The Second International Conference on Cyber-Technologies and Cyber-Systems

CYBER 2017
November 12 - 16, 2017 - Barcelona, Spain

Preliminary Program

UBICOMM 2017 / ADVCOMP 2017 / SEMAPRO 2017 / DATA ANALYTICS 2017 / CYBER 2017 / AMBIENT 2017 / EMERGING 2017 / GLOBAL HEALTH 2017

Conference Venue Location
Novotel Barcelona Sant Joan Despi
Carrer de la TV3, 2
08970 Sant Joan Despi. Spain
http://www.novotel.com/gb/hotel-3289-novotel-barcelona-sant-joan-despi/index.shtml
Tel (+34)93/4755800 - Fax (+34)93/3735213
Email H3289@accor.com

Note: Sessions marked with /s are from special tracks. The final program might slightly vary according to the number of successful special tracks and the final registrations.

Conference rooms Time slots	Room A	Room B	Room C	Room D

Sunday, November 12

12:00	**Registration starts**
13:00 - 15:00	**Tutorial I** **Automatic Data Understanding: The Tool for Intelligent Man-Machine Communication** Prof. Dr. Wladyslaw Homenda, Warsaw University of Technology, Poland
15:00 - 15:15	**Coffee**
15:15 - 17:15	**Tutorial II** **Underwater Wireless Optical Communications** Dr. Mark Leeson, Reader in Communication Systems, University of Warwick, United Kingdom
17:15 - 17:30	**Coffee**
17:30 - 19:30	**Tutorial III** **Automated Web-Based Healthcare Quality Management Systems: Design and Implementation Considerations** Speaker Prof. Dr. Hassan Khachfe, Lebanese International University, Lebanon Authors Prof. Hassan M. Khachfe, Lebanese International University, Lebanon Denise Kerbaj, PhD Candiate, UPEC - Paris, France / QualiZone, s.a.r.l - Beirut, Lebanon
19:30 - 20:30	**Welcome Cocktail** You must have your badge to attend the cocktail

Monday, November 13

09:00 - 09:15	Opening session			
09:15 - 10:15	**Keynote Speaker** **Adaptive OpenMP Task Scheduling Using Runtime APIs and Machine Learning** Prof. Dr. Ahmad Qawasmeh, The Hashemite University, Jordan			
10:15 - 10:30	**Coffee Break**			
10:30 - 12:15	UBICOMM 1	ADVCOMP1	CYBER 1	GLOBAL HEALTH 1
12:15 - 13:45	Lunch on your own			
13:45 - 15:30	UBICOMM 2	DATA ANALYTICS 1	SEMAPRO 1	ADVCOMP 2
15:30- 15:45	**Coffee**			
15:45 - 17:30	ADVCOMP 3	EMERGING 1	CYBER 2	UBICOMM 3
17:30 - 17: 45	**Coffee-Break**			
17:45 - 19:30	**Panel on ADVCOMP/SEMAPRO** **Topic: Semantic Approximation and Optimization in Advanced Computing** **Moderator** Dean Vucinic, Vesalius College, Vrije Universiteit Brussel, Belgium **Panelists** Elena Cardillo, Institute of Informatics and Telematics - National Research Council, Italy Wladyslaw Homenda, Warsaw University of Technology, Poland Dean Vucinic, Vesalius College, Vrije Universiteit Brussel, Belgium Jon Hjelmervik, SINTEF - Trondheim, Norway			

