

# Program of the MCCSIS 2024

## Multi Conference on Computer Science and Information Systems

### Conference Sessions:

**e-Learning and Digital Learning 2024**

**ICT, Society and Human Beings 2024**

**e-Health 2024**

**Sustainability, Technology and Education 2024**

**Game and Entertainment Technologies 2024**

**Interfaces and Human Computer Interaction 2024**

**Computer Graphics, Visualization, Computer Vision and Image Processing 2024**

**Connected Smart Cities 2024**

**Big Data Analytics, Data Mining and Computational Intelligence 2024**

**Digital Transformation and Innovation Management 2024**

### Friday 12<sup>th</sup> July 2024

17:30 – 19:00 Welcome Desk – Room: Venus - only open for check-in and requests for information.

### Saturday 13<sup>th</sup> July 2024

08:00-19:20 Welcome Desk – Room: Venus (closes for lunch 13:00 – 14:20)

09:00 – 09:15 Session O – Opening Session

Room: Panorama

*Profs. Pedro Isaias and Paula Miranda*

09:25-10:55 Session 13.1

e-Learning Pedagogical Strategies // e-Learning Models

Room: Panorama

Chair: *Anna Mavroudi*

**USING AN ESCAPE ROOM: GAME TO EXPLORE THE RELATIONSHIPS BETWEEN GAMEPLAY SELF-EFFICACY, EXPERIENTIAL VALUE AND LEARNING PROGRESS IN A PERFORMING ARTS COURSE (ELDL - F047)**

*Jon-Chao Hong, Yi-An Chien and Chih-Hsuan Ho*

**WELCOME: TURN ON YOUR CAMERA, YOU HAVE A LEAD ROLE (ELDL - F061)**

*Eduardo Hamuy, Ricardo Abarca, Rolando Cori and José Garrote*

**STUDENT-CENTERED PERSONALIZATION OF INDIVIDUAL EDUCATION THROUGH REUSABLE AND AUTONOMOUS LEARNING UNITS - THE SPIRAL MODEL (ELDL - F134)**

*Sorana Cimpan, Francesco Floris, Marina Marchisio Conte and Sergio Rabellino*

**09:25-11:00 Session 13.2**

**Desirable goals and ICT**

**Room: Uranus**

**Chair: Charoula Angeli**

**WHEN YOU SAY DISCRIMINATION, DO YOU MEAN...?: COMMUNICATION CHALLENGES AND CROSS-DISCIPLINARY TRANSLATION RISKS IN ARTIFICIAL INTELLIGENCE (ICT - F135)**

*Hilde G. Corneliussen, Gilda Seddighi and Cheshta Arora*

**THE SUSTAINABILITY OF SOCIAL NETWORKS: “SMALL-WORLD” NETWORKS AS A MEDIA COUNCIL (ICT - F107)**

*Gunjidmaa Gongor and Bolormaa Battsogt*

**INFORMATION TECHNOLOGIES AT A HIGHER SCHOOL OF REAL ESTATE IN PORTUGAL (ICT - S089)**

*Teresa Florentino*

**THE E-MARKETING STRATEGY INFLUENCES A DECISION TO BUY SKINCARE PRODUCTS (ICT - R113)**

*Supakorn Jamamporn, Pradit Songsangyos and Nuchsharat Nuchprayoon*

**09:20-11:05 Session 13.3**

**Emerging Technologies and Disruptive Innovation // Digital Strategy and Leadership**

**Room: Mercure**

**Chair: Alexander Baumeister**

**HOP, SKIP, AND ... JUMP! DIGITAL BUSINESS TRANSFORMATION AND BEHAVIOUR (DTIM - F048)**

*Nina Evans and Linda Zeelie*

**LEGAL X-RAY: AN APPROACH TO AUTOMATING INFORMATION EXTRACTION IN PORTUGUESE LEGAL DOCUMENTS (DTIM - F037)**

*Celso Araujo Fontes*

**IMPLEMENTATION OF INSTRUCTIONAL DESIGN FOR SELF-PACED LEARNING (DTIM - F086)**

*Kurt Englmeier*

**EDUCATION AND TECHNOSCIENCES (DTIM - R034)**

*Luiz Roberto Alves*

**11:00-11:30 Coffee Break**

**11:30-13:00 Session 13.4**

**Higher and Further Education // Learning Analytics**

**Room: Panorama**

**Chair: Charoula Angeli**

**RATING UNIVERSITIES IN HONG KONG, MACAO AND SINGAPORE BY GENERATIVE ARTIFICIAL INTELLIGENCE (AI): ARE VARIOUS AI MODELS CONSISTENT? (ELDL - F121)**

*Victor K. Y. Chan*

**TAILORING EDUCATION TO DATABASE TRENDS: CHALLENGES IN CURRICULUM DESIGN FOR ADVANCED DATABASE TOPICS (ELDL - F090)**

*Rosa Maria Reis, Bertil P. Marques and Ricardo Almeida*

**LEARNING ANALYTICS VISUALISATIONS OF SCHOOL DROPOUT IN VOCATIONAL EDUCATION (ELDL - F114)**

*Christos Samaras, Anna Mavroudi and Vassilios S. Verykios*

**11:40-12:50 Session 13.5**

**Visualization // Image Processing**

**Room: Uranus**

**Chair: Aleksandrs Sisojevs**

**A METHOD FOR EMBEDDING BIOMETRIC AND OTHER INFORMATION IN COLOR IMAGES OF FACES (CGVCVIP - F021)**

*Nazym Kazyeva, Georgy Kukharev and Kalybek Maulenov*

**A DEFORMABLE 3D ZEBRAFISH MODEL FOR BRIGHT-FIELD MICROSCOPY IMAGE SIMULATION (CGVCVIP - S044)**

*Richárd Jámbor and Attila Tanács*

**A RECEPTIVE ENHANCED BASED MULTI-SCALE FEATURE FUSION NETWORK (CGVCVIP - S054)**

*Guojun Mao and Xinchao Zhang*

**11:30-12:50 Session 13.6**

**Usability // HCI and Design education**

**Room: Mercure**

**Chair: Ana Pavani**

**NATURAL INTERACTION FOR MUSEUM INSTALLATIONS DISPLAYING CULTURAL HERITAGE: A CASE STUDY OF THE RECREATION OF THE TORRE DE LA PARADA (IHCI - F032)**

