МОДЕЛ

**2-2** **Zoya Hubenova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, zhubenova@space.bas.bg*  
СИТУАЦИОНЕН АНАЛИЗ НА ЕРГАТИЧНИ СИСТЕМИ ЗА УПРАВЛЕНИЕ НА ПОДВИЖНИ ОБЕКТИ

**2-3** **Hristofor Skandaliev** – *Club of aerospace technologies “Zodiac” – Kyustendil, Bulgaria; fori2ivanov@yahoo.com*  
**Kalin Krumov, Neli Siveva, Oleg Panayotov, Silvana Venkova** – *University of chemical technology and metallurgy – Sofia, Bulgaria; kkrumov@uctm.edu*  
ИЗСЛЕДВАНЕ НА КОМПОЗИТНИ СЪСТАВИ ЗА СОПЛОВИ БЛОК НА ЕКОЛОГИЧНО ЧИСТИ РАКЕТНИ ДВИГАТЕЛИ

**2-4** **Lyubosvet Stoev** – *“Georgi Stoykov Rakovski” National Defense College, stoev@gbg.bg*  
BROADENING THE CAPACITY OF A MULTIROTOR AIRCRAFT THROUGH ADDITION OF AN ONBOARD COMPUTER

**2-5** **Rositsa Miteva, Mariana Zaharinova, Tatiana Belichenova, Garo Mardirossian** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, rmitava@space.bas.bg*  
WEBSITE OF THE BULGARIAN SPACE INSTRUMENTATION INITIATIVE

**2-6** **Plamen Trendafilov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, pl\_trendafilov@abv.bg*  
ОТНОСНО РАБОТАТА НА ЧЕСТОТНО МОДУЛИРАНИТЕ ТРАНЗИСТОРНИ АВТОДИНИ

**2-7** **Malina Jordanova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, mjordan@bas.bg*  
**Frank Lievens** – *Executive Secretary of the International Society for Telemedicine & eHealth, Belgium & Switzerland*  
**Anton Vladzimirsky** – *Research and Practical Center of Medical Radiology, Department of Health Care of Moscow, Russia*  
THE NEW DIGITAL LIBRARY - WHAT AND WHERE

**08.11.2018 (Thursday)**

**Hall 2**

**Session 3**

## **Remote Sensing and Geoinformation Systems**

Chairman: Assoc. Prof. Lachezar Filchev

Secretary: Assoc. Prof. Denitsa Borisova

**16:00**    **Radik Martirosyan** – *President of the National Academy of Sciences of the Republic of Armenia*  
**Albert Gulyan, Gamlet Pirumyan** – *Institute of Radiophysics and Electronics - NAS – Armenia*  
**Margar Adibekyan** – *Western Survey for Seismic Protection State Non-Profit Organization - Armenia, adibekyan@yahoo.com*  
ИССЛЕДОВАНИЕ ХАРАКТЕРИСТИК РАДИОТЕЛЕСКОПА РТ-13 ИПА РАН

**16:15**    **Georgi Jeleв** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, gjelev@space.bas.bg*  
КЛАСИФИКАЦИЯ НА ДРОНОВЕ

**16:30**    **Dessislava Ganeva** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, dganeva@space.bas.bg*  
SEMI-AUTOMATIC RETRIEVAL OF BIOMASS BASED ON VEGETATION INDEX OPTIMIZATION AND MACHINE LEARNING METHODS FOR WINTER RAPESEED CROP

### **Poster session:**

**3-1**        **Maria Dimitrova, Plamen Trenchev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, maria@space.bas.bg*  
ИЗБОР НА СПЪТНИКОВИ ДАННИ ЗА РЕГИСТРИРАНЕ И ИЗСЛЕДВАНЕ НА ПЯСЪЧНИ БУРИ ОТ АФРИКА, НАСОЧЕНИ КЪМ БАЛКАНСКИЯ ПОЛУОСТРОВ

**3-2**        **Veselin Tashev, Rolf Werner, Angel Manev, Dimitar Valev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, veselin@abv.bg*  
**Mariana Goranova** – *Technical University of Sofia*  
**Ana Shishkova** – *NIMH, Plovdiv Department*  
DEVELOPMENT AND ESTABLISHMENT OF TRENDS IN THE TEMPERATURE CHANGES OF THE ATMOSPHERE IN THE REGION OF STARA ZAGORA