Tuesday, November 14

09:15 - 10:15	**Keynote Speaker** **Software through the Perspective of Human-Centric Computing Paradigm** Prof. Dr. Evgeny Pyshkin, University of Aizu, Japan			
10:15 - 10:30	**Coffee Break**			
10:30 - 12:15	GLOBAL HEALTH 2 / PAPHOS	SEMAPRO 2	AMBIENT 1	CYBER 3
12:15 - 13:45	Lunch on your own			
13:45 - 15:30	**Panel on CYBER SYSTEMS** **Topic: CYBER-Centered Major Challenges: Monitoring and Evaluating the Cyber-health of Industrial Systems** **Moderator** Steve Chan, MIT, USA **Panelists** Rainer Falk, Siemens AG, Corporate Technology, Deutschland Maria Bada, Global Cyber Security Capacity Centre, University of Oxford, United Kingdom Xing Liu, Kwantlen Polytechnic University, Canada Daniel Kästner, AbsInt GmbH, Germany			
15:30 - 15:45	**Coffee**			
15:45 - 17:30	UBICOMM 4	DATA ANALYTICS 2	CYBER 4	GLOBAL HEALTH 3
17:30 - 17:45	**Coffee-Break**			
17:45 - 19:30	**Panel on GLOBAL HEALTH/AMBIENT** **Topic: Quality of Health Care** **Moderator** Hassan Khachfe, Lebanese International University, Lebanon **Panelists** Tyler Harvey, Watson Foundation, USA Elimarys Perez-Colon, University of South Florida, USA Kyota Aoki, Utsunomiya University, Japan Holly O'Brien, University of South Florida, USA			

Wednesday, November 15

09:15 - 10:15	**Keynote Speaker** **Energy/Cyber Security Assessment: Data Analytics for Cyber Resilience of Strategic / Critical Electrical Grid Infrastructure** Dr. Steve Chan, Massachusetts Institute of Technology (MIT), USA			
10:15 - 10:30	**Coffee Break**			
10:30 - 12:15	UBICOMM 5	DATA ANALYTICS 3	CYBER 5	GLOBAL HEALTH 4
12:15 - 13:45	Lunch on your own			
13:45 - 15:30	UBICOMM 6	AMBIENT 2	GLOBAL HEALTH 6/HIMS	DATA ANALITYCS 4/PDA
15:30 - 15:45	**Coffee**			
15:45 - 17:30			UBICOMM 7	ADVCOMP 4
17:30 - 17:40	**Coffee Break**			
17:40 - 19:30	**Panel on DATA ANALYTICS/CYBER** **Topic: Deep Learning and Big Data in Cybersecurity** **Moderator** Sandjai Bhulai, Vrije Universiteit - Amsterdam, the Netherlands **Panelists** Felix W. Baumann, TWT GmbH Science & Innovation, Germany Serap Şahin, Izmir Institute of Technology, Turkey Jin Cui, Singapore University of Technology and Design, Singapore Dimitris Kardaras, Athens University of Economics and Business, Greece			
20:00 : 23:00	**CONFERENCE DINNER**			

Thursday, November 16

09:15 - 10:15	**Keynote Speaker** **Steganophony: Challenges and Detection of Exfiltration Attacks** Prof. Dr. Juan-Carlos Bennett, SPAWAR Systems Center Pacific, USA			
10:15 - 10:30	**Coffee Break**			
10:30 - 12:15	UBICOMM 8	UBICOMM 10/AEU3DA	AMBIENT 3	GLOBAL HEALTH 5
12:15 - 13:45	Lunch on your own			
13:45 - 15:30	UBICOMM 9/ECFoF	DATA ANALYTICS 5		EMERGING 2
15:30 - 15:45	**Coffee Break**			
15:45 - 17:30	**Panel on UBICOMM/EMERGING** **Topic: Wireless and Ubiquitous Computing: Challenges and Recent Advances** **Moderator** Timothy Arndt, Cleveland State University, USA **Panelists** Sangkuk Kim, Korea Institute of Science and Technology Information, Korea André Constantino da Silva, Instituto Federal de Educação, Ciência e Tecnologia de São Paulo (IFSP), Brazil Petre Dini, IARIA, USA			

17:30 - 18:00	**Coffee and Closing session**

Friday, November 17

Recommended to be seen on your own
General information: www.barcelonatourguides.com
Contact: info@barcelonatourguides.com

Barcelona
Park Güell
Sagrada Familia
Picasso Museum
Gaudi Museum
Museum of Catalan Art
Montjuic Hill
La Rambla
La Marina

