2013 IEEE 15th International Conference on e-Health Networking, Applications and Services

(Healthcom 2013)

Lisbon, Portugal
9 – 12 October 2013
Program

A1: Tutorial 1: Dr Katarzyna Wac

Methodology for Evaluating Experience of Mobile (Healthcare) Applications Used in Different Contexts of Daily Life

A2: Tutorial 2: Dr. Morcous M. Yassa

Health Care Collaborative Networked Organization


Opening Session

C1: Workshop 2: First International Workshop on Service Science for e-Health (SSH 2013)

Joint Source and Turbo Trellis Coded Hierarchical Modulation for Context-aware Medical Image Transmission
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Medical Image and Video quality assessment in e-health Applications and Services
Manzoor Razaak (Kingston University-London, United Kingdom); Maria G. Martini (Kingston University, United Kingdom)
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An Intelligent System for Renal Segmentation
Yassine Aribi (University of Sfax & Enis, Tunisia); Wali Ali (University of Sfax, Tunisia); Adel M. Alimi (REGIM, University of Sfax, National School of Engineers, Tunisia)
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D1: Workshop 3: 1st International Workshop on Active and Healthy Ageing (AHA 2013)

A3: Coffee Break

A4: Tutorial 1: Dr Katarzyna Wac

Methodology for Evaluating Experience of Mobile (Healthcare) Applications Used in Different Contexts of Daily Life

A5: Tutorial 2: Dr. Morcous M. Yassa

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Panel New Trends On Telehealth / Telemedicine (I)
C2: Workshop 2: First International Workshop on Service Science for e-Health (SSH 2013)

**Detecting Obstructive Sleep Apnea events in a real-time mobile monitoring system through automatically extracted sets of rules**
Giovanna Sannino (Institute of High Performance Computing and Networking National Research Council of Italy, Italy); Ivanoe De Falco (Institute of High Performance Computing and Networking, ICAR-CNR, Italy); Giuseppe De Pietro (ICAR CNR, Italy)
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**mHealth for Cardiac Patients Telemonitoring and Integrated Care**
Zviad Kirtava (Partners for Health NGO; Tbilisi State Medical University; Tbilisi, GEORGIA, Georgia); Tea Gegenava (Partners for Health NGO / Tbilisi State Medical University, Georgia); Maka Gegenava (Partners for Health NGO / Tbilisi State Medical University, Georgia)
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**Platform for building eHealth streaming services**
Pawel Swiatek (Wroclaw University of Technology, Poland); Patryk Schauer (Wroclaw University of Technology, Poland); Adam Kokot (Wroclaw University of Technology, Poland); Maciej Demkiewicz (Wroclaw University of Technology, Poland)
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**Construction of Healthcare Network based on Proposed ECG and Physical-activity Sensor adopting Energy-harvesting Technologies**
Makoto Kawashima (Chubu University, Japan); Taiki Nakamura (Chubu University, Japan); Kaori Hata (Chubu University, Japan)
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Edgar Horta (Instituto de Telecomunicações, University of Beira Interior, Portugal); Ivo Lopes (Instituto de Telecomunicações, University of Beira Interior, Portugal); Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal); Mario Lemes Proença Jr. (State University of Londrina, Brazil)
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**Ambient Assisted Living Technology: Comparative perspectives of users and caregivers**
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**A Platform to Emulate an Ambient Assisted Living Environment**
Ricardo Simões (University of Minho, Portugal); Oscar Silvio Marques de Almeida Gama (University of Minho, Portugal)
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**We.Can Platform: an Open Management Architecture for the Information Persistence**
Yosvany Llerena (University of Aveiro, Portugal); Alexandra Queirós (Universidade de Aveiro, Portugal); Nelson Rocha (University of Aveiro & Instituto de Engenharia Electrónica e Telemática de Aveiro, Portugal); Carlos Cardoso (Masis, Portugal); Miguel Grade (Masis, Portugal); Filipe Augusto (Masis, Portugal); João Quintas (Instituto Pedro Nunes, Portugal)
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Health Technologies for assisting User's daily life  
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*Evaluation of sensors and algorithms for person detection for personal robots*  
Cláudia Tonelo (Faculdade de Engenharia da Universidade do Porto, Portugal); António Moreira (Fac. Eng. da Universidade do Porto, Portugal); Germano Veiga (INESC TEC & INESC TEC Tecnologia e Ciência, Portugal)  
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*Trends in Mobile Medical Thermography*  
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**A6: Tutorial 3: Prof. Ricardo Correia**

Introduction to openEHR - Main Concepts, Tools and Archetype/Template Creation

**A7: Tutorial 4: Prof. Tony Sahama**

Designing an Information Accountability Framework for eHealth


Development and experiences on brazilian telehealth programme

**C3: Workshop 2: First International Workshop on Service Science for e-Health (SSH 2013)**

*Planning for Composition of eHealth Services*  
Pawel Stelmach (Wroclaw University of Technology, Poland)  
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Frederic Vannieuwenborg (Ghent University - iMinds, Belgium); Jan Van Ooteghem (Ghent University - iMinds, Belgium); Mathieu Vandenbergh (Ghent University, Belgium); Sofie Verbrugge (Ghent University - IBBT, Belgium); Mario Pickavet (Ghent University - iMinds, Belgium); Didier Colle (iMinds - Ghent University, Belgium)  
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*IoT as a Service System for eHealth*  
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*Runtime Data-driven Adaptation of Composite e-Health Services*  
Pawel Stelmach (Wroclaw University of Technology, Poland); Łukasz Falas (Wroclaw University of Technology, Poland)  
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**Using Low-cost computer-based simulations in the Spanish National Transplant Procedures**
Blanca Borro-Escribano (Complutense University of Madrid, Spain); Angel del Blanco (Universidad Complutense de Madrid, Spain); Baltasar Fernandez-Manjon (Universidad Complutense de Madrid, Spain); Itziar Martinez (National Transplant Organization, Spain); Beatriz Dominguez-Gil (National Transplant Organization, Spain); Rafael Matesanz (National Transplant Organization, Spain)
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**A7: Coffee Break**

**A8: Tutorial 3: Prof. Ricardo Correia**

Introduction to openEHR - Main Concepts, Tools and Archetype/Template Creation

**A9: Tutorial 4: Prof. Tony Sahama**

Designing an Information Accountability Framework for eHealth


Panel New Trends On Telehealth / Telemedicine (II)

