

CALL FOR PAPERS

**17th Multi Conference on Computer Science
and Information Systems**

mccsis 2023

Porto, Portugal 15-18 July

Types of Contributions

Full Papers, Short Papers, Reflection Papers,
Doctoral Consortium, Posters/Demonstrations,
Tutorials, Panels, Invited Talks,
Corporate Showcases

International Conferences part of the MCCSIS 2023:

- » e-Learning and Digital Learning – ELDL 2023
- » Game and Entertainment Technologies – GET 2023
- » ICT, Society, and Human Beings – ICT 2023
- » Interfaces and Human Computer Interaction – IHCI 2023
- » Computer Graphics, Visualization, Computer Vision and Image Processing – CGVCVIP 2023
- » e-Health – EH 2023
- » Connected Smart Cities - CSC 2023
- » Big Data Analytics, Data Mining and Computational Intelligence – BigDaCI 2023
- » Sustainability, Technology and Education - STE 2023

Important Dates

Check each conference webpage

<http://www.mccsis.org>

Organized by:



iadis

international association for development of the information society

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 15th 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 Dillenhofer

[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, 16th 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 Zmievskii, 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, 17th 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

Final Program of the MCCSIS 2023

Multi Conference on Computer Science and Information Systems

Conference Sessions:

Interfaces and Human Computer Interaction 2023

Game and Entertainment Technologies 2023

Computer Graphics, Visualization, Computer Vision and Image Processing 2023

Big Data Analytics, Data Mining and Computational Intelligence 2023

Connected Smart Cities 2023

Sunday, 16th July 2023

08:30-15:30 Welcome Desk

09:45 – 10:00 Session O – Opening Session
(Room Belmonte)

Profs. Yingcai Xiao and Pedro Isaias

10:00 – 11:00 Session KL – Keynote Presentation
(Room Belmonte)

[FROM HCI AND HUMAN-BUILDING INTERACTION TO CITIZEN-ENVIRONMENT INTERACTION](#)

Dr. rer.nat. Dr. phil. Norbert A. Streitz, Scientific Director, Smart Future Initiative, Germany

11:00-11:30 Coffee Break

11:30-12:50 Session FSRP 16.1
User studies and fieldwork // Other
(Room Belmonte)

Chair: Ashraf Khalil

[DESIGN AND DEVELOPMENT OF ONLINE CUSTOMISED CLOTHING MARKETPLACE: A PRELIMINARY STUDY ON CONSUMER PREFERENCES \(F049\)](#)

Sin Ying Ng and Pik Yin Mok

[IS GESTURE-BASED INTERACTION EQUALLY VIABLE IN MANUAL AND AUTONOMOUS DRIVING? \(S022\)](#)

Lisa Graichen and Matthias Graichen

[SIMPLE MEASUREMENT OF USER RESPONSE \(R063\)](#)

Melanie Steiner and Dieter Meiller

[INVESTIGATING AUTHENTICATION OF CHOICE USED BY SECURITY CRITICAL PROFESSIONALS IN HEALTH SETTING \(F057\)](#)

Oluwadamilola Arinde, Jinjuan Feng and Ziyang Tang

13:00 – 14:15 Lunch Break

14:15-15:05 Session SRP 16.2
Security, Privacy and Identity Issues in Smart Cities // Other
(Room Guimarães)

Chair: Piet Kommers

[DEVELOPMENT OF THE PROTOTYPE OF CLOUD-BASED FOOD SAFETY TRACEABILITY SYSTEM \(S021\)](#)

Pradit Songsangyos, Arnut Ruttanatrakul and Supakorn Iamamporn

[OVERCOMING ZERO-TRUST ENVIRONMENTS FOR SMART CITY DATA AND DEVICES \(R026\)](#)

Hebberly Ahatlan

[DEVELOPMENT OF THE ASSISTIVE TECHNOLOGY MODEL FOR THE ELDER CARE SYSTEM \(R030\)](#)

Supakorn Iamamporn, Varit Kankaew, Pradit Songsangyos and Jirawadee Yingkongdee

14:15-15:10 Session FPP 16.3

Computer Graphics

(Room Bragança)

Chair: Yingcai Xiao

[PERSONALIZED AVATARS CREATION BASED ON REALISTIC 3D FACE RECONSTRUCTION \(F054\)](#)

Yueming Ding and Pik Yin Mok

[MESH DECIMATION FOR SHADOW TERMINATOR \(P065\)](#)