Girona
Salvador Dali Museum [one day trip from Barcelona]

Detailed Program

ADVCOMP 2017, The Eleventh International Conference on Advanced Engineering Computing and Applications in Sciences

ADVCOMP 1: Computing applications in science
Session chair: Jens Olav Nygaard

A Second-Order Regularization Method of Object Reconstruction in Hydrodynamic Experiments
Linghai Kong, Haibo Xu

Search Opportunities of Swarming Particles Methods in Irregular Multi-Extreme Enviroments
Ivan Chernogorov, Rudolf Neydorf, Dean Vucinic

Numerical Study for Unsteady Aerodynamics of Multi-Dimensional Freely Falling Plates or Thin Coins
Changqiu Jin

ADVCOMP 2: Advances in computation methods
Session chair: Rudolf Neydorf

Learning to Play Mastermind Well Using the Anti-Mind with Feeback Algorithm
José Barahona da Fonseca

Improved Bi-optimal Hybrid Approximation Algorithm for Monochrome Multitone Image Processing
Rudolf Neydorf, Albert Aghajanyan, Dean Vucinic

Polynomial Optimization in Mathematical Models Defining Experimental Data Dependencies
Rudolf Neydorf, Victor Poliakh, Dean Vucinic

ADVCOMP 3: Interdisciplinary computing
Session chair: Jon Hjelmervik

Optimal Design of Diffuser and Matching Lens in Proton Radiography
Xu Haibo, Jia Qinggang

An Interactive Learning Tool for Teaching Sorting Algorithms
Ahmad Qawasmeh, Zohair Obead, Mashal Tariq, Motaz Shamaileh, Ahmad Shafee

The Calculation of the Potential Surface Based on the Watershed Algorithm [PRESENTATION]
Na Zheng

ADVCOMP 4: Computing technologies
Session chair: Johanna Kallio

Modbus-A: Automated Slave ID Allocation Enabling Architecture for Modbus Devices on RS485/232
Bharath Sudev, Iain Kinghorn, Dongbing Gu, Doug Gower

Cyber-physical System Control via Industrial Protocol OPC UA
Felix W. Baumann, Ulrich Odefey, Sebastian Hudert, Michael Falkenthal, Michael Zimmermann

Automated Translation of MATLAB Code to C++ with Performance and Traceability
Geir Yngve Paulsen, Stuart Clark, Bjørn Nordmoen, Sergey Nenakhov, Aron Andersson, Xing Cai, Hans Petter Dahle

Third-order Time Integration Scheme for Structural Dynamics
Eva Zupan, Dejan Zupan

AMBIENT 2017, The Seventh International Conference on Ambient Computing, Applications, Services and Technologies

AMBIENT 1: Ambient services, technology and platforms
Session chair: Peter Hevesi

Use of Augmented Reality in Sport Performance Visualization: Media Tools for Prosumers
Satu-Marja Mäkelä, Marko Palviainen, Markus Ylikerälä, Johannes Peltola

NEMO Converter 3D: Reconstruction of 3D Objects from Photo and Video Footage for Ambient Learning Spaces
David Bouck-Standen, Alexander Ohlei, Viktor Daibert, Thomas Winkler, Michael Herczeg

Semantic EnOcean: A Tool for Mapping Syntactic Device Descriptions onto an Ontology for the Internet of Things
Janna Herrmann, Jochen Britz, Jan Alexandersson

AMBIENT 2: Ambient devices, applications and systems
Session chair: David Bouck-Standen

Ambient Health Monitoring System for Solitary Elderly
Toshifumi Tsukiyama

Involuntary “Deep Breathing” by Posture-Respiration Feedback Control System
Shusaku Nomura, Hayakawa Kazuki, Sakai Osamu, Sekiya Ryoma, Herath Samith S.