**C4: Workshop 2: First International Workshop on Service Science for e-Health (SSH 2013)**

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**Ensemble SVM for imbalanced data and missing values in postoperative risk management**
Maciej Zięba (Wroclaw University of Technology, Poland); Jerzy Świątek (Wroclaw University of Technology, Poland)
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**Integrating Bayesian Networks into Fuzzy Hypothesis Testing Problem - Case Based Presentation**
Edyta Winciorek (Military University of Technology (WAT), Poland); Andrzej Walczak (Military University of Technology (WAT), Poland)
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**Comparative and adaptation of step detection and step length estimators to a lateral belt worn accelerometer**
Taufique Sayeed (Universitat Politècnica de Catalunya & CETpD, UPC, Spain); Albert Samà (Universitat Politècnica de Catalunya & CETpD, UPC, Spain); Andreu Catala (Universitat Politècnica de Catalunya, Spain); Joan Cabestany (Universitat Politècnica de Catalunya & CETpD-UPC, Spain)
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**A multi-device framework to increase self-awareness for health and disease prevention**
Eduardo Metola (Universidad Politécnica de Madrid, Spain); Ana M. Bernardos (Universidad Politecnica de Madrid, Spain); Jose R Casar (Universidad Politecnica de Madrid, Spain)
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**DELPHI: Data E-Platform for Personalized Population Health**
Kevin Patrick (UCSD, USA); Sanjoy Dasgupta (University of California, San Diego, USA); William G. Griswold (UC San Diego, USA); Yannis Katsis (UCSD, USA); Ted Chan (UCSD, USA); Claudiu Farcas (UCSD, USA); Jeannie Huang (UCSD, USA); Yannis Papaconstantinou (UCSD, USA); Lucila Ohno-Machado (University of California San Diego, USA); Fredric Raab (UCSD, USA)
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B1: Open EXPO

B2: Welcome Reception

Opening Ceremony

Henrique Martins (Chairmen of the Board, SPMS; University of Beira Interior, Portugal) - Paulo Neves (AMA President) - Joel Rodrigues (General Chair, IT-UBI, Portugal)

Keynote: Marcia Ito (IBM Research Brazil)

The Challenge of Big Data in Health: Meaningful Use of Information for Patient Centered Care

Coffee Break and EXPO Visit

Keynote: Isao Nakajima (Tokai University)

Disaster Communications after the Accidents of the Fukushima Nuclear Power Plant (Japan)

Panel 1: Telemedicine Today

Moderator: Luis Gonçalves
Participants: Portugal - Miguel Castelo Branco (University of Beira Interior, Portugal; Centro Hospitalar Cova da Beira - University Hospital, Covilhã, Portugal) USA - Eric Addeo (DeVry University) Brazil - Cláudio de Souza (State University of Minas Gerais)

Lunch Break

S1: Body Area Networks-I

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Ernesto Ibarra (Telecommunications Technological Centre of Catalonia (CTTC), Spain); Angelos Antonopoulos (Telecommunications Technological Centre of Catalonia (CTTC), Spain); Elli Kartsakli (Universitat Politècnica de Catalunya (UPC), Spain); Christos Verikoukis (Telecommunications Technological Centre of Catalonia, Spain) pp. 120-124

Simulation of Human Activity in a Health Smart Home with HMM
Norbert Noury (University of Lyon & Team Biomedical Sensors, France); Tareq Hadidi (Salman bin Abdulazizi University, Saudi Arabia) pp. 125-129

A Bluetooth Low Energy Approach for Monitoring Electrocardiography and Respiration
Bing Zhou (University of Chinese Academy of Sciences, P.R. China); Xianxiang Chen (Institute of Electronics, Chinese Academy of Sciences, P.R. China); Xinyu Hu (University of Chinese Academy of Sciences, P.R. China); Ren Ren (Institute of Electronics, Chinese Academy of Sciences, P.R. China); Xiao Tan (University of Chinese Academy of Sciences, P.R. China); Zhen Fang (Chinese Academy of Science, P.R. China); Shanhong Xia (Institute of Electronics, CAS, P.R. China) pp. 130-134

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Probabilistic Data Association for Wireless Passive Body Sensor Networks
Wenxing Xu (University of Bristol, United Kingdom); Robert J Piechocki (University of Bristol, United Kingdom); Geoffrey Hilton (University of Bristol, United Kingdom)
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**A Web-Based Telehealthcare System with Mobile Application and Data Analysis for Diet People**  
Han-Ping Chen (National Taiwan University, Taiwan); Wei-Hsin Chen (National Taiwan University, Taiwan); Xing-Yu Su (National Taiwan University, Taiwan); Feipei Lai (National Taiwan University, Taiwan); Yi-Ju Chen (National Taiwan University Hospital, Taiwan); Kuo-Chin Huang (National Taiwan University Hospital, Taiwan)  
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**Integration of Emergency Web App for accessing the emergency services by mobile phones**  
Carlos Juiz (University of the Balearic Islands, Spain); Beatriz Gomez (University of the Balearic Islands, Spain)  
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**E-Learning Templates for Peripheral Vascular Stenting**  
Evanthia Tripoliti (Technical University of Crete, Greece); Ioannis Pappas (Technical University of Crete, Greece); Euripides G.M. Petrakis (Technical University of Crete (TUC), Greece); Josep Maria Sans (NeXTReT, Greece)  
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**A DICOM Viewer based on Web Technology**  
Eriksson Jorge Monteiro (University of Aveiro, Portugal); Carlos Costa (University of Aveiro, Portugal); José Luís Oliveira (University of Aveiro, Portugal)  
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**CAD systems and e-Learning in radiologists training**  
César Súarez Ortega (CETA-CIEMAT, Spain); Jose M Franco-Valiente (Spanish National Research Centre for Energy, Environment and Technology (CIEMAT), Spain)  
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**Alerts for Remote Health Monitoring Using Online Social Media Platforms**  
Chonlatee Khorakhun (Computer Science, University of St Andrews, United Kingdom); Saleem N Bhatti (University of St Andrews, United Kingdom)  
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**A review of applications for the improvement of the life quality in patients with mental disorders**  
Isabel de la Torre (University of Valladolid, Spain); Borja Martínez-Pérez (University of Valladolid, Spain); Miguel López-Coronado (University of Valladolid, Spain)  
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**MoSHCA - My Mobile and Smart Health Care Assistant**  
Arjen Hommersom (Radboud University, The Netherlands); Peter Lucas (Radboud University, The Netherlands); Marina Velikova (Radboud University, The Netherlands); Giso Dal (Radboud University Nijmegen, The Netherlands); Joaquim Bastos (Instituto de Telecomunicações, Portugal); Jonathan Rodriguez (Instituto de Telecomunicações, Portugal); Marleen Germs (Evalan, The Netherlands); Henk Schwietert (Evalan, The Netherlands)  
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**Deployment of Wireless Sensor Networks for Biomedical Applications**  
Carlos Abreu (University of Minho, Portugal); Paulo Mendes (University of Minho, Portugal)  
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Marinette Bouet (Clermont-Ferrand University, France); Kahina Gani (Clermont-Ferrand University, France); Michel Schneider (Clermont-Ferrand University & LIMOS, France); Farouk Toumani (Clermont-Ferrand University, France)
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Cross-layer optimization for m-health SVC multiple video transmission over LTE uplink
Sergio Cicalò (University of Ferrara - Italy, Italy); Matteo Mazzotti (University of Bologna, Italy); Simone Moretti (University of Bologna, Italy); Velio Tralli (University of Ferrara - Italy, Italy); Marco Chiani (University of Bologna, Italy)
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JSM-2 Based ECG Compression with Statistical Support Prediction
Sucheng Yu (University of Science and Technology of China, P.R. China); Bin Liu (University of Science and Technology of China, P.R. China); Wei Qiao (University of Science and Technology of China, P.R. China); Chi Zhang (University of Science and Technology of China, P.R. China); Chang Wen Chen (State University of New York at Buffalo, USA); Jian Cai (Institute of Microelectronics of the Chinese Academy of Sciences, P.R. China)
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Multi-distance motion vector clustering algorithm for video-based sleep analysis
Adrienne Heinrich (Philips Research, The Netherlands); Xin Zhao (Technical University Eindhoven, The Netherlands); Gerard Haan (Philips Research Laboratories, The Netherlands)
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A simulation and integration environment for heterogeneous physiology-models
Mercedes Huertas (Barcelona Digital Technology Centre & Barcelona Digital, Spain)
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Accurate and Reliable 3-lead to 12-lead ECG Reconstruction Methodology for Remote Health Monitoring Applications
Sidharth Maheswari (Indian Institute of Technology Guwahati, India); Amit Acharyya (IIT HYDERABAD, India); Pachamuthu Rajalakshmi (Indian Institute of Technology Hyderabad, India); Paolo Puddu (Sapienza University of Rome, Italy); Michele Schiariti (Sapienza University of Rome, Italy)
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S5: Privacy, Security in eHealth