Kristian Spoerer and Weibin Wang

[STREAMLINE TRACING VISUALIZATION OF FLOW ON SURFACES \(F029\)](#)

Fukun Wu, Yi Cao and Qingli Dong

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

Monday, 17th July 2023

08:30-16:10 Welcome Desk

08:55-11:00 Session FSP 17.1

Internet of Everything (connecting data, process and people) // Connecting infrastructure, applications and people into cities
(Room Bragança)

Chair: Pradit Songsangyos

[SMART CITY CONSTRUCTION AT ITS BEST: THE URBAN CASE STUDY OF SMART TUNNEL LIVELIHOOD SYSTEM \(F053\)](#)

Zeyi He and Haidong Wu

[CITIZEN SCIENCE PLATFORM FOR RADON POTENTIAL ASSESSMENT AND RADON RISK AWARENESS \(F077\)](#)

Paulo Meneses, Nuno Lopes, Patricia Leite, Paulo Teixeira and Joaquim P. Silva

[SITUATION-AWARENESS INTERACTIVE SELF-CHECK-IN SERVICES BY SMARTPHONES AND SMART LOCKS \(S069\)](#)

John Yoon and Jin Sup An

[TOWARDS A DATA-DRIVEN CITY: AN ANALYSIS OF CITIES' DATA STRATEGIES \(F073\)](#)

Yusuf Bozkurt, Simon Flaisch, Dieter Hertweck and Alexander Rossmann

[USING A SMART CITY DISTRICT SIMULATOR TO TEST NEW DIGITAL SERVICES \(F023\)](#)

Philipp Neuschwander, Frank Elberzhager, Arian Ajdari and Phil Stüpfert

11:00-11:30 Coffee Break

11:30-13:15 Session FRP 17.2

Big Data Applications // Computational Intelligent Frameworks

(Room Guimarães)

Chair: Krzysztof Dzieciolowski

[POTENTIALS, LIMITS AND CHALLENGES OF USING DATA SCIENCE METHODS TO IMPROVE QUALITY PROCESSES IN MANUFACTURING INDUSTRY \(F029\)](#)

Jens Kiefer, Lisa Ollinger, Melina Precht and Kai Beer

[SOCIAL NETWORKS IN CREDIT SCORING: A MACHINE LEARNING APPROACH \(F047\)](#)

Ahmad Abd Rabuh, Mark Xu and Renatas Kizys

[USING MULTI ADAPTIVE NEURO FUZZY INFERENCE SYSTEMS TO IDENTIFY FRAUD BANK CHECKS \(F025\)](#)

Ying Bai and Dali Wang

[TOWARDS EXPLAINABLE MACHINE LEARNING OPERATIONS \(MLOPS\) \(R073\)](#)

Krzysztof Dzieciolowski and Ningsheng Zhao

11:30-12:35 Session FSP 17.3

**Immersion and engagement // Psychological, social, and cultural differences in perception and participation
(Room Bragança)**

Chair: Chuxuan Zhang

[USING ELECTROENCEPHALOGRAPHY TO SURVEY THE PHYSIOLOGY OF IMMERSION AND FLOW \(F049\)](#)

Ehm Kannegiesser, Sarah Münch and Johannes Ratz

**[THE IMPACT OF PERCEIVED CHALLENGE ON NARRATIVE IMMERSION IN RPG VIDEO GAMES:
A PRELIMINARY STUDY \(S058\)](#)**

José Miguel Domingues, Vítor Filipe, Filipe Luz and André Carita

**[RANDOM REWARD MECHANISMS \(LOOT BOXES\): BEHAVIORAL ECONOMICS AS A REGULATORY SOLUTION
IN BRAZILIAN LAW \(F027\)](#)**

Laiane Maris Caetano Fantini

13:00 – 14:15 Lunch Break

14:15-16:15 Session FDP 17.4

**Usability // Participatory design and Cooperative design techniques
(Room Belmonte)**

Chair: Federica Nenna

**[ASSESSING THE USABILITY OF A MOBILE APP IN A REMOTE ENVIRONMENT: COMBINING THINK ALOUD
WITH A USER EXPERIENCE SCALE QUESTIONNAIRE \(F043\)](#)**

Virginia Tiradentes Souto and Luíza Reolon Cabral

[ACCESSIBILITY ASSESSMENT OF MOBILE APPLICATIONS: THE CASE OF THE HOMINERE APP \(F046\)](#)

Daniel Alves, Diana Siso, Joana Tavares, Juliana Gouveia, Oksana Tymoshchuk and Rita Oliveira