*Luis Antonio Hernández-Ibáñez, Viviana Barneche-Naya and Guillermo Franganillo-Parrado*

**PREDICTING STEM LEARNERS' PERFORMANCE IN SERIOUS GAMES FOR COMPUTATIONAL THINKING USING GAME LEARNING ANALYTICS FRAMEWORK (IHCI - F030)**

*Fatin Nasuha Abdul Razak, Amirrudin Kamsin and Hameedur Rahman*

**EXPLORING THE BENEFITS OF PHYSICAL FEATURES IN VIRTUAL REALITY ON CUSTOMER EXPERIENCE (IHCI - S042)**

*Robin Cherix, Maud Julmy, Marine Capallera, Julien Roland and Elena Mugellini*

**11:40-12:40 Session 13.7**

**Sustainability and Green IT**

**Room: Orion**

**Chair: Andrea Molinari**

**STUDYING THE ENERGY CONSUMPTION OF INSTAGRAM FUNCTIONALITIES ON PC AND TABLET (STE - F044)**

*Elisa Jiménez, Carlos Pulido, Coral Calero, M<sup>a</sup> Ángeles Moraga, Félix García and Alberto Gordillo*

**RESEARCH ON AN ABSORPTION AIR-CONDITIONING SYSTEM MADE FROM SUSTAINABLE MATERIALS (STE - F027)**

*Yuxian Zhou, Wenquan Wang and Xiuwei Li*

**12:50 – 14:20 Lunch Break**

**14:20 – 15:25 Session 13.8**

**Innovations in e-Assessment // Ethical Issues in e-learning**

**Room: Panorama**

**Chair: Fabio Roman**

**TEACHING ACADEMIC WRITING IN THE ERA OF LARGE LANGUAGE MODELS: A CASE STUDY (ELDL - F028)**

*Andrea Molinari and Elena Molinari*

**COGNITIVE LOAD MEASUREMENT WITH ELECTROENCEPHALOGRAPHY BASED ON MACHINE LEARNING ALGORITHM (ELDL - S038)**

*Yi-Hsuan Wang, Hsing-Yi Wu and Chun-Wang Wei*

**ADAPTING ASSESSMENT DESIGN: NAVIGATING TECHNOLOGICAL ADVANCES AND ACCESS TO INFORMATION (ELDL - R123)**

*Fran Greyling and Linda van Ryneveld*

**14:30-16:20 Session 13.9**

**Artificial Neural Networks and Learning methods**

**Room: Uranus**

**Chair: Eduardo Hamuy**

**STRUCTURAL DAMAGE DETECTION BASED ON HYBRID ALGORITHM WITH SPARSE OBJECTIVE FUNCTION (BigDaCI - F053)**

*Guangcai Zhang, Wenlong Zhao, Chunfeng Wan, Xiaonan Zhang, Xiuqia Liu and Youliang Ding*

**UNVEILING THE VALUE OF USER REVIEWS ON STEAM: A PREDICTIVE MODELING OF USER ENGAGEMENT APPROACH USING MACHINE LEARNING (BigDaCI - F056)**