Leveraging the DSP48E1 Block in Lightweight Cryptographic Implementations
Antonio de la Piedra (Vrije Universiteit Brussel (VUB), Belgium); An Braeken (Erasmushogeschool Brussel, IWT, Belgium); Abdellah Touhafi (Vrije Universiteit Brussel, Belgium)
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Security threats against the transmission chain of a medical health monitoring system
Juha Partala (University of Oulu, Finland); Niina Keränen (University of Oulu, Finland); Mariella Särestöniemi (University of Oulu, Finland); Matti Hämäläinen (University of Oulu, Finland); Jari
Iinatti (University of Oulu, Finland); Timo Jämsä (University of Oulu, Finland); Jarmo Reponen (University of Oulu, Finland); Tapio Seppänén (University of Oulu, Finland)
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**Security and Privacy in eHealth: is it possible?**
Tony R Sahama (Queensland University of Technology & IEEE ACM IBS ACS SSAInc HISA, Australia); Leonie R Simpson (Queensland University of Technology, Australia); William B Lane (Queensland University of Technology, Australia)
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**Secured e-health data retrieval in DaaS and Big Data**
David Shin (EE&CS, SEF, QUT, Australia); Tony R Sahama (Queensland University of Technology & IEEE ACM IBS ACS SSAInc HISA, Australia); Randike Gajanayake (Queensland University of Technology, Australia)
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**Trust Factors in the Adoption of National Electronic Health Records**
Bruno Meira (Universidade do Minho, Portugal); Filipe de Sá-Soares (Universidade do Minho, Portugal)

**CoSeMed - Cooperative and Secure Medical Device Cloud**
Andreas Kliem (Technische Universität Berlin, Germany); Odej Kao (TU Berlin, Germany)
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**S6: Poster Session 1**

**E-Health Support System in University Environment**
Toshiyuki Maeda (Hannan University, Japan)
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**Stand Up from a Chair with Lesser Body Load: Biomechanical Simulation and Visual Supplement**
Asuka Takai (Osaka Prefecture University & Division of Mechanical Engineering, Graduate School of Engineering, Japan); Chihiro Nakagawa (Osaka Prefecture University, Japan); Atsuhiko Shintani (Osaka Prefecture University, Japan); Tomohiro Ito (Osaka Prefecture University, Japan)
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**Enabling Comfortable Sports Therapy for Patient: A Novel Lightweight Durable and Portable ECG Monitoring System**
Min Chen (Huazhong University of Science and Technology, P.R. China); Yujun Ma (Huazhong University of Science and Technology, P.R. China); Jialun Wang (Huazhong University of Science and Technology, P.R. China); Dung Mau (Huazhong University of Science and Technology, Wuhan, P.R. China); Enmin Song (Huazhong University of Science & Technology, P.R. China)
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**Context-Aware eHealth Information Approach for the Brazilian Primary Healthcare System**
Augusto Jose Venancio Neto, Ph. D. (Universidade Federal do Rio Grande do Norte & Centro de Ciências Exatas da Terra, Brazil); Joelias Silva Pinto Júnior (Federal University of Goiás, Brazil); Jose N de Souza (UFC, Brazil); Eduardo Cerqueira (Federal University of Para & UFPA, Brazil)
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**WSN4QoL: Wireless Sensor Networks for Quality of Life**
Stefano Tennina (WEST Aquila srl, Italy); Ell Kartsakli (Universitat Politècnica de Catalunya (UPC), Spain); Aristeidis Lalos (Technical University of Catalonia (UPC), Spain); Angelos Antonopoulos (Telecommunications Technological Centre of Catalonia (CTTC), Spain); Prodromos-Vasileios Mekikis (Universitat Politècnica de Catalunya (UPC), Spain); Marco Di Renzo (French National Center for Scientific Research (CNRS), France); Yuriy Zacchia Lun (WEST Aquila srl, Italy); Fabio Graziosi (University of l’Aquila, Italy); Luis Alonso (Universidad Politecnica de Catalunya-BarcelonaTECH & Telecommunications and Aerospatial Engineering School of Castelldefels, Spain); Christos Verikoukis (Telecommunications Technological Centre of Catalonia, Spain)
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An application of Brain Computer Interface in chronic stroke to improve arm reaching function exploiting Operant Learning strategy and Brain Plasticity
Giulia Cisotto (University of Padova, Italy); Stefano Silvoni (I. R. C. C. S. Fundation San Camillo Hospital, Italy); Francesco Piccione (I. R. C. C. S. Fundation San Camillo Hospital, Italy); Silvano Pupolin (University of Padua, Italy)
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Using Machine Learning to Identify Benign Cases with Non-Definitive Biopsy
Finn Kuusisto (University of Wisconsin - Madison, USA); Inês Dutra (University of Porto, Portugal); Houssam Nassif (University of Wisconsin - Madison, USA); Yirong Wu (University of Wisconsin - Madison, USA); Molly Klein (University of Wisconsin - Madison, USA); Heather Neuman (University of Wisconsin - Madison, USA); Jude Shavlik (University of Wisconsin-Madison, USA); Elizabeth Burnside (University of Wisconsin - Madison, USA)
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Leveraging XDS-I and PIX workflows for validating cross-enterprise patient identity linkage
Luís Ribeiro (University of Aveiro, Portugal); Frederico Honório (University of Aveiro, Portugal); José Luís Oliveira (University of Aveiro, Portugal); Carlos Costa (University of Aveiro, Portugal)
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S7: Coffee Break and EXPO Visit