- 3-3** **Veselin Tashev, Rolf Werner, Angel Manev, Dimitar Valev** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [veselinlt@abv.bg](mailto:veselinlt@abv.bg)  
**Mariana Goranova** – Technical University of Sofia  
 GRAPHICAL REPRESENTATION OF THE AMOUNT OF SOLAR ENERGY FALLING ON THE GROUND FOR DIFFERENT TIME PERIODS
- 3-4** **Ilina Kamenova, Petar Dimitrov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [petar.dimitrov@space.bas.bg](mailto:petar.dimitrov@space.bas.bg)  
 EVALUATION OF RAPIDEYE AND SENTINEL-2 VEGETATION INDICES FOR PREDICTION OF BIOPHYSICAL/BIOCHEMICAL VARIABLES OF WINTER WHEAT
- 3-5** **Deyan Gotchev, Maria Dimitrova, Plamen Trenchev** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [dejan@space.bas.bg](mailto:dejan@space.bas.bg)  
 СРАВНЯВАНЕ НА МОДЕЛИ ЗА ВРЪЗКИТЕ МЕЖДУ AOD И PM<sub>10</sub>
- 3-6** **Valentina Hristova** – University of Transport “T. Kableshkov”, [astronomer@abv.bg](mailto:astronomer@abv.bg)  
**Denitsa Borisova** – Space Research and Technology Institute – Bulgarian Academy of Sciences  
 EXPERIMENTAL STUDY ON MERGING METHODS IN ROAD RECOGNITION
- 3-7** **Valentin Atanassov, Denitsa Borisova, Ventzeslav Dimitrov, Doyno Petkov, Hristo Nikolov, Georgi Georgiev, Cristina Vasileva** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [VAtanassov@mail.space.bas.bg](mailto:VAtanassov@mail.space.bas.bg)  
 MULTISENSOR EARTH OBSERVATION SYSTEM
- 3-8** **Dora Krezhova** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [dora.krezhova@gmail.com](mailto:dora.krezhova@gmail.com)  
**Kalinka Velichkova** – University of Mining and Geology “St. Ivan Rilski”, Sofia  
 ASSESSMENT OF RED EDGE POSITION EXTRACTION TECHNIQUES FOR PLANT BIOTIC STRESS DETECTION USING HYPERSPECTRAL DATA
- 3-9** **Denitsa Borisova, Margarita Goranova** – Space Research and Technology Institute – Bulgarian Academy of Sciences  
 ТЕМАТИЧНИ СПЕКТРАЛНИ ДАННИ ОТ СИСТЕМИ ЗА ДИСТАНЦИОННИ ИЗСЛЕДВАНИЯ
- 3-10** **Temenuzhka Spasova, Deyan Gotchev, Iva Ivanova** – Space Research and Technology Institute – Bulgarian Academy of Sciences, [tspasova@space.bas.bg](mailto:tspasova@space.bas.bg)  
 МОНИТОРИНГ НА ДИНАМИКАТА НА МОКЪР СНЯГ ЧРЕЗ АЕРОКОСМИЧЕСКИ ДАННИ В СВАЛБАРД – НОРВЕГИЯ

- 3-11** **Kameliya Radeva** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, kamelia.radeva@space.bas.bg*  
**Emiliya Velizarova** – *Executive Environment Agency*  
ASSESSMENT OF INDICATORS FOR NEGOVAN WETLAND  
ECOSYSTEM CONDITION UPON INTERIM MONITORING  
IMPLEMENTATION BY MEANS OF REMOTE SENSING
- 3-12** **Angel Manev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, amanev@abv.bg*  
ОБЗОР НА ТЕМПЕРАТУРНИТЕ АНОМАЛИИ НА ПОВЪРХНОСТТА НА  
ЧЕРНО МОРЕ В ПЕРИОДА 1984-1999 ГОДИНИ

08.11.2018 (Thursday)