Mobile Low Cost system for Environmental Monitoring in Emergency Situations
Virginia Perez-Garrancho, Laura Garcia, Sandra Sendra, Jaime Lloret

AMBIENT 3: Ambient computing environments, sensors and hardware
Session chair: David Bouck-Standen

Proposal and Evaluation of a Data Transmission Method for Using Sound in Accurate Indoor Positioning
Takeru Kadokura, Kohei Morishita, Shigenori Ioroi, Hiroshi Tanaka

Towards Technology Acceptance Assessment in Ambient Intelligence Environments
Stavroula Ntoa, Margherita Antona, Constantine Stephanidis

CYBER 2017, The Second International Conference on Cyber-Technologies and Cyber-Systems

CYBER 1: Cyber security I
Session chair: Felix W. Baumann

Secure and User-friendly De-Registration of a Vehicle as Off The Road Using Mobile Authentication with German eID Card and a NFC-enabled Smartphone
Michael Massoth

Torrent Forensics: Are your Files Being Shared in the BitTorrent Network?
Ali Alhazmi, Gabriel Maciá-Fernández, José Camacho, Saeed Salah

Citizen Sensing for Environmental Risk Communication
Yang Ishigaki, Kenji Tanaka, Yoshinori Matsumoto, Yasuko Yamada Maruo, Harrizki Arie Pradana

CYBER 2: Cyber crime
Session chair: Michael Massoth

Global information Privacy Infringement index (GPI)
Hyunmin Suh, Myungchul Kim

Cyberattacks and Countries: A Tool for Each Case [PREENTATION]
Pablo Casais Solano, Antonio José Reinoso Peinado

An Investigation on Forensic Opportunities to Recover Evidential Data from Mobile Phones and Personal Computers
Philip Naughton, M A Hannan Bin Azhar

CYBER 3: Cyber security II
Session chair: Hannan Azhar

Detecting Safety- and Security-Relevant Programming Defects by Sound Static Analysis
Daniel Kästner, Laurent Mauborgne, Christian Ferdinand

Evaluations of Maximum Distance Achieved Using the Three Stage Multiphoton Protocol at 1550 nm, 1310 nm, and 850 nm
Majed Khodr

Enhancing Integrity Protection for Industrial Cyber Physical Systems
Rainer Falk, Steffen Fries

CYBER 4: Cyber security III
Session chair: Steve Chan

Vaccine: A Block Cipher Method for Masking and Unmasking of Ciphertexts' Features
Ray R. Hashemi, Amar Rasheed, Jeffrey Young, Azita A. Bahrami

A Study on Introducing Cyber Security Incident Reporting Regulations for Nuclear Facilities
ChaeChang Lee

Improving the Effectiveness of CSIRTs
Maria Bada, Sadie Creese, Michael Goldsmith, Chris J. Mitchell

CYBER 5: Cyber infrastructure
Session chair: Rainer Falk

On the Alignment of Safety and Security for Autonomous Vehicles
Jin Cui, Giedre Sabaliauskaite

Trends in Building Hardware and Software for Smart Things in Internet of Things
Xing Liu

RF Fingerprinting for 802.15.4 Devices: Combining Convolutional Neural Networks and RF-DNA
Bernard Lebel, Louis N. Bélanger, Mohammad Amin Haji Bagheri Fard, Jean-Yves Chouinard

Integrating Autonomous Vehicle Safety and Security
Giedre Sabaliauskaite, Jin Cui

DATA ANALYTICS 2017, The Sixth International Conference on Data Analytics

DATA ANALYTICS 1: Fundamentals for data analytics
Session chair: Serap Şahin

Mining Long-term Topic from a Real-time Feed
Marijn ten Thij

A Use Case-oriented Framework for the Evaluation of In-Memory IT-Systems
Stephan Ulbricht, Marek Opuszko, Johannes Ruhland, Sven Gehrke

A Visual Data Profiling Tool for Data Preparation
Bjørn Marius Von Zernichow, Dumitru Roman

DATA ANALYTICS 2: Big data
Session chair: Bjørn Marius Von Zernichow

Contents Popularity Prediction by Vector Representation Learned from User Action History
Naoki Nonaka, Kotaro Nakayama, Yutaka Matsuo