**[A MOBILE HEALTH DESIGN PROCESS TO IMPROVE COMMUNITY HEALTH WORKERS' ENGAGEMENT WITH
MOBILE HEALTH \(F047\)](#)**

Tochukwu Ikwunne, Lucy Hederman and P. J. Wall

[DEFINING AND EVALUATING A GRAPHICAL USER INTERFACE FOR A HOUSING CO-DESIGN SYSTEM \(D028\)](#)

Micaela Raposo, Sara Eloy and Miguel Sales Dias

14:15-15:30 Session FP 17.5

**CGVCVIP Applications // Computer Vision
(Room Guimarães)**

Chair: Yingcai Xiao

[CONCEPTUAL MEASUREMENT OF INDIVIDUAL PITCHES DURING THE STENT PRODUCTION \(F039\)](#)

Benedikt Haas and Eric Sax

**[APPLICATION OF GRAPHICAL REPRESENTATIONS FROM VIDEO GAMES TO AMPLIFY CO-PRESENCE
IN GROUP VISITS TO VIRTUAL HOUSES \(F026\)](#)**

André Freitas, Filipe Santos and Pedro Santana

[SP3F-GAN: SEAMLESS TEXTURE MAPS GENERATION BY ADVERSARIAL EXTENSION FOR FASHION \(F062\)](#)

Honghong He, Zhengwentai Sun, Jintu Fan and Pik Yin Mok

14:15-16:05 Session FSP 17.6

**Tools and technologies // Communities, networks, social interaction and social capital
(Room Bragança)**

Chair: Takuro Shibayama

**[HE IS NOT YOUR HERO: GENDERED EXPERIENCE UNVEILED THROUGH GAMEPLAY VIDEOS \(A CASE STUDY
OF GENJI FROM OVERWATCH\) \(F051\)](#)**

Chuxuan Zhang

**[TEACHING METHODS FOR SHARING THE CREATION OF ELECTROACOUSTIC MUSIC WITH INEXPERIENCED
PEOPLE \(F044\)](#)**

Miki Matsumoto, Takumi Mashita, Soma Arai, Hidefumi Ohmura, Hiroyuki Yaguchi and Takuro Shibayama

[A GAMIFIED APPLICATION FOR MITIGATING PLASTIC POLLUTION IN COASTAL AREAS \(S046\)](#)

Dimitra Tzanetou, Stavros T. Ponis, George Plakas, Eleni Aretoulaki and Antonios Kitsantas

**[ANALYSIS OF THE PROCEDURAL GENERATION ALGORITHM OF EDGAR PRO TOOL WITH A FASTER
VARIETY CREATION IN DUNGEON LAYOUT \(F030\)](#)**

Cristina Souza de Araujo, Ana Carolina Brandão Salgado, Gabriel Barroso da Silva Lima, Jucimar Maia da Silva Junior, Clairon Lima Pinheiro and Luis Cuevas Rodriguez

[HOW TO TEACH PROGRAMMING WITH ELECTRONIC GAMES \(S031\)](#)

Ronald Carvalho Boadana, Cristina Souza de Araujo, Jucimar Maia da Silva Junior, Clairon Lima Pinheiro and Luis Cuevas Rodriguez

Tuesday, 18th July 2023

08:30-13:15 Welcome Desk

08:45-11:00 Session FP 18.1

Emotional Design issues / methods / experiences for novel interfaces // Other

(Room Guimarães)

Chair: Bertil P. Marques

[COMMON AND UNIQUE USER EXPERIENCE PROBLEMS ON E-COMMERCE WEBSITES \(F064\)](#)

Layla Hasan

[PROTOTYPING AN AUTOMATIC AND CONTEXT-ADAPTIVE ACQUISITION METHOD FOR MOBILITY PREFERENCES OF PASSENGERS IN PUBLIC TRANSPORT \(F025\)](#)

Waldemar Titov, Christian Rickert and Thomas Schlegel

[EMPHASIZING HUMANS IN INDUSTRY 5.0: A CROSS-AGE ANALYSIS OF BEHAVIORAL ENTROPY AND COGNITIVE WORKLOAD IN VR-BASED TELEROBOTICS \(F033\)](#)

Federica Nenna, Davide Zanardi and Luciano Gamberini

[BUILDING A FACE DATABASE OF ARAB FACES TOWARD EVALUATING BIAS IN FACIAL ANALYSIS SYSTEMS \(F035\)](#)

