

SOFIA UNIVERSITY, FACULTY OF PHYSICS
DEPARTMENT OF METEOROLOGY AND GEOPHYSICS



FIFTH SCIENTIFIC SEMINAR

Physics and chemistry
of the Earth System

HOTEL SEVEN SEASONS | BANYA

25 - 27 SEPTEMBER, 2023

www.mg.phys.uni-sofia.bg

PROGRAM

MONDAY 25.09.2023

14:30

**CONFERENCE OPENING and
WELCOME REMARKS**
with a cup of coffee or tea

15:00 - 15:20

Seismic and GNSS measurements for
Balkan Glacier, Livingston Island
Gergana Georgieva

15:20 - 15:40

InSAR satellite data - application for
seismic sources in the Balkan Peninsula
Lyuba Dimova

15:40 - 16:00

Particularities of the atmospheric
correction of hyperspectral images for
the Western Black Sea region
Irina Gancheva

16:00 - 16:20

The impact of ice crystal
concentration on the precipitation of
convective clouds numerical study
Savka Petrova



Chair persons:
Ralena Ilieva
Elitsa Ilieva

PROGRAM

MONDAY 25.09.2023

16:20 - 17:00

Comparative analysis and descriptive statistics of air pollution in Sofia, Plovdiv and Varna.

Margret Velizarova

17:00 - 17:20

Quality of life in Bulgaria: What we have learned in the past 5 years

Reneta Dimitrova

17:20 - 17:40

Investigation of permafrost zones in Pirin and Central Balkan

Gergana Georgieva

17:40 - 18:00

Discussion and Q&A

POSTER SESSION

Seismic Network of Sofia University: first seismic station

Reneta Raykova



Chair persons:

Ralena Ilieva

Elitsa Ilieva

PROGRAM

TUESDAY 26.09.2023

9:00 - 9:20

National early warning systems at
NIMH

Ilian Gospodinov

9:20 - 9:40

Thermodynamic forces leading to
production of the record-setting
Vivian, South Dakota hailstone

Jay Trobec

9:40 - 10:00

Troposphere monitoring at high
spatio-temporal resolution using low-
cost GNSS receivers

Grzegorz Marut

10:00 - 10:20

13-years GNSS meteorology in
Bulgaria and Southeast Europe

Guergana Guerova

10:20 - 10:40

The climatological Lagrangian
Coherent Structures in the Black Sea:
the first look

Elisaveta Peneva



Chair persons:

Stanislava Tsalova

Irina Gancheva

PROGRAM

TUESDAY 26.09.2023

10:40-11:10

Coffee Break

11:10 - 11:30

Meteoalarm winter time codes October -
April 2010 - 2021

Stanislava Tsalova

11:30 - 11:50

Foehn in Vratsa as extreme weather
event

Krasimir Stoev

11:50 - 12:10

Analysis of splitting supercell storm
based on the Doppler weather radar data

Stefan Georgiev

12:10 - 12:30

Effect of desert dust on the
concentration of PM10 in Bulgaria:
methodology and application

Rozeta Neykova

12:30 - 12:50

First results of PM2.5 chemical
composition in Sofia

Elena Hristova



Chair persons:

Margret Velizarova

Gergana Georgieva

PROGRAM

TUESDAY 26.09.2023

12:50-13:10

Ecological monitoring of persistent pollutants in the atmosphere

Verzhinia Variyska

13:10 - 13:30

Lidars in atmospheric research

Valentin Simeonov

13:30 - 14:30

Lunch Break

14:30 - 17:30

Panel Discussions:

1. Environmental problems in Bulgaria
2. Geophysical methods for studying permafrost
3. Climate services
4. Early-warning systems



Chair persons:

Margret Velizarova

Gergana Georgieva

PROGRAM

WEDNESDAY 27.09.2023

9:00-9:20

Assessment of the radioactivity of
Bulgarian mineral water

Elena Geleva

9:20 - 9:40

Natural radionuclides in drinking
water

Dimitar Tonev

9:40 - 10:00

Ensemble Learning AutoML Approach
to Missing Values in Traffic and
Pollution Data