G1: S6: Body Area Networks-II

Reliable Vital Sign Collection in Medical Wireless Sensor Networks
Amal Naseem (Paris Descartes University, France); Osman Salem (University of Paris Descartes, France); Yaning Liu (JCP-Consult, France); Ahmed Mehaoua (University of Paris Descartes, France)
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P2Care: A Dynamic Self-Organized Healthcare Network for Ubiquitous Healthcare Environment
Foteini Andriopoulou (University of Patras, Greece); Konstantinos Birkos (University of Patras, Greece); Dimitrios Lymberopoulos (University of Patras, Greece)
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A Network of Collaborative Sensors for the Monitoring of COPD Patients in their Daily Life
Norbert Noury (University of Lyon & Team Biomedical Sensors, France); Bruno Perriot (University of Lyon & Sleepinnov Technology, France); Jerome Argod (Sleepinnov Technology, France); Jean-Louis Pepin (Grenoble University Hospital, Sleep and EFCR & INSERM U1042, HP2 Laboratory, Joseph Fourier University, France)
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An Adaptive Access Control Model for Medical Data in Wireless Sensor Networks
Htoo Aung Maw (University of Hertfordshire, United Kingdom); Hannan Xiao (University of Hertfordshire, United Kingdom); Bruce Christianson (University of Hertfordshire, United Kingdom)
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On Designing an Ubiquitous Sensor Network for Health Monitoring
Bertrand Massot (University of Lyon & INL - INSA Lyon, France); Norbert Noury (University of Lyon & Team Biomedical Sensors, France); Claudine Gehin (INL, France); Eric McAdams (INL, France)
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Radiation Awareness in Three-Dimensional optimal WBAN model deployment
Hassine Moungla (Paris Descartes University & LIPADE Labs, France); Nora Touati (LIX, Ecole Polytechnique, France); Ahmed Mehaoua (University of Paris Descartes, France)
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G2: S7: Models and algorithms for eHealth-II

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Silvia Miguel-Bilbao (Health Institute Carlos III, Spain); Jose Roldan (IScIII, Spain); Jorge Garcia (Health Institute Carlos III, Spain); Pilar Garcia-Sagredo (IScIII, Spain); Victoria Ramos (Institute of Health Carlos III, Spain); Fernando López (IScIII, Spain)
Mitigating the Hospital Area Communication’s Interference using Cognitive Radio Networks
Dramane Ouattara (Labri, France); Thao Quach (University Bordeaux 1, France); Francine Krief (University of Bordeaux, France); Mohamed Aymen Chalouf (IRISA Lab - University of Rennes 1, France); Hicham Khalife (Thales Communications & Security, France)
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A Method for Identifying Temporal Progress of Chronic Disease Using Chronological Clustering
Sangjin Jeong (ETRI, Korea); Chan-Hyun Youn (Korea Advanced Institute of Science and Technology, Korea); Yong-Woon Kim (Electronics and Telecommunications Research Institute, Korea)
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Clariisa, a Context-Aware Framework Based on Geolocation for a Health Care Governance System
Leonardo Gardini (State University of Ceara, Brazil); Reinaldo Bezerra Braga (Federal University of Ceará & GREat, Brazil); José Bringel Filho (University of Evry, France); Rossana Maria de Castro Andrade (Federal University of Ceará, Brazil); Carina Teixeira De Oliveira (Federal University of Ceará (UFCE), Brazil); Herve Martin (Université Joseph Fourier, France); Odorico Andrade (UFCE, Brazil); Mauro Oliveira (Centro Federal de Educação Tecnologica do Ceara, Brazil)
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A Pervasive Energy-Efficient ECG Monitoring Approach for Detecting Abnormal Cardiac Situations
Vinicius Bezerra (State University of Piaui - UESPI, Brazil); Misael Junior (State University of Piaui - UESPI, Brazil); Olga Valéria (State University of Piaui - UESPI, Brazil); Constantino Dias Neto (State University of Piaui - UESPI, Brazil); Marcus Lemos (University of Fortaleza, Brazil); Liliam Leal (University of Fortaleza, Brazil); Carlos Giovanni Nunes de Carvalho (State University of Piauí, Brazil); José Bringel Filho (University of Evry, France); Agoulmine Nazim (University of Evry Val d'Essonne, France)
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Using Text Mining to Diagnose and Classify Epilepsy in Children
Luis Pereira (Polytechnic Institute of Leiria, Portugal); Rui Rijo (School of Technology and Management, Polytechnic Institute of Leiria & INESC - Institute for Systems and Computers Engineering at Coimbra, Portugal); Catarina Silva (University of Coimbra, Portugal); Margarida Agostinha (Hospital Leiria-Pombal, Portugal)
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G3: S8: Signal processing/Telemedicine

Telecardiology: Hurst Exponent based Anomaly Detection in Compressively Sampled ECG Signals
Bollepalli S Chandra (Indian Institute of Technology Hyderabad, India); S. Sastry Challa (IIT Hyderabad, India); Soumya Jana (Indian Institute of Technology, Hyderabad, India)
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Discrete-Wavelet-Transform-Based Noise Reduction and R Wave Detection for ECG Signals
Hsin-Yi Lin (National Tsing Hua University, Taiwan); Sz-Ying Liang (National Tsing Hua University, Taiwan); Yi-Lwun Ho (National Taiwan University Hospital, Taiwan); Yen-Hung Lin (National Taiwan University Hospital, Taiwan); Hsi-Pin Ma (National Tsing Hua University, Taiwan)
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Electrodes consisting of electroconductive polymer PEDOT-PSS combined with fabric for persistent electrocardiography monitoring
Shingo Tsukada (NTT Basic Research Laboratories, Japan); Nahoko Kasai (NTT Basic Research Laboratories, Japan); Hiroshi Nakashima (NTT Basic Research Laboratories, Japan); Koji Sumitomo (NTT Basic Research Laboratories, Japan)

Context-aware Low-energy Wi-Fi Sensor Networks for e-Health
Luis Miguel Carvalho (Faculdade de Engenharia de Universidade do Porto, Portugal); Rui Lopes Campos (INESC TEC, Portugal); Manuel Pereira Ricardo (Universidade do Porto, Portugal)
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On Asynchronous Flow Scheduling for Wireless Body Sensor Networks
Liang Zhou (Nanjing University of Posts and Telecommunications, P.R. China); Jianxin Chen (Nanjing University of Posts&Telecommunications, P.R. China); Baoyu Zheng (Nanjing University of Posts and Telecommunications, P.R. China); Isabel de la Torre (University of Valladolid, Spain); Sudip Misra (Indian Institute of Technology-Kharagpur, India)
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Catastrophic Collision in Bio-nanosensor Networks: Does it really matter?
Nabiul Islam (Indian Institute of Technology Kharagpur, India); Sudip Misra (Indian Institute of Technology-Kharagpur, India); Judhistir Mahapatro (Indian Institute of Technology Kharagpur, India); Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal)
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G4: S9: Services and Standards

