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**The Programme of  
International Conference G.I.C. 2021  
*Disaster Risk Management and Solutions for  
Monitoring of Risks***

**18 - 20 November 2021**

**Organised by:  
Department of Land Measurements and Cadastre & Department of Economics and Physics  
Technical University of Cluj-Napoca, Romania**



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## CONFERENCE PROGRAMME

**IMPORTANT:** All time intervals are displayed in Bucharest local time. For time correspondence with other countries, please access: <https://www.timeanddate.com/world-clock/converter.html>

### Plenary Session & Workshop Disaster Risk Management and Solutions for Monitoring of Risks Day 1 November 18 2021 | Online

10:00-10:15	<p><b>Welcome address from Technical University of Cluj-Napoca, Romania</b> Prof.dr.eng.Daniela MANEA-Dean of Faculty of Civil Engineering Assoc.Prof.dr.Monica MARIAN-Dean of Faculty of Sciences</p>
10:15-12:30	<p><b>PLENARY SESSION</b></p> <p><b>Chair:</b> Prof dr. eng. Alexandu OZUNU, General Manager ISUMADECIP (Research Institute for Sustainability and Disaster Management based on High Performance Computing), Faculty of Environmental Science and Engineering, Babes-Bolyai University of Cluj-Napoca, Romania</p> <p><b>Co-Chair:</b> Prof.em.dr.eng.mat.Gheorghe M.T. RĂDULESCU, Executive Manager GeoSES Project, Department of Land Measurements and Cadastre, Faculty of Civil Engineering, Technical University of Cluj Napoca, Romania</p>
10:15-10:30	<p><b><i>The Importance of Monitoring Disasters and Mitigation of Risks</i></b> Prof dr. eng. Alexandu OZUNU General Manager ISUMADECIP Research Institute for Sustainability and Disaster Management based on High Performance Computing, BBU Cluj-Napoca</p>
10:30-13:00	<p><b>KEYNOTE SPEAKERS</b></p>
10:30-10:50	<p>Prof. Dr. Walter Timo de VRIES Chair of Land Management Department Aerospace and Geodesy, School of Engineering and Design, Technical University of Munich, Germany Keynote speech: <b><i>Trends in Applying Geospatial Technologies for Land Management in Support of Disaster Management</i></b></p>

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10:50-11:10	<p>Adj. Prof.dr. Simone <b>MINEO</b>          Department of Biological, Geological and Environmental Sciences,          University of Catania, Italy          Keynote speech:  <i>Unstable Slope Surveying and Monitoring Through Infrared Thermography for Landslide Risk Management</i></p>
11:10-11:30	<p>Assist.Prof.dr. Carlotta <b>RODRIQUEZ</b>          BCM IEM department, Rabdan Academy, Abu Dhabi, United Arab Emirates          Keynote speech:  <i>Integrating Sustainable Development and Disaster Risk Reduction: from Theory to Practice</i></p>
11:30-11:50	<p>Assoc. Prof. Dr. Matej <b>VOJTEK</b>          Department of Geography and Regional Development, Faculty of Natural Sciences, Constantine the Philosopher University in Nitra, Slovakia          Keynote speech:  <i>Combined Basin-Scale and Localized Approach for Riverine Flood Risk Mapping and Assessment: A case of the Gidra Basin, Slovakia</i></p>
11:50-12:10	<p>Post-doc.res. Dr. Raffaele <b>PELOROSSO</b>          Department of Agriculture and Forest Sciences, Tuscia University, Italy          Keynote speech:  <i>Blue-green Roofs and Pluvial Urban Flooding Mitigation: a Scenario Simulation in Central Italy</i></p>
12:10-12:30	<p>Assoc. prof. dr. eng. Adrian T. <b>RĂDULESCU</b>          Project manager GeoSES, Department of Land Measurements and Cadastre, Faculty of Civil Engineering, Technical University of Cluj Napoca, Romania          Keynote speech:  <i>The Role of Cross-border Projects in Disaster Management. Case study: GeoSES-Extension of the Operational "Space Emergency System" Towards Monitoring of Dangerous Natural and Man-made Geo-processes in the HU-SK-RO-UA Cross-border Region</i></p>
12:30-13:00	Break

**Workshop**  
**Geomatics Solutions for Disaster Management**  
**Day 1**  
**November 18 2021 | Online**

**Chair:**

Assist. Prof. dr. eng. Virgil Mihai **RĂDULESCU**, Technical Manager GeoSES Project, Department of Land Measurements and Cadastre, Faculty of Civil Engineering, Technical University of Cluj Napoca, Romania

**13:00-13:20**

**INVITED GUEST:**

Prof. dr. eng. Masafumi **NAKAGAWA**, Head of Geoinformatics Lab. Department of Civil Engineering, Shibaura Institute of Technology, Tokyo, Japan

