



**THE 12<sup>th</sup> CMDR COE ANNUAL CONFERENCE ON CRISIS MANAGEMENT AND DISASTER RESPONSE**  
**3<sup>rd</sup> INTERNATIONAL CONFERENCE ON ENVIRONMENTAL PROTECTION AND DISASTER RISKS**

**04 June – 06 June 2024**

**Conference Programme**

<b>04 June 2024</b>	
09:00 – 10:00	Registration & Welcome Coffee
10:00 – 10:20	Opening of the Event <ul style="list-style-type: none"> <li>• <i>COL Orlin NIKOLOV, PhD, Director of CMDR COE</i></li> <li>• <i>Assoc. Prof. Nina DOBRINKOVA PhD, BAS</i></li> </ul>
10:20 – 11:50	Key Note Speakers/Discussion Panel Moderator: <i>COL Orlin NIKOLOV, PhD, CMDR COE</i> <ul style="list-style-type: none"> <li>• <i>Assoc. Prof. Petya TRIFONOVA PhD, BAS, BGR</i></li> <li>• <i>Chief Commissioner Alexander DZHARTOV, Director of the General Directorate of Fire Safety and Civil Protection, Ministry of Interior, BGR</i></li> <li>• <i>Irina NOVAKOVA, NATO HQ</i></li> <li>• <i>Ms. Swathi VEERAVALLI, Director for Climate Security and Adaptation in the National Security Council's Climate &amp; Energy directorate in the White House, USA</i></li> <li>• <i>Dr. ARAFAT, Ministry of Internal Affairs, ROU</i></li> </ul>
11:50 – 12:00	Family Photo
12:00 – 13:00	Lunch Break

	<b><u>In-Person Panel</u></b>	<b><u>Online Panel</u></b>
	<b>QA session</b>	<b>QA session</b>
	<b><u>Topic: Flooding and Wildfire</u></b>  Moderators: Assoc. Prof. Nina DOBRINKOVA PhD,BAS LTC Dimitrios DALAKOURAS, PhD, CMDR COE  Panelists:	<b><u>Topics: Waste Management Water Resources</u></b>  Moderators: Prof. Stefka FIDANOVA, D. Sc. BAS COL Kamen IVANOV, CMDR COE  Panelists:
13:00 – 13:15	<b>Forest Fire Management in Türkiye</b> Assoc. Prof. Dr. Kadir Alperen COSKUNER, Ertugrul Bilgili	<b>Geophysical methods for optimizing mining waste management</b> Atanas Kisyov, Maya Tomova and Ivailo Koprev
13:15 – 13:30	<b>Preliminary Results of Crown Fuel Load Estimation using Handheld Mobile Laser Scanning in Turkish Red Pine (Pinus brutia Ten.) Stands</b> Assoc. Prof. Dr. Kadir Alperen Coskuner, Can Vatandaslar, Murat Ozturk, Ismet Harman and Ertugrul Bilgili	<b>Intelligent Waste Management System: Deep Learning Enabled Sorting with Bin-Fill Sensor Integration</b> Aleksandar Petrovski, Marko Radovanovic, Aner Behlic, Kristijan Ilievski and Sofija Ackovska
13:30 – 13:45	<b>Overview of the forest fires protection system in Romania</b> Adrian Lorent, Marius Petrilă, Bogdan Apostol, Florin Capalb, Cristiana Marcu and Nicolae Ovidiu Badea	<b>Risk assessment in integrated mining waste storage facility with geophysical methods</b> Atanas Kisyov
13:45 – 14:00	<b>Accessibility of Slovenian forests for firetrucks</b> Jaša Saražin	<b>A Treatise on Climate Change Risk Reduction through adoption of Circular Economy Practices</b> Israel Dunmade
14:00 – 14:15	<b>Extreme hydrological events – floods in Bulgaria</b> Snezhanka Balabanova, Georgy Koshinchanov, Silviya Stoyanova, Vesela Stoyanova and Valeriya Yordanova	<b>Investigation of the presence of cyanotoxins, nutrients and composition of phytoplankton communities in the Bistritsa dam in the period 2017-2020</b>

