

## Day 1 – Thursday, September 30

### 10.30 – 11.00 Opening

**Prof. Cleo Sgouropoulou & Prof. Ioannis Voyiatzis**

Greetings from the General Chairs

**Prof. Claude Frasson, Prof. Katerina Kabassi, Prof. Athanasios Voulodimos**

Greetings from the Program Committee Chairs

**Dr. Kitty Panourgia**

Greetings from the Organization Chair

### 11.00 – 12.00 Keynote Speech

**Dr. Konstantinos Makantasis**, Marie Curie Widening Fellow, Institute of Digital Games, University of Malta

Title: Reasoning from High-Order Data: Methods and Applications

### 12.00 – 14.00 Session 1 : Learning

Session Chair : *Akrivi Krouska*

**C. Troussas, A. Krouska, F. Giannakas, C. Sgouropoulou and I. Voyiatzis**

#9 An alternative educational tool through interactive software over Facebook in the era of COVID-19

**G. Angelopoulos and D. Metafas**

#3 Forced  $\epsilon$ -Greedy, an Expansion to the  $\epsilon$ -Greedy Action Selection Method

**C. Kampouris, P. Azariadis and V. Moulianitis**

#14 A Methodology for Assessing the Impact of Error Components in Gait Analysis Using Closed-loop Testing on a Biomimetic Rig

**Z. Kanetaki, C. Stergiou, C. Troussas and C. Sgouropoulou**

#39 Development of an innovative learning methodology aiming to optimise learners' spatial conception in an online Mechanical CAD module during COVID-19 pandemic

**A. Krouska, C. Troussas, F. Giannakas, C. Sgouropoulou and I. Voyiatzis**

#42 Enhancing the Effectiveness of Intelligent Tutoring Systems Using Adaptation and Cognitive Diagnosis Modeling

**M. Poli**

#8 Ambient Intelligence and Smart Environments: A preliminary overview

### 14.00 – 14.40 Break

### 14.40 – 16.00 Session 2A : Data Mining

Session Chair : *Karima Boussaha*

**Z. Kanetaki, C. Stergiou, G. Bekas, C. Troussas and C. Sgouropoulou**

#37 Creating a metamodel for predicting learners' satisfaction by utilizing an educational information system during COVID-19 pandemic

**C. Zafeiropoulos, I. Tzortzis, I. Rallis, E. Protopapadakis, N. Doulamis and A. Doulamis**

#27 Evaluating the Usefulness of Unsupervised monitoring in Cultural Heritage Monuments

**I. K. P. Paderes, L. L. Figueroa and R. Feria**

#5 Implementing Hierarchical Indoor Semantic Location Identity Classification: A Case Study for COVID-19 Proximity Tracking in the Philippines

**Z. Kanetaki, C. Stergiou, G. Bekas, C. Troussas and C. Sgouropoulou**

#41 Data mining for improving online higher education amidst COVID-19 pandemic: A case study in the assessment of engineering students

16.00 – 16.20 Break

16.20 – 17.40 **Session 2B : Data Mining**

*Session Chair : Michalis Feidakis*

**A. Kaouni, G. Theodoropoulou, A. Bousdekis, A. Voulodimos and G. Miaoulis**

#36 Visual Analytics in Process Mining for Supporting Business Process Improvement

**L. Toumanidis, P. Kasnesis, C. Chatzigeorgiou, M. Feidakis and C. Patrikakis**

#4 ActiveCrowds: A Human-in-the-loop machine learning framework

**G. Kopsiaffis, I. Georgoulas, I. Rallis, I. Markoulidakis, K. Tzanettis, M. Sfakianos and N. Doulamis**

#38 Application programming interface for a customer experience analysis tool

**J. Addawe, J. Caro and R. Juayong**

#1 A Fuzzy C-means-based Algorithm for the Surveillance of Dengue Cases Distribution in Local Communities