Lecture:

*Geoinformatics and 3D Data Acquisition for Infrastructure and Environment Monitoring*

**13:20-13:40**

Lead Partner-National University of Uzhhorod, Ukraine

Senior Lect. dr. Mariya **NYCHVYD**, Department of Land Management and Cadastre, GeoSES, Technical manager, Uzhhorod National University, Ukraine

Lecture:

*The use of Modern Methods for Monitoring of Dangerous Natural and Man-made Geo-processes in Ukraine*

**13:40-14:00**

Partner 1-, Pavol Jozef Šafárik University in Košice, Slovakia

RNDr. Ján **KANŮK**, Head of the Laboratory of Geographic Information Systems, project manager, Pavol Jozef Šafárik University in Košice, Slovakia

Lecture:

*Terra Mapper - a Collaborative Tool designed for Mobile Mapping and Data Management*

**14:00-14:20**

Partner 2- Technical University of Cluj-Napoca

Dr. eng. Radu A. **MARIAN**, eng. Bogdan **VĂDUVA**, IT experts GeoSES Project, Technical University of Cluj-Napoca, Romania

Lecture:

*Portal and Mobile Applications for Presenting the Results of the GeoSES Project: Extension of the Operational "Space Emergency System" Towards Monitoring of Dangerous Natural and Man-made Geo-processes in the HU-SK-RO-UA Cross-border Region*

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<p>14:20-14:40</p>	<p>Partner 3- Budapest University of Technology and Economics, Hungary Dr. Balint <b>MAGYAR</b>, Geophysicist - GNSS/InSAR R&amp;D, Lechner Nonprofit Ltd., Satellite Geodetic Observatory (Penc, Hungary)&amp; local project expert, Budapest University of Technology and Economics, Hungary Lecture: <i>Regional Scale Monitoring of Surface Deformation in Transcarpathia using InSAR Technology</i></p>
<p>14:40-15:00</p>	<p>Partner 4- Self-government of Szabolcs-Szatmár-Bereg County Assoc. Prof. Dr. Róbert <b>VASS</b> expert, professional implementer University of Nyíregyháza, Hungary Lecture: <i>Climate Strategy: From Idea to Realization</i></p>
<p>15:00-15:30</p>	<p>Conclusions and debate of further perspectives on Solutions for Disaster Management</p>
<p>End of day 1</p>	

## Parallel Sessions

### SECTION A: Environmental and Earth Sciences

Day 2

November 19 2021 | Online

Chairs:

Assoc. Prof. dr. Eng. Adrian T. RĂDULESCU, Department of Land Measurements and Cadastre, Faculty of Civil Engineering, Technical University of Cluj-Napoca

Assist. Prof. dr. eng. Paul SESTRĂȘ, Department of Land Measurements and Cadastre, Faculty of Civil Engineering, Technical University of Cluj-Napoca

10:00-10:15	<i>Sediment Dynamics Monitoring at High Mountain Area</i> Naoki NISHIMURA, Asia Air Survey Co., Ltd, Tomoaki EGUCHI, Asia Air Survey Co., Ltd, Japan, Nobuhiro USUKI, Asia Air Survey Co., Ltd Masafumi NAKAGAWA, Shibaura Institute of Technology, Tokyo, Japan
10:15-10:30	<i>Corresponding Points Estimation of Texture-less Regions with Topology Constraints</i> Yuichiro YAMAGUCHI & Masafumi NAKAGAWA, Shibaura Institute of Technology, Tokyo, Japan
10:30-10:45	<i>Model-Based Point Cloud Reconstruction of Buried Pipe using Model Fitting Approach</i> Kouki KURITA & Masafumi NAKAGAWA, Shibaura Institute of Technology, Tokyo, Japan
10:45-11:00	<i>Multi-GNSS Near Realtime Precipitable Water Vapor Estimation for Severe Weather Prediction</i> Szabolcs RÓZSA, Abir KHALDI, Ágnes ÁCS & Bence TURÁK, Budapest University of Technology and Economics, Department of Geodesy and Surveying, Hungary
11:00-11:15	<i>Low-cost GNSS Sensor Development for Structural Monitoring</i> Csaba ÉGETŐ, Zoltán SIKI, Bence TURÁK & Szabolcs RÓZSA, Budapest University of Technology and Economics, Department of Geodesy and Surveying, Hungary
11:15-11:30	<i>Monitoring system of modern exogenous processes</i> Nataliya KABLAK & Olexandr REITY, Uzhhorod National University, Ukraine
11:30-11:45	Break



