

# Final Program of the MCCSIS 2023

## Multi Conference on Computer Science and Information Systems

### Conference Sessions:

e-Learning and Digital Learning 2023

ICT, Society and Human Beings 2023

e-Health 2023

Sustainability, Technology and Education 2023

### Saturday 15<sup>th</sup> July 2023

08:30-19:25 Welcome Desk

09:15 – 09:30 Session O – Opening Session

Room Belmonte

*Profs. Pedro Isaias and Piet Kommers*

09:40-10:55 FRP 15.1

Primary and Secondary Education

Room Belmonte

*Chair: Veronika Makarova*

[A SURVEY WITH FUTURE PRIMARY SCHOOL TEACHERS ON USING GEOGEBRA FOR 2D AND 3D SHAPES \(F030\)](#)

*Vittoria Bonanzinga*

[DESIGN DIDACTIC ACTIVITIES USING GAMIFICATION: THE PERSPECTIVE OF TEACHERS \(F138\)](#)

*Cecilia Fissore, Valeria Fradiante, Marina Marchisio and Claudio Pardini*

[ENGAGING WAYS OF LEARNING: ESPORTS AND VIDEO GAMES AS A LEARNING ENVIRONMENT FOR STUDENTS IN BRAZIL \(R032\)](#)

*Andréa Corrêa Lagareiro and Claudio Alexandre Kovacs Pires de Godoi*

09:40-10:50 FSP 15.2

ICT and effects on humans // Other

Room Guimarães

*Chair: Kristiina Korjonen-Kuusipuro*

[“UNLOCKING MEMORIES, REIGNITING JOY”: A FEASIBILITY STUDY ON PERSONALIZED INTERACTIVE GAMES TO ENHANCE REMINISCENCE FOR PEOPLE WITH ALZHEIMER’S DISEASE \(F094\)](#)

*Anis Hasliza Abu Hashim, Emma Nuraihan Mior Ibrahim, Marina Ismail and Juhaida Ismail*

[EXPLORING THE POTENTIAL OF MUSICAL ACTIVITY SYSTEMS FOR PEOPLE WITH DEMENTIA AND THEIR CAREGIVERS \(S072\)](#)

*Kevin C. Tseng, Chieh-Yun Liu and Tsai-Husan Tsai*

[ADOPTION ATTITUDE AND CONTINUANCE INTENTION TO ONLINE FINFLUENCER VIDEO USAGE: THE ROLE OF TRUST \(S092\)](#)

*Emine Cigdem Canatan, Ali Coskun and Aysegul Toker*

09:40-11:10 FRP 15.3

Actions for reaching the Good Information Society // Quality of life // Other

Room Bragança

*Chair: Jari Laarni*

[SEARCHING FOR FALLS TRAJECTORIES OF THE ELDERLY \(F052\)](#)

*Ndiaye Amadou Maguette Djiogomaye, Michel Harel, Joseph Ngatchou-Wandji, Justine Trimouillas, Nassima Toumi, Caroline Gayot, Sophie Boyer and Achille Edem Tchalla*

[PUBLIC ATTITUDE TOWARD PARTICIPATION IN DISCUSSIONS ON ARTIFICIAL INTELLIGENCE IN JAPAN \(F057\)](#)

*Yukiko Maruyama*

[RESPONSIBLE TECHNOLOGY: THINKING ON THIS VITAL CONCEPT \(R056\)](#)

*Marcel J. Simonette and Edison Spina*

[DIGITAL CHALLENGES OF WORK MODEL \(F067\)](#)

*Katarina Šiber Makar, Anita Belak Bradač and Ivana Ogrizek Biškupić*

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

**11:30-13:00 FSP 15.4**

**Instructional Design Issues**

**Room Belmonte**

**Chair: Fabian Dillenhöfer**

**[PANDEMIC IMPACT ON ARGENTINIAN HIGHER EDUCATION. THE CASE OF THE NATIONAL UNIVERSITY OF LA PLATA \(F142\)](#)**

*Francisco Javier Díaz, María Alejandra Osorio, Ana Paola Amadeo and Isabel Kimura*

**[DESIGNING A PICTURE E-BOOK INTERFACE WITH A READ-ALoud FUNCTION TO IMPROVE ELEMENTARY SCHOOL STUDENTS' READING INTEREST \(S123\)](#)**