		<i>Vera Pavlova, Mariya Mitreva, Vesela Georgieva, Krasimira Vasileva, Stanimira Arsova, Milena Rachinska, Antoaneta Lazarova and Tzveta Georgieva</i>
14:15 – 14:30	<b>Data accuracy challenges in wildland fire simulations</b> <i>Vassil Vassilev, Nadya Tsvetkova, Assoc. Prof. Nina Dobrinkova PhD</i>	<b>Trends in the use of water resources in Bulgaria</b> <i>Kalin Seymenov and Krasya Kolcheva</i>
14:30 – 14:45	<b>ICT tools optimizing field response in cases of natural hazards</b> <i>Assoc. Prof. Nina Dobrinkova PhD</i>	<b>SWAT model calibration, validation and parameter sensitivity analysis using SWAT-CUP, SUFI-2 for the watershed of the Rusenski Lom River, Bulgaria</b> <i>Milena Mitova</i>
14:45 – 15:00	<b>QA session</b>	<b>QA session</b>
15:00 – 15:15	<b>Coffee Break</b>	
	<p><b><u>Topics:</u></b>  <b>Natural and Human Induced Hazard</b>  <b>Disaster Medicine</b>  <b>Risk Management and Assessment</b>  <b>Air Pollution and Health</b></p> <p><i>Moderators:</i>  <i>Assoc. Prof. Petya TRIFONOVA PhD, BAS</i>  <i>Steeve RECCA, PDC</i>  <i>LTC Mihai ILIE, CMDR COE</i></p> <p><i>Panelists:</i></p>	<p><b><u>Topic:</u></b>  <b>Climate Change Challenges and Security Implications</b></p> <p><i>Moderators:</i>  <i>Assoc. Prof. Krasya Kolcheva PhD, BAS</i>  <i>MAJ Ralitsa BAKALOVA, CMDR COE</i></p> <p><i>Panelists:</i></p>
15:15 – 15:30	<b>Geomagnetic Models Versus Real Measurements – An Example from the Bulgarian Territory</b> <i>Metodi Metodiev, Petya Trifonova and Ivaylo Radev</i>	<b>Preliminary Results from the Exploration of the Wind Model Windninja on the Local Scale over Bulgaria</b> <i>Tsvetan Dimitrov and Hristo Chervenkov</i>
15:30 – 15:45	<b>Some lessons from the Kahramanmaras Earthquake Sequence of 2023 relevant to the</b>	<b>Remote Sensing of Climate Change Research</b> <i>Lachezar Filchev and Milen Chanev</i>

	<b>Bulgarian construction practice for industrial buildings</b> <i>Tzvetan Georgiev</i>	
15:45 – 16:00	<b>Fine particulates from agricultural bio-mass combustion</b> <i>Franz Winter, Iliyana Naydenova, Ognyan Sandov and Tsvetelina Petrova</i>	<b>Mitigating Security Challenges in the Mediterranean Sea: Leveraging Space Technology for Effective Solutions</b> <i>Walter David</i>
16:00 – 16:15	<b>Injured and Died in an Earthquake</b> <i>Stefka Fidanova, Leonid Kirilov, Marcin Paprzycki and Veselin Ivanov</i>	
16:15 – 16:30	<b>A Study on the Relationship Between Radon Volume Activity in the Surface Atmosphere and Seismic Activity in the Year 2022 Using METER.AC Open Network Data</b> <i>Emil Oynakov, Atanas Terziyski and Irena Alexandrova</i>	
16:30 – 16:45	<b>QA session</b>	<b>QA session</b>
16:45 – 17:00	<b>Wrap-up Day 1</b>	<b>Wrap-up Day 1</b>
	<b>05 June 2024</b>	
	<b><u>Online Panel</u></b>	
	<p><b>Topic:</b> Natural and Human-Induced Hazard  <b>Moderators:</b> Assoc. Prof. Petya TRIFONOVA PhD, BAS  LTC Mihai ILIE, CMDR COE</p> <p>Panelists:</p>	
09:00 – 09:15	<b>Fog forecast occurrence stochastic models development for Sofia NIMH station and Sofia Airport</b> <i>Neyko Neykov, Anastasiya Stoycheva, Ilian Gospodinov, Nadya Neykova, Orlin Gueorguiev and Kiril Slavov</i>	
09:15 – 09:30	<b>Environmental impact of the 7 June 2023 moderate earthquake in Plovdiv and Asenovgrad area, Bulgaria.</b> <i>Maria Chamati and Mariya Popova</i>	
09:30 – 09:45	<b>Natural hazards of the Northern Bulgarian Black Sea coast – A review and new discoveries</b> <i>Boyko Ranguelov</i>	

09:45 – 10:00	<b><i>Influence of local soil conditions on damages in Kahramanmaras during the 2023 Turkey Earthquake</i></b> <i>Nikolay Milev, Takashi Kiyota, Tetsuo Tobita, Juan Briones, Othon Briones, Ozer Cinicioglu, Gokce Tonuk and Seda Torisu</i>
10:15 – 10:30	<b><i>Global changes and tourism in show caves in Bulgaria – hazards and relationships</i></b> <i>Petar Stefanov, Peter Nojarov, Karel Turek and Dilyana Stefanova</i>
10:30 – 10:45	<b><i>Approaches for earthquake damage reduction of aged reinforced concrete structures in Bulgaria</i></b> <i>Vassil Kardjiev and Krasimir Boshnakov</i>
10:45 – 11:00	<b>Coffee Break</b>
11:00 – 11:15	<b><i>Seismic retrofit of buildings in Bulgaria for efficient seismic risk reduction</i></b> <i>Krasimir Boshnakov, Vassil Kardjiev and Mihaela Kouteva-Guentcheva</i>
11:15 – 11:30	<b><i>Effects of the Fault Parameters on the Focal Mechanism Solutions: A Case Study of the 1928 Chirpan and Plovdiv Earthquakes</i></b> <i>Lyuba Dimova, Elitza Pandurska and Reneta Raykova</i>
11:30 – 11:45	<b><i>Climatology of Freezing Precipitation in Bulgaria</i></b> <i>Dimitar Nikolov, Tzvetan Dimitrov, Tania Marinova and Radoslav Evgeniev</i>
11:45 – 12:00	<b><i>Methodology for assessment and improving the seismic behaviour of a class of non-engineering designed and executed buildings.</i></b> <i>Peter Pavlov, Ognjan Ganchev and Radoslav Nikolov</i>
12:00 – 12:15	<b><i>Evolution analysis of core-periphery structure of emergency organization network</i></b> <i>Bo Zhang, Zebin Zhao and Rui Cheng</i>
12:15 – 12:30	<b>QA session</b>
12:30 – 13:30	<b>Lunch Break</b>
	<b><i>Topics: Disaster Medicine Risk Management and Assessment</i></b> <i>Moderators: Assoc. Prof. Petya TRIFONOVA PhD, BAS Steeve RECCA, PDC</i>  <i>Panelists:</i>
13:30– 13:45	<b><i>Multi-Hazard Event: Interconnected Occurrence of High Ozone, PM10, High Temperature, and Desert Dust Intrusion</i></b> <i>Hristina Kirova, Anastasiya Stoycheva and Emilia Georgieva</i>