*María Olmedilla, Leonardo Espinosa-Leal, José Carlos Romero-Moreno and Zhen Li*

**FEATURE SELECTIONS AND EXPLORATORY ANALYSIS FOR ML STOCK PREDICTIONS USING SET50 (BigDaCI - F022)**

*Gridaphat Sriharee*

**DIGITAL MAPPING OF VEHICLE LOADS TO STRUCTURAL STRAINS BASED ON M-H SAMPLING AND BILSTM NETWORK (BigDaCI - S050)**

*Xiaonan Zhang, Youliang Ding and Chunfeng Wan*

**14:20-16:30 Session 13.10**

**Design issues // Tools and technologies**

**Room: Mercure**

**Chair: Zhejie Xu**

**REHASHING STORYTELLING IN THE MOBILE GAME: 'WALKING DEAD MATCH 3 TALES' CASE (GET - F039)**

*JaeJun Lee and Soyoun Eom*

**A PLAYFUL APPROACH TO EXTENDED REALITY GAME DEVELOPMENT BY INTEGRATING TANGIBLE AND VIRTUAL INTERFACES (GET - F052)**

*Hengbin Zhang, Xinyi Wu, Xiaoyang Wu and Ruowei Xiao*

**EXPLORATORY STUDY ON QUANTIFYING COMPLEXITY IN THE TEMPORAL STRUCTURE OF ELECTROACOUSTIC MUSIC (GET - F036)**

*Junpei Hayata, Shingo Honda, Soma Arai, Hidefumi Ohmura and Takuro Shibayama*

**USER-CENTERED DESIGN OF AN OMNIDIRECTIONAL TREADMILL VIRTUAL REALITY EXERGAME (GET - S043)**

*Daniel Cliburn, Vijay Kumar and Ethan Perez*

**REINFORCEMENT LEARNING TO GENERATE LEVELS FOR DESIRED DIFFICULTY (GET - S031)**

*Donghyun Lee and Kyoungsu Oh*

**14:30 – 16:30 Session 13.11**

**Data and Software Applications in Smart Cities // Security, Privacy and Identity Issues in Smart Cities**

**Room: Orion**

**Chair: Vincenzo Gattulli**

**BEHAVIORAL BASED DECISION-MAKING SCHEME FOR COOPERATIVE CONNECTED AUTOMATED MOBILITY (CSC - F028)**

*David Yagüe-Cuevas, Pablo Marín-Plaza, María Paz-Sesmero and Araceli Sanchis*

**REAL-TIME TRAFFIC MONITORING SYSTEM BASED ON COMPUTER VISION AND DEEP-LEARNING (CSC - F026)**

*Jaime Villa, Arturo de la Escalera and José M<sup>a</sup> Armingol*

**TOURISM SUPPORT SYSTEM TO UTILIZE VIRTUAL REALITY SPACE AND DYNAMIC INFORMATION IN REAL TIME (CSC - F043)**

*Yuro Koga and Kayoko Yamamoto*

**A REVIEW ON DATA PROTECTION AND REGULATION IN SMART CITY CONCEPT (CSC - F060)**

*Andrej Ignjatić*

**15:30 – 16:30 Keynote Session**

**Room: Panorama**

**GENERATIVE AI: AFFORDANCES AND CHALLENGES FOR EDUCATION**

*Professor Helen Crompton, Executive Director of the Research Institute of Digital Innovation in Learning (RIDIL), Old Dominion University, USA*

**16:30-17:00 Coffee Break**

**17:00 – 19:20 Session 13.12**

**Pedagogical Models // Learning Theories and Approaches for e-learning // Digital media studies**

**Room: Panorama**

**Chair: Linda Van Ryneveld**

**THE OBSTACLES TO DIGITAL TRANSFORMATION AND THEIR IMPACT ON CYBER THREATS IN MOROCCAN HIGHER EDUCATION: A MULTI-CRITERIA APPROACH (ELDL - F135)**

*Abdelilah Chahid, Souad Ahriz, Kamal El Guemmat and Khalifa Mansouri*

**DIGITAL FOR WELFARE. STORIES OF "THIRD SECTOR" REALITIES FACING THE CHALLENGES OF DIGITAL TRANSFORMATION (ELDL - F125)**

*Dalia Gallico*

**PLAY2ESCAPE - A DIGITAL ESCAPE ROOM: IN MATH CLASSES FOR UNDERGRADUATE TOURISM STUDENTS - CASE STUDY (ELDL - F033)**

*Sónia Pais, Ana Elisa Sousa and Maria Sofia Lopes*

**FORMATION OF BACHELOR'S SKILLS IN THE FIELD OF MACHINE LEARNING AND INTELLIGENT DATA ANALYSIS (ELDL - F086)**

*Marina Lapenok, Sergei Patrushev and Lidiya Shestakova*

**SHIFTING PERCEPTIONS OF AI: AN INTEGRATED LEARNING PROGRAM IN THE MIDDLE SCHOOL SETTING (ELDL - S102)**

*Won Jung Kim and Sangjin An*

**17:00 – 19:20 Session 13.13**

**eHealth to improve Quality and Patient Safety // Applications**

**Room: Uranus**

**Chair: Ricardo Staciarini Puttini**

**TOPOLOGICAL DATA ANALYSIS FOR SELECTION OF MACHINE LEARNING MODELS IN CEREBRAL STROKE DETECTION (EH - F052)**

*Aleksandra Vatian, Natalia Gusarova, Ivan Tomilov, Vladimir Shilonosov, Julia Valitova, Vladimir Sashin, Maria Bobrova, Stanislav Mashechkov, Tatiana Poleyaya and Alexey Zubanenko*

**USING DESIGN METHODOLOGIES TO EXPLORE A PRE-SURGICAL SYSTEM (EH - F048)**

*Marko Cigljarev, Yefri Ventura, Christopher Pandolfi, Xavier Massé, Ana Rita Morais and Angela Jerath*

**MEAL-TAKING ACTIVITY MONITORING IN THE ELDERLY BASED ON SENSOR DATA: COMPARISON OF UNSUPERVISED CLASSIFICATION METHODS (EH - F051)**

*Abderrahim Derouiche, Damien Brulin, Eric Campo and Antoine Piau*

**INFORMATION SYSTEM FOR CALCULATING THE HIGHEST ALLOWED WHOLESALE PRICE OF MEDICINAL PRODUCT IN CROATIA (EH - F063)**

*Maja Fatiga and Sanja Grčić Plečko*

**AI-ENHANCED ANALYSIS OF BRAIN MORPHOMETRY LINKED TO FACTORS INFLUENCING MENTAL AND NEUROLOGICAL HEALTH OUTCOMES (EH - S046)**

*Paula Arandia, Christian Núñez, Christian Stephan-Otto, Raul Benitez and Christian Mata*

**17:00-19:20 Session 13.14**

**Emerging Technologies and Disruptive Innovation**

**Room: Mercure**

**Chair: Kurt Englmeier**

**EXPLORING EMERGING BUSINESS MODELS FOR ELECTRIFIED MACHINERY (DTIM - F112)**

*Saeid Heshmatisafa and Marko Seppänen*

**METaverse TECHNOLOGY IN HIGHER EDUCATION: A CONCEPTUAL MODEL (DTIM - F084)**

*Mutaz M. Al-Debei, Omar Hujran and Hazar Y. Hmoud*

**EXPLORING CYBERSECURITY MINDSETS: A COMPARATIVE ANALYSIS OF AGE, LEADERSHIP, WORK EXPERIENCE AND EXPERTISE (DTIM - F078)**