*Gloria Yi-Ming Kao and Pei-Wen Lin*

**[CHALLENGES IN DESIGNING AN ONLINE ACADEMIC WRITING TUTORIAL FOR INTERNATIONAL EFL/ESL SPEAKING GRADUATE STUDENTS \(S025\)](#)**

*Zhengxiang Wang, Zhi Li and Veronika Makarova*

**[AN ANALYSIS OF PATHS TO RECOVER DEFICIENCIES IN THE LOGICAL-MATHEMATICAL FIELD DURING TWO YEARS OF THE PANDEMIC \(S058\)](#)**

*Vittoria Bonanzinga and David Barilla*

**11:30-13:05 FSP 15.5**

**Globalization and ICT // Sustainability, Democracy**

**Room Guimarães**

**Chair: Anis Hasliza Abu Hashim**

**[CORÈHEALTH: OPERATING CENTER OF TELEMEDICINE FOR CHRONIC DISEASES AND CLINICAL NETWORKS OF APULIA REGION \(F031\)](#)**

*Giovanni Gorgoni, Pasquale Notarangelo and Vito Petrarolo*

**[THE ROLE OF BUILT HERITAGE WITHIN EDUCATION FOR SUSTAINABLE DEVELOPMENT THROUGH MOBILE AUGMENTED REALITY GAMES \(F036\)](#)**

*João Ferreira-Santos and Lúcia Pombo*

**[SUSTAINABLE TRANSPORT SYSTEM AS A BASIS IN THE FUNCTIONAL ASPECT OF SUSTAINABLE MOBILITY \(S051\)](#)**

*Natalya Shramenko and Christoph Hupfer*

**[EMPLOYABILITY OF ICT GRADUATES IN CROATIA \(F055\)](#)**

*Ana Tecilazić*

**11:30-12:50 FSP 15.6**

**Sustainability, Technology and Education**

**Room Bragança**

**Chair: Anne-Marie Tuomala**

**[“A PIECE OF CAKE” - SUSTAINABLE EDUCATION PRACTICES WITH TRANSFORMER MODELS \(F022\)](#)**

*Francisco de Arriba-Pérez, Silvia García-Méndez and Francisco J. González-Castaño*

**[CONSUMER ATTITUDES AND GREEN SCEPTICISM TOWARDS ENERGY-EFFICIENT HOUSEHOLD APPLIANCES: FINDINGS FROM A PRELIMINARY STUDY \(F033\)](#)**

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

**[USING PARTICIPATORY ACTION RESEARCH TO IMPROVE STUDENT OUTCOMES IN FASHION SUSTAINABILITY EDUCATION \(S016\)](#)**

*Alexandra Howell Abolo and Elizabeth Shorrocks*

**13:00 – 14:15 Lunch Break**

**14:15 – 15:15 Session KL1 – Keynote Presentation**

**Room Belmonte**

**[HOW THE FAILURE OF E-LEARNING DURING THE COVID-19 LOCKDOWN COULD HAVE BEEN AVOIDED THROUGH ENHANCED LEARNING DESIGN ALIGNMENT](#)**

*Thomas C. Reeves, Ph.D., Professor Emeritus of Learning, Design, and Technology, The University of Georgia, USA*

**15:15-16:20 FSP 15.7**  
**e-Learning Delivery Issues**  
**Room Belmonte**  
**Chair: Jun Iio**

[\*\*ELECTRONIC VISUAL LEARNING AIDS FOR THE EFFECTIVE CLASS IN HIGHER EDUCATION TOWARDS METACOGNITIVE LEARNING \(F019\)\*\*](#)

*Dileta Jatautaite, Edita Butrime and Vaiva Zuzevičiūtė*

[\*\*ROLE OF METAVERSE IN E-LEARNING AND ITS CONTRIBUTION TO IMPROVING THE QUALITY OF EDUCATION \(S018\)\*\*](#)

*Kyriakos Kouveliotis and Maryam Mansuri*

[\*\*TYPES OF AFFORDANCES AND THEIR ROLE IN QUANTITATIVE UX/UI RESEARCH. A SCOPING REVIEW OF AFFORDANCES-FOCUSED LITERATURE \(F129\)\*\*](#)

