

**INTERNATIONAL CONFERENCE ON PLANNING, CHALLENGES OF DISASTER  
MANAGEMENT AND RESILIENCE (ICPCDMR)**

**PROCEEDINGS OF THE ICPCDMR**

**Organized by:**

**International Hellenic University  
School of Science**



**CHEMISTRY DEPARTMENT**



**HEPHAESTUS ADVANCED LABORATORY**

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**Editor Michail Chalaris**

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**PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON PLANNING, CHALLENGES  
OF DISASTER MANAGEMENT AND RESILIENCE (ICPCDMR)**

**PROGRAMME  
&  
BOOK OF ABSTRACTS**

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**INSTITUTE OF MANAGEMENT OF MANMADE AND NATURAL DISASTERS -  
PANHELLENIC NETWORK OF CIVIL PROTECTION AND CRISIS MANAGEMENT S.C.E.**

## **WELCOMING ADDRESS BY CHAIRPERSON OF THE CONFERENCE**

On the behalf of Organizing Committee, I express a sincere welcome to all representatives attending the **International Conference on Planning, Challenges of Disaster Management and Resilience** which take part by distance using the zoom platform and YouTube and with physical presence in Athens, the capital of Greece, a place that combines the famous historical past with the modern, scientific – oriented present.

Today(11-Feb), 112 Day, the International Conference on Planning, Challenges of Disaster Management and Resilience, organized by the Department of Chemistry - Hephaestus Advanced research Laboratory- of International Hellenic University, has solemnly opened here.

Also, Happy Day to all First Responders and everyone response in Crisis Management.

Before I proceed, I would like to mention that today, 11th of February, has declared by the United Nations General Assembly as the International Day of Women and Girls in Science in 2015, in order to achieve full and equal access to and participation in science for women and girls, and further achieve gender equality and the empowerment of women and girls.

In our conference of 416 participants 38.5% are women, the 59,4% men and 2,1 others.

So, Returning to our main topic:

Developmental considerations contribute to all aspects of the disaster management cycle.

One of the main goals of disaster management, and one of its strongest links with development, is the promotion of sustainable livelihoods and their protection and recovery during disasters and emergencies.

Where this goal is achieved, people have a greater capacity to deal with disasters and their recovery is more rapid and long lasting.

In a development-oriented disaster management approach, the objectives are to reduce hazards, prevent disasters, and prepare for emergencies. Therefore, developmental considerations are strongly represented in the mitigation and preparedness phases of the disaster management cycle.

In appropriate development processes can lead to increased vulnerability to disasters and loss of preparedness for emergency situations.

This is a distinguished cross-century gathering of the world's information circles.

Experts and entrepreneurs from many countries have come together under the same hybrid room to exchange academic viewpoints, display technological achievements, and explore development trends, this will have an important influence on the development of the world's Disaster Management and Resilience technology.

The aim of the Conference is:

To answer one of the major issues of our time which is related with the climate crisis.

To stress the multiple dangers, to analyze today's data and to suggest solutions for the disaster risk reduction and management and to resilience.

To show off the importance of new technologies offering the chance of promotion to research, study and implementation of those technologies which conduce to the easing off or the solution to the problems regarding the disaster risk reduction and management.

To show the importance of cross-scientific methodology and collaboration in dealing with the problem of disaster risk reduction and management, which are objectively multi-dimensional, and to promote the communication among those who study, handle and deal with the problem of disaster risk reduction and management.

More specifically, it is aimed to attain the following objectives:

- 1) Collaborate, communicate, coordinate and capitalize on effective climate crisis adaptation and mitigation strategies such as land use planning, utilization of alternative and renewable energy, among others, in order to limit global warming to safer levels;
- 2) Embark on studies to improve the resilience of all ecosystems to avert adverse effects on food production, health, and economic security and
- 3) serve as venue in pursuing an enabling environment of change geared toward mitigating the worsening effects of climate crisis.

The Conference will cover a wide range of topics such as:

- 1) Disaster Preparedness
- 2) Disaster Response
- 3) Disaster Rehabilitation and Recovery
- 4) Disaster Prevention and Mitigation
- 5) Integration of risk and Resilience with Disaster management

The conference addresses chemists, engineers and other experts and professionals, from different countries who are occupied with the research and the development of activities, in a wide range, regarding issues of Climate Crisis, disaster Management and Resilience.