Ashraf Khalil, Suha Glal, Khider Ahmed, Sana Zeb Khan and Aysha Abdulgani

[FACTORS INFLUENCING THE ADOPTION OF FINANCIAL TECHNOLOGY AND NET BENEFIT IN INDONESIAN BANKING \(F030\)](#)

Dekar Urumsah, Estri Ari Respati, Noor Endah Cahyawati and Primanita Setiyono

09:00-09:50 Session FSP 18.2

Development methodologies // Prototypes

(Room Bragança)

Chair: JunHee Lee

[A MOBILE CONDUCTING APP WITH A SWITCHING BEAT-FOLLOWING ALGORITHM \(S052\)](#)

Zengguang Wu, William Raffae and Andrew Johnston

[GENERATIVE AI FOR THE SUPER GAME DESIGNER \(F034\)](#)

JaeJun Lee and JunHee Lee

10:00-11:00 Session SP 18.3

Big Data Algorithms and Architectures // Pattern Recognition

(Room Bragança)

Chair: Mark Xu

[A DATA LAKE PROTOTYPE SYSTEM FOR MULTIWA VELENGTH \(MWA\) AND MULTIMESSENGER ASTRONOMY \(MMA\) \(S071\)](#)

Matheus Bento, Reinaldo Roberto Rosa and Ulisses Barres de Almeida

[ANOMALY DETECTION IN CRYPTOCURRENCY TRANSACTIONS WITH ACTIVE LEARNING \(S032\)](#)

Leandro L. Cunha and Miguel A. Brito

[FRAUD DETECTION AND ANTI-MONEY LAUNDERING APPLYING MACHINE LEARNING TECHNIQUES IN CRYPTOCURRENCY TRANSACTIONAL GRAPHS \(S033\)](#)

Ana P. Martins and Miguel A. Brito

11:00-11:30 Coffee Break

11:30-13:00 Session FSP 18.4

Visual Analytics // Information Visualization

(Room Guimarães)

Chair: Yingcai Xiao

[DEFINING INFORMATION VISUALIZATION HEURISTICS BASED ON HEURISTIC GROUPING BY EXPERTS \(F021\)](#)

Juliana Almeida Morroni, Otavio Passarelli Praça, Vitor Augusto Stachetti de Freitas, Giovana Lodde Girardi, and Celmar Guimarães da Silva

[VISUAL ANALYTICS FOR THE MARRIAGE NETWORK IN THE GORYEO DYNASTY, KOREA \(S036\)](#)

Seongmin Mun, Hyunju Lee and Sangkuk Lee

[GRADIENT PATTERN ANALYSIS APPLIED FOR COMPUTER VISION IN MEDICAL ULTRASOUND DIAGNOSIS \(S068\)](#)

Rubens Andreas Sautter, Reinaldo Roberto Rosa, Debora Cristina Alavarce and Daniel Guimarães Silva

[PROTOTYPING VISUALIZATIONS AS A SUPPORT FOR SELECTING REPRESENTATIVE MODELS OF PETROLEUM RESERVOIRS \(S059\)](#)

Miguel Angelo Mena Póvoa, Samuel Oliveira da Silva and Celmar Guimarães da Silva

11:30-13:00 Session FSP 18.5

Data and Software Applications in Smart Cities // Key areas of Smart Services

(Room Bragança)

Chair: Zeyi He

[BRIDGING THE DATA ANALYTICS – DATA EXCELLENCE GAP: REQUIREMENTS FOR A DATA CATALOGUE FOR EFFICIENT CROSS-ORGANIZATIONAL MOBILITY AND SMART CITY DATA ANALYTICS \(F028\)](#)

Johannes Sautter, Jan Kräck, Rudolf Fischer, Nicolas Fähnrich, Kai Erlenhardt, Marco Soares and Balihasar Weitzel

[UTILIZING BLOCKCHAIN TECHNOLOGY TO TACKLE FOOD WASTE IN SMART CITIES \(S070\)](#)

George Plakas, Stavros T. Ponis, Dimitra Tzanetou, Eleni Aretoulaki and Antonios Kitsantas

[HUMAN FACTORS ENGINEERING IN DESIGN OF SMART AUTONOMOUS TRAM SYSTEM \(S024\)](#)

Jari Laarni and Antti Väättänen

[MIXED APPROACH FOR BIKE AVAILABILITY FORECAST \(S076\)](#)

Ignacio Sevillano Muñoz

13:00 Best Paper Awards Ceremony and Closing Session

(Room Guimarães)

Profs. Yingcai Xiao and Pedro Isaias