*Gregor Eibl and Olga Litvyak*

**THE ROLE OF INTERACTIVITY IN VR MARKETING (DTIM - F029)**

*Hongxiao Yu and Haemoon Oh*

**DEVELOPMENT OF THE MODEL OF WORKING IN A HYBRID ENVIRONMENT (DTIM - S031)**

*Pradit Songsangyos, Supakorn Iamamporn and Mesith Chaimanee*

**17:00-19:00 Tutorial**

**Room: Orion**

**HOW TO DESIGN ONLINE STEM COURSES WITH CREATIVE LEARNING**

*Veronica Ruberti, Lorenzo Benussi, Chiara Ciociola and Flavio Renga, LINKS Foundation, Italy*

## Sunday, 14<sup>th</sup> July 2024

08:30-15:30 Welcome Desk - Room: Venus (closes for lunch 13:15 – 14:20)

### 08:55-11:00 Session 14.1

Affective User-Centred Analysis, Design and Evaluation

Room: Uranus

Chair: Anusuyah Subbarao

**FOSTERING EMOTIONAL ATTACHMENTS TO CARS: INSIGHTS FROM A FOCUS GROUP STUDY (IHCI - F048)**

*Mareike Grund, Ingo Totzke and Arnd Engeln*

**AN ANALYSIS OF INTERACTION BEHAVIORS IN PERSONALIZED LEARNING (IHCI - F025)**

*Emine Cabı and Hacer Türkoğlu*

**DO WE HAVE GESTURES IN OUR HANDS? - ON THE INFLUENCE OF HAND CHARACTERISTICS ON MID-AIR GESTURE RECOGNITION (IHCI - F034)**

*Lisa Graichen and Matthias Graichen*

**NONINVASIVE VISUALIZATION OF MUSCLES DURING SWALLOWING USING A MUSCLE DEFORMATION SENSOR (IHCI - S045)**

*Satoshi Shimabukuro, Ryouta Arashiro and Emi Tamaki*

**CLARIFYING DEFINITIONS: A SCOPING REVIEW OF DATA PHYSICALIZATION IN HUMAN-COMPUTER INTERACTION (IHCI - R029)**

*Giorgia Burzio and Venere Ferraro*

### 08:55-09:55 Session 14.2

Healthcare Data Architecture Standards

Room: Mercure

Chair: Eric Campo

**A DIGITAL HEALTH PLATFORM FOR SHARED EHR SERVICES: REAL WORLD CASE STUDIES (EH - F066)**

*Ricardo Gonçalves, André Toffanello and Ricardo Puttini*

**INTEROPERABILITY PLATFORMS: A COMPONENT BASED APPROACH TO DERIVE FUNCTIONAL CLASSIFICATION (EH - F071)**

*Martin Staemmler*

### 09:00-10:00 Session 14.3

Blended Learning

Room: Orion

Chair: Cathie Norris

**IMPLEMENTING BLENDED LEARNING AS A CULTURALLY RESPONSIVE TEACHING METHOD TO THE NEEDS OF STUDENTS WITH CULTURAL AND LINGUISTIC DIVERSITY (ELDL - F031)**

*Vaso Anastasiou, Charoula Angeli and Yiota H. Diakou*

**DETECTING BLENDED LEARNING, COLLABORATIVE LEARNING AND INTERNATIONALISATION IN MILITARY EDUCATION: A SYSTEMATIC LITERATURE REVIEW (ELDL - F131)**

*Alice Barana, Giulia Boetti, Antonino Cambria, Marina Marchisio Conte and Enrico Spinello*

### 09:10-11:00 Session 14.4

Technological Issues

Room: Panorama

Chair: Eduardo Hamuy

**PREDICTING MOBILE LEARNING APPS' USER RATING BASED ON THEIR USABILITY EVALUATION BY GENERATIVE ARTIFICIAL INTELLIGENCE (AI) (ELDL - F120)**

*Victor K. Y. Chan*

**TINKERCAD AS A VIRTUAL LABORATORY (ELDL - F046)**

*József Udvaros and Norbert Forman*

**EXAMINING ACCESSES TO OPEN ACCESS SIMULATOR OBJECTS IN ENGLISH AND IN PORTUGUESE (ELDL- F056)**

*Ana M. B. Pavani and William S. Barbosa*

**THE IMPACT OF THE MAKER MOVEMENT ON ENTREPRENEURSHIP FROM A RESOURCE PERSPECTIVE (ELDL- S093)**

*Tsai-Hsin Chen, Tsz-Yu Huang and Chun-Wang Wei*

**10:00-11:00 Keynote Session**

**Room: Mercure**

**MANAGING HEALTHCARE TRANSFORMATION TOWARDS INTELLIGENT, ETHICAL AND SUSTAINABLE 5P MEDICINE ECOSYSTEMS**

*Prof. Dr. habil. Bernd Blobel, FACMI, FACHI, FHL7, FEFMI, FIAHSI, Medical Faculty, University of Regensburg, Germany*

**10:10-11:00 Posters Session**

**Room: Orion**

**Chair: Paula Miranda**

**APPLYING VIRTUAL LEARNING ENVIRONMENTS ASSISTS LANGUAGE LEARNERS TO STUDY ENGLISH (ELDL - P024)**

*Pei-Lin Liu and Chiu-Jung Chen*

**DESIGN OF STACKABLE CERTIFICATE COURSE MODULES IN AN ONLINE PROGRAM (ELDL - P025)**

*Parviz Ghandforoush*

**LEARNING ANALYTICS WITH MAPPER: INVESTIGATING PARAMETER CONFIGURATION (ELDL - P099)**

*Hitoshi Inoue, Koichi Yasutake, Osamu Yamakawa, Takahiro Tagawa, Takahiro Sumiya and Kiyomi Okamoto*

