International Workshop

Mobile Networks
For Biometric Data Analysis

Ancona, Italy, October 30-31, 2014

Preliminary Program

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International Workshop
Mobile Networks for Biometric Data Analysis
mBiDA 2014

October 30-31, 2014 Ancona, Italy

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Co-Organization : *PhD School in Engineering Sciences, Università Politecnica delle Marche*

Local Organization
  Web Design: *M. Conti, F. Francescangeli*
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  Administrative Office: *D. Boccoli*
  Event Organization: *Dipartimento di Ingegneria dell'Informazione,   e-Living*

International Workshop
Mobile Networks for Biometric Data Analysis mBiDA 2014

Facoltà di Ingegneria, via Brecce Bianche, Ancona, Room 160/3

Program

October 30, 2014

Registration   **8:30-9:15**
Welcome   **9:30-9:45**
Round Table   **9.45-11.00**   **"Service and Technologies for Active Ageing"**
        Francesco Piazza, UnivPM
        Francesca Gaetini, A Tlc
        Lorena Rossi, INRCA
        Francesca Cesaroni, COOSS Marche

Coffee break   11:10-11:30 (at Faculty Club, Facoltà di Ingegneria)

Session 1   11:40-12:40 "ICT for health care" (4 papers)

Lunch   12:50-14:20 (at Faculty Club, Facoltà di Ingegneria)
Poster session (5 papers)

Session 2   14:30-15:50 "Biometric data in automotive and home applications" (4 papers)

Coffee break   15:55-16:15 (at Faculty Club, Facoltà di Ingegneria)

Session 3   16:20-17:30 "Embedded systems for biometric data analysis" (4 papers)

19:30-20:30 Visit of wine farm "Cantine Moroder"
20:30-23:00 Conference dinner at "Azienda Agricola Moroder", Via Montacuto, 121 Ancona

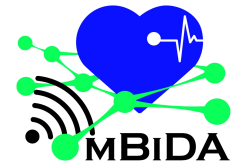## October 31, 2014

Session 4   9:00-10:40 "Biometric data analysis: EMG and ECG" (5 papers)

Coffee break   10:45-11:00 (at Faculty Club, Facoltà di Ingegneria)

Session 5   11:10-12:50 "ICT for gait analysis" (5 papers)

Closing   12:50-13.00

Session 1, 11:50-12:50 "ICT for health care"
(Chairman Massimo Conti)
1 Monica De Angelis, Rosita Pretaroli, Andrea Monteriù, Francesca Severini, Claudio Socci and Maurizio Ciaschini, "The ICT industry and the health care system"
2 Lorenza Lupini and Francesca Scocchera, "End-user organization and R&D of ICT projects: a non-intrusive model for the collection and analysis of data, feedback and needs"
3 (short) Christoph Dermati, Benedikt Martínez, Artur Kostka, Lars Pfeil, Ralf Lange, Matthias Hermann and Ralf Seepold, "Determining Health Status and Weather Conditions to Recommend Behavioral Activities"
4 (short) Thomas Walzer, Emre Yay and Martínez Madrid Natividad, ""eKlarA" – A clothing cycle assistant system supporting functionally impaired people"

Poster Session (Faculty club)
1 Davide Ortenzi, Alessandro Freddi, Sauro Longhi, Andrea Monteriù and Mariorosario Prist, "A novel shelving system for nutrition habits measuring"
2 Massimo Conti, Mirko Carloni, Rocco D'Aparo, Pierpaolo Scorrano and Berardo Naticchia, "Battery Monitor for Wireless Sensor Networks"
3 Angela Agostinelli, Corrado Giuliani, Francesco Di Nardo, Sandro Fioretti and Laura Burattini, "Extraction of the fetal ECG in noninvasive recordings using a new method based on segmented-beat modulation"
4 Thomas Wegmann and Ralf Seepold, "Step detection and orientation sensing with a low-cost embedded sensor"