*Ionut-Dorin Stanciu, Oana Teodora Cramariuc and Irina Georgiana Mocanu*

**15:15-16:20 FSP 15.8**  
**Life environment and ICT**  
**Room Guimarães**  
**Chair: Natalya Shramenko**

[\*\*PROCEDURE DEVELOPMENT PRACTICES IN FINNISH NUCLEAR POWER PLANTS \(F033\)\*\*](#)

*Jari Laarni and Marja Liinasuo*

[\*\*BONE+: AN AI-DRIVEN CHATBOT PLATFORM FOR PROMOTING BEHAVIOR CHANGE IN BONE HEALTH AND OSTEOPOROSIS PREVENTION \(S088\)\*\*](#)

*Tsai-Hsuan Tsai, Yue-Shan Hsieh, Chan-Shien Ho, Yu-Cheng Pei and Chien-Lung Hsu*

[\*\*ONLINE TEACHING IN A UNIVERSITY ENVIRONMENT WITH LIMITED INTERNET ACCESS: CASE OF CONGOLESE UNIVERSITIES \(F041\)\*\*](#)

*Efrem Mbaki Luzayisu*

**15:15 – 16:15 Tutorial - Part I**  
**Room Bragança**

[\*\*BECOMING MORE RESILIENT BY USING RESEARCH-SUPPORTED STANDARDS AND PRACTICES TO IMPROVE COURSE/PROGRAM DESIGN FOR MULTIPLE DELIVERY MODALITIES\*\*](#)

*Dr Yaping Gao, EDD, Vice President, Member Services & Partnerships Quality Matters, USA*

**16:20-16:50 Coffee Break**

**16:50 – 18:50 Tutorial - Part II**  
**Room Bragança**

[\*\*BECOMING MORE RESILIENT BY USING RESEARCH-SUPPORTED STANDARDS AND PRACTICES TO IMPROVE COURSE/PROGRAM DESIGN FOR MULTIPLE DELIVERY MODALITIES\*\*](#)

*Dr Yaping Gao, EDD, Vice President, Member Services & Partnerships Quality Matters, USA*

**16:50 – 17:50 Panel**  
**Room Belmonte**

[\*\*CHATGPT IN EDUCATION: BENEFITS AND CHALLENGES\*\*](#)

*Pedro Isaias, The University of New South Wales (UNSW – Sydney), Australia and Paula Miranda, Polytechnic Institute of Setubal, Portugal*

**16:50-19:20 Session FSPP 15.9**  
**Research Issues // eHealth Architectures**  
**Room Guimarães**  
**Chair: Eisuke Hanada**

**[DEVELOPMENT OF AN INTEROPERABILITY PLATFORM FOR INFORMATION SYSTEMS IN THE EHEALTH DOMAIN, FOR THE PORTUGUESE HEALTH SYSTEM \(F033\)](#)**

*José D. Pereira, Miguel A. Brito and Ricardo J. Machado*

**[CONNECTED PUERPERIUM IN PORTUGAL: A DIGITAL SYSTEM FOR AN INTEGRATIVE POSTPARTUM CARE \(F064\)](#)**

*Carla V. Leite, Tala Al Shrbaji, Hannakaisa Niela-Vilen, Ana Patrícia Oliveira and Rita Oliveira*

**[PHYSICAL ACTIVITY PROMOTION AND DIGITAL INTERVENTIONS \(F047\)](#)**

*Jennifer Santos and Rita Oliveira*

**[FROM DATA TO DECISION: EXAMINING REAL-WORLD DATA ANALYSIS TRENDS \(S043\)](#)**

*Alfredo Tirado-Ramos, Xinwen Xu, Yuxuan Peng, Manuel Castañón-Puga, Luis Enrique Palafox-Maestre and E. Dante Suarez*

**[AN IOT-BASED SYSTEM FOR MEASURING PENIBILITY AT WORK \(S066\)](#)**

*Rémi Bastide*

**[CONSTRUCTING A STROKE DIAGNOSIS AND PROGNOSIS SYSTEM BASED ON THE BPN ALGORITHM USING TC-99M-ECD SPECT IMAGES \(P022\)](#)**

