

SOFIA UNIVERSITY, FACULTY OF PHYSICS  
DEPARTMENT OF METEOROLOGY AND GEOPHYSICS



# FOURTH SCIENTIFIC SEMINAR

Physics and chemistry  
of the Earth System

**HOTEL SEVEN SEASONS | BANYA**

**9 - 11 OCTOBER, 2022**

[www.mg.phys.uni-sofia.bg](http://www.mg.phys.uni-sofia.bg)

# PROGRAM

**SUNDAY 9.10.2022**

**16:00 - 16:15**

The terrestrial and oceanic origin of drought in 50 major world river basins: a lagrangian approach

*Rogert Sori Gymez*

**16:15 - 16:30**

Засушаване в селскостопанските райони на България

*Veska Georgieva*

**16:30 - 16:45**

Спътникова система Грейс и ГНСС метеорология

*Bilyana Mircheva*

**16:45 - 17:00**

Combined Space- and Ground-Based GNSS Monitoring of Two Severe Hailstorm Cases in Bulgaria

*Gergana Guerova*

**17:00 - 17:15**

Comparing PRISMA hyperspectral reflectance spectra with in situ measurements

*Irina Gancheva*



Chair persons:

*Margret Velizarova*

*Viktoriya Kleshtanova*

# PROGRAM

SUNDAY 9.10.2022

**17:15 - 17:30**

NSP "Environmental protection and reduction of the risk of adverse events and natural disasters"

*Nikolay Rachev*

**17:30 - 17:45**

Mediterranean cyclones and severe weather warnings in Bulgaria

*Stanislava Tsalova*

**17:45 - 18:00**

Средиземноморският циклон "Генезис" и времето в България за периода 8-13.06.2022 г.

*Krasimir Stoev*

**18:00 - 18:15**

Quasi-steady Lagrangian transport patterns on the Brazilian Coast

*Mainara Gouveia*

**18:15 - 18:30**

Discussion and questions



Chair persons:

*Margret Velizarova*

*Viktoriya Kleshtanova*

# PROGRAM

**MONDAY 10.10.2022**

**9:00 - 9:30**

Main stages of the geological evolution of Bulgaria

*Eleonora Balkanska*

**9:30 - 10:00**

Registration of horizontal and vertical displacements caused by seismic events by GNSS data for the Balkan region

*Mila Atanasova*

**10:00 - 10:15**

Modeling of seismicity and recognition of earthquake-prone areas in the Bulgarian region - synthetic seismicity

*Reneta Raykova*

**10:15 - 10:30**

Modeling of seismicity and recognition of earthquake-prone areas in the Bulgarian region - seismic nodes

*Lyuba Dimova*

**10:30 - 10:45**

Discussion and questions



Chair person:  
*Reneta Raykova*

# PROGRAM

MONDAY 10.10.2022

**10:45-11:15**

Coffee Break

**11:15 - 11:30**

Uppermantle structure beneath Balkan Peninsula from seismic data

*Gergana Georgieva, Elitsa Pandurska*

**11:30 - 11:45**

Seismicity of Southshetland Islands from data recorded in seismic station LIVV

*Valentin Buchakchiev, Dragomir Dragomirov, Gergana Georgieva, Elitsa Pandurska*

**11:45 - 12:00**

Is snowflake a fractal?

*Vesselin Tonchev*

**12:00 - 12:15**

Вариации на рН на валежа и връзка с емисиите на SO<sub>2</sub>, NO<sub>2</sub>, NH<sub>3</sub> в

България

*Lora Valcheva*

**12:15 - 12:30**

Съвременно състояние на проблема със замърсяването на атмосферния въздух с ФПЧ в Европа и България

*Georgi Tsekov*



Chair persons:

*Lyuba Dimova*

*Savka Petrova*

# PROGRAM

**MONDAY 10.10.2022**

**12:30-12:45**

The project "CARBOAEROSOL"-  
aims, objectives and some results

*Elena Hristova*

**12:45 - 13:00**

Пренос на сахарски пясък над България

*Ralena Ilieva*

**13:00 - 13:15**

Приложение на траекторни  
статистически методи при изследвания,  
свързани с трансграничен пренос на  
пустинен прах в България

*Rozeta Neykova*

**13:15- 13:30**

Discussion and questions

**13:30 - 14:30**

Lunch Break

**14:30 - 17:30**

Panel Discussions:

1. Atmosphere pollution
2. Geological and seismic hazard
3. Hazard meteorological events



Chair persons:

*Lyuba Dimova*

*Savka Petrova*

# PROGRAM

TUESDAY 11.10.2022

**9:00-9:15**

The vegetation sensitivity to precipitation from oceanic and terrestrial origin in the world ecoregions and biomes

*Milica Stojanovic*

**9:15 - 9:30**

Fog simulation and forecasting - challenges and progress

*Reneta Dimitrova*

**9:30 - 9:45**

Influence of the initial and boundary conditions on mesoscale simulations using WRF model in Sofia region