13:45 – 14:00	<b>Risk assessment for the city of Veliko Tarnovo</b> <i>Dimitar Stefanov, Dimcho Solakov, Stela Simeonova and Plamena Raykova-Tsankova</i>
14:00 – 14:15	<b>Study of Short-term Effects of Air Pollution on Hospital Admissions in Bulgarian Cities Sofia, Plovdiv and Varna</b> <i>Stoyan Georgiev, Angel Dzhambov and Reneta Dimitrova</i>
14:15 – 14:30	<b>Integration of a kinematic seismic early warning system to Bg-Alert – possibilities and difficulties</b> <i>Boyko Rangelov, Garo Mardirossian, Petar Getzov, Nikolay Zagorski and Edelways Spassov</i>
14:30 – 15:00	<b>Preliminary results on measurement of Black carbon concentration in the ABL by aerological sounding</b> <i>Georgi Tsekov and Elena Hristova</i>
15:15 – 15:30	<b>QA session</b>
15:30 -16:00	<b>Wrap-up Day 2</b>
	<b>06 June 2024</b>
	<b><u>In-Person Panel</u></b>
	<b><u>Topic:</u></b> High-Performance Computing, M&S, GIS for environmental monitoring and AI  <i>Moderators: COL Kostadin LAZAROV, CMDR COE Assoc. Prof. Nina DOBRINKOVA PhD, BAS</i>  Panelists:
09:00 – 09:15	<b>HPDA service for estimating the brown bear (<i>Ursus arctos L.</i>) population in Bulgaria</b> <i>Todor Gurov, Emanouil Atanassov, Svetlozar Yordanov, Ruslan Serbezov, Silvi-Maria Gurova, Nikolai Spassov and Radoslav Stanchev</i>
09:15 – 09:30	<b>Application of ICT in interactive learning environments in emergency situations</b> <i>Ava Chikurteva, Denis Chikurtev, Elena Blagoeva and Nina Bogdanova</i>
09:30 – 09:45	<b>Socio-Cyber-Physical Systems in Risk, Crisis and Disaster Management. Some Open Issues</b> <i>Stoyan Poryazov, Emiliya Saranova and Velin Andonov</i>
09:45 – 10:00	<b>Leveraging Social Media data and Artificial Intelligence for improving earthquake response efforts</b> <i>Kalin Kopanov, Velizar Varbanov and Tatiana Atanasova</i>
10:15 – 10:30	<b>QA session</b>
10:30 – 10:45	<b>Coffee Break</b>

10:45 – 11:00	<b><i>Double-Stranded Differential Evolution and Particle Swarm Optimization with LibreOffice Nonlinear Programming Solver</i></b> <i>Gergana Mateeva, Ivan Blagoev, Kalin Kopanov, Velizar Varbanov and Todor Balabanov</i>
11:00 – 11:15	<b><i>Design Accelerograms Derivation for Dynamic Analysis of Retaining Walls</i></b> <i>Maria Topalska and Mihaela Kouteva-Guentcheva</i>
11:15 – 11:30	<b><i>Interseismic Monitoring via DInSAR Methodology in the Dzherman Fault Zone</i></b> <i>Dilyana Hristova</i>
10:45 – 11:00	<b><i>Monitoring organic einkorn yields with Sentinel-2 data</i></b> <i>Milen Chaney, Bogdan Bonchev, Darina Valcheva and Lachezar Filchev</i>
11:00 – 11:15	<b><i>Comparative analysis of topographic conditions for hydraulic flood modelling using different spatial resolution digital terrain models: A case study from the Ogosta River, Bulgaria</i></b> <i>Davis Dinkov and Desislava Hristova</i>
11:15 – 11:30	<b><i>QA session</i></b>
11:30 – 12:00	<b><i>End of the Conference</i></b>