**A PRELIMINARY STUDY ON ALLOWING STUDENTS TO MODIFY PARTIAL TEXT OF A PICTURE E-BOOK TO CREATE A NEW STORYLINE FOR ENGLISH LEARNING (ELDL - P105)**

*Gloria Yi-Ming Kao*

**USING EYE-GAZE TO EVALUATE E-HEALTH DECISION SUPPORT SYSTEMS (EH - P026)**

*Elizabeth A. Krupinski*

**ENHANCING HEALTH CARE THROUGH REMOTE SERVICES AND INTERACTIVE TECHNOLOGIES (EH - P075)**

*Ssu-Hsuan Lu*

**HARDWARE SIMULATION IN CYBER RANGES FOR CYBER PHYSICAL SYSTEM SECURITY TRAINING (DTIM - P093)**

*Lórinç Thurnay, Oliver Jung and Gregor Eibl*

**CONTROLLING ANALYTICS IN UNIVERSITY TEACHING (DTIM - P103)**

*Alexander Baumeister*

**11:00-11:30 Coffee Break**

**11:30-12:50 Session 14.5**

**Distance Learning**

**Room: Panorama**

**Chair: Hesham Alomyan**

**DIGITAL TECHNOLOGIES AND THEIR IMPACT ON METACOGNITIVE ASPECTS IN LEARNING RECOVERY IN SCIENTIFIC AND HUMANISTIC SUBJECTS (ELDL - F128)**

*Andrea Balbo, Alice Barana, Giulia Boetti, Marina Marchisio Conte and Sara Omega*

**GATEWAY TO SUCCESS: IMPROVING ACADEMIC ACHIEVEMENT THROUGH ONLINE MODULES (ELDL - F107)**

*Linda van Ryneveld*

**COLLABORATIVE ONLINE INTERNATIONAL LEARNING (COIL): SWOT ANALYSIS FROM A TECHNICAL ENGINEERING COURSE PERSPECTIVE (ELDL - S077)**

*Jaime Garbanzo-León, Luís Jorge Gonçalves and Jorge Medina*

**11:25-12:55 Session 14.6**

**Globalization and ICT // ICT and Effects on Humans**

**Room: Uranus**

**Chair: Kurt Englmeier**

**THE POTENTIAL OF USING THE BLENDED LEARNING FORMAT IN SOCIAL UNIVERSITIES IN ST. PETERSBURG (ICT - F026)**

*Olga Ignatjeva, Iuliia Platonova and Alexander Pletnev*

**THE EFFECTS OF ECONOMIC STATUS ON ACADEMIC ACHIEVEMENT - BASED ON PISA 2018 (ICT - F119)**

*Kyung Sook Lee*

**DIGITAL LEGACY IN A DIGITAL WORLD (ICT - F079)**

*Thomas Keller, Mirella Moser and Hugo Bossi*

**11:30-13:00 Session 14.7**

**Development Methodologies // Emerging Practices**

**Room: Mercure**

**Chair: Daniel Cliburn**

**FROM A PARTICIPATORY CITY TO A COLLABORATIVE CITY: VIDEO GAMES AS AN EMERGENT TOOL FOR COLLABORATIVE DESIGN (GET - F017)**

*Khalil Morad El Ghilali, Iman Meriem Benkirane, Vassilis Bourdakos and Giorgos Papakonstantinou*

**USING GAMIFICATION FOR TEAMBUILDING, COMMUNICATION AND INNOVATION – RESULTS FROM A LEGO® SERIOUS PLAY® WORKSHOP (GET - F042)**

*Julia Thurner-Irmeler and Marietta Menner*

**TRANSDISCIPLINARY FUTURES: ENHANCING GAME DESIGN AND INTERACTIVE MEDIA EDUCATION IN THE HIGHER EDUCATION LANDSCAPE (GET - R028)**

*Bradley Young*

**DEVELOPMENT OF A COMPETENCE MEASUREMENT TOOL WITHIN A CUSTOMIZABLE GAMIFICATION ENVIRONMENT (GET - R037)**

*Manuela Sachse, Christoph Laroque and Lisa Strauch*

**11:30-12:50 Session 14.8**

**Smart City as an Integrated Ecosystem**

**Room: Orion**

**Chair: Kayoko Yamamoto**

**IS TOYOTA'S WOVEN CITY A SMART CITY? (CSC - F053)**

*Hiroshi Ito and Kazuhiko Kato*

**TRANSFORMING ROME: STRATEGIC INITIATIVES FOR DEVELOPING A SMART CITY (CSC - F063)**

*Vincenzo Gattulli and Spartaco Paris*

**LEVERAGING AI FOR ENHANCING DISASTER RESILIENCE IN SMART COASTAL CITIES: STRATEGIES FOR TOMORROW'S URBAN CHALLENGES (CSC - S031)**

*Rouzbeh Nazari, Mujungu Lawrence Museru and Maryam Karimi*

**12:50 – 14:20 Lunch Break**

**14:20-15:20 Special Talk**

**Room: Panorama**

**EVERY TEACHER HAS THEIR OWN VOICEBOT: IS IT WORTH THE COSTS?**

*Cathie Norris, Associate Dean for Research & Development, University of North Texas, USA, Elliot Soloway, Arthur F. Thurnau Professor, University of Michigan, USA and Anne Tapp, Professor, Dept. of Teacher Education, College of Education, Saginaw Valley State University, USA*