*Jui-Jen Chen, Hung-Nien Chang Chien and Yen-Hsiang Chang*

**[BLOOD PRESSURE PREDICTION SYSTEM BASED ARTIFICIAL INTELLIGENCE \(P034\)](#)**

*Yonghee Lee and Hakjin Kim*

**17:50-19:25 Session FSPP 15.10**  
**Evaluation of Student and Tutor Satisfaction // Case Studies**  
**Room Belmonte**  
**Chair: Rose Sebastieneli**

**[DEVELOPMENT OF MODULAR E-LEARNING MATERIALS AS OER FOR A MOOC \(F088\)](#)**

*Fabian Dillenhöfer, Bernd Künne, Silke Frye, Tobias Haertel, Laura Altland, Frederike Kossack, Beate Bender, Alina Sersch, Peter Gust, Yannick Lattner, Matthias Müller, Dominik Hinse, Klaus Pantke, Jens Bechthold, Julia Frank and Tim Richard*

**[ENHANCING ACCESSIBILITY IN HIGHER EDUCATION \(S027\)](#)**

*Paula Escudeiro and Márcia Campos Gouveia*

**[PARTICIPANTS' NET PROMOTER SCORE ON THE STUDENTS MEET INTERNATIONALLY THROUGH LANGUAGE EDUCATION PROJECT \(S087\)](#)**

*Jun Iio, Shigenori Wakabayashi, Junji Sakurai and Yuya Nakagawa*

**[CORPORATE LEARNING ANALYTICS – A CASE STUDY IN GERMAN FOOD RETAIL \(P075\)](#)**

*Mathias Groß*

**[PREDICTING DROP-OUT INTENTIONS FROM STUDENTS' PERCEPTIONS OF ACADEMIC FEEDBACK AND PROCRASTINATION TENDENCIES. 'CAN PERSONALIZED FEEDBACK SOMETIMES BE TOO MUCH OF A GOOD THING?' \(F097\)](#)**

*Ionut-Dorin Stanciu and Liliana Ciascai*

**Sunday, 16<sup>th</sup> July 2023**

**08:30-15:30 Welcome Desk**

**08:50-11:00 Session FSDP 16.1**

**Higher and Further Education**

**Room Bragança**

**Chair: Cathie Norris**

**[EU SECURITY AND DEFENCE STUDENTS' PERCEPTION AND USE OF DIGITAL COMPETENCIES IN HIGHER EDUCATION \(F139\)](#)**

*Marina Marchisio, Fabio Roman, Matteo Sacchet, Enrico Spinello, Linko Nikolov, Malgorzata Grzelak and Alin-Constantin Sava*

**[VIDEO-PLAYING LOGS FOR ANALOGOUS VIDEOS REVEAL LEARNERS' PROACTIVE LEARNING STRATEGIES \(F022\)](#)**

*Satoshi Yazawa, Masashi Inutsuka, Terutaka Komahashi, Kento Kanemura and Kazuo Hiraki*

**[THE TUTOR'S PERCEPTION ON THE ACTIVITY OF A STUDENT IN GROUP ACTIVITY IN REMOTE MODE \(S124\)](#)**

*Bertil P. Marques, Marílio Cardoso and Rosa M. Reis*

**[VR GAME FOR IMPROVING SPATIAL UNDERSTANDING \(S134\)](#)**

*Abdullah Doksanbir, Fabian Dillenhöfer, Jan Lennart Kraske, Martin Möller and Bernd Künne*

**[INVESTIGATING CHARACTERISTICS OF TARGET HIGHER EDUCATION INSTITUTIONS ON THE PERFORMANCE OF MERGERS AND ACQUISITIONS IN GERMANY \(D021\)](#)**