Session 2, 14:30-15:50 "Biometric data in automotive and home applications"
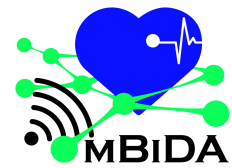**(Chairman Ralf Seepold)**
1 Emre Yay and Natividad Martínez Madrid, "Considering driver stress to increase the user acceptance while generating recommendations in an energy-efficiency and safety relevant driving system"
2 Patrick Datko, Natividad Martinez Madrid and Ralf Seepold, "Intelligent generation of navigation routes based on individual stress level"
3 Laura Montanini, Ennio Gambi and Susanna Spinsante, "Automatic Drowsiness Detection Through Visual Analysis for Mobile Android Devices "
4 Giorgio Biagetti, Paolo Crippa, Alessandro Curzi, Laura Falaschetti, Simone Orcioni and Claudio Turchetti, "A distributed speaker identification system for personalized home control"

Session 3, 16:20-17:30 "Embedded systems for biometric data analysis"
(Chairman Simone Orcioni)
1 (short) Jens Gansloser and Ralf Seepold, "A new Sensor for a Heart Rate Monitor based on Photoplethysmogram"
2 Giorgio Biagetti, Paolo Crippa, Simone Orcioni and Claudio Turchetti, "An inexpensive circuit solution for the acquisition of the ECG signal with wireless EMG sensors"
3 Enrico Camilloni, Giuseppe Demaso-Gentile, Cristiano Scavongelli and Massimo Conti, "Energy Harvesting for Body Area Networks"
4 Indrit Enesi and Blerina Zanaj, "Implementing Steganocryptography in Scanner Medical Images"

October 31, 2014

Session 4, 9:00-10:40 "Biometric data analysis: EMG and ECG"
(Chairman Natividad Martinez)

1 Giorgio Biagetti, Paolo Crippa, Simone Orcioni and Claudio Turchetti, "Parameter estimation of surface EMG MUAP by means of power cepstrum deconvolution"

2 Alessandro Mengarelli, Elvira Maranesi, Laura Burattini, Sandro Fioretti and Francesco Di Nardo, "A non-invasive assessment of variability in sEMG signals from lower limb muscles during gait "

3 Mohammed Rajab and Ralf Seepold, "Dynamic threshold calibration for RR interval detection in a QRS complex"

4 Wilhelm Daniel Scherz, Juan Ortega, Natividad Martinez Madrid and Ralf Seepold, "QRS complex detection, analysis and preprocessing to determine stress"

5 Elvira Maranesi, Micaela Morettini, Francesco Palmieri, Francesco Di Nardo and Laura Burattini, "Preventing sudden cardiac death in sports: a novel monitoring service of the heart-rate variability trough wearable sensors"

Session 5, 11:10-12:50 "ICT for gait analysis"
(Chairman Sandro Fioretti)

1 Vinicio Barone and Sandro Fioretti, "Integration of smartphones and webcam for the measure of spatial-temporal parameters of gait for treadmill use "

2 Elvira Maranesi, Sandro Fioretti, Laura Burattini and Francesco Di Nardo, "Functional Reach Test evaluated by wireless surface electromyography: a non-invasive assessment of fall risk in diabetic patients"

3 Elvira Maranesi, Marta Petrini, Giacomo G. Ghetti, Oriano Mercante, Laura Burattini, Francesco Di Nardo and Sandro Fioretti, "An innovative approach to compute the Functional Ambulation Profile (FAP) Score"

4 Giuseppe De Maso-Gentile, Cristiano Scavongelli, Massimo Conti, Luca Basili, Stefano Pirani and Simone Orcioni, "Use of a smartphone for fall detection"

5 Lucia Pepa, Marco Rossini, Luca Spalazzi and Federica Verdini, "Step length estimation for freezing of gait monitoring in Parkinson's disease"