Healthcare professionals as customers: A service perspective on Portuguese primary care health information systems
Jorge Grenha Teixeira (University of Porto - Faculty of Engineering, Portugal); Lia Patrício (University of Porto, Portugal); Leonel Nóbrega (University of Madeira, Portugal); Larry Constantine (University of Madeira, Portugal); Raymond Fisk (Texas State University, USA)
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Norms and Standards in Modular Medical Architectures
Christoph P Thuemmler (Edinburgh Napier University, United Kingdom); Oli Mival (Edinburgh Napier University, United Kingdom); David Benyon (Edinburgh Napier University, United Kingdom); William J Buchanan (Edinburgh Napier University, United Kingdom); Alois Paulin (Edinburgh Napier University, United Kingdom); Samuel Fricker (Blekinge Institute of Technology, Sweden); Markus Fiedler (Blekinge Institute of Technology, Sweden); Bert-Jaap Koops (Tilburg University, The Netherlands); Eleni Kosta (Tilburg University, The Netherlands); Astrid Grottland (University Hospital of North Norway, Norway); Armin Schneider (TU München & Klinikum Rechts der Isar der TU München, Germany); Thomas Jell (Siemens, Germany); Anastasius Gavras (Eurescom GmbH, Germany); Maria Barros (Eurescom GmbH, Germany); Thomas Magedanz (TU Berlin / Fraunhofer FOKUS, Germany); Philippe Cousin (eGlobalMark, France); Ioana Ispas (Ministry of National Education, Bucharest, Romania); Euripides G.M. Petrakis (Technical University of Crete (TUC), Greece)
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eHealth Complex Services Require Holistic Design
Nelson Pinho (University of Porto, Portugal); Lia Patrício (University of Porto, Portugal); Raymond Fisk (Texas State University, USA)

The Role of Perceived Usefulness and Attitude on Electronic Health Record Acceptance
Randike Gajanayake (Queensland University of Technology, Australia); Tony R Sahama (Queensland University of Technology & IEEE ACM IBS ACS SSAInc HISA, Australia); Renato Iannella (Queensland University of Technology, Australia)
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Interoperability in Ambient Assisted Living Using OpenEHR
Eduardo Osório (Fraunhofer Portugal Research Center for Assistive Information and Communication Solutions, Portugal); Liliana Ferreira (Fraunhofer Portugal AICOS, Portugal); Rui Abreu (Faculty of Engineering, University of Porto, Portugal); Filipe Sousa (Fraunhofer Portugal, Portugal)
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Analyzing open-source and commercial EHR solutions from an international perspective
Isabel de la Torre (University of Valladolid, Spain); Borja Martínez-Pérez (University of Valladolid, Spain); Miguel López-Coronado (University of Valladolid, Spain)
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G5: S10: Applications and system development for eHealth

**Control and Personalization Approach for an ICT-enabled Wearable Artificial Kidney**
Lukas Pielawa (OFFIS, Germany); Torben Wallbaum (OFFIS - Institute for Information Technology, Germany); Melina Frenken, (born Brell) (OFFIS Institut für Informatik Oldenburg, Germany); Andreas Hein (Universität Oldenburg, Germany)
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**Development of a Real-Time Vital Data Collection System from Players during a Football Game**
Shinsuke Hara (Osaka City University, Japan); Tetsuo Tsujioka (Osaka City University, Japan); Toui Kanda (Osaka City University, Japan); Hajime Nakamura (Osaka City University, Japan); Takashi Kawabata (Kansai University, Japan); Kenji Watanabe (SYNTHESIS Corporation, Japan); Masanao Ise (SYNTHESIS Corporation, Japan); Noa Arime (SYNTHESIS Corporation, Japan); Hiroyuki Okuhata (Synthesis Corporation, Japan)
pp. 409-413

**IntellWheels: intelligent wheelchair with user-centered design**
Marcelo R Petry (INESC TEC and University of Porto, Portugal); António Moreira (Fac. Eng. da Universidade do Porto, Portugal); Brigida Monica Faria (ESTSP, Polytechnic Institute of Porto and IEETA, University of Aveiro, Portugal); Luis Paulo Reis (DSI/EEUM, University of Minho, Portugal)
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**A System for Assessment of Limb Movements in Sleep**
Adriana Adami (University of Caxias do Sul, Brazil); André G Adami (University of Caxias do Sul, Brazil); Zachary Beattie (Oregon Health and Science University, USA); Tamara Hayes (Oregon Health and Science University, USA)
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**Linear Time-Invariant System Based Assessment Model for Coronary Heart Disease**
Zening Qu (Tsinghua University & Tsinghua University, P.R. China); Lyu Yongqiang (Tsinghua University, P.R. China); Yida Tang (Fuwai Hospital, P.R. China); Wenyao Wang (Fuwai Hospital, P.R. China); Zihan Wang (Tsinghua University, P.R. China); Jiaming Hong (Tsinghua University, P.R. China); Agoulmine Nazim (University of Evry Val d’Essonne, France)
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**TeleMDID: Mobile Technology Applications for Interactive Diagnoses in TeleDermatology Clinics**
Mirna Becevic (University of Missouri & Missouri Telehealth Network, USA); Blake Anderson (University of Missouri, USA); Jing Ginger Han (University of Missouri, USA); E. Rachel Mutrux (Missouri Telehealth Network, USA); Karen Edison (University of Missouri, USA); Lanis L Hicks (University of Missouri & School of Medicine, USA); Chi-Ren Shyu (University of Missouri, USA)
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G6: S11: Applications

**ARPEGE: Assessment of Frailty at Home**
Rana Jaber (Université de Technologie de Troyes, France); Aly Chkeir (University of Technology of Troyes, France); David Hewson (Université de Technologie de Troyes, France); Jacques Duchène (Université de Technologie de Troyes, France)
pp. 434-438

**Fall Detection on the Road**
Felix Büsching (Technische Universität Braunschweig, Germany); Henning Post (Technische Universität Braunschweig, Germany); Matthias Gietzelt (PLRI, Germany); Lars C Wolf (Technische Universität Braunschweig, Germany)
pp. 439-443