It also addresses the competent state, communal, social, and business carriers who are involved in these issues.

All accepted and presented papers in this conference will have the opportunities to be published in Proceedings and in a Book indexed by Sci-Scopus.

The conference has received 87 submitted papers, whereby 69 papers have been accepted by the committees for presentation and to be included in the proceedings.

These papers on various topics are divided into 7 sessions and 2 workshops in the conference.

To all members of the organizing committees, the scientific committee, the reviewers, and the collaboration partners, we would like to thank all of them for their tremendous efforts to organize this conference successfully

The organization of the international conference together with the small-scale exhibition, aspires, on the one hand, to bring together the scientific knowledge and applied technology and on the other to boost the dissemination of scientific information and the expansion of the possibility of free access of all citizens to knowledge.

Thus everyone, citizens, producers, scientists, planners, and researchers can become familiar with the themes of the conference in order to contribute towards the constant preservation of disaster risk reduction and management

The local Organizing Committee, the Scientific Committee, and the secretary desk (Institute of Management of Manmade and Natural Disasters -Panhellenic Network of Civil Protection and Crisis Management S.C.E.) are here to help you.

Even though all of you who are visiting Athens will be very busy working for productive days, I wish you an enjoyable staying in our city and I hope you will find some time to state some typical characteristics of the country, its nature, and history, its culture and heritage, its food and tradition.

For the participants by distance, I hope next time have the opportunity to visit the Greece due to their participation on the 2nd International Conference on Planning, Challenges of Disaster Management and Resilience...

We look forward to having a successful conference, and we hope that all the attendees enjoy and benefit from this conference.

Yours Sincerely

Michail Chalaris, MA, PhD  
Conference chair of ICPCDMR  
Assistant Professor, IHU  
Research Director on Risk, Hazards, Crises, and Safety  
Hephaestus Advanced research Laboratory  
Rtd Major General (HFCs)



**SPEECH BY PROFESSOR (EM.) DR. (HEIDELBERG) ATHANASSIOS KAISSIS,  
PRESIDENT OF THE GOVERNING BOARD OF THE INTERNATIONAL HELLENIC  
UNIVERSITY, CORRESPONDING FELLOW OF THE INSTITUTE FOR FOREIGN LAW,  
INTERNATIONAL LAW, COMPARATIVE LAW, CONFLICTS OF LAW AND  
INTERNATIONAL BUSINESS LAW, UNIVERSITY OF HEIDELBERG,**

Dear all,

Allow me first to introduce the International Hellenic University.

The International Hellenic University, a pillar of excellence in education and research, focuses at the same time on internationalization, on the application of research results, on teaching and learning innovation, on the development of entrepreneurship and on linking the University with society.

The International Hellenic University offers 69 postgraduate programmes, 25 of them are offered in English.

The IHU also operates the University Centre of International Programmes of Studies (UCIPS) ([www.ihu.gr/ucips/](http://www.ihu.gr/ucips/)) which offers international students and professionals specialised programmes of study at postgraduate level, conducted entirely in English. UCIPS is an integral part of IHU and a Greek public university. Our permanent academic staff are reinforced by distinguished visiting professors, from Greece and abroad. Together they constitute the nucleus of the centre for excellence in teaching and research which forms our primary aspiration as a university.

The UCIPS comprises two (2) Schools offering twenty-four (24) postgraduate programmes in flexible modes [Full time (1 year) or part time (2 years) or Executive mode (weekends) or Distance learning mode].

Moreover, during this period in order to increase extroversion and connect the university with the business world more than 15 Memorandums of Understanding were signed between the International Hellenic University and various organisations, universities, financial establishments, chambers of commerce and other in Greece and abroad.

The strategic mission of the International Hellenic University has four main axes:

1. Digital Transformation, for the provision of high-level education.
2. Green Deal, as regards environmental protection and energy saving.
3. Extroversion (Cooperation with Universities in Europe, the USA and Asia).
4. Cooperation with industry and agriculture.

From 14/02/2020, when the new Governing Board of the International University of Greece took office, until today, more than one hundred meetings of the Governing Board of the International University of Greece were held, where various academic, financial and administrative issues were discussed and decided.

