

# **2015 International Conference of the Biometrics Special Interest Group (BIOSIG 2015)**

**Darmstadt, Germany  
9 – 11 September 2015**



**IEEE Catalog Number: CFP1535S-POD  
ISBN: 978-1-4673-7180-3**

## Table of Contents

### BIOSIG 2015 – Regular Research Papers

<b>A Review of Face Recognition Against Longitudinal Child Faces</b>	<b>1</b>
<i>Karl Ricanek, Shivani Bhardwaj, and Michael Sodomsky</i>	
<b>Pose Variability Compensation Using Projective Transformation Forensic Face Recognition</b>	<b>7</b>
<i>Ester Gonzalez-Sosa, Ruben Vera-Rodriguez, Julian Fierrez, Pedro Tome, and Javier Ortega-Garcia</i>	
<b>Face Tracking Using Optical Flow Development of a Real-Time AdaBoost Cascade Face Tracker</b>	<b>12</b>
<i>Andreas Ranftl, Fernando Alonso-Fernandez, and Stefan Karlsson</i>	
<b>On Reducing the Effect of Silhouette Quality on Individual Gait Recognition: A Feature Fusion Approach</b>	<b>17</b>
<i>Ning Jia, Victor Sanchez, Chang-Tsun Li, and Hassan Mansour</i>	
<b>Segmentation-level Fusion for Iris Recognition</b>	<b>22</b>
<i>Peter Wild, Heinz Hofbauer, James Ferryman, and Andreas Uhl</i>	
<b>Structured Forest Edge Detectors for Improved Eyelid and Iris Segmentation</b>	<b>28</b>
<i>Michael Happold</i>	
<b>Predicting Dactyloscopic Examiner Fingerprint Image Quality Assessments</b>	<b>34</b>
<i>Martin Aastrup Olsen, Martin Böckeler, and Christoph Busch</i>	
<b>Identification Performance of Evidential Value Estimation for Fingermarks</b>	<b>46</b>
<i>Johannes Kotzerke, Stephen A. Davis, Robert Hayes, Luuk J. Spreeuwiers, Raymond N.J. Veldhuis, and Kathy J. Horadam</i>	
<b>Privacy Preserving Technique for Set-Based Biometric Authentication Using Reed-Solomon Decoding</b>	<b>52</b>
<i>Jesse Hartloff, Avradip Mandal, and Arnab Roy</i>	
<b>Improved Fuzzy Vault Scheme for Alignment-Free Fingerprint Features</b>	<b>58</b>
<i>Benjamin Tams, Johannes Merkle, Christian Rathgeb, Johannes Wagner, Ulrike Korte, and Christoph Busch</i>	
<b>Protected Honey Face Templates</b>	<b>70</b>
<i>Edlira Martiri, Bian Yang, and Christoph Busch</i>	
<b>Contact-less Palm/Finger Vein Biometric</b>	<b>77</b>
<i>Alexandre Sierro, Pierre Ferrez, and Pierre Roduit</i>	
<b>A Fingerprint Indexing Scheme with Robustness Against Sample Translation and Rotation</b>	<b>89</b>
<i>Guoqiang Li, Bian Yang, and Christoph Busch</i>	
<b>Evaluating the Change in Fingerprint Directional Patterns Under Variation of Rotation and Number of Regions</b>	<b>97</b>
<i>Kribashnee Dorasamy, Leandra Webb, and Jules Tapamo</i>	

## **BIOSIG 2015 – Further Conference Contributions**

- Robustness Evaluation of Hand Vein Recognition Systems** 105  
*Christof Kauba and Andreas Uhl*
- Finite Context Modeling of Keystroke Dynamics in Free Text** 110  
*Nahuel González and Enrique P. Calot*
- Investigation of Better Portable Graphics Compression for Iris Biometric Recognition** 115  
*Heinz Hofbauer, Christian Rathgeb, Johannes Wagner, Andreas Uhl, and Christoph Busch*
- Sparsity-based Iris Classification using Iris Fiber Structures** 119  
*Nalla Pattabhi Ramaiah, Nalla Srilatha, and Chalavadi Krishna Mohan*
- Palm Vein Database and Experimental Framework for Reproducible Research** 123  
*Pedro Tome and Sébastien Marcel*
- Exploring Gender Prediction from Iris Biometrics** 130  
*Michael Fairhurst, Meryem Erbilek, and Marjory Da Costa-Abreu*
- A Comparative Study on Image Hashing for Document Authentication** 141  
*Dominik Klein and Jan Kruse*
- On Accuracy of Keystroke Authentications Based on Commonly Used English Words** 146  
*Alaa Darabseh and Akbar Siami Namin*
- Towards Touchless Palm and Finger Detection for Fingerprint Extraction with Mobile Devices** 154  
*Christof Jonietz, Eduardo Monari, and Chengchao Qu*
- Weighted Integration of Neighbors Distance Ratio in Multi-biometric Fusion** 162  
*Naser Damer and Alexander Nouak*
- Does Context Matter for the Performance of Continuous Authentication Biometric Systems? An Empirical Study on Mobile Devices** 167  
*Soumik Mondal and Patrick Bours*
- Fingerprint Image Enhancement with Easy to Use Algorithms** 172  
*Thomas Klir*
- Exploring How User Routine Affects the Recognition Performance of a Lock Pattern** 176  
*Lisa de Wilde, Luuk Spreuwewers, and Raymond Veldhuis*
- JPEG Optimisation for Fingerprint Recognition: Generalisation Potential of an Evolutionary Approach** 184  
*Thomas Herzog and Andreas Uhl*
- Corneal Topography: An Emerging Biometric System for Person Authentication** 190  
*Nassima Kihal, Arnaud Polette, Salim Chitroub, Isabelle Brunette, and Jean Meunier*
- EEG Biometrics for User Recognition using Visually Evoked Potentials** 198  
*Rig Das, Emanuele Maiorana, Daria La Rocca, and Patrizio Campisi*

- Liveness Detection in Biometrics** 206  
*Maximilian Krieg and Nils Rogmann*
- Discarding Low Quality Minutia Cylinder-Code Pairs for Improved Fingerprint Comparison** 220  
*M. Hamed Izadi and Andrzej Drygajlo*
- A Signature Complexity Measure to select Reference Signatures for Online Signature Verification** 224  
*Christian Kahindo, Sonia Garcia-Salicetti, and Nesma Houmani*