**KiReS: A Kinect-based telerehabilitation system**
David Antón (University of the Basque Country UPV/EHU, Spain); Alfredo Goñi (University of the Basque Country, Spain); Arantza Illarramendi (University of the Basque Country, Spain); Juan José Torres-Unda (University of the Basque Country UPV/EHU, Spain); Jesús Seco (University of León, Spain)
pp. 444-448
RehabNet: A Distributed Architecture for Motor and Cognitive Neuro-Rehabilitation
Athanasios Vourvopoulos (Madeira Interactive Technologies Institute & University of Madeira, Portugal); Ana Lúcia Faria (Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra & Madeira Interactive Technologies Institute, Portugal); Mónica Cameirão (Madeira Interactive Technologies Institute, Portugal); Sergi Bermúdez i Badia (Universidade da Madeira, Portugal)
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OSHCO: A Cross-Domain Ontology for Semantic Interoperability Across Medical and Oral Health Domains
Tejal Manojkumar Shah (University of New South Wales, Australia); Fethi Rabhi (University of New South Wales, Australia); Pradeep Kumar Ray (University of New South Wales, Australia)
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F1: Conference Banquet
H1: Keynote: Prof. Henrique Martins (Faculty of Health Sciences, Universidade da Beira Interior)
eHEALTH in Europe
H2: Keynote: Dr.-Ing. Heike Vallery (TU Delft)
Transparent Robot-Assisted Gait Training in Neurorehabilitation
H3: Coffee Break and EXPO Visit
I1: S12: Cloud for eHealth

What challenges have to be faced when using the cloud for e-health services?
Fei Liu (Leiden University, The Netherlands); Eric Rijnboutt (Leiden University, The Netherlands); Dimitrios Routsis (Leiden University, The Netherlands); Nicolaas Venekamp (Leiden University, The Netherlands); Harry Fulgencio (Leiden University, The Netherlands); Mohsen Rezai (Leiden University, The Netherlands); Adriaan van der Helm (Leiden University, The Netherlands)
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Activity recognition and resource optimization in mobile cloud through MapReduce
Shujaat Hussain Kausar (KyungHee University Suwon, Korea); Muhammad Bilal Amin (Kyung Hee University, Korea); JaeHun Bang (KyungHee University Suwon, Korea); Manhyung Han (Kyung Hee University, Korea); Sungyoung Lee (Kyung Hee University, Korea); Chris Nugent (University of Ulster, United Kingdom); Sally I McClean (University of Ulster, Coleraine, United Kingdom); Bryan W. Scotney (University of Ulster, United Kingdom); Gerard P. Parr (University of Ulster, United Kingdom)
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A Distributed Storage Solution for Cloud Based e-Healthcare Information System
Weider D. Yu (San Jose State University, USA); Manjula Kolippara (San Jose State University, USA); Roopa Penmetsa (San Jose State University, USA); Sumalatha Elliadka (San Jose State University, USA)
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Mapping of Sensor Nodes with Servers in a Mobile Health-Cloud Environment
Snigdha Das (Indian Institute of Technology-Kharagpur, India); Sudip Misra (Indian Institute of Technology-Kharagpur, India); Manas Khatua (SIT, IIT Kharagpur, India); Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal)
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I2: S13: Sensors for Healthcare applications

**Ultra Low-Power Smart Medical Sensor Node for In-Body Biomonitoring**
Maykel Alonso-Arce (Centro de Estudios e Investigaciones Técnicas, Spain); Jon Legarda (Deusto Institute of Technology, Spain); Beatriz Sedano (CEIT, Spain); Paul Bustamante (CEIT, Spain)
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**Ultra-Compact Bird-Borne S-band Transceiver Aiming to Search Low Pathogenic Avian Influenza**
Isao Nakajima (Tokai University School of Medicine, Japan); Leonid Androuchko (International University Geneva, Switzerland); Toshihiko Kitano (Tokai University, Japan); Kaoru Nakada (Tokai University, Japan); Masaaki Katayama (Nagoya University, Japan)
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**A Multi-Sensor Surveillance System for Elderly Care**
Bassant Selim (Khalifa University, UAE); Youssef Iraqi (Khalifa University, UAE); Ho-Jin Choi (Korea Advanced Institute of Science and Technology (KAIST), Korea)
pp. 502-506

**A Low Noise Wearable Wireless ECG System with Body Motion Cancellation for Long Term Homecare**
Yishan Wang (RWTH Aachen University & Chair of Integrated Analog Circuit and RF-System, Germany); Ralf Wunderlich (RWTH Aachen University, Germany); Stefan Heinen (RWTH Aachen, Germany)
pp. 507-511

**Embedded Implementation of Modular Closed-Loop Control of Diabetes and In Silico Validation**
Maurizio Gentili (STMicroelectronics & Scuola Superiore Sant'Anna, Italy); Caltabiano Daniele (STMicroelectronics, Italy); Roberto Sannino (STMicroelectronics, Italy); Chiara Toffanin (University of Pavia, Italy); Federico Di Palma (University of Pavia, Italy); Lalo Magni (University of Pavia, Italy); Stephen Lane (Triteq Ltd, United Kingdom)
pp. 512-517

**Biometric Recognition System Using Low Bandwidth ECG Signals**
André Matos (Instituto Superior de Engenharia de Lisboa, Portugal); Andre R. Lourenço (Instituto Superior of Engenharia de Lisboa, Portugal); José Nascimento (Instituto Superior of Engenharia de Lisboa and Instituto de Telecomunicações, Portugal)
pp. 518-522