We would be delighted to welcome you to the International Hellenic University if you visit Thessaloniki in the near future. We could then show you more of the University, the old Thessaloniki city and our country, Greece.

This is an important event regarding disaster management and resilience, and I would like to congratulate the Department of Chemistry of the IHU and Assistant Professor M. Chalaris for organising this conference.

# PROGRAMME

Friday, February 11th, 2022

12:00 - 18:00	DELEGATES ACCREDITATION
SESSION I	
Chair	Nancy Alonistioti, Aspasia Karamanou, Nikolaos Katopodis
14:00 - 14:15	<b>STUSTAINABLE DEVELOPMENT CONCEPT - FIASCO OR THE ONLY HOPE TO SURVIVE</b> O.Popovski, L. Shosholovski
14:15 - 14:30	<b>CLIMATE CHANGE AND CHALLENGES THAT ARE BEING CREATED</b> N. Taneski, S. Smileski, A. Iliev
14:30 - 14:45	<b>BIBLIOGRAPHIC MONITORING OF RESEARCH PERFORMANCE OF GREEK RESEARCHERS IN DISASTER MANAGEMENT</b> C. Stefanis, E. Giorgi, K. Kaletzis, A. Tselemonis, C. Tsigalou, E. Nena, C. Kontogiorgis, Y. Kourkoutas, C. Voidarou, E. Chatzaki, I. Dokas, T. Konstantinidis, E. Bezirtzoglou
14:45 - 15:00	<b>UTILIZATION OF THE VIDEO FOR DISTANCE EDUCATION OF EDUCATORS,TEACHERS AND STUDENTS IN MATTERS OF CIVIL PROTECTION IN THE FRAMEWORK OF THE PROJECTS "MY NAME IS TEACHER" AND "PANTOPOULOS TEACHING PROJECT"</b> F. Pantopoulos, I. Chalvantzi
15:00 - 15:15	<b>SnR, SECURITY &amp; RESILIENCE IN DISASTER MANAGEMENT</b> Marta Burgos González
15:15 - 15:30	<b>THE EMERGING ROLE OF TRANSLATION AND INTERPRETING IN CRISIS MANAGEMENT</b> C. Vafeiadaki
15:30 - 15:45	COFFEE BREAK
SESSION II	
Chair	Nikolaos Katopodis, Dimitrios Emmanouloudis, Panagiotis Nastos
15:45 - 16:00	<b>THE APPLICATION OF SEWER MINING TECHNOLOGY IN THE CITY OF ATHENS: CIRCULAR ECONOMY AND WATER</b> N. Tsalas, G. Katsouras, D. Angeliki, A. Lyras, I. Dafnos, V. Polychniatou, S. Samios, E. Lytras and G. Sachinis
16:00 - 16:15	<b>ADAPTATION TO CLIMATE CHANGE EFFECTS ON WATER RESOURCES: UNDERSTANDING INSTITUTIONAL BARRIERS IN NIGERIA</b> O. Sola, H. Mensah, E. Albrecht and B. Ibrahim