Danail Brezov

10:00 - 10:20

Calibration of the AquaCrop model
for growing winter wheat in
Bulgaria

Dragomir Atanasov

10:20 - 10:40

База за развитие и внедряване -
физика -активности

Stefan Genchev



Chair persons:

Savka Petrova

Elitsa Pandurska

PROGRAM

WEDNESDAY 27.09.2023

10:40-11:00

Graph Based Tracking of Mixed
Layer Height in Range Corrected
Signal of Ceilometer
Ventsislav Danchovski

11:00 - 12:00

Discussion and Q&A

12:00 - 13:00

Lunch Break

13:00

CLOSING



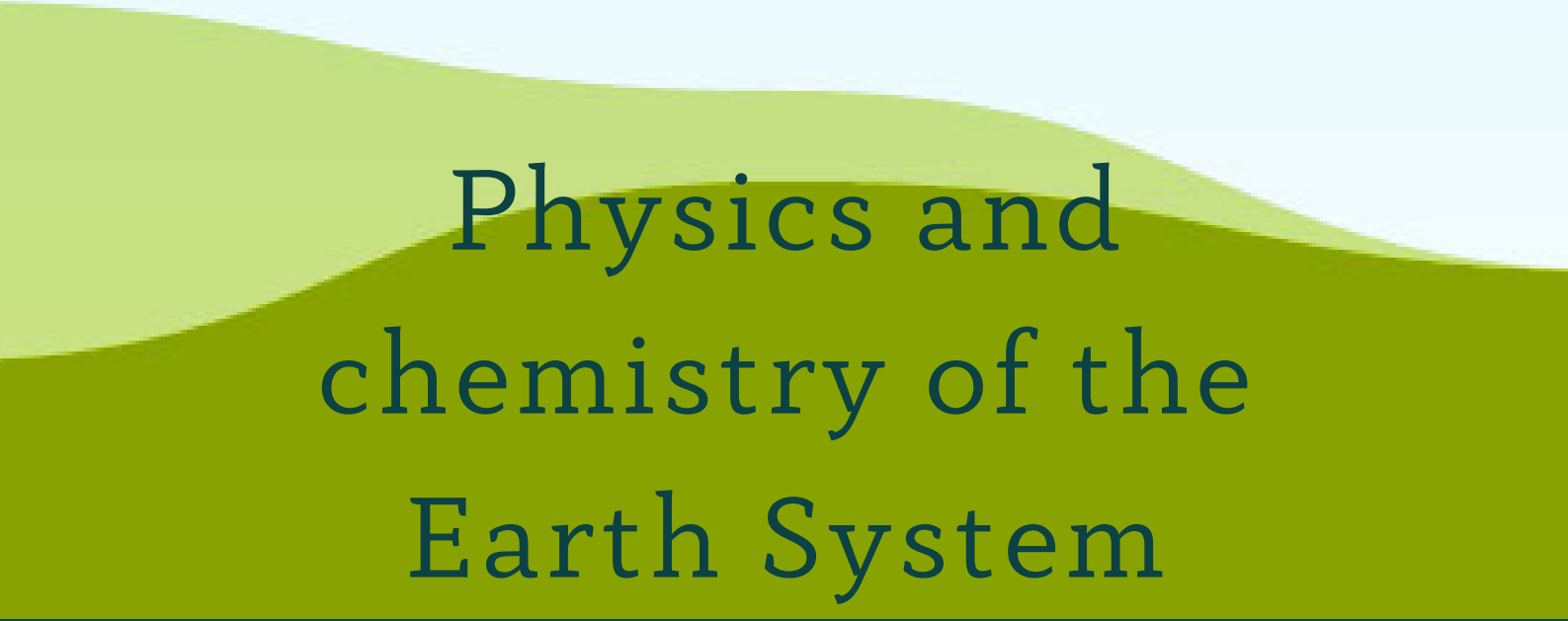
Chair persons:

Savka Petrova

Elitsa Pandurska



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