A Novel Approach to Information Spreading Models for Social Networks
Burcu Sayin, Serap Şahin

A Graph Theoretical Approach for Identifying Fraudulent Transactions in Circular Trading
Priya Mehta, Jithin Mathews, S.V. Kasi Visweswara Rao, K. Sandeep Kumar, Ch. Sobhan Babu

DATA ANALYTICS 3: Target analytics
Session chair: Hardik Dalal

When Teachers and Machines Achieve the Best Combination: A National Comparative Study of Face-to-face and Blended Teaching and Learning
Cecilia Marconi, Juan José Goyeneche, Cristóbal Cobo

Integrating the Balanced Scorecard and Web Analytics for Strategic Digital Marketing: A Multi-criteria Approach using DEMATEL
Dimitris Kardaras, Bill Karakostas, Stavroula Barbounaki, Anastasios Papadopoulos, Stavros Kaperonis

DATA ANALITYCS 4 / PDA: Predictive data analytics
Session chair: Sandjai Bhulai

Introduction / Editorial [PRESENTATION]
Sandjai Bhulai

Optimization of the Revenue of the New York City Taxi Service using Markov Decision Processes
Jacky Li, Sandjai Bhulai, Theresia van Essen

Japanese Kanji Characters are Small-World Connected Through Shared Components
Mark Jeronimus, Sil Westerveld, Cees van Leeuwen, Sandjai Bhulai, Daan van den Berg

Spatio-Temporal Modeling for Residential Burglary
Maria Mahfoud, Sandjai Bhulai, Rob van der Mei

Open Discussion and Closing Remarks [DISCUSSION]
Sandjai Bhulai

DATA ANALYTICS 5: Sentiment/opinion analysis
Session chair: Dimitris Kardaras

Detecting Fake Reviews through Sentiment Analysis Using Machine Learning Techniques
Elshrif Elmurngi, Abdelouahed Gherbi

Aspect Term Extraction from Customer Reviews using Conditional Random Fields
Hardik Dalal, Qigang Gao

EMERGING 2017, The Ninth International Conference on Emerging Networks and Systems Intelligence

EMERGING 1: Technology and networking trends
Session chair: Elshrif Elmurngi

A Tracking Assisted Relaying Scheme for Decentralized Wireless Networks
Baohua Shao, Mark Leeson

Developing Pedagogical Effectiveness By Assessing the Impact of Simulation Gaming On Education Operation Management: Experimental Study On Cycles One and Two at Two Private Schools in Lebanon
Nour Issa, Anwar Kawtharani, Hassan Khachfe

Optimization of Power Consumption in SDN Networks
Adrián Flores de la Cruz, Juan Pedro Muñoz-Gea, Pilar Manzanares-Lopez, Josemaria Malgosa-Sanahuja

EMERGING 2: Applications and services
Session chair: Haitham Felemban

Segment Duration Based HTTP Adaptive Streaming Scheme for UHD Content
Heekwang Kim, Kwangsue Chung

A Study on the Customer Satisfaction Strategies of information Service Using VOC [POSTER]
Sangkuk Kim, Yong-ho Lee, Yeahwon Lee, Yoon Yim

Two-step Facial Images Deblurring With Kernel Refinement Via Smooth Priors
Jun-Hong Chen, Long-Wen Chang

GLOBAL HEALTH 2017, The Sixth International Conference on Global Health Challenges

GLOBAL HEALTH 1: Mechanisms and features
Session chair: Adhurim Hajzeraj

Smart Grip Prosthetic Hand
Vicken Tchangoulian, Vicken Daghlian, Ali Hage-Diab, Bassam Hussein, Hassan Khachfe

Impaired Hand Training Device with Wireless Data Communication
Majd Ghareeb, Rabah Yehya, Ali Hage-Diab, Ali Bazzi, Hassan Khashfe

Measuring Methods for Brain Sub-Functions' Performances [PRESENTATION]
Kyota Aoki, Bumsuk Lee, Tsutomu Yoshioka