16:15 - 16:30	<b>WATER LACK AS A SOCIAL RISK AND THREAT TO SOCIAL DEVELOPMENT AND ENVIRONMENTAL DISORDER</b> M. Dojchinovski, B. Andonovska, N. Kletnikov
16:30 - 16:45	<b>PROTECTION OF WINES FROM HIGH CONCENTRATIONS OF HEAVY METALS</b> F. Papageorgiou, M. Chalaris, A. Mitropoulos, G. Kyzas
16:45 - 17:00	<b>THE CASE OF MICROPLASTICS POLLUTION IN KAVALA PORT, GREECE</b> G. Savvopoulos, A.Thysiadou, A. Mitropoulos, G. Kyzas
17:00 - 17:15	<b>THE IMPACT OF PUBLIC UNIVERSITY ACTIVITIES ON GLOBAL AGENDAS</b> G. Santos, Jordan H. Souza, M. Carrara, R. Tortorelli
17:15 - 17:30	<b>THE COMBUSTION HEAT OF FOREST FIRES IN RELATION TO THE DIFFICULTY OF SUPPRESSING THEM AT OPERATIONAL LEVEL</b> N. Iliopoulos
17:30 - 17:45	<b>CRISIS MANAGEMENT AND CLIMATE CHANGE</b> G. Tsatsoulas
17:45 - 18:00	<b>PROJECT OF NATIONAL HAIL PREVENTION SYSTEM IN GREECE</b> S. Kolpidi
<b>18:30 - 20:30</b>	<b>CONFERENCE OPENING CEREMONY</b>
Chair	Athanasios Mitropoulos, George Kyzas, Michail Chalaris
	<p><b>INTRODUCTION AND WELCOME</b></p> <p><b>ATHANASIOS KAISIS,</b> PRESIDENT OF INTERNATIONAL HELLENIC UNIVERSITY</p> <p><b>ANDREAS KATSANIOTIS,</b> DEPUTY MINISTER OF FOREIGN AFFAIRS, IN CHARGE OF DIASPORA GREEKS</p> <p><b>APOSTOLOS TZITZIKOSTAS,</b> PRESIDENT OF THE UNION OF REGIONS OF GREECE</p> <p><b>GEORGE PATOULIS,</b> REGIONAL GOVERNOR OF ATTICA</p> <p><b>DIMITRIS PAPASTERGIOU,</b> PRESIDENT OF THE CENTRAL ASSOCIATION OF MUNICIPALITIES OF GREECE - KEDE</p> <p><b>KOSTAS BAKOGIANNIS,</b> MAYOR OF ATHENS</p> <p><b>SPYRIDON MAMALIS,</b> PRESIDENT GEOTEE</p> <p><b>INVITED PLENARY LECTURE</b></p> <p><b>KONSTANTINOS ARAVOSIS,</b> SECRETARY GENERAL OF FORESTS</p>
<b>20:30</b>	<b>COCTAIL PARTY</b>

**Saturday, February 12th, 2022**

<b>SESSION III</b>	
Chair	Ioannis Dokas, Orce Popovski, Gerasimos Karabelias
09:00 - 09:15	<b>APPLICATION OF RESILIENCE FRAMEWORK TO COVID19 RE-FRAMING OUR WORK</b> R. Biñas
09:15 - 09:30	<b>RISK ANALYSIS OF A BIOLOGICAL DISASTER IN THE COVID-19 PANDEMIC</b> Chih-Long Pan, Jet-Chau Wen
09:30 - 09:45	<b>PUBLIC SITUATION AWARENESS DURING COVID19: HOW DOES THE PUBLIC UNDERSTAND AND ACT DURING A CONTINUOUS EMERGENCY?</b> C. Rapaport, E. Shamash
09:45 - 10:00	<b>PROCESSES OF SOCIO-ECONOMIC EXCLUSION IN COVID-19 INFECTION DURING LOCKDOWN. THE MADRID CASE STUDY</b> Victor Pérez Segura
10:00 - 10:15	<b>DISASTER RISK ASSESSMENT OF LAND SUBSIDENCE AREAS UNDER CLIMATE CHANGE: THE CASE OF CHOUSHUI ALLUVIAL FAN</b> Rong-Yu Chen, Hong-Ru Lin, Jet-Chau Wen
10:15 - 10:30	<b>DISASTER RISK ASSESSMENT OF LAND SUBSIDENCE AREAS UNDER CLIMATE CHANGE: THE C DOES TEMPORAL ENHANCEMENT IN ACCUMULATED STRAIN CONSEQUENT TO LUNAR ALIGNMENT IN WESTERN HEMISPHERE ACCOUNT FOR RECENT SERIES OF TREMORS AT NCR DELHI</b> Umesh Prasad Verma. Shatrughan Singh, Madhurendra Nath Sinha, Alok Nath Sinha
10:30 - 11:00	COFFEE BREAK
<b>SESSION IV</b>	
Chair	Paraskevi Nomikou, Nichole Georgeou, Panteleimon Xofis
11:00 - 11:15	<b>EARTHQUAKE EARLY WARNING EARTHQUAKE EARLY WARNING SYSTEMS: A REVIEW WITH APPLICATIONS IN GREECE</b> C. Maniatakis, A. Zacharenaki, C. Moraitis, G. Stavroulakis
11:15 - 11:30	<b>PROBABILISTIC SEISMIC RISK ANALYSIS OF URBAN ROAD NETWORKS IN MOUNTAINOUS AREAS</b> D. Sotiriadis, N. Klimis ,B. Margaris, I. Koutsoupaki, E. Petala, I. Dokas
11:30 - 11:45	<b>A METHODOLOGY FOR TEMPORARY SCAFFOLD DESIGN CONSISTENT WITH THE ASEISMIC DESIGN CODES</b> C. Maniatakis, A. Zacharenaki, G. Stavroulakis
11:45 - 12:00	<b>DAMAGE DETECTION IN FIBER REINFORCED CONCRETE SPECIMENS THROUGH THE APPLICATION OF A NOVEL STRUCTURAL HEALTH MONITORING SYSTEM</b> M. Naoum,G. Sapidis, N. Papadopoulos, C. Constantin
11:45 - 12:00	<b>GEOHAZARDS AND RISK FROM LANDSLIDES AND ROCKFALLS. RECENT EXAMPLES FROM GREECE</b> C. Saroglou