Hall 2

Session 4

## Ecology and Risk Management

Chairman: Prof. Garo Mardirossian

Secretary: Tsveta Srebrova, MS

- 09:00** **Boyko Ranguelov** – Mining and Geology University, *branguelov@gmail.com*  
**Fathimath Shadiya** – Maldives National University  
THE C A B A R E T ERASMUS+ PROJECT WP7 - PROGRESS AND ACHIEVEMENTS
- 09:15** **Orlin Dimitrov** – Institute of Oceanology – Bulgarian Academy of Sciences, *ovdimitrov@gmail.com*  
**Boyko Ranguelov** – Mining and Geology University  
ПРИРОДНИ БЕДСТВИЯ И ПРИРОДНИ РЕСУРСИ НА БЪЛГАРСКАТА КРАЙБРЕЖНА И МОРСКА ЗОНА
- 09:30** **Margar Adibekyan** – Western Survey for Seismic Protection State Non-Profit Organization - Armenia, *adibekyan@yahoo.com*  
АНАЛИЗ НАБЛЮДЕНИЙ ИОНОСФЕРНЫХ ВРЕМЕННЫХ РЯДОВ ДЛЯ ОБНАРУЖЕНИЯ ПРЕДВЕСТНИКОВ ЗЕМЛЕТРЯСЕНИЙ
- 09:45** **Margar Adibekyan, Hermine Baghdasaryan** – Ministry of Emergency Situations of The Republic of Armenia -Territorial Survey for Seismic Protection State Non Commercial Organization, *adibekyan@yahoo.com*  
АНАЛИЗ НАБЛЮДЕНИЙ ИОНОСФЕРНЫХ, ГЕОМАГНИТНЫХ И ЭЛЕКТРОМАГНИТНЫХ ВРЕМЕННЫХ РЯДОВ ДЛЯ ОБНАРУЖЕНИЯ ПРЕДВЕСТНИКОВ ЗЕМЛЕТРЯСЕНИЙ
- 10:00** **Strachimir Mavrodiev** – INRNE-BAS, *schtmavr@yahoo.com*  
**Lazo Pekevski** – Skopje Seismological Observatory  
**Emil Botev** – NIGGG- BAS  
**Ali Pinar** – Department of Earthquake Engineering, Bogaziçi University, Istanbul, Turkey  
**Giorgi Kikuashvily** – Tblisi, Georgia  
**Alexander Vol, Arie Gilat** – Israel  
ABOUT THE POSSIBILITY OF PREDICTING EARTHQUAKES
- 10:15** **Hristo Nikolov** – Space Research and Technology Institute – Bulgarian Academy of Sciences, *hristo@stil.bas.bg*  
**Mila Atanasova**  
DECADAL TRACING TRIFON ZAREZAN LANDSLIDE DYNAMICS BY DINSAR

- 10:30**     **Coffee Break**
- 10:45**     **Ivan Ivanov** – *Technical University of Sofia, Research Projects Manager at R&D Sector, Head of Safety and Environmental Engineering Laboratory, ivec@tu-sofia.bg*  
 ENVIRONMENTAL RESILIENT APPROACH AND POTENTIAL CONTRIBUTION OF THE BULGARIAN ENERGETICS IN THE “BATTLE” FOR GHG AND CLIMATE CHANGE’ MITIGATION
- 11:00**     **Gennadiy Maklakov** – *Petersburg Institute for Informatics and Automation – Russian Academy of Sciences, gmaklakov@mail.bg*  
**Nadezhda Georgieva**  
 ИЗСЛЕДВАНЕ НА ПЕРСПЕКТИВНИ РЕКРЕАЦИОННИ ЗОНИ В БЪЛГАРИЯ ЗА РЕХАБИЛИТАЦИЯ И ПРОФИЛАКТИКА ЧРЕЗ ХРОНОФИЗИОТЕРАПИЯ НА РАБОТЕЩИ В АЕРОКОСМИЧЕСКИЯ ОТРАСЪЛ
- 11:15**     **Gennadiy Maklakov** – *Petersburg Institute for Informatics and Automation - Russian Academy of Sciences, gmaklakov@mail.bg*  
**Nadezhda Georgieva**  
 Ivan Ivanov – *Technical University, Varna*  
 ОСОБЕНОСТИ НА ЕКОЛОГИЯТА НА ПОБИТИТЕ КАМЪНИ (ВАРНЕНСКИ РЕГИОН) И ВЛИЯНИЕТО Й ВЪРХУ ЧОВЕКА
- 11:30**     **Ivan Valchinov, Diana Valchinova** – *Ecoprogress International Ltd. , office@ecoprogress.net*  
 БЕЗПИЛОТНА АВИАЦИОННА СИСТЕМА ЗА РАДИАЦИОННО РАЗУЗНАВАНЕ
- 11:45**     **Iva Nikolova, Pancho Nikolov** – *University of Structural Engineering and Architecture „Lyuben Karavelov“, kosovic\_iva@yahoo.com*  
 ЕКОЛОГОСЪОБРАЗНОТО СТРОИТЕЛСТВО КАТО МАРКЕТИНГОВ ИНСТРУМЕНТ НА СЪВРЕМЕНАТА СТРОИТЕЛНА КОМПАНИЯ
- 12:00**     **Philip Philipoff** – *Institute of Mechanics – Bulgarian Academy of Sciences, double.dregan@gmail.com*  
 RISK MANAGEMENT OF NATURAL DISASTERS, TRANSPORT CRASHES AND INDUSTRIAL ACCIDENTS
- 12:15**     **Venelin Jivkov** – *Technical University-Sofia, jivkov@tu-sofia.bg*  
**Simeon Panev** – *HTMU*  
**Venkatanathan Natarajan** – *SASTRA University, School of Electrical & Electronics Engineering, Thanjavur, India*  
**Philip Philipoff, Petar Mandiev** – *Institute of Mechanics-BAS*  
**Blagovest Simeonov** – *UNSS*  
**Silvia Mitkova** – *PENTAHRON EOOD*  
**Yordan Tankovsky** – *Institute of Neurobiology - BAS*  
 MODERN ECOLOGY FRIENDLY PNEUMATIC STRUCTURES