I3: S14: Smart eHealth

**Consumer Engagement with eHealth Information through Smartphones and tablets**
Lynda Andrews (Queensland University of Technology, Australia); Randike Gajanayake (Queensland University of Technology, Australia); Tony R Sahama (Queensland University of Technology & IEEE ACM IBS ACS SSAInc HISA, Australia)
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**A Smartphone-Based Fall Risk Assessment Tool: Measuring One Leg Standing, Sit to Stand and Falls Efficacy Scale**
Vânia Guimarães (Fraunhofer Portugal AICOS, Portugal); David Ribeiro (Fraunhofer Portugal AICOS, Portugal); Luís Rosado (Fraunhofer Portugal AICOS, Portugal)
pp. 529-533
**Localization with WLAN on Smartphones in Hospitals**
Chien-Hsing Lu (National Tsing Hua University Hsinchu, Taiwan); Hsuan-Hung Kuo (National Tsing Hua University, Taiwan); Cheng-Wei Hsiao (National Tsing Hua University, Taiwan); Yi-Lwun Ho (National Taiwan University Hospital, Taiwan); Yen-Hung Lin (National Taiwan University Hospital, Taiwan); Hsi-Pin Ma (National Tsing Hua University, Taiwan)
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**Body movement analysis during sleep based on video motion estimation**
Adrienne Heinrich (Philips Research Laboratories, The Netherlands); Xavier Louis Aubert (Philips Research Laboratories Europe, Germany); Gerard Haan (Philips Research Laboratories, The Netherlands)
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**Wireless Solutions for Improving Health and Safety Working Conditions in Industrial Environments**
Jose Antonio Palazón Selva (Universidad Miguel Hernández de Elche, Spain); Javier Gozalvez (Universidad Miguel Hernandez de Elche, Spain); Juan Maestre (Universidad Miguel Hernandez de Elche, Spain); Jose Ramon Gisbert (Universidad Miguel Hernandez de Elche, Spain)
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**Activity Classification using a Smartphone**
Francisco João Duarte (Instituto Superior de Engenharia de Lisboa, Portugal); Andre R. Lourenço (Instituto Superior de Engenharia de Lisboa, Portugal); Arnaldo J. Abrantes (Instituto Superior Engenharia de Lisboa, Portugal)
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**Reducing Adolescent Obesity with a Mobile Fitness Application: Study Results of Youth Age 15 to 17**
Fletcher Lu (University of Ontario Institute of Technology, Canada)
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**A Multi-Communication-Fusion Based Mobile Monitoring System for Maternal and Fetal Information**
Pei Lyu (Hunan University, P.R. China); Manman Peng (Hunan University, P.R. China); Lyu Yongqiang (Tsinghua University, P.R. China); Yu Chen (Tsinghua University, P.R. China); Jijiang Yang (Tsinghua University, P.R. China)
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**Digital Signature of Network Segment using PCA, ACO and Holt-Winters for Network Management**
Luiz F. Carvalho (State University of Londrina, Brazil); Marcos V. O. de Assis (State University of Londrina, Brazil); Gilberto Fernandes, Jr. (State University of Londrina, Brazil); Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal); Mario Lemes Proença Jr. (State University of Londrina, Brazil)
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**A Software Model of Mobile Notification System for Medication Misuse Prevention**
Petar Rajkovic (University of Nis, Serbia); Dragan Jankovic (University of Nis, Serbia); Aleksandar Milenkovic (University of Nis, Serbia)
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**Electrochemical Detection of Arsenic via a Microfluidic Sensor and Mobile Interface towards Affordable, Rapid, and Point-of-Use Water Monitoring**
Unyoung Kim (Santa Clara University, USA); Benjamin Demaree (Santa Clara University, USA); Jessica VanderGiessen (Santa Clara University, USA); Mary Reynolds (Santa Clara University, USA); Kyle Perricone (Santa Clara University, USA); John Seubert (Santa Clara University, USA); Zuhayr Elahi (Santa Clara University, USA); Sonny Gandhi (Santa Clara University, USA); Shoba Krishnan (Santa Clara University, USA); Silvia Figueira (Santa Clara University, USA)
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STAlz: remotely supporting the diagnosis, tracking and rehabilitation of patients with Alzheimer’s
Hélder Moreira (Associação Fraunhofer Portugal Research, Portugal); Nuno Flores (University of Porto, Portugal); Renato Oliveira (Associação Fraunhofer Portugal Research, Portugal); Vânia Guimarães (Fraunhofer Portugal AICOS, Portugal)
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I5: Demos

I6: Lunch Break

K1: S16: AAL

A Testing and Certification Methodology for an Ambient-Assisted Living Ecosystem
João Pascoal Faria (University of Porto - Faculty of Engineering, Portugal); Bruno Lima (University of Porto - Faculty of Engineering & INESC TEC, Portugal); Tiago Boldt Sousa (INESC TEC & University of Porto - Faculty of Engineering, Portugal); Angelo Martins (Instituto Superior de Engenharia do Porto, Portugal)
pp. 585-589

Automatic fall detection: complementary devices for a better fall monitoring coverage
Pierre Barralon (Tecnalia Research & Innovation, Spain); Inigo Dorronsoro (Tecnalia Research & Innovation, Spain); Erik Hernandez (Tecnalia Research & Innovation, Spain)
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Real Time Falls Prevention and Detection with Biofeedback Monitoring Solution for Mobile Environments
Edgar Horta (Instituto de Telecomunicações, University of Beira Interior, Portugal); Ivo Lopes (Instituto de Telecomunicações, University of Beira Interior, Portugal); Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal); Sudip Misra (Indian Institute of Technology-Kharagpur, India)
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An approach for the Management of an AAL Ecosystem
Ana Inês Oliveira (New University of Lisbon - FCT & Uninova, Portugal); Filipa Ferrada (New University of Lisbon - FCT, Portugal); Luis M. Camarinha-Matos (New University of Lisbon - FCT, Portugal)
pp. 601-605

Non-Intrusive Human Activity Monitoring in a Smart Home Environment
Mohsen Amiri (University of British Columbia & Sharif University of Technology, and Simon Fraser University, Canada); Mahsa T. Pourazad (TELUS Communications Company, Canada); Panos Nasiopoulos (University of British Columbia, Canada); Victor CM Leung (The University of British Columbia, Canada)
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Real-Time Physiological Stream Processing for Health Monitoring Services
Lawrence Chow (Stanford University, USA); Nicholas Bambos (Stanford University, USA)
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K2: S17: CDSS

Clinical-based Prediction of Side Effects in Colon Cancer Chemotherapy
Mouna Kacimi (Free University of Bozen-Bolzano, Italy); Ognjen Savkovic (Free University of Bozen-Bolzano, Italy); Manfred Mitterer (Hospital Franz Tappeiner, Italy)
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Application of Support Vector Machine and k-means Clustering Algorithms for Robust Chronic Lymphocytic Leukemia Color Cell Segmentation
Emad Mohammed (University of Calgary, Schulich School of Engineering Electrical and Computer Dept., AB, Canada, Canada); Mostafa Mohamed A. Mohamed (Helwan University, Egypt); Christopher Naugler (University of Calgary and Calgary Laboratory Services Calgary, Canada); Behrouz Homayoun Far (University of Calgary, Canada)
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Meta-classifier for Type 2 Diabetes Mellitus comorbidities in Colombia
Angela Franco (Universidad Nacional de Colombia, Colombia); Elizabeth León (Universidad Nacional de Colombia, Colombia)
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A Bag-of-Tasks Approach to Speed Up the Lung Nodules Retrieval in the BigData age
Marcelo Oliveira (Federal University of Alagoas (UFAL), Brazil); José Ferreira, Jr (Federal University of Alagoas & Computing Institute, Brazil)
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Profile-based System for Nutritional Information Management
Catarina Silva (University of Coimbra, Portugal); Rui Costa (Polytechnic Institute of Leiria, Portugal); Luis Marcelino (Polytechnic Institute of Leiria, Portugal)
pp. 638-642

Smartphone Based Fall Prevention Exercises
Bruno Ferreira (Fraunhofer Portugal - AICOS, Portugal); Vânia Guimarães (Fraunhofer Portugal AICOS, Portugal); Hugo Ferreira (Faculty of Engineering of the University of Porto, Portugal)
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K3: S18: Knowledge aquisition

Diversifying Medical Search Results
Chunchen Liu (NEC Laboratories, P.R. China); Jianqiang Li (NEC Laboratories, P.R. China); Bo Liu (NEC Laboratories, P.R. China)