12:00 - 12:30	<b>THE RELATIONSHIPS BETWEEN TECTONICS AND VOLCANISM IN SANTORINI</b> P. Nomikou, T. Druitt, S.Kutterolf, C. Hubscher, D.Papanikolaou
12:30 - 12:45	<b>AN AGENT-BASED METHODOLOGY ON HOW WORLD CULTURAL AND NATURAL HERITAGE MONUMENTS CAN BE PROTECTED FROM RISKS</b> K. Kravari, E. Samourkasidou
12:45 - 13:00	<b>CREATING A TWO-DIMENSIONAL MODEL FOR PREDICTING POSSIBLE FLOOD PRONE AREAS BY USING HEC HMS AND HEC RAS SOFTWARE PACKAGES. THE CASE OF XIROPOTAMOS WATERSHED IN DRAMA, GREECE</b> S. Lalikidou, A. Vasileiou, P. Angelidis, E. Efrimidou, C. Akratos, M. Spiliotis, F. Maris, I. Dokas
13:00 - 13:15	<b>FIRE RISK ASSESSMENT IN WUI – WII IMPLEMENTING BAYESIAN NETWORKS TO INFER FIRE SPREAD PROBABILITIES</b> J. Gómez, M. Castro, A. Cantizano
13:15 - 13:30	<b>MULTI-SOURCE EO DATA FUSION FOR REGIONAL FOREST FUEL MAPPING AT REGIONAL SCALE</b> G. Mallinis, I. Chrysafis, C. Damianidis, V. Giannakopoulos, I. Dokas
13:30 - 13:45	<b>ANALYSIS OF TECHNOLOGICAL INTERVENTIONS TO LEVERAGE INVESTMENT IMPACT ON FOREST FIRE CONFRONTATION OPERATIONS. THE GREEK EXPERIENCE</b> A. Kanavos, M. Chalaris, D. Anastasiadou, E. Housos, E. Adamides
13:45 - 14:00	<b>MCI'S IN GREECE SINCE 1996. ARE WE READY TO FACE THEM?</b> M. Drosos
14:00 - 14:15	<b>PREDICTING THE OCCURRENCE OF COMBUSTION IN THE PRODUCTION OF POLYURETHANE FOAM DURING THE STORAGE PROCESS FOR TEMPERING</b> T. Damyanova, Y. Dulev, G. Ilieva
14:15 - 14:30	<b>THE ARFF MANAGEMENT MODEL OF FRAPORT GREECE</b> A. Panagiotakis
14:30 - 15:30	<b>WORKSHOP I</b> <b>HOW USEFUL IT IS TO GAIN KNOWLEDGE OF HUMANITARIAN NORMS?</b>
	F. Luciano, R. Treno Fraternity – International Humanitarian Federation (FIHF) Fraternity – International Humanitarian Missions (FIHM)
15:30 - 16:30	<b>LUNCH BREAK</b>
<b>SESSION V</b>	
Chair	Lazaros Filippidis, Dionysios Kolaitis, Myrto Konstantinidis
16:30 - 16:45	<b>PHILOSOPHY OF THE ROMANIAN EMERGENCY SITUATIONS MANAGEMENT SYSTEM</b> A. Mocioi
16 :45 - 17:00	<b>ADAPTIVE STRATEGY IN PREPARING FIRE BRIGADES TO DISASTERS IN POLAND</b> P. Gromek
17:00 - 17:15	<b>SYNERGY EFFECT OF ENTITIES ASSOCIATED IN THE NATIONAL FIREFIGHTING AND RESCUE SYSTEM OF REPUBLIC OF POLAND</b> W. Szulc