Cervical Cancer Prevention in Rural Nicaragua - An Ambassador Model
Nicole Wood, Anaisy Pargas, Stephanie Romero

GLOBAL HEALTH 2 / PAPHOS: PAPHOS
Session chair: Fernando Seoane Martinez and Cesar Mediavilla

Introduction / Editorial [PRESENTATION]
Fernando Seoane Martinez, Cesar Mediavilla Martinez

PAPHOS, underpinning Analytics solutions in Clinical Environment [PRESENTATION]
César Mediavilla

Big Data and High Performance Computing [PRESENTATION]
Nadine Vandois

Interoperability and Standard-Based Management of Healthcare Information [PRESENTATION]
Santiago Aso

Connected Health Patient Engagement for Predictive Chronic Care [PRESENTATION]
Navin Govind

Predicting the evolution of apnea patients treated with Cpap [PRESENTATION]
Juan Manuel Tuñas

Semantic Analysis of HistoPatology Reports [PRESENTATION]
Mario Vega-Barbas

Implementing PAPHOS for Connected Respiratory Medicine: Challenges, Solutions and Future Steps [PRESENTATION]
Pierre Hainaut

Open Discussion and Closing Remarks [DISCUSSION]
Fernando Seoane Martinez, Cesar Mediavilla Martinez

GLOBAL HEALTH 3: Application-oriented analytics I
Session chair: Kyota Aoki

Effects of Aerobic Training Combined with Inspiratory Muscle Training on Cardiopulmonary and Skeletal Muscle Function, Dyspnea and Quality of Life in Patients with Chronic Heart Failure
Zahra Sadek, Wissam Jomaa, Fadia Shebbo, Mahmoud Youness, Said Ahmaidi, Wiam Ramadan

Evaluation Phase of a Novel Blood Pressure Monitor Device
Adhurim Hajzeraj, Marco Belcastro, Davide Alfieri, Brendan O'Flynn

Assessing the Microbial Quality of Tahini (Sesame Paste) in Lebanon
Zeinab Alaouie, Nancy Hallal, Ali AlKhatib, Hassan Khachfe

GLOBAL HEALTH 4: Application-oriented analytics II
Session chair: Hannan Azhar

A Cost-Efficient, Camera-Based Electronic Nose
Noor Alrabeeah, Omar Osman, Ali Hage-Diab, Houssein Hajj-Hassan, Hassan Khachfe

Smart Military Healthcare Monitoring and Tracking System on Raspberry Pi and Arduino
Ali Bazzi, Moslem Ghamloush, Mostafa Ibrahim, Majd Ghareeb, Samih Abdul-Nabi, Hassan Khachfe

Standardization of Blood Pressure Management in Cedro Galán, a Semi-Rural Community in Nicaragua
Holly O'Brien, Aly Strauss, E. Nicole Teal, Taylor Martin, Wendy Sanchez, Elimarys Perez-Colon

GLOBAL HEALTH 5: Fundamentals for data analytics
Session chair: Holly O'Brien

Distribution of Brain Performance of Healthy People [PRESENTATION]
Kyota Aoki, Kenji Nijiima, Tsutomu Yoshioka

Bibliometric Analysis of Breastfeeding Research in The Arab Countries
Nancy Hallal, Mohamad-Mustafa Hariri, Ali Al-Khatib, Hassan Khachfe

GLOBAL HEALTH 6 / HIMS: Healthcare information and management systems
Session chair: Özgü Can

Introduction / Editorial [PRESENTATION]
Özgü Can

Big Data & Wearable Sensors Ensuring Safety and Health @Work
Farhad Abtahi, Jose A. Diaz-Olivare, Mikael Forsman, Ke Lu, Heikki Terö, Liyun Yang, Santiago Aso, Jörgen Eklund, Christian Tiemann, Kaj Lindecrantz, Fernando Seoane, Cesar Mediavilla Martine

Implementing Thyroid Ontology for Diagnosis and Care
Özgü Can, Emine Sezer, Murat Osman Ünalır, Okan Bursa, Mine Öz, Tuğçe Dülge