- 12:30** **Venelin Jivkov** – *Technical University-Sofia, jivkov@tu-sofia.bg*  
**Simeon Panev** – HTMU  
**Venkatanathan Natarajan** – *SASTRA University, School of Electrical & Electronics Engineering, Thanjavur, India*  
**Philip Philipoff, Petar Mandiev** – *Institute of Mechanics-BAS*  
**Blagovest Simeonov** – UNSS  
**Silvia Mitkova** – PENTAHRON EOOD  
**Yordan Tankovsky** – *Institute of Neurobiology - BAS*  
 THREE MODERN STRATEGES FOR PROTECTION OF BUILDING STRUCTURES AGAINST EARTHQUAKES
- 12:45** **Petar Bodourov, Vasil Genchev** – *bodurov@mgu.bg*  
 НОВИ ВИСОКОТЕХНОЛОГИЧНИ РЕШЕНИЯ НА ЕКОЛОГИЧНИ ПРОБЛЕМИ В СТРОИТЕЛСТВОТО
- 13:00** **Stojan Velkoski** – *GAPE Institute, contact@igape.edu.mk*  
**Jane Velkoski, Mihail Velkoski**  
 THE MEANING OF THE ANCIENT MESSAGES THROUGH THE STONE ART IN MACEDONIA
- 13:15** **Nadya Marinova** – *New Bulgarian University, nmarinova@nbu.bg*  
 ИКОНОМИКА И ПРИРОДА

**Poster session:**

- 4-1** **Marko Uzunov, Evgenia Savova-Videnova** – *University of Chemical Technology and Metallurgy-Sofia, marko.uzunov@gmail.com*  
 ПРОГНОЗИРАНЕ КОНЦЕНТРАЦИЯТА НА ВЪГЛЕРОДНИЯ ОКСИД ПО ПРОГНОЗНИ ДАННИ НА МЕТЕОРОЛОГИЧНИТЕ ПОКАЗАТЕЛИ
- 4-2** **Ralitza Berberova** – *New Bulgarian University, rberberova@nbu.bg*  
 ОБЗОР НА ВЪЗНИКНАЛИ КРИЗИСНИ СЪБИТИЯ ОТ ПРИРОДНИ БЕДСТВИЯ В БЪЛГАРИЯ ЗА ПЕРИОДА 2004-2016 г.
- 4-3** **Vilma Petkova** – *New Bulgarian University, Institute of Mineralogy and Crystallography – Bulgarian Academy of Sciences, vilmapetkova@gmail.com*  
**Ivanka Paskaleva** – *European Polytechnical University, Pernik, Bulgaria*  
**Ventseslav Stoyanov** – *University of Structural Engineering and Architecture „Lyuben Karavelov“*  
**Vladislav Kostov** – *Institute of Mineralogy and Crystallography – Bulgarian Academy of Sciences*  
**Bilyana Kostova, Ralitza Berberova** – *New Bulgarian University*  
**Theodosios Papaliangas** – *Technological Educational Institute of Thessaloniki*  
 ВЕРОЯТНОСТЕН АНАЛИЗ НА СЕИЗМИЧНИЯ РИСК (PSHA-АНАЛИЗ) ПО ЛИНИЯТА БЛАГОЕВГРАД – БАНСКО – ГОЦЕ ДЕЛЧЕВ