17:15 - 17:30	<b>CROSS-BORDER COOPERATION ON FIREFIGHTING ACTIVITIES AND PROFESSIONAL COMMUNICATION</b> T. Damyanova
17:30 - 17:45	<b>A VULNERABILITY ANALYSIS TOOL FOR FIRST RESPONDERS – DEVELOPMENT AND EVALUATION</b> S. Scheuer, C. Geyer, Y. Prinzellner
17:45 - 18:00	<b>CONCORDE: A state-of-the-art emergency &amp; crisis management platform</b> A.Liapis
18:00 - 18:15	<b>TECHNOLOGICAL CHALLENGES FOR FIRST RESPONDERS IN CIVIL PROTECTION; THE RESPOND-A SOLUTION</b> G. Boustras, Cl. Mikellidou, I. Senekkis
18:15 - 18:30	<b>FIRST RESPONDER ADVANCED TECHNOLOGIES FOR SAFE AND EFFICIENT EMERGENCY RESPONSE</b> A. Díaz, An. Cintora, Sol. Gómez, J. Ruiz, O. Carrillo, F. Carrillo, M. Rodríguez
18:30 - 18:45	<b>100 CITIES – 100 YEARS – EVALUATION OF URBAN FIRE RISKS</b> P. Wagner
18:45 - 19:00	<b>COFFEE BREAK</b>
<b>SESSION VI</b>	
<b>Chair</b>	<b>Alin Mocioi, Manolis Koudoumas, Charilaos Maniatakis</b>
19:00 - 19:15	<b>IMPACT ON THE ENVIRONMENT FROM DISASTERS AT FACILITIES USING DANGEROUS SUBSTANCES</b> G. Mouzakis
19:15 - 19:30	<b>SEARCH FOR REDUCTION OF CHEMICAL DISASTERS BY ANALIZYNG THE MOST SERIOUS CHEMICAL INCIDENTS ACCORDING TO EMARS PLATFORM</b> Cristina Horrillo García, Ana María Cintora Sanz, Cristina Gómez Usabiaga, Raquel Lafuente Sáenz, Eva Teresa Robledo Muñoz, Ricardo García Martínez.
19:30 - 19:45	<b>STAKEHOLDER ANALYSIS FOR SAFE LNG HANDLING AT PORTS</b> I. Koromila, O. Aneziris, Z. Nivolianitou
19:45 - 20:00	<b>EMERGENCY RESPONSE ON A KICK</b> F. Zachopoulos, N. Kokkinos
20:00 - 20:15	<b>AN ADR VEHICLES RECOGNITION TOOL FOR THE PREVENTION OF EMERGENCY SITUATIONS IN TUNNELS</b> M. Konstantinidou, G. Sisiyas, S. Kontogiannis
20:15 - 20:30	<b>THE UTILITY OF ALOHA SIMULATION IN ACCORDANCE WITH THE YEARLY CLIMATE CHANGES IN GREECE. A FIELD REVIEW IN CONJUNCTION WITH THREE-CHEMICAL-AGENT SCENARIOS</b> K. Alexopoulos, G.Koufioti, A. Kounios, M. Chalaris
20:30 - 20:45	<b>WEATHER TYPES AND CARDIOVASCULAR/RESPIRATORY MORTALITY IN EASTERN MACEDONIA AND THRACE, GREECE: A SYNOPTIC CLIMATOLOGY APPROACH TO PROTECT PUBLIC HEALTH</b> P. Begou, I. Petrou, K. Psistaki, I.M. Dokas, A.K. Paschalidou

20:45 - 21:00	<b>TRAPPED ON THE SEASHORE, SEABORNE EVACUATION, AND IMPACT OF EXPOSURE TO PM2.5: LIVE DEMONSTRATION OF THE URBANEXODUS LARGE-SCALE EVACUATION MODEL</b> L. Filippidis, P. Lawrence, D. Blackshields, J. Ewer
21:00 - 21:15	<b>THE NECESSITY OF THE “DEBRIEFING” AFTER DISASTER INCIDENTS</b> C. Papapanou
21:15 - 21:30	<b>THE NEED FOR MINIMUM HUMANITARIAN STANDARDS</b> F. Luciano, R. Treno