**14:20-15:20 Session 14.9**

**Big Data Algorithms and Architectures**

**Room: Uranus**

**Chair: Adolf Kamuzora**

**CYBER-PHYSICAL CLOUD TESTBED ON RASPBERRY PI MICROCOMPUTERS (BigDaCI - S028)**

*Adolf Kamuzora, Zakarya Farou, Tamás Jursonovics, Peter Pogrzeba and Imre Lendák*

**LSTM NETWORK MAPPING MODEL FOR TEMPERATURE INDUCED-CRACK WIDTH VARIATION OF CONCRETE CABLE-STAYED BRIDGE (BigDaCI - S047)**

*Xujia Liu, Youliang Ding, Chunfeng Wan and Xiaonan Zhang*

**IMPLEMENTING BUSINESS INTELLIGENCE IN HIGHER EDUCATION: A ROADMAP FOR DASHBOARD DEVELOPMENT (BigDaCI - S034)**

*Romeu Sequeira, Paulo Alves, Arsénio Reis and Frederico Branco*

**14:20-15:20 Session 14.10**

**Education**

**Room: Mercure**

**Chair: Hongxiao Yu**

**DIGITAL TRANSFORMATION IN HIGHER EDUCATION: A ROADMAP (DTIM - F063)**

*Anusuyah Subbarao and Nasreen Khan*

**DEVELOPING A MUSICIAN'S DIGITAL IDENTITY AS A CO-CREATOR OF THE DIGITAL ECOSYSTEM (DTIM - F026)**

*Jelena Duras Gled and Ljerka Luic*



**14:20-15:30 Session 14.11**

**Computer Vision**

**Room: Orion**

**Chair: Attila Tanács**

**BIDIRECTIONAL FEATURE PYRAMID FOR FACE DETECTION IN DENSE CROWD SCENES (CGVCVIP - F019)**

*Yajuan Wei, Zhejie Xu, Chuan Dai and Wanju Zhang*

**VIDEO-BASED PIANO PERFORMANCE EVALUATION VIA DYNAMIC TIME WARPING (DTW) (CGVCVIP - S042)**

*Vincentius Marcell and Chuan-Kai Yang*

**BONE POROSITY AND THICKNESS EVALUATION BY ULTRASONIC SIGNALS USING PATTERN RECOGNITION (CGVCVIP - S022)**

*Maksims Mamontovs, Aleksandrs Sisojevs and Alexey Tatarinov*

**15:35 – [Conference Tour and Dinner](#)**

**Monday 15<sup>th</sup> July 2024**

**08:30-13:10 Welcome Desk – Room: Venus**

**08:55-11:00 Session 15.1**

**e-Health // Mobile Applications**

**Room: Panorama**

**Chair: Christian Mata**

**VERIFICATION OF BODY SURFACE AREA-CALCULATING ANDROID APPS (EH - F044)**

*Ian Almutawa and Iulian Neamtii*

**TOWARDS PRECISE DETECTION OF PERSONAL INFORMATION LEAKS IN MOBILE HEALTH APPS (EH - F083)**

*Alireza Ardalani, Joseph Antonucci and Iulian Neamtii*

**TEST AMPLIFICATION FOR MEDICAL APPS IMPLEMENTING LINEARLY-APPROXIMATABLE FUNCTIONS (EH - F079)**

*Ian Almutawa, Muyeed Ahmed, Iulian Neamtii and Peter Flis*

**MANAGEMENT BY DIGITAL RESPONSIBILITY IN HEALTH ORGANIZATIONS (EH - S031)**

*Jutta Juliane Meier, Christian Weigand, Jochen Bauer and Björn Eskofier (presented by Silke Weich)*

**ADVANCING USER-CENTRIC DESIGN AND TECHNOLOGY ADOPTION FOR AGING POPULATIONS: A MULTIFACETED APPROACH (EH - R056)**

*Andreea Stamate, Magda Velciu, Cosmina Paul, Luiza Spiru and Mircea Dan Marzan*

**09:00-11:00 Session 15.2**

**Sustainability and Education // Other**

**Room: Mercure**

**Chair: Fernando del Ama Gonzalo**

**GREEN IT ADOPTION BY SOFTWARE DEVELOPERS: KEY FACTORS FROM THE THEORY OF PLANNED BEHAVIOR PERSPECTIVE (STE - F019)**

*Yassine Talas and Hajer Rabii*

**ASSESSMENT OF HYGROTHERMAL PROPERTIES OF ADOBE BRICKS. RESEARCH EXPERIENCE AT KEENE STATE COLLEGE (STE - F046)**

*Fernando del Ama Gonzalo, Paul Fowler and Zachary Punch*

**A SUSTAINABILITY CAMPUS WALK AS A GAMIFIED TYPE OF BLENDED LEARNING (STE - F050)**

*Anna-Marie Tuomala and Alexandra Maksheeva*

**GENERATIONAL PERSPECTIVE ON ENERGY-EFFICIENCY AWARENESS: A COMPARATIVE STUDY (STE - F047)**

*Gabriella Francesca Amalia Pernice, Valeria Orso and Luciano Gamberini*

**09:10-11:00 Session 15.3**

**Life role and ICT // Life environment and ICT**

**Room: Uranus**

**Chair: Maria Teresa Garcia Florentino**

**E-VOTING IN THE LEBANESE PARLIAMENT: AN INVESTIGATIVE STUDY (ICT - F104)**

*Bassima Issa and Bassam Hussein*

**TECHNOLOGICAL CITIZENSHIP IN THE DIGITAL AGE (ICT - F054)**

*Anne Marte Gardenier and Lambèr Royackers*

**IMPACT OF BUSINESS-INTELLIGENCE ON IMPROVING THE ACTIVITIES OF AN NGO SUPPORTING RURAL FARMERS IN LUBUMBASHI (ICT - F108)**

