

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