INVITED SPEAKERS

KEYNOTE SPEAKERS

Advances and Challenges in Dynamic Bioimage Analysis
_Erik Meijering_ IS-5

How to Cross the Border from R to D? - The Example of Conception of New Medical Devices
_Lionel Pazart_ IS-7

The Bidirectional Route of Research and Innovation - Insights from the Stressed Brain
_Nuno Sousa_ IS-9

Enchanted Objects - Design, Human Desire and the Internet of Things
_David Rose_ IS-11

PAPERS

FULL PAPERS

Automated Cryptanalysis of Bloom Filter Encryptions of Health Records
_Martin Kroll and Simone Steinmetzer_ 5

Agent-based Modelling for Simulating Patients Flow in a Community Hospital
_Thomas Ostermann_ 14

ZiZo: Modeling, Simulation and Verification of Reconfigurable Real-time Control Tasks Sharing Adaptive Resources - Application to the Medical Project BROS
_Mohamed Oussama Ben Salem, Olfa Mosbahi, Mohamed Khalgui and Georg Frey_ 20

Patient Flow Management - Combining Analytical and Observational Data to Uncover Flow Patterns
_Omar Badreddin and Ricardo Castillo_ 32

Temporal Detection of Guideline Interactions
_Luca Piovesan, Luca Anselma and Paolo Terenziani_ 40

Thrombophilia Screening - An Artificial Neural Network Approach
_João Vilhena, M. Rosário Martins, Henrique Vicente, Luís Nelas, José Machado and José Neves_ 51

Towards Guidelines for the Design of Patient Feedback in Stroke Rehabilitation Technology
_Lilha Willems, Daniel Tetteroo and Panos Markopoulos_ 60

Tracking of Monthly Health Condition Change from Daily Measurement of Systolic Blood Pressure
_Wenxi Chen and Toshiyo Tamura_ 69

Automatic Fall Risk Estimation using the Nintendo Wii Balance Board
_Gert Mertes, Greed Baldewijns, Pieter-Jan Dingenen, Tom Croonenborghs and Bart Vanrumste_ 75

Strategic Planning of Hospital Service Portfolios - The DRGee Viewer
_Dominique Brodbeck, Markus Degen, Andreas Walter, Serge Reichlin and Christoph Napierala_ 82

Finding Evidence for Updates in Medical Guidelines
_Roelof Reinders, Annette Ten Teije and Zhisheng Huang_ 91
Descriptive Modelling of Clinical Conditions with Data-driven Rule Mining in Physiological Data
Hadi Banaee, Mobyen Uddin Ahmed and Amy Loutfi

Certification of Service-oriented eHealth Platforms - Derivation of Structured Criteria for Interoperability and Expandability
Martin Benedict, Martin Burwitz and Hannes Schlieter

Lung Function Classification of Smartphone Recordings - Comparison of Signal Processing and Machine Learning Combination Sets
João Teixeira, Luís Teixeira, João Fonseca and Tiago Jacinto

Mapping Elderly Citizen’s Computer and ICT Use in a Small-sized Norwegian Municipality
Elin Thygesen, Ragni MacQueen Leifson and Santiago Martinez

A Proposal to Incorporate Digital Auscultation and Its Processing into an Existing Electronic Health Record
Pedro Gomes, Samuel Frade, Ana Castro, Ricardo Cruz-Correia and Miguel Coimbra

BROS - A New Robotic Platform for the Treatment of Supracondylar Humerus Fracture
Ben Salem Mohamed Oussama, Mosbahi Olfa, Khalgui Mohamed and Frey Georg

Migrating Healthcare Applications to the Cloud through Containerization and Service Brokering
Francois Andry, Richard Ridolfo and John Huffman

Model-based Clustering of Ischemic Stroke Patients
Ahmedul Kabir, Carolina Ruiz, Sergio Alvarez, Nazish Riaz and Majaz Moonis

Information Model for Radiology Performance Indicators based on DICOM
Milton Santos, Luis Bastião, Alexandra Queirós, Augusto Silva and Nelson Fernando Pacheco da Rocha

Sitting Posture Detection using Fuzzy Logic - Development of a Neuro-fuzzy Algorithm to Classify Postural Transitions in a Sitting Posture
Bruno Ribeiro, Leonardo Martins, Hugo Pereira, Rui Almeida, Claudia Quaresma, Adelaide Ferreira and Pedro Vieira

Physical Activity Support Community TogetherActive - Architecture, Implementation and Evaluation
Lamia Elloumi, Bert-Jan van Beijnum and Hermie Hermens

Eyetrace2014 - Eyetracking Data Analysis Tool
Katrin Sippel, Thomas Kübler, Wolfgang Fuhl, Guilherme Schievelbein, Raphael Rosenberg and Wolfgang Rosenstiel

SHORT PAPERS

COPD and Urban Air Pollution - GIS Based Spatial Pattern and the Geostatistical Analysis of Izmir
Cigdem Tarhan and Nur Sinem Ozcan