17.40 – 18.00 Party with traditional Greek folklore dance and music

## Day 2 – Friday, October 1

10.00 – 12.40 **Session 3 : Extended Reality**

*Session Chair : Christos Papakostas*

**J. C. Boque, J. Caro and R. A. Juayong**

#13 Virtual Reality Tool for Rehabilitation of Patients with Parkinson's Disease: A Conceptual Design Review

**H. B. Abdessalem and C. Frasson**

#31 Toward personalizing Alzheimer's Disease Therapy using an Intelligent Cognitive Control System

**C. Papakostas, C. Troussas, A. Krouska and C. Sgouropoulou**

#29 On the Development of a Personalized Augmented Reality Spatial Ability Training mobile application

**Y. Ai, H. B. Abdessalem and C. Frasson**

#30 Zoo Therapy for Alzheimer's Disease with Real-time Speech Instruction and Neurofeedback System

**A. Maroungkas, C. Troussas, A. Krouska and C. Sgouropoulou**

#15 A framework for personalized fully immersive Virtual Reality Learning Environments with gamified design in education

**A. Kapetanaki, A. Krouska, C. Troussas and C. Sgouropoulou**

#32 A Novel Framework Incorporating Augmented Reality and Pedagogy for Improving Reading Comprehension in Special Education

**A. J. Ang, R. Jr Principio, R. A. Juayong and J. Caro**

#12 GunitaHu: A VR Serious Game with Montessori Approach for Dementia Patients during COVID-19

**Vladymyr Meytus**

#16 Intelligence and intelligent simulation

12.40 – 13.00 Break

13.00 – 14.20 **Session 4 : Health & Environment**

*Session Chair : Andreas Maroungkas*

**C. Zafeiropoulos, M. Bimpas, E. Protopapadakis, E. Sardis, N. Doulamis, A. Doulamis, C. Maksimovic, S. Boskovic, R. Bozovic and M. Lalic**

#34 An Introduction to the euPOLIS Project

**I. Kavouras, E. Protopapadakis, M. Kaselimi, E. Sardis and N. Doulamis**

#28 Assessing the Lockdown Effects on Air Quality during COVID-19 Era

**K. Kabassi**

#35 Designing Personalisation in a Environmental Recommendation System: Differences of AHP and Fuzzy AHP

**M. Poli**

#7 Smart technologies and the case of people with disabilities: A preliminary overview

**14.20 – 15.00 Break**

**15.00 – 16.20 Session 5 & 6 : Brain, Reasoning & Computer Vision**

*Session Chair : Filippos Giannakas*

**G. Toupin, M. S. Benlamine and C. Frasson**

#10 Prediction of Amusement intensity based on brain activity

**A. Anikin, O. Sychev and M. Denisov**

#40 Ontology Reasoning for Explanatory Feedback Generation to Teach how Algorithms Work

**E. Kontellis, C. Troussas, A. Krouska and C. Sgouropoulou**

#11 Real-time Face Mask Detector using Convolutional Neural Networks amidst COVID-19 pandemic

**N. Bakalos, I. Katsamenis, E. E. Karolou and N. Doulamis**

#33 Unsupervised man overboard detection using thermal imagery and spatiotemporal autonecoders

**16.30 – 17.00 Closing Session and Best Paper Awards**

Programme of  
1<sup>st</sup> H2020 Yades Training School  
in conjunction with NIDS21 Conference  
2 Oct. 2021

Topic:

“Identification of methods for CH risks assessment - Part I”