- 4-4** **Gennady Belyaev** – Institute of Terrestrial Magnetism Ionosphere and Radio Wave Propagation – *Russian Academy of Sciences*, *belyaev@izmiran.ru*  
**Boris Hotinov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences*  
**Vladimir Kostin, Olga Ovcharenko, Elena Trushkina** – Institute of Terrestrial Magnetism Ionosphere and Radio Wave Propagation – *Russian Academy of Sciences*  
 ON THE POSSIBILITY OF POWERFUL UNDERGROUND EXPLOSIONS IMPACT TO RELEASE OF THE EARTH'S CRUST STRESSES AND ON THE DEVELOPMENT OF HURRICANES
- 4-5** **Vesselina Petrova** – *New Bulgarian University*  
**Mila Ilieva-Obretenova** – *Mining and Geology University*, *milailieva@abv.bg*  
 ВИРТУАЛЕН ЕКСПЕРИМЕНТ С ПОЧВАТА КАТО ФРАКТАЛЕН ОБЕКТ
- 4-6** **Marko Uzunov** – *University of Chemical Technology and Metallurgy-Sofia*, *marko.uzunov@gmail.com*  
 MULTIPLE LINEAR REGRESSION MODELS BASED ON METEOROLOGICALPARAMETERS FOR FORECASTING OF NITROGEN OXIDES CONCENTRATIONS LEVELS
- 4-7** **Ekaterina Serafimova** – *University of Chemical Technology and Metallurgy - Sofia*, *ekaterina\_sr@abv.bg*  
**Vilma Petkova** – *New Bulgarian University, Institute of Mineralogy and Crystallography – Bulgarian Academy of Sciences*, *vilmametkova@gmail.com*  
 ВЪЗМОЖНОСТИ ЗА ОПОЛЗОТВОРЯВАНЕ НА ШРЕДИРАН ЧИПС ОТ АВТОМОБИЛНИ ГУМИ
- 4-8** **Ekaterina Serafimova** – *University of Chemical Technology and Metallurgy - Sofia*, *ekaterina\_sr@abv.bg*  
**Vilma Petkova** – *New Bulgarian University, Institute of Mineralogy and Crystallography – Bulgarian Academy of Sciences*, *vilmametkova@gmail.com*  
 ЕФЕКТИВНО УПРАВЛЕНИЕ И МЕТОДИ ЗА ОБЕЗВРЕЖДАНЕ И ОПОЛЗОТВОРЯВАНЕ НА УТАЙКИ ОТ ГПСОВ
- 4-9** **Svetla Dimitrova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences*, *svetla\_stil@abv.bg*  
 ВЛИЯНИЕ НА ПРОМЕНИТЕ В СЛЪНЧЕВАТА И ГЕОМАГНИТНАТА АКТИВНОСТ ВЪРХУ БИОСФЕРАТА
- 4-10** **Stojan Velkoski** – *GAPE Institute, Skopje*, *contact@igape.edu.mk*  
 ANALYSIS OF DEMOGRAPHY IN REPUBLIC OF MACEDONIA

08.11.2018 (Thursday)