*Yann Munganga, Israël Kayamba, Thierry Ilunga, Cedrick Vumisa and Efrem Mbaki*

**DIGITALIZED CITIZENS? A SUCCINCT LITERATURE REVIEW ON CHINA'S SOCIAL CREDIT SYSTEMS (ICT - S022)**

*Ariane Ollier-Malaterre*

**11:00-11:30 Coffee Break**

**11:30-12:45 Session 15.4**

**Designing e-Learning Settings**

**Room: Panorama**

**Chair: Ariane Ollier-Malaterre**

**PARTICIPATORY PROCESSES IN THE CONTEXT OF THE DEVELOPMENT AND IMPLEMENTATION OF (DIGITAL) LEARNING OFFERINGS: A CASE STUDY ON THE SUPPORT OF INTERNSHIP PHASES IN BUSINESS MANAGEMENT STUDIES (ELDL - F095)**

*Yvonne Bönninger, Anne Florence Merkle, Elke Mährlitz-Galler, Gunnar Voß, Beate von Velsen-Zerweck and Michael A. Herzog*

**STUDENTS' PERCEPTION OF INTERNATIONAL COLLABORATION AND CULTURAL UNDERSTANDING IN DIGITALLY DRIVEN EDUCATION (ELDL - F122)**

*Marina Marchisio Conte, Fabio Roman, Matteo Sacchet, Enrico Spinello, Anna Molnár, Shay Attias, Paul Tudorache, Jaroslav Kompan and Andrew Dolan*

**ADVANCING EARLY CHILDHOOD EDUCATION: A CONCEPTUAL FRAMEWORK FOR ARTIFICIAL INTELLIGENCE APPLICATIONS IN EARLY CHILDHOOD EDUCATION (ELDL - R139)**

*Hesham Alomyan*

**11:30-12:50 Session 15.5**

**Data Mining Topics and Applications**

**Room: Uranus**

**Chair: Alireza Moghimi**

**RESEARCH ON KNOWLEDGE EXTRACTION OF CHINESE SHIP TECHNICAL SPECIFICATION (BigDaCI - F045)**

*Kexin Cheng and Zuhua Jiang*

**FACE RECOGNITION ATTENDANCE SYSTEM (BigDaCI - F031)**

*Zirije Hasani, Jakup Fondaj, Rrezart Kallaba, Xhafer Muja and Endrit Jelliqi*

**COMPARATIVE ANALYSIS OF CHANGE DETECTION METHODS IN CYBER-PHYSICAL SYSTEMS (BigDaCI - S030)**

*Máté Hekfusz, Vrushali Mahajan, Adolf Kamuzora and Imre Lendák*

**11:30-12:40 Session 15.6**

**Sustainable Innovation**

**Room: Mercure**

**Chair: Gregor Eibl**

**THE ROLE OF DIGITAL TECHNOLOGIES AND STAKEHOLDERS IN PROMOTING BIODIVERSITY (DTIM - F045)**

*Mauro Capestro and Stefano Denicolai*

**UNLOCKING MENTAL WELLNESS: THE VITAL ROLE OF INSURANCE IN DIGITAL MENTAL HEALTH ENGAGEMENT (DTIM - S073)**

*Nasreen Khan, Anusuyah Subbarao, Shereen Khan, Tan Booi Chen and Rahimah Samsudin*