Saturday 2/10/2021	
Schedule	Lecture Title
10:15-10:30	School Opening
10:30-10:45	Training School Welcome and Programme Outline Prof. Nikolaos Doulamis, YADES Coordinator
10:45-11:45	Climate Change and Cultural Heritage: YADES Project Dr. Matthaios Bimpas, YADES Project Manager  <b>Presenter's Short CV:</b> Dr. Manthos Bimpas (M) has obtained his BSc. in Electrical and Computer Engineering from the National Technical University of Athens (NTUA) on 2000. His PhD (NTUA, 2004) examined innovative radar techniques in terms of system and antenna design with special emphasis on sensors-based applications and fusion analysis. His main interests lie to the integration techniques of various sensing elements and communication/networking solutions mainly for security and environmental applications. He has been successfully involved in many European projects dealing with radar sensors, telematics, communication systems and data processing, including the setting up and submission of the following EC co-funded projects: LEAKING (FP5- technical manager), HUMABIO (FP6-ICT), WATERPIPE (FP6-ENV- deputy coordinator), MONICO (FP7-SME- technical manager), MEMSCON (FP7-NMP- technical manager/deputy coordinator), eVacuate (FP7-SEC), PPDR-TC (FP7-SEC), RECONASS (FP7-SEC- deputy coordinator), ICeWATER (FP7-ICT), ZONESEC (FP7-SEC, quality manager), INACHUS (FP7-SEC, technical manager) and many other. He has actively participated in more than 25 EC funded and national projects during the last 12 years. He has published a number of articles in Scientific Journals and Conferences on sensor related topics and has acted as a reviewer in 2 Journals on the same topic. He is acting as a reviewer and an evaluator for the EC research proposals.

<p>11:45-12:45</p>	<p>Culinary aspects of multi-hazard resilience for cultural heritage</p> <p>Prof. Dimitris Vamvatsikos</p> <p><b>Presenter's Short CV</b> studied at the National Technical University of Athens (Diploma, 1997) and at Stanford University (MSc 1998, PhD 2002). His research interests are focused on integrating structural modeling, computational techniques, probabilistic concepts and experimental results into a coherent framework for the performance and risk assessment of bridges, buildings, ports and wind turbines under earthquake, wind, wave or blast loads. His seminal work in risk assessment via Incremental Dynamic Analysis has received wide attention leading to more than 2400 citations (Scopus: Aug/2018), placing him among the top cited civil engineers worldwide. He has co-operated with leading structural engineering firms (ARUP, Halcrow/CH2M), the oil industry (Shell, ExxonMobil), catastrophe risk modelers (AIR Worldwide, RED Srl) and the insurance/reinsurance industry (Munich RE, AXA Insurance). His research group also enjoys strong ties with US and EU institutions that lead the research in risk management under natural hazards. Dr. Vamvatsikos has worked closely with the Applied Technology Council (ATC) and performed research for the Federal Emergency Management Agency (FEMA-P440A guidelines) and the US National Institute of Standards and Technology (NIST-GCR-10-917-9 US seismic assessment guidelines). He is a long-time collaborator of the Global Earthquake Model (GEM) Foundation and has contributed to the development of the OpenQuake engine used worldwide for loss estimation and the GEM vulnerability assessment guidelines and the Risk Modeler's Toolkit. He is a recognized expert in earthquake engineering, recipient of two international awards, reviewer of most top civil engineering journals and a regular keynote lecturer in international conferences.</p>
<p>12:45-13:45</p>	<p>Integrating Green Infrastructure into urban cultural heritage sites</p> <p>Prof. Julia Nerantzia Tzortzi &amp; Dr. Maria Stella Lux</p> <p><b>Presenter's Short CV</b> Julia Nerantzia Tzortzi (female), is associate professor at the Department of Associate Professor Department of Architecture, Built Environment and Construction Engineering of Politecnico di Milano and Board Member of the PhD Committee of the Department. She has a 5 years Bachelor in Forest Engineer (Aristotle University of Thessaloniki), Master in Landscape Architecture (University of Newcastle Upon Tyne) and PhD in Bioclimatic Landscape Architecture (Aristotle University of Thessaloniki). She has established the Master of Landscape Architecture (MLA) at Neapolis University as Coordinator of the Master and as Head of the Department of Architecture, Land and Environmental Sciences of Neapolis University of Pafos. She is Board Member of LE:NOTRE INSTITUTE, Member of AIAPP (Italian Association of Landscape Architecture), Charter Member of Landscape Institute (UK), member of IFLA (International Federation of Landscape Architects), where she is active in the IFLA WGs: "UIA / IFLA Working Group Indigenous Ecosystem Corridors and Nodes" and "Cultural Landscapes", Member of Landscape Research Group and she was Vice President of the Panhellenic Association of Landscape Architects-PHALA (2003-20). She has served for 15 years as Executive Professional in Landscape Architecture at the Ministry of Environment, Urban Planning and Energy – Climate Change of Greece. She has published 92 scientific papers and four edited books. She has been principal investigator to more than 30 European and other research Programmes.</p>
<p>13:45-15:00</p>	<p>Lunch Break</p>