Experience with a 3D Kinect Exergame for Elderly
Ellen Brox, Gunn Evertsen, Heidi Åaheim-Olsen, Santiago Hors-Fraile and James Browne

A Study about Discovery of Critical Food Consumption Patterns Linked with Lifestyle Diseases using Data Mining Methods
Farshideh Einsele, Leila Sadeghi, Rolf Ingold and Helena Jenzer

Automatic Segmentation Methodology for Dermatological Images Acquired via Mobile Devices
Luís Rosado and Maria Vasconcelos
Self-serve ICT-based Health Monitoring to Support Active Ageing
Mobyen Uddin Ahmed, Jessica Rivero Espinosa, Alenka Reissner, Álex Domingo, Hadi Banaee, Amy Loufi and Xavier Rafael-Palou

The Potential of the m-Health Platform to Safeguard Public Health - The Nigerian Example
Allen Adum, Uche Ekwugha and Ngozi Emmanuel

An Observational Study to Improve the Surgical Safety Checklist Viability
Vanessa Estima, Ana Castro, Pedro Gomes, Victor Nunes and Daniel Pereira

Heart Disease Diagnosis Using C4.5 Algorithms - A Case Study
Ali Idri, Ilham Kadi and Halima Benjelloun

Applying ISO/IEC 25010 on Mobile Personal Health Records
Sofia Ouhbi, Ali Idri, José Luis Fernández-Alemán, Ambrosio Toval and Halima Benjelloun

Supporting Multi-level User-driven Detection of Guideline Interactions
Luca Piovesan, Gianpaolo Molino and Paolo Terenziani

Visualization of Passively Extracted HL7 Production Metrics
Ricardo Ferreira, Manuel Eduardo Correia, Francisco Rocha-Gonçalves and Ricardo Cruz-Correia

Incremental Learning Versus Batch Learning for Classification of User’s Behaviour in Medical Imaging
Carlos Viana-Ferreira, Sérgio Matos and Carlos Costa

Modulation of Existent Obstetrics EHRs to the openEHR Specification
João Carlos Menezes de Magalhães and Ricardo João Cruz Correia

User-centred Design of the User Interface of a Collaborative Information System for Inter-municipal Dementia Team
Berglind Smaradottir, Elisabeth Holen-Rabbersvik, Elin Thygesen, Rune Fensli and Santiago Martinez

Matching Task and Technology Characteristics to Predict mHealth Tool Use and User Performance - A Study of Community Health Workers in the Kenyan Context
Maradona Gatara and Jason Cohen

Medical Device Software Process Improvement - A Perspective from a Medical Device Company
Marie Travers and Ita Richardson

A 3-Staged Approach to Identifying Patients at Risk of Deterioration in Emergency Departments
Thomas Schmidt and Uffe K. Wiil

Study on E-Health Utilization among Nigerian University Undergraduate Students
Ngozi Marion Emmanuel, Ogochukwu Charity Ekwenchi and Allen Nnanwuba Adum

The Analysis of Relationship between Diabetes and Cancer from 2006-2013 Hospital Inpatients
Shuimei Miao, Xiaoping Zhou, Xin Zhang, Hongwei Shan, Xinyi Huang, Yixin Zhu, Kai Leng, Zhongmin Wang, Jianqiu Kou and Yun Liu

Identifying Risk Prone Hip Prostheses based on Predicate Ancestry
W. Melo, P. Mork, D. Simonson and J. Stanford

Pervasive Health and Regulatory Frameworks
Alexandra Queirós, Anabela Silva, Hílma Caravau, Alina Ferreira, Margarida Cerqueira, Joaquim Alvarelhão, Milton Santos and Nelson Pacheco Rocha
The Transparent Representation of Medical Decision Structures Based on the Example of Breast Cancer Treatment

Dennis Andrzejewski, Laura Tetzlaff, Julien DeBoer, Eberhard Beck and Nicole Haeusler

617

An Automatic System for Helping Health Consumers to Understand Medical Texts

Marco Alfano, Biagio Lenzitti, Giosuè Lo Bosco and Valerio Perticone

622

Coexistence of Wireless Systems for Remote Monitoring of Vital Functions in the Unlicensed ISM Band

Aleksandra Rashkovska, Roman Trobec and Mihael Mohorčič

628

Fundus Imaging Based Affordable Eye Care

Kolin Paul and Vijay Kumar

634

Clinical Processes and Its Data, What Can We Do with Them?

Eric Rojas, Michael Arias and Marcos Sepúlveda

642

Robots Humanize Care - Moral Concerns Versus Witnessed Benefits for the Elderly

Margo van Kemenade, Elly A. Konijn and Johan Hoorn

648

On the Validation of Computerised Lung Auscultation

Guilherme Campos and João Quintas

654

Tool Facilitating Construction of Ontologies on the KIM Platform

Roman Mouček, Jan Smitka and Petr Ježek

659

AUTHOR INDEX

667