**Sunday, February 13th, 2022**

<b>SESSION VII</b>	
Chair	Ioannis Dermentzoglou, George Stavroulakis, Peter Wagner
10:00 - 10:15	<b>RESILOC-HORIZON 2020: The Municipality of West Achaia</b> M. Didachos
10:15 - 10:30	<b>AUTONOMOUS BARS FOR SAFE PASSAGE OF IRISH PASSAGES</b> P. Chatzidimitrakis, D. Chatzidimitrakis, Ms. C. Agorgianiti
10:30 - 10:45	<b>INFORMATION NEEDS ON NATURAL AND TECHNOLOGICAL DISASTERS FROM THE VIEWPOINT OF PRIVATE COMPANIES LOCATED IN THE EAST MACEDONIA AND THRACE PREFECTURE</b> A. Zeleskidis, K. Chouvardas, S. Charalampidou, I. Dokas
10:45 - 11:00	<b>KNOWLEDGE OF VULNERABLE GROUPS FROM NORTH MACEDONIA, BULGARIA, AND SPAIN RELATED TO PROTECTION AND RESCUE - FUNDAMENT FOR BUILD STRONGER COMMUNITY RESILIENCE</b> B. Andonovska, N. Kletnikov, M. Dojchinovski
11:00 - 11:15	<b>EARLY WARNING SYSTEMS FOR CIVIL PROTECTION: EVIDENCE FROM THE EARLY USE OF EMERGENCY SERVICE 112 FOR EMERGENCY EVACUATION IN GREECE</b> M. Dandoulaki, I. Kapris, A. Plessa
11:15 - 11:30	<b>LOCAL GOVERNMENTS' ENGANGEMENT IN HERITAGE DISASTER MANAGEMENT; ANCIENT MESSENE'S CASE STUDY</b> G. Marava
11:30 - 11:45	<b>ROBOTIC SOLUTIONS IN THE FIELD OF RESCUE</b> V. Pipitsoulis
11:45 - 12:00	<b>FIREBREAKS, CASE XPYRO LTR</b> M. Jurvélius
12:00 - 12:30	<b>BREAK</b>
<b>SESSION VII</b>	
Chair	Grigoris Varras, Miltiadis Statheropoulos, Christos Bouras
12:30 - 12:45	<b>FLEXIBLE AND AVAILABLE COMMUNICATION NETWORKS FOR EFFECTIVE DISASTER MANAGEMENT</b> V. Pipitsoulis