Open Discussion and Closing Remarks [DISCUSSION]
Özgü Can

SEMAPRO 2017, The Eleventh International Conference on Advances in Semantic Processing

SEMAPRO 1: Basics on semantics
Session chair: Marco Ronchetti

A Cognitive Map-Based Representation for Consumer Behaviour Modelling
Wladyslaw Homenda, Agnieszka Jastrzebska

Deduction System for Decision Logic based on Partial Semantics
Yotaro Nakayama, Seiki Akama, Tetsuya Murai

Towards the Development of a CTS2-based Terminology Service in the Italian Federated Electronic Health Record
Elena Cardillo, Maria Teresa Chiaravalloti

SEMAPRO 2: Semantic applications, platforms, tools
Session chair: Wladyslaw Homenda

semantify.it, a Platform for Creation, Publication and Distribution of Semantic Annotations
Elias Kärle, Umutcan Simsek, Dieter Fensel

Hunting for Direct Translations across Wikipedia Articles
Duc Manh Hoang, Marco Ronchetti

Use of Negation Markers in German Customer Reviews
Amelie I. Metzmacher, Verena Heinrichs, Björn Falk, Robert H. Schmitt

UBICOMM 2017, The Eleventh International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies

UBICOMM 1: Mobility
Session chair: Hiroaki Higaki

Performance Assessment of Time-Threshold Based Scheme over Soft Frequency Reuse (SFR) Scheme
Idil Candan

Analysis of the Usefulness of Mobile Eyetracker for the Recognition of Physical Activities
Peter Hevesi, Jamie Ward, Orkhan Amiraslanov, Gerald Pirkl, Paul Lukowicz

Beware: Mobile and Web Application to Prevent Crimes against the Patrimony, Life, Body and Health
Alexa Tataje, Marco Florián, David Mauricio

UBICOMM 2: Information Ubiquity
Session chair: Idil Candan

Using Hidden Markov Models and Rule-based Sensor Mediation on Wearable eHealth Devices
Gilles Irénée Fernand Neyens, Denis Zampunieris

Using Image Recognition for Testing Hand-drawn Graphic User Interfaces
Maxim Mozgovoy, Evgeny Pyshkin

On Providing Healthy Routes: A Case for Fine-Grained Pollution Measurements Using Mobile Sensing
Srinivas Devarakonda, Ruilin Liu, Badri Nath

Hybrid Client/Server Rendering with Automatic Proxy Model Generation
Jens Olav Nygaard, Jon Mikkelsen Hjelmervik

UBICOMM 3: Collaborative ubiquitous systems
Session chair: Jaime Lloret Mauri

'SER Analysis of Adaptive Threshold Based Relay Selection with 2-Bits Feedback for Type-2 Relays
Sung Sik Nam, Byungju Lim, Mohamed-Slim Alouini, Young-Chai Ko

A Reward System for Collaborative Care of Elderly based on Distributed Ledger Technologies
Emilien Bai, Kåre Synnes

Planning for Ubiquitous Learning in PLAN
Timothy Arndt

UBICOMM 4: Users, applications, and business models
Session chair: Emilien Bai

A Tool Rental Service Scenario - IoT technologies enabling a circular economy business model
Johanna Kallio, Maria Antikainen, Outi Kettunen

Residents Post-Type Barrier-Free Map that Utilizes Big Data Such As Probe Information [POSTER]
Yuriko Oda, Yoichi Oda, Setsuko Ouchi, Toshihiro Kimura, Hirotomo Ohuchi

Towards an Architecture to Multimodal Tools for e-Learning Environments
Andre da Silva, Fernanda Freire, Flavia Arantes

UBICOMM 5: Ubiquitous mobile services and protocols
Session chair: Antonios Karatzoglou

Implementation Example with Ultra-Small PCs for Human Tracking System based on Mobile Agent Technologies
Masaru Shiozuka, Tappei Yotsumoto, Kenichi Takahashi, Takao Kawamura, Kazunori Sugahara