*Soheila Shahidi Asl*

**08:45-10:15 Session FP 16.2**

**Cross-cultural // Class**

**Room Guimarães**

**Chair: Tsai-Hsuan Tsai**

**[AN EXPLORATORY STUDY ABOUT THE ROLE OF GENDER IN CYBERSECURITY AWARENESS FOR CHILDREN \(F059\)](#)**

*Farzana Quayyum and Letizia Jaccheri*

**[A COMPARATIVE ANALYSIS OF URBAN AND RURAL BROADBAND PENETRATION AND ACCESS TRENDS IN SOUTH AFRICA \(F089\)](#)**

*Sicelokuhle Oscar Ngwenya, Reolyn Heymann, Theo G. Swart and Albert Lysko*

**[DIGITAL EXPERIENCES FOR THE PROMOTION OF CULTURAL HERITAGE \(F100\)](#)**

*Dalia Gallico*

**10:15-11:00 Talk I**

**Room Guimarães**

**[THE CRUCIAL, MULTI-FACETED AND EVOLVING ROLE OF FACULTY IN DELIVERING QUALITY EDUCATION AND ENSURING STUDENT SUCCESS](#)**

*Dr Yaping Gao, EDD, Vice President, Member Services & Partnerships Quality Matters, USA*

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

**11:30-13:05 Session SRP 16.3**

**Distance Learning // e-Learning Pedagogical Strategies**

**Room Guimarães**

**Chair: Alina Sersch**

**[THE ITERATIVE DEVELOPMENT OF OPEN BLENDED TEACHING COMPETENCIES, FRAMEWORKS, AND RESOURCES \(S053\)](#)**

*Jered Borup*

**[INTERNATIONAL COOPERATION IN THE NORDIC AND BALTIC COUNTRIES. THROUGH SEMI-ONLINE TEACHER TRAINING AND RESEARCH \(S152\)](#)**

*Kristina Mullamaa*

**[ONLINE MS IN BUSINESS ANALYTICS BEST PRACTICES AND BEYOND \(S057\)](#)**

*Rose Sebastianelli and Nabil Tamimi*

**[THE INCLUSIVE EDUCATIONAL POTENTIAL OF VIRTUAL REALITY FROM AN ETHNO-RACIAL APPROACH: DEVELOPING DIGITAL SKILLS FOR THE CONTEMPORARY WORLD \(S082\)](#)**

*Wanderlucy Czeszak and Romero Tori*

**[AN OVERVIEW OF SOCIAL NETWORKS IN EDUCATION: HIGHLIGHTING THE ROLE OF ONLINE FEEDBACK \(R074\)](#)**

*Elham Akbari*

**11:30-13:00 Session FP 16.4**  
**eHealth Decision Support Systems**  
**Room Bragança**  
**Chair: Abderrahim Derouiche**

[\*\*DECISION-MAKING REGARDING LABOR AND BIRTH: AN ANALYSIS OF ONLINE SYSTEMS FOR EXPECTANT PARENTS \(F042\)\*\*](#)

*Carla V. Leite, Rita Oliveira, Catarina Lélis and Ana Patrícia Oliveira*

[\*\*DEVELOPMENT OF A MOBILE APP DIAGNOSTIC SYSTEM FOR TROPICAL FEBRILE DISEASES \(F017\)\*\*](#)

*Okure Obot, Daniel Asuquo, Kingsley Attai, Ekemini Johnson, Kiirya Arnold, Mercy Edoho, Moses Ekpenyong, Christy Akwaowo, Owoidoho Udoh, Victoria Usen and Faith-Michael Uzoka*

[\*\*EXPLAINABLE ARTIFICIAL INTELLIGENCE IN THE DIAGNOSIS OF CARDIOVASCULAR DISEASES IN SMALL SAMPLES \(F068\)\*\*](#)

*Natalia Gusarova, Ivan Tomilov, Danil Zmieviskii, Vladimir Shilonosov, Tatiana Poleyeva and Aleksandra Vatian*

**13:00 – 14:15 Lunch Break**

**14:15-15:15 Special Talk**  
**Room Belmonte**

[\*\*TODAY'S YOUNG LEARNERS DO NOT WANT TO USE PAPER!\*\*](#)

*Cathie Norris, Associate Dean for Research & Development, University of North Texas, USA and Elliot Soloway, Arthur F. Thurnau Professor, University of Michigan, USA*

**15:25 – [Conference Tour and Dinner](#)**

## **Monday, 17<sup>th</sup> July 2023**

**08:30-13:00 Welcome Desk**

**08:50-10:05 Session FP 17.1**  
**ICT and effects on humans**  
**Room Belmonte**  
**Chair: Hesham Alomyan**

[\*\*PROMISES OF DIGITAL IMAGINARIES AND RE-THINKING IDEALS OF DIGITAL YOUTH \(F048\)\*\*](#)