Unsupervised Graph-based Word Sense Disambiguation of Biomedical Documents
Wessam Gad El-Rab Gad El-Rab (University of Alberta, Canada); Osmar Zaiane (University of Alberta, Canada); Mohammad El-Hajj (MacEwan University, Canada)
pp. 649-652

Abdominal Morphometric Data Acquisition Using Depth Sensors
Sylvia Piotin (University of Reims, France); Aassif Benassarou (University of Reims, France); Frédéric Blanchard (University of Reims, France); Olivier Nocent (University of Reims Champagne-Ardenne & CReSTIC, France)
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Towards Automated Self-tagging in Emergency Health Cases
Fasee Ullah (Umm Al-Qura University, Saudi Arabia); Abdelmajid Khelil (Huawei European Research Center, Germany); Adil A Sheikh (Umm Al-Qura University, Saudi Arabia); Emad Felemban (Umm Al Qura University, Saudi Arabia); Hattan Bojan (Ministry of Health, Saudi Arabia)
pp. 658-663

Differences in Internet Usage Patterns with Stress and Anxiety among College Students
Sriram Chellappan (Missouri University of Science and Technology, USA); Levi Malott (Missouri S&T, USA); Sai Preethi Vishwanathan (Missouri S&T, USA)
pp. 664-668

The Virtue of Sharing: Efficient Content Delivery in Wireless Body Area Networks for Ubiquitous Healthcare
Min Chen (Huazhong University of Science and Technology, P.R. China); Dung Mau (Huazhong University of Science and Technology, Wuhan, P.R. China); Xiaofei Wang (Seoul National University, Korea); Honggang Wang (University of Massachusetts, Dartmouth & College of Engineering, USA)
pp. 669-673
K4: S19: Image & 3D Models

**Classification of Retinal Image for Automatic Cataract Detection**
MeiMei Yang (Beijing University of Posts and Telecommunications, P.R. China); Jijiang Yang (Tsinghua University, P.R. China); Qinyan Zhang (Beijing University of Posts and Telecommunications, P.R. China); Yu Niu (Tsinghua University, P.R. China); Jianqiang Li (NEC, P.R. China)
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**Quality Evaluation of Asymmetric Compression for 3D Surgery Video**
Chaminda T. E.R. Hewage (University of Kingston, United Kingdom); Harsha Appuhami (Kingston University-London, United Kingdom); Maria G. Martini (Kingston University, United Kingdom); Ralph Smith (MATTU, United Kingdom); Iain Jourdan (MATTU, United Kingdom); Timothy Rockall (Surrey University, United Kingdom)
pp. 680-684

**Comparing Limb-Volume Measurement Techniques: 3D Models from an Infrared Depth Sensor versus Water Displacement**
Guannan Lu (University of Missouri, USA); Guilherme N. DeSouza (University of Missouri-Columbia, USA); Jane Armer (University of Missouri, USA); Chi-Ren Shyu (University of Missouri, USA)
pp. 685-691

**A Framework toward Detecting and visualizing Kinematic Data for Children with Hemiplegia**
Md. Abdur Rahman (Umm Al-Qura University, Saudi Arabia); Saleh Basalamah (Umm Al-Qura University, Saudi Arabia); Asad Toonsi (MCH - Makkah, Saudi Arabia); Abdulmotaleb El Saddik (University of Ottawa, Canada)
pp. 692-696

**An Improved Digital Pain Body Map**
Ellen Jaatun (NTNU & St Olav University Hospital, Norway); Dagny Haugen (NTNU, Norway); Yngve Dahl (SINTEF, Norway); Anders Kofod-Petersen (SINTEF, Norway)
pp. 697-701

**A Skillet-Based Recoloring Algorithm for Dichromats**
Madalena Ribeiro (University of Beira Interior, Portugal); Abel Joao Gomes (Universidade da Beira Interior, Portugal)
pp. 702-706

K5: Poster Session 2

**A cloud based architecture for medical imaging services**
Carlos Viana-Ferreira (University of Aveiro, Portugal); Carlos Costa (University of Aveiro, Portugal)
pp. 707-709

**Towards Design of Technologies Persuading more Physical Activity**
Yao Meng (Inje University, Korea); Hee-Cheol Kim (Inje University, Korea)
pp. 710-715

**Active Protection of Patient Data by Reverse Cloud Approach**
Tom Pfeifer (Technische Universität Berlin, Germany); Stefan Covaci (Technische Universität Berlin, Germany)
pp. 716-718

**Fall Risk Assessment by means of a pocket size screening tool: preliminary results**
Andrea Cattabriga (University of Bologna, Italy); Marco Corbelli (University of Bologna, Italy); Sabato Mellone (University of Bologna, Italy); Chiara Mussi (University of Modena, Reggio Emilia, Italy); Lorenzo Chiari (University of Bologna, Italy)

**Automatic Verification of Health Regulatory Compliance in Cloud Computing**
Khaled Md Khan (Qatar University, Qatar); Yun Bai (University of Western Sydney, Australia)
pp. 719-721

**Design of adaptive IEEE 802.11 WLAN in hospital environments**
Sunghwa Son (Daegu Gyeongbuk Institute of Science & Technology, Korea); Kyung-Joon Park (DGIST, Korea); Eun-Chan Park (Dongguk University, Korea)
K6: Meeting: IEEE Comsoc TC on Health

K7: Coffee Break and EXPO Visit

K8: Panel 2: Cloud or not to Cloud for eHealth (Cisco)

Moderator: Masum Z Hasan

Participants: Monique Morrow (CTO, Cisco Service); Nazim AGOULMINE (University of Evry, France); Gerard Parr (University of Ulster, UK); Benjamin Hirsch (BT-Etisalat Innovation Center, Abu Dhabi, UAE)

K9: Organiser/Volunteers Recognition Meeting

L1: Welcome

Welcome - Henrique Martins (Chairmen of the Board, SPMS; University of Beira Interior, Portugal), Helena Monteiro (Operation Co-Chair; ISCSP, UL, Portugal)

L2: Medicine in 2020

António Murta (Pathena Group, President)

L3: The Governance of the NHS with new management tools (Activity Based Cost)

Ana Paula Harfouche, (IPO and ISCSP, UL, Portugal)

L4: Facilitators and Inhibitors in Hospital Management in Portugal

Francisco Velez Roxo (Hospital Center of Leiria Pombal and Catholic University, Portugal)
L5: Coffee Break and EXPO Visit

L6: Panel 1

Moderador - Adalberto Campo Fernandes (Presidente SAMS President and National Public Health School

L7: Keynote

SNS systems and infrastructures - Arquitetura e Governance - Henrique Martins (Chairmen of the Board, SPMS, Portugal; University of Beira Interior, Portugal)

L7: Closing Session

Paulo Macedo, Portuguese Minister of Health & Joel Rodrigues (General Chair, Instituto de Telecomunicações, University of Beira Interior, Portugal)

L8: Half-day Tours