Indoor Source Localization Using 2D Multi-Sensor Based Spatial Spectrum Fusion Algorithm
Taha Bouras, Di He, Wenxian Yu, Yi Zhang

Probabilistic CCRN: Reliability Analysis of Ubiquitous Computing Scenarios Using Probabilistic Model Checking
Reona Minoda, Masakazu Ishihata, Shin-ichi Minato

UBICOMM 6: Ubiquity trends and challenges
Session chair: Masaru Shiozuka

Using Brain-Computer Interface and Internet of Things to Improve Healthcare for Wheelchair Users
Ariel Teles, Maurício Cagy, Francisco Silva, Markus Endler, Victor Bastos, Silmar Teixeira

Enhancing the Affective Sensitivity of Location Based Services Using Situation-Person-Dependent Semantic Similarity
Antonios Karatzoglou, Michael Beigl

TPM Framework: a Comprehensive Kit for Exploring Applications with Textile Pressure Mapping Matrix
Bo Zhou, Jingyuan Cheng, Ankur Mawandia, Yujiang He, Zhixin Huang, Mathias Sundholm, Muhammet Yildrim, Heber Cruz, Paul Lukowicz

UBICOMM 7: Ubiquitous networks
Session chair: Bo Zhou

Estimation of Relative Offset and Drift for Synchronization of Local Clocks in Wireless Sensor Networks
Ayako Arao, Hiroaki Higaki

A Quantitative Study on Live Virtual Machines Migration in Virtualized Computing Environment
Marcela Tassyany Galdino Santos, Edlane de Oliveira Gusmão Alves, Anderson Fabiano Batista Ferreira da Costa

Management of Forest Fires Using IoT Devices
Josué Toledo-Castro, Iván Santos-González, Candelaria Hernández-Goya, Pino Caballero-Gil

ASUT : Advanced Software Update for Things
Juhyun Choi, Changue Jung, Ikjun Yeom, Younghoon Kim

UBICOMM 8: Ubiquitous devices and operative systems
Session chair: Anderson Costa

Towards Remote Control of Mobile Robots to Help Dependent People
Yvon Autret, Jean Vareille, David Espes, Valérie Marc, Philippe Le Parc

MQTT-based Translation System for IoT Interoperability in oneM2M Architecture
Jiwoo Park, Geonwoo Kim, Kwangsue Chung

High-performance Wireless Sensor Node Design for Water Pipeline Monitoring
Fatma Karray, Mohamed Wassim Jmal, Mohamed Abid

UBICOMM 9 / ECFoF: Edge computing in factories of the future
Session chair: Jumyung Um

Introduction / Editorial [PRESENTATION]
Martin Ruskowski

An Extensible Edge Computing Architecture: Definition, Requirements and Enablers
Volkan Gezer, Jumyung Um, Martin Ruskowski

GeSCo: Introducing an Edge Layer Between Cloud MES and Shop-Floor in Decentralized Manufacturing
Badarinath Katti, Michael Schweitzer, Christiane Plociennik

Combining Edge Computing and Blockchains for Flexibility and Performance in Industrial Automation
Mauro Isaja, John Soldatos, Volkan Gezer

Open Discussion and Closing Remarks [DISCUSSION]
Martin Ruskowski

UBICOMM 10 / AEU3DA: Advances in education with ubiquitous 3D applications
Session chair: Aliane Loureiro Krassmann

Introduction / Editorial [PRESENTATION]
Aliane Loureiro Krassmann

Implementation of Interactive E-learning System Based on Virtual Reality
SeungJoon Kwon, HyungKeun Jee

Heads Up Displays (HUD) as a Tool to Contextualize the User in 3D Virtual Worlds
Aliane Loureiro Krassmann, Felipe Becker Nunes, Tito Armando Rossi Filho, Liane Margarida Rockenbach Tarouco, Magda Bercht

Open Discussion and Closing Remarks [DISCUSSION]
Aliane Loureiro Krassmann

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