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<p>11:45-12:00</p>	<p><i>Extension of the field of Structural Health Monitoring on Tracking the Behavior over Time of Land, Subject to Landslides</i> Tiberiu T. KALMAR, UASVM of Cluj- Napoca ;Adrian T. RĂDULESCU, Gheorghe M.T. RĂDULESCU, Technical University of Cluj-Napoca,Romania</p>
<p>12:00-12:15</p>	<p><i>Using GIS Technologies for Spatial Analysis of Landslides. Study Case: Sighetu-Marmatiei Municipality</i> Petru MĂRAN, Technical University of Cluj-Napoca,Mihai HERBEI,Banat University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Romania</p>
<p>12:15-12:30</p>	<p><i>The Use of UAS and GIS Spatial Analysis in Cadastral Surveying and Technical Documentations</i> Paul SESTRĂȘ,Technical University of Cluj Napoca, Romania</p>
<p>12:30-12:45</p>	<p><i>Study on the Importance of Using GIS Technology in Road Infrastructure Projects</i> Mihai Dorin ISAC, Sanda NAS, Mircea BONDREA, Technical University of Cluj Napoca, Romania</p>
<p>12:45-13:00</p>	<p><i>Study on the Activity Related to Monitoring the Behavior of Landslides Over time by Comparative Methods</i> Norbert KISS, Technical University of Cluj Napoca, Romania</p>
<p>Paper presented at the G.IC.2021-Plenary Session</p>	<p><i>The Role of Cross-border Projects in Disaster Management.Case study: GeoSES-Extension of the Operational "Space Emergency System" Towards Monitoring of Dangerous Natural and Man-made Geo-processes in the HU-SK-RO-UA Cross-border Region</i> Adrian T.RĂDULESCU,TUCN ; Tiberiu T. KALMAR,UASVM of Cluj- Napoca; Gheorghe M.T. RĂDULESCU,TUCN; Sanda Mărioara NAȘ,TUCN; Virgil Mihai RĂDULESCU,TUCN; Petru Daniel MĂRAN,TUCN ;Mihai HERBEI, BUASVM Timisoara; Mircea BONDREA,TUCN, Romania</p>
<p>Paper presented at the G.IC.2021-Workshop</p>	<p><i>Regional Scale Monitoring of Surface Deformation in Transcarpathia using In-SAR Technology</i> Bálint MAGYAR, Roland HORVÁTH &amp;Lajos VÖLGYESI, Lechner Nonprofit Ltd., Budapest, Hungary - Satellite Geodetic Observatory, Penc, Hungary &amp;Budapest University of Technology and Economics – Faculty of Civil Engineering - Department of Geodesy and Surveying, Budapest, Hungary</p>

End of day 2

## Parallel Sessions

### SECTION B: Economic and social sciences

Day 2

November 19 2021 | Online

#### Chairs:

Assoc.Prof.dr.Grațiela Dana **BOCA**, Department of Economics and Physics, Faculty of Sciences, Technical University of Cluj-Napoca, Romania

Assoc.Prof.dr.Liliana **ZIMA**, Department of Economics and Physics, Faculty of Sciences, Technical University of Cluj-Napoca, Romania

11:00-11:15	<i>The Use of Data Loggers for Monitoring Temperature and Relative Humidity in Museums</i> Izabela Luiza POP, County Museum of Art « Baia-Mare Artistic Centre», Romania & Technical University of Cluj-Napoca, North University Center of Baia-Mare, Romania
11:15-11:30	<i>Sustainability in Disaster Management: An Overview of Nature-Based Solutions</i> Anıl Yıldırım POYRAZ & Maria SZALMANÉ CSETE, Budapest University of Technology and Economics, Department of Environmental Economics and Sustainability, Hungary
11:30-11:45	<i>Internal Organizational Peculiarities of Hotel Activities in Pandemic Conditions, Transcarpathia, Ukraine</i> Svitlana SLAVA & Vitalia CHYNIK, Uzhhorod National University, Ukraine
11:45-12:00	<i>Hierarchy of Factors Influencing the Implementation of Projects in Risk Conditions</i> Diana Cezara TOADER Corina M. RĂDULESCU, Technical University of Cluj-Napoca, Romania
12:00-12:15	<i>The Importance of Investing in Human Capital in Times of Crisis</i> Alina Natalia POP, Florina HAHN, Diana IGHIAN, Technical University of Cluj-Napoca, Romania
12:15-12:30	<i>Challenges of the Sustainable Development Strategy of Maramures County in the Context of Crisis</i> Izabela RUS, Rita TOADER, Grațiela BOCA, Cezar TOADER, Technical University of Cluj-Napoca, Romania



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## G.I.C.2021

Day 3

November 20 2021 | OnSite

10:00-11:30	Meeting with local media, radio and TV. Public information on the conference debates. Technical University of Cluj Napoca -GeoSES Team
11.30-12:00	<b>Photo session</b>

End of Conference



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