12:45 - 13:00	<b>I-REACT PREPARATION   &amp; RESPONSE TO DISASTERS</b> J. Alexander, C. Bielski, V. Pipitsoulis
13:00 - 13:15	<b>LONG-DISTANCE MASS NOTIFICATION VOICE MESSAGING SYSTEMS</b> V. Pipitsoulis
13:15 - 13:30	<b>COMPARISON OF THE SUPPRESSION SYSTEMS FOR WILDLAND FIRES</b> M. Chalaris, V. Gkerles, M. Skerbic
13:30 - 13:45	<b>THE IMPACT OF CLIMATE CHANGE ON THE RISK OF HYDRO-METEOROLOGICAL DISASTERS</b> I. Agiannidis, A. Vranna, P. Sarigianni
13:45 - 14:00	<b>TRAINING AND KNOWLEDGE SHARING PLATFORM FOR FIRST RESPONDERS AND EDUCATIONAL TOOLS FOR STUDENTS' AND CITIZENS' AWARENESS AND PREPAREDNESS AGAINST NATURAL AND MANMADE DISASTERS AND RISKS</b> K. Kravari, E. Samourkasidou, D. Emmanouloudis, M. Chalaris
14:00 - 15:30	<b>WORKSHOP II (In Greek Language)</b> in cooperation with the Panhellenic Association of General Secretaries in Municipal Authorities in Greece, 'Kleisthenes'
	<b>TOWARDS A STRONG NATIONAL CRISIS MANAGEMENT AND RISK MANAGEMENT MECHANISM TO IMPROVE RESILIENCE AND AVOID ADVERSE EFFECTS FROM NATURAL AND MAN-MADE DISASTERS</b>
	<b>ΠΡΟΣ ΕΝΑ ΙΣΧΥΡΟ ΕΘΝΙΚΟ ΜΗΧΑΝΙΣΜΟ ΔΙΑΧΕΙΡΙΣΗΣ ΚΡΙΣΕΩΝ ΚΑΙ ΑΝΤΙΜΕΤΩΠΙΣΗΣ ΚΙΝΔΥΝΩΝ ΓΙΑ ΤΗΝ ΒΕΛΤΙΩΣΗ ΤΗΣ ΑΝΘΕΚΤΙΚΟΤΗΤΑΣ ΚΑΙ ΤΗΝ ΑΠΟΦΥΓΗ ΤΩΝ ΔΥΣΜΕΝΩΝ ΕΠΙΠΤΩΣΕΩΝ ΑΠΟ ΦΥΣΙΚΕΣ ΚΑΙ ΑΝΘΡΩΠΟΓΕΝΕΙΣ ΚΑΤΑΣΤΡΟΦΕΣ.</b>
	<b>Μιχαήλ Χάλαρης</b> Επίκουρος Καθηγητής, Τμήμα Χημείας, Διεθνές Πανεπιστήμιο της Ελλάδος Διευθυντής Ερευνών σε θέματα Διακινδύνευσης, Κίνδυνων, Κρίσεων και Ασφάλειας «Ήφαιστος», Θεσμοθετημένο εργαστήριο υποδομών μεγάλης κλίμακας
	<b>Θέμα: Μπορούμε να πετύχουμε ένα αποτελεσματικό σύστημα διαχείρισης εκτάκτων αναγκών της χώρας μας;</b>
<b>Δρ. Μιχάλης Χρηστάκης</b> Πολιτικός & Διοικητικός Επιστήμονας, Δρ. Διεθνών Σχέσεων, Ειδίκευση στις Ευρωπαϊκές Πολιτικές & Χρηματοδοτήσεις, Γενικός Γραμματέας Δήμου Νέας Σμύρνης Πρόεδρος Πανελλήνιας Ένωσης Γενικών Γραμματέων Τοπικής Αυτοδιοίκησης "Κλεισθένης"	
<b>Θέμα: 'Ανθεκτικότητα Δομών &amp; Πολιτική Προστασία στην Τοπική Αυτοδιοίκηση'.</b>	
<b>Καλλιόπη (Κέλλυ) Σακκαλόγλου</b> , Πληροφορικός, π. Στέλεχος Γενικής Γραμματείας Αθλητισμού, Αντιδήμαρχος Περιβάλλοντος & Υπεύθυνη Πολιτικής Προστασίας Δήμου Νέας Ιωνίας	
<b>Θέμα: 'Παραδειγματικό Μοντέλο Εφαρμογής Σχεδιασμού Πολιτικής Προστασίας σε Αστικό Περιβάλλον: Η Περίπτωση του Δήμου Νέας Ιωνίας'.</b>	



## **WATER LACK AS A SOCIAL RISK AND THREAT TO SOCIAL DEVELOPMENT AND ENVIRONMENTAL DISORDER**

**Metodija Dojchinovski<sup>1</sup> Biljana Karovska Andonovska<sup>2</sup> Nikola Kletnikov<sup>3</sup>**

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Water problems and challenges are a warning that disasters can be caused by climate change but also because of human activities in relation to global warming.

The purpose of this paper is to point out the important aspects of creating opportunities for social risk and threat to social development because of water scarcity and asymmetrical development and management of water capacity. At the same time, the research will identify social problems, from which water can lead to disruption of national security.

The research problem is motivated by the right of existence and safe life, not only in its environment, and in its country, but also on a regional level.

The research will be done using analysis of documents, statistical data and descriptive approach, which will lead to empirical results for the etiological and phenomenological characteristics of water problems, as well as estimates, analyzes and studies, in order to project water challenges by 2040.

The research sample will show how water as a social risk and threat affects the situation of the Republic of North Macedonia within the international statistics regarding the use and use of water as a natural and necessary resource.