Hall 2

Session 5

## Space Material Science and Nanotechnology

Chairman: Prof. Dimitar Teodossiev

Secretary: Daniela Shuleva

- 14:00** **Dimitar Teodossiev** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, [dteod@mail.space.bas.bg](mailto:dteod@mail.space.bas.bg)*  
**Yordan Georgiev** – *Institute of Metal Science, equipment, and technologies “Acad. A. Balevski” with Center for Hydro- and Aerodynamics – Bulgarian Academy of Sciences*  
**Nartsislav Petrov** – *Institute of Organic Chemistry - Bulgarian Academy of Sciences*  
ПОЛУЧАВАНЕ НА ТИТАНОВ КАРБИД С ИЗПОЛЗВАНЕ НА НОВА ВЪГЛЕВОДОРОДНА СУБСТАНЦИЯ, КАТО ДОНОР НА ВЪГЛЕРОД
- 14:15** **Anna Bouzekova-Penkova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, [a\\_bouzekova@abv.bg](mailto:a_bouzekova@abv.bg)*  
**Peter Tzvetkov**  
ИЗСЛЕДВАНЕ ВЛИЯНИЕТО НА ОТКРИТИЯ КОСМОС ВЪРХУ СТРУКТУРАТА НА НОВ АЛУМИНИЕВ КОМПОЗИТ, ПРЕСТОЯЛ ОТ ВЪНШНАТА СТРАНА НА МКС В ПЕРИОДА АПРИЛ 2013 – АВГУСТ 2015 Г.
- 14:30** **Boris Barbov** – *“Paisiy Hilendarski” High school of Mathematics*  
**Anna Petrova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, [ani@phys.bas.bg](mailto:ani@phys.bas.bg)*  
OXIDATION OF ALUMINUM ALLOYS IN THE PROCESSING CONDITION
- 14:45** **Boris Barbov** – *“Paisiy Hilendarski” High school of Mathematics*  
**Anna Petrova** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, [ani@phys.bas.bg](mailto:ani@phys.bas.bg)*  
MICROSTRUCTURE AND MECHANICAL PROPERTIES OF NANO-MICROCRYSTALLINE ALUMINUM ALLOYS
- 15:00** **Valentin Gospodinov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, [vgospodinov@space.bas.bg](mailto:vgospodinov@space.bas.bg)*  
COMPARATIVE ANALYSIS OF THE P–V–T RELATIONSHIP OF NaCl AT HIGH PRESSURE AND TEMPERATURE
- 15:15** **Julian Karadjov** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, [doctorka@abv.bg](mailto:doctorka@abv.bg)*  
НАНОТЕХНОЛОГИИ В ЧАША КАФЕ

**15:30** **Adelina Miteva** – *Space Research and Technology Institute – Bulgarian Academy of Sciences, ad.miteva@gmail.com*  
ABOUT MATERIAL SCIENCE IN LIFE AND NEAR ISS

**15:45** **Coffee Break**

## A G E N D A

Date	Marble Hall
07.11.2018 Wednesday afternoon	15:00 – 17:00 Registration  16:00 Opening Ceremony S E S 2018

Date	Hall 1	Hall 2
08.11.2018 Thursday morning	09:30 – 12:00 <i>Session 2</i> “Aerospace Technologies and Biotechnologies”	09:00 – 13:30 <i>Session 4</i> „Ecology and Risk Management”
08.11.2018 Thursday afternoon	13:00 – 16:45 <i>Session 1</i> ”Space Physics”	14:00 – 15:45 <i>Session 5</i> “Space Material Science and Nanotechnologies”  16:00– 16:45 <i>Session 3</i> „Remote Sensing and GIS”
08.11.2018 Thursday	17:00 Closing of the Conference	-

09.11.2018 Friday	10:00 – 15:00 Visit to The Space Research and Technology Institute: Meetings, Observation of the exhibition <i>Bulgarian Space Instrumentation</i> , etc.
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**Training session for Copernicus data thematic processing  
with SNAP**

9:00 – 9:30	Registration, welcome coffee
Introduction to Sentinel data and their processing	
9:30 – 11:00	<ul style="list-style-type: none"> <li>– What Sentinel data are and potential applications</li> <li>– How to download the data needed from SciHub</li> <li>– Questions</li> </ul>
11:15 – 12:30	<ul style="list-style-type: none"> <li>– Introduction to SNAP with data downloaded</li> <li>– Basic processing of S1 and S2 data</li> <li>– Questions</li> </ul>
12:30 – 13:30	Lunch break
Practical exercises with S1 and S2 data	
13:30 – 14:30	<ul style="list-style-type: none"> <li>– SAR data applications</li> </ul>
14:30 – 14:45	<ul style="list-style-type: none"> <li>– Coffee break</li> </ul>
14:45 – 15:45	<ul style="list-style-type: none"> <li>– MSI data for agriculture/forestry</li> </ul>
15:45 – 15:50	<ul style="list-style-type: none"> <li>– Closing</li> </ul>

## NOTES