*Evgeniya Traykova*

**9:45 - 10:00**

Dispersion modelling of air pollution in Sofia city, applying a new traffic emission inventory

*Margret Velizarova*

**10:00 - 10:15**

Влияние на въздушните маси върху ОКА на връх Мусала

*Viktoriya Kleshtanova*



Chair persons:

*Stanislava Tsalova*

*Gergana Georgieva*

# PROGRAM

TUESDAY 11.10.2022

**10:15-10:30**

Intercomparison of TSI aerosol monitors

*Ventsislav Danchevski*

**10:30 - 10:45**

Схема за числена прогноза за вероятност от възникване на гръмотевична дейност над страната

*Voryana Tsenova*

**10:45 - 11:00**

Relationship between lightning frequency over Black Sea and sea surface temperature in autumn

*Savka Petrova*

**11:00 - 11:15**

Discussion and questions

**12:30 - 13:30**

Lunch Break

**14:00**

Closing



Chair persons:

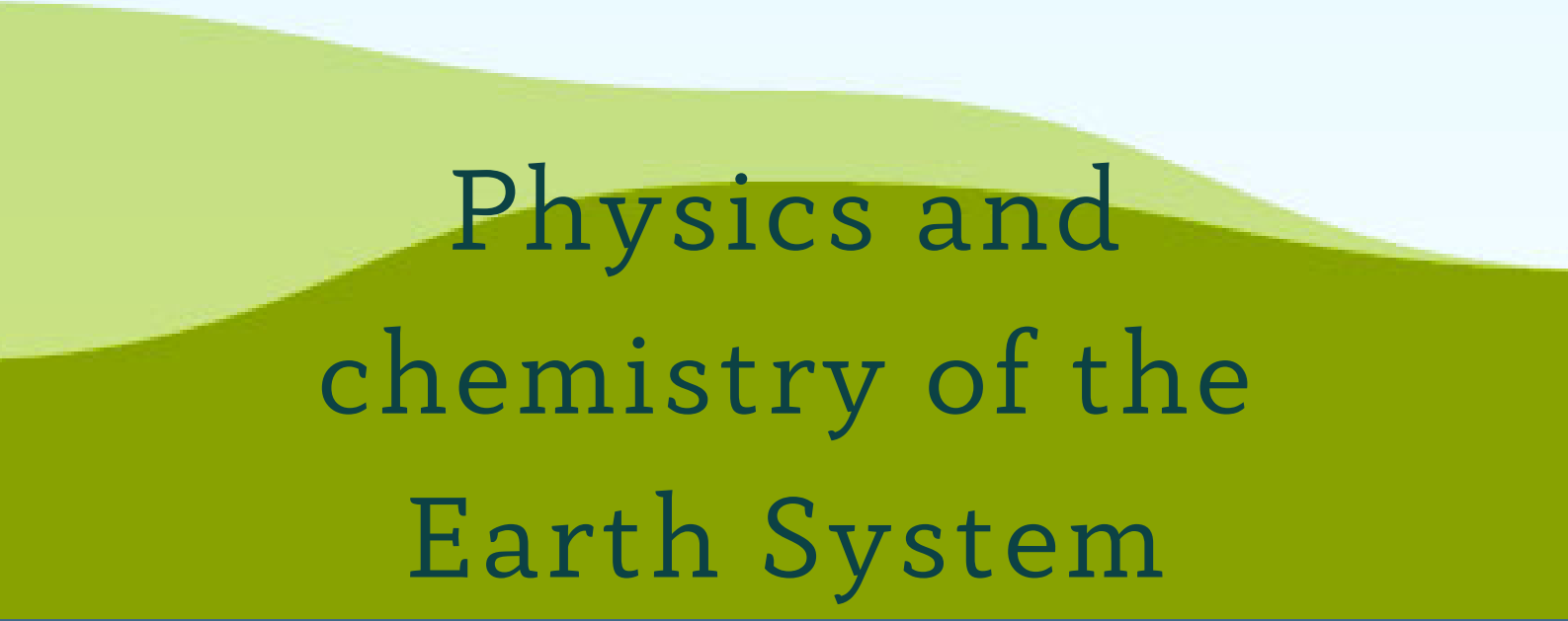
*Stanislava Tsalova*

*Gergana Georgieva*





# FOURTH SCIENTIFIC SEMINAR



Physics and  
chemistry of the  
Earth System

**FUNDED BY:**

**SOFIA UNIVERSITY SCIENCE RESEARCH FUND**

**PROJECT NO 80-10-40/10.05.2022**

**BULGARIAN NATIONAL SCIENCE FUND**

**PROJECT NO KP-06-RUSSIA/29 16.12.2020**

**THE NATIONAL SCIENTIFIC PROGRAM "ENVIRONMENTAL PROTECTION AND  
REDUCTION OF THE RISK OF ADVERSE EVENTS AND NATURAL DISASTERS"**

**NO D01-230/06-12-2018**