*Sari Tuuva-Hongisto and Kristiina Korjonen-Kuusipuro*

[\*\*UNIVERSITY STUDENTS' ATTITUDES TOWARDS ONLINE LEARNING DURING THE COVID-19 PANDEMIC \(F071\)\*\*](#)

*Hesham Alomyan*

[\*\*CYBERAGGRESSION AMONG YOUNG STUDENTS IN THE DEMOCRATIC REPUBLIC OF THE CONGO \(DRC\): PREVALENCE AND RISK FACTORS \(F043\)\*\*](#)

*Efrem Mbaki Luzayisu and Jean-Pierre Zamwangana Tungu*

**08:50-11:00 Session FSDP 17.2**  
**Management Issues // Applications**  
**Room Guimarães**  
**Chair: Okure Obot**

[\*\*EXAMINATION OF UNREMITTING KIDNEY ILLNESS BY UTILIZING MACHINE LEARNING CLASSIFIERS \(F058\)\*\*](#)

*Fareeha Sarwar, Nuno Garrido, Pedro Sebastião and Akmal Rehan*

[\*\*INNOVATIVE NUTRITIONAL DIGITAL BIOMARKERS BASED ON ACTIMETRIC BEHAVIOR MONITORING \(F023\)\*\*](#)

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

[\*\*HOW TO INTEGRATE WIRELESS COMMUNICATION INTO THE HOSPITAL INFRASTRUCTURE TO ENSURE ITS SAFETY AND EFFECTIVENESS \(S035\)\*\*](#)

*Eisuke Hanada*

[\*\*COMPUTER MODEL FOR PREDICTING EFFECTS OF STRAIN-SPECIFIC IMMUNITY \(S046\)\*\*](#)

*Manuel Castañón – Puga, Camilo Khatchikian, E. Dante Suarez, Dustin Brisson and Alfredo Tirado – Ramos*

[\*\*ADOPTION AND DIFFUSION PROCESSES OF TELEMEDICINE IN HEALTHCARE SYSTEMS \(D021\)\*\*](#)

*Yvonne Rauner and Harald Stummer*

**10:10-11:00 Session FSP 17.3**  
**Sustainability, Technology and Education**  
**Room Belmonte**  
**Chair: Silvia García-Méndez**

[\*\*YOUNG PROFESSIONALS' CDW RECYCLING OBSERVATIONS \(F018\)\*\*](#)

*Anne-Marie Tuomala*

[\*\*LIFE CYCLE ASSESSMENT OF THE EXTRACTION OF CONDENSED TANNINS FROM ACACIA BARK RESIDUES \(S064\)\*\*](#)

*Ricardo Simões, Carla L. Simões, Ricardo Ferreira and Ana C. Rodrigues*

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

**11:30-12:55 Session FSRP 17.4**  
**ICT skills education // Learning Analytics // Other**  
**Room Belmonte**  
**Chair: Elliot Soloway**

[\*\*THE ROLE OF NEW TECHNOLOGY IN EDUCATION OF PROGRAMMING NOVICES \(S128\)\*\*](#)

*Mario Konecki, Mladen Konecki and Ivana Ogrizek Biškupić*

[\*\*INVESTIGATION OF INTERACTIVE VIDEO-WATCHING PATTERNS AND VIEWS BY CONTENT TYPE \(S091\)\*\*](#)

*Cansu Gokrem and Emine Sendurur*

[\*\*PROPOSAL FOR A SERIOUS GAME ON THE THEME OF PERSONAL INFORMATION \(R086\)\*\*](#)

*Rin Kokubo and Jun Iio*

[\*\*THE ROLE OF DOMAIN FAMILIARITY TO LEARN INTRODUCTORY PROGRAMMING \(R092\)\*\*](#)

*Polat Sendurur and Emine Sendurur*

[\*\*HIGH-PERFORMING ONLINE STUDENT BEHAVIOURS \(F052\)\*\*](#)

*Rhodora Abadia, Sisi Liu and Qiaoling Sun*

**12:55 Best Paper Awards Ceremony and Closing Session**  
**Room Belmonte**

*Profs. Pedro Isaias and Piet Kommers*