<p>15:00-16:00</p>	<p><b>Keynote Speech:</b> Learning-based Bathymetric Mapping for Shallow Coastal Waters using RGB imagery</p> <p>Dr. Panagiotis Agrafiotis</p> <p><b>Presenter's Short CV</b> Dr. Panagiotis Agrafiotis holds a M. Eng. Diploma in Rural and Surveying Engineering, an M.Sc. in Geoinformatics and a PhD in the area of Remote Sensing and Machine Learning from National Technical University of Athens (NTUA). During his studies, he earned various awards and travel grants for conferences and a full PhD Scholarship from NTUA. He is currently doing research in the areas of 3D Computer Vision, Remote Sensing and Machine Learning, focusing on image-based bathymetric mapping, seabed image analysis and RGB and hyper-spectral image matching using CNN filters. In December 2020, his team 3[Deep]Vision, won the 1st Prize of the integrated Geomatics solution awarded by the European GNSS Agency for their proposal "Bathymetry from UAV Imagery and Machine Learning". The last 9 years he lived in Greece and Cyprus, working in more than 16 research projects as a researcher at the Photogrammetric Vision Lab. of CUT, the Lab. of Photogrammetry of NTUA and the Institute of Communication and Computer Systems (ICCS) of the School of Electrical and Computer Engineering (ECE) of the NTUA, with the responsibility of applied computer vision algorithms design, overwater and underwater 3D reconstruction, machine learning, laser scanning, cameras calibration and person detection and tracking for survivor localization on optical and thermal imagery. He is the author of 36 scientific publications and he has served as a reviewer in 21 journals of high impact factor. He is currently the secretary of the ISPRS WG II/9: Underwater Data Acquisition and Processing.</p>
<p>16:00-17:00</p>	<p><b>Machine Learning Tools in Engineering</b></p> <p>Prof. Nikolaos Doulamis</p> <p><b>Presenter's Short CV</b> Prof. Nikolaos Doulamis (Male) received the Diploma degree in Electrical and Computer Engineering from the National Technical University of Athens (NTUA) with the highest honour and the PhD degree in electrical and computer engineering from NTUA. He joined the Image, Video and Multimedia Lab of NTUA as research assistant. His PhD thesis was supported by the Bodosakis Foundation Scholarship. Since 2005-2008, he was visiting professor at the National Technical University of Athens. He is now tenured Assistant professor at the NTUA. Dr. Doulamis was awarded as the Best Greek Student in the field of engineering in national level by the Technical chamber of Greece. He was received the Best Graduate Thesis Award in the area of electrical engineering. During his studies he has also received several prizes and awards from the National Technical University of Athens, the National Scholarship Foundation and the Technical Chamber of Greece. In 1997, he was given the NTUA Medal as Best Young Engineer. He is author of more than 280 articles in the area of multimedia and computer vision. More than 55 of them are journal papers of impact. He received more than 3200 citations. Prof. Nikolaos Doulamis is currently involved in many European Projects like, eVacuate IP, ROBOSPECT, ZoneSec, VIMSEN, INACHUS and the national projects Viopolis, Pericles, Endecon. He was also involved in many other European research projects, such as SOCIOS, OLYMPIC, e-Director, Saragen, GRIA, GRIBLAD, AKOGRIMO in the area of multimedia processing. He has served as general program chair of the 1st ACM AREA, and all the ARTEMIS workshops. He is also general chair of more than 10 workshops in this area and TPC in more than 40 conferences.</p>