**ARTIFICIAL INTELLIGENCE ENABLING CIRCULAR BUSINESS MODELS IN INDUSTRIAL FIRMS (DTIM - S106)**

*Rana Mostaghel, Pejvak Oghazi, Alessandra Bagnato, Gunnar Wildforss and Yi Wei*

**12:50 Best Paper Awards Ceremony and Closing Session**

**Room: Panorama**

*Profs. Pedro Isaias and Paula Miranda*

## You are invited to check the virtual presentations below.

### Video Presentations

MCCSIS 2024

Online: Youtube

<p><a href="#"><u>IMAGE SEGMENTATION APPROACHES: A COMPARATIVE STUDY</u></a> (BIGDACI - D052) <i>Rajaa Miftah, Mostafa Hanoune and Mohssine Bentaib</i></p> <p><a href="#"><u>GRAPH NEURAL NETWORKS FOR 3D OBJECT RECOGNITION AND RECONSTRUCTION: A COMPARATIVE STUDY</u></a> (BIGDACI - F054) <i>Rajaa Miftah and Mostafa Hanoune</i></p> <p><a href="#"><u>TEXTILE PATTERN DESIGN GENERATION USING GENERATIVE ADVERSARIAL NETWORKS</u></a> (CGVVCVIP - F047) <i>Diogo Araújo, Luis Romero and Pedro Miguel Faria</i></p> <p><a href="#"><u>WORK IN PROGRESS: PRINTED CIRCUIT BOARD DEFECT DETECTION WITH PHOTOMETRIC STEREO AND NEURAL INVERSE RENDERING METHOD</u></a> (CGVVCVIP - S057) <i>Angelika Hable and Dieter P. Gruber</i></p> <p><a href="#"><u>INVESTIGATING THE IMPACT OF TREES AS NOISE BARRIER ON URBAN NOISE POLLUTION THROUGH 3D SCENE MODELLING</u></a> (CSC - F045) <i>Seanglidet Yean, Zheng Ping Heng, Guan Wei Leow, Bu Sung Lee and Peter Edwards</i></p> <p><a href="#"><u>BUSINESS ANALYTICS EDUCATION: A LITERATURE REVIEW AND IMPLICATIONS</u></a> (DTIM - S049) <i>Emrah Bilgic, Yanqing Duan and Selman Karagoz</i></p> <p><a href="#"><u>DATA CLEANING IN BIG DATA: A SYSTEMATIC LITERATURE REVIEW</u></a> (DTIM - F098) <i>Cláudio Iwata, Napoleão Galegale, Márcia Ito, Marília Azevedo, Marcelo Duduchi and Carlos Arima</i></p> <p><a href="#"><u>INTERNAL VERSUS EXTERNAL SOCIAL MEDIA? UNLEASHING THE POTENTIAL FOR IDEA-GENERATION PHASES OF THE NEW PRODUCT DEVELOPMENT (NPD) PROCESSES IN INNOVATIVE FIRMS</u></a> (DTIM – F111) <i>Ghadeer Alsaeed and Naheed Bashir</i></p> <p><a href="#"><u>CONDITIONAL DIFFUSION MODEL FOR GENERATING BIOLOGIC DATA</u></a> (EH - S069) <i>Denis Sidorenko and Anatoly Shalyto</i></p> <p><a href="#"><u>KNOWLEDGE GRAPH CONSTRUCTION VIA PRETRAINED END-TO-END TRANSFORMER MODEL</u></a> (EH - S081) <i>Denis Sidorenko and Anatoly Shalyto</i></p> <p><a href="#"><u>AI-BASED APPROACH FOR EARLY DIAGNOSIS SUPPORT IN HEMORRHAGIC STROKE</u></a> (EH - F082) <i>Athanase Sawadogo, Lydie Simone Tapsoba, Rodrigue Kafando, Abdoul Kader Kabore, Aminata Sabane and Tegawende François d'Assise Bisyande</i></p> <p><a href="#"><u>INTEGRATION OF ARTIFICIAL INTELLIGENCE IN TEACHER TRAINING: TRAINING TO INNOVATE IN THE DIGITAL AGE</u></a> (ELDL - F058) <i>Bruno F. Gonçalves</i></p> <p><a href="#"><u>EXTENDING COMMON USABILITY HEURISTICS LIST WITH LEARNER-CENTERED STRATEGIES FOR AN EXHAUSTIVE E-LEARNING DESIGN ASSESSMENT</u></a> (ELDL - F089) <i>Nadia Menad</i></p> <p><a href="#"><u>THE PDSA APPROACH TO UNDERSTANDING SELF-REGULATED LEARNING STRATEGIES</u></a> (ELDL – S103) <i>Yassine Safsouf</i></p> <p><a href="#"><u>DIGITAL EDUCATION IN THE TEACHING AND LEARNING OF EXPONENTIAL AND LOGARITHMIC FUNCTIONS</u></a> (ELDL – F111) <i>Alberto Codeço, Pedro Miguel Faria and Isabel Araújo</i></p> <p><a href="#"><u>DOWNFALL SEED SPREAD. A STACK-BASED ALGORITHM FOR THE AUTONOMOUS GENERATION OF 2D MAPS IN VIDEOGAMES</u></a> (GET - F033) <i>Lenin Acosta-Guevara, Félix Fernández-Peña, Pilar Urrutia-Urrutia and Diana Coello-Fiallos</i></p> <p><a href="#"><u>UNFOLDING EDUCATIONAL GAMES AS SOFTWARE: GAME DESIGNERS' PRACTICES AND PLAYERS' PSYCHOLOGY</u></a> (GET - F046) <i>Mifrah Ahmad</i></p> <p><a href="#"><u>SERIOUS GAME FOR ADHD DIAGNOSIS</u></a> (GET - S047) <i>Georgios Liapis, Kejsi Rrasa, Michael Roditis, Kostas Klimantakis and Ioannis Vlahavas</i></p> <p><a href="#"><u>ACHIEVING MOTIVATION-PSYCHOLOGICAL IMMERSION IN TECHNOLOGY-ASSISTED LEARNING. CONSIDERING EMOTIONAL STATES</u></a> (GET - R057) <i>Ehm Kannegieser and Robert Külpmann</i></p> <p><a href="#"><u>DIDACTIC GAME ABOUT RENEWABLE AND SUSTAINABLE ENERGIES</u></a> (ICT - F041) <i>Pedro Simões and Piedade Carvalho</i></p> <p><a href="#"><u>DETERMINANTS OF INTENTION TO DONATE THROUGH CROWDFUNDING PLATFORMS</u></a> (ICT - F044) <i>Dekar Urumsah and Andi Agung Kurniawan Arifuddin</i></p> <p><a href="#"><u>FAKE NEWS IN THE KNOWLEDGE SOCIETY: A QUANTITATIVE ANALYSIS IN PORTUGAL</u></a> (ICT - F143) <i>Natália Gomes, Pedro Tadeu, Carlos Brigas and Elisabete Brito</i></p> <p><a href="#"><u>DESIGN GUIDELINES FOR PERSONALITY BASED INTERFACES</u></a> (IHCI - F026) <i>Dina A. Zekry, Khaled Nagaty and Gerard T. McKee</i></p> <p><a href="#"><u>EXPLORING THE INCORPORATION OF ARTIFICIAL INTELLIGENCE INTO DIGITAL TECHNOLOGIES FOR ART THERAPY</u></a> (IHCI - R039) <i>Augustina Ao Liu and Yuxi Ethan Cui</i></p> <p><a href="#"><u>EFFECTS OF LEARNING ENVIRONMENTS ON STUDENTS' SKILLS DEVELOPMENT: A COMPARATIVE VIEW OF EIGHT EUROPEAN COUNTRIES</u></a> (STE - F024) <i>Ana Tecilazić and Biljana Birac</i></p>
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