

Conference PROGRAM

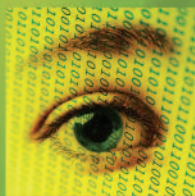
IEEE Third International Conference
on **Biometrics: Theory,
Applications and Systems**

BTAS 2009



September 28 – 30, 2009
Washington, D.C.

Sponsored by the IEEE Systems, Man & Cybernetics Society
and the IEEE Biometrics Council



BTAS 2009

General Chair's Welcome to BTAS 2009

Welcome to the *Third IEEE International Conference on Biometrics: Theory, Applications and Systems – BTAS '09*. We hope it will be the best and biggest BTAS conference yet.

First, I want to offer a hearty thanks to our corporate sponsors. **Honeywell** is graciously and generously, as in the past two years, sponsoring the Best Student Paper Award. The winner(s) of this award will be announced at the conference dinner. **Progeny Systems** is sponsoring the conference reception. And **L1 Identity Systems** and **Cognitec** are both general corporate sponsors. We sincerely appreciate the support of each of these companies.

BTAS continues to strive to present the highest-quality papers to emerge from a rigorous reviewing process. All papers received at least two reviews, most received three reviews, and some received four. The Program Chairs then carefully considered the review ratings and comments in making their decisions. This year's program is made up of three invited talks, two panel discussions, 28 long oral presentations representing peer-reviewed papers and 46 combined short oral + poster presentations representing peer-reviewed papers. The program features what may be the broadest international representation yet for *BTAS*, including Austria, Belgium, Brazil, Canada, China, France, Germany, Greece, Hong Kong, India, Italy, Japan, Korea, The Netherlands, Norway, Singapore, Slovenia, Switzerland, Taiwan, the United Kingdom, and the United States. This year's program again also features broad industry representation, including Booz Allen Hamilton, Cognitec, Hitachi, IBM, the Institute for Infocomm Research, Orica Canada, Lumidigm, Noblis, PatternLab, Phillips, Sagem, Securics, and Trident Research; and from government, including the Department of Homeland Security, the Fraunhofer Institute, NIST and the US Army. (I apologize if I have missed any represented country, company or government agency.) The breadth of international and institutional representation is one of the strong positive aspects of *BTAS*.

The "big tent" scope of *BTAS* is evident in the program. There are clear theory, applications and systems papers. There are papers dealing with biometric modalities of face, fingerprint, gait, hand geometry, handwriting, iris, knuckle codes, keystroke, palmpoint, signature and voice, as well as with fusion of results from multiple biometric samples, and with revocable biometrics. And there is an invited talk on the biometric potential of DNA. This breadth of topics is another strong positive aspect of *BTAS*, and I hope that it will continue and even grow in the future.

Continuing a *BTAS* tradition, the last session of the conference is a selection of papers that received the overall best reviews. This save-the-best-reviewed-for-last session has proved very popular in previous years, and we expect that it will again. This set of papers samples the breadth of topics in biometrics, including the effects of illumination on face recognition, the use of 3D shape in face recognition, latent fingerprint recognition, and multi-biometric fusion.

Thanks to all of the authors who submitted their work to *BTAS*. We hope that all authors feel that their submissions are treated fairly and respectfully. We continue the policy that no submission is rejected on the basis of a single "outlier" negative review, unless the program chairs can confirm the substance and essential importance of specific points in the review comments. We also want to thank the *BTAS* program committee and additional reviewers for the generally excellent work that they put into evaluation of the submissions. As always, the Program Chairs faced some difficult decisions.

The number of papers submitted to *BTAS* has grown by 10% or more each year, reaching 139 this year. As the number of submissions has grown, and the program committee size has also grown, and the conference has kept its "big tent" approach to the allowed scope, the task that confronts the Program Chairs has become increasingly complex. Mark Nixon and Nalini Ratha did an excellent job as Program Co-Chairs, managing the submission, reviewing, and decision process, and constructing the conference program.

Patrick Flynn served as Publications Chair again this year, managing the process of getting the final versions of the papers in, producing the conference proceedings and getting the papers into IEEE Xplore. *BTAS 09* is co-sponsored by the IEEE Systems, Man & Cybernetics Society and the new IEEE Biometrics Council. The Systems, Man and Cybernetics Society has been a sponsor of *BTAS* from the beginning. The Biometrics Council became a co-sponsor this year and is expected to continue to play an important role.

Plans are already in progress to hold *BTAS '10* on September 27-29 of 2010, in the D.C. area. For those who like to plan well into the future, 2011 will be a special year for *BTAS*. By agreement between the *BTAS* organizers and the International Association for Pattern Recognition, *BTAS* and the IAPR International Conference on Biometrics (ICB) will be combined into a single event to be called the *International Joint Conference on Biometrics*. An organizing committee with broad international representation will develop the program and themes for this meeting, which will be held in September 2011 in the Washington, DC area. Look for more information about *IJCB 2011* over the next two years. In 2012, *BTAS* will re-emerge as a separately branded meeting.

The *BTAS* organizers from 2007-2009 will be developing a mechanism for rotation of duties among willing and qualified volunteers for *BTAS* meetings held in 2012 and afterwards. You should hear more about this in connection with *BTAS '10*.

Kevin W. Bowyer
General Chair for *BTAS '09*



IEEE Third International Conference on Biometrics: Theory, Applications and Systems

Conference Session Details

Monday, September 28, 2009

08:00 - 08:45

Registration

Location: Regency Ballroom Foyer

08:45 - 09:00

Welcome: BTAS '09 Opening

Location: Regency Ballroom

Session Chairs: Kevin Bowyer (*University of Notre Dame*), Nalini Ratha (*IBM T.J. Watson Research Center*) and Mark Nixon (*University of Southampton*)

09:00 - 10:00

Iris Biometrics

Location: Regency Ballroom

Session Chair: James Matey (*U.S. Naval Academy*)

Exploring Multispectral Iris Recognition Beyond 900nm

Arun Ross (*West Virginia University*), Raghunandan Pasula (*West Virginia University*) and Lawrence Hornak (*West Virginia University*)

An Automated Method for Predicting Iris Segmentation Failures

Nathan Kalka (*West Virginia University*), Nick Bartlow (*Booz Allen Hamilton*) and Bojan Cukic (*West Virginia University*)

A Computational Efficient Iris Extraction Approach in Unconstrained Environments

Yu Chen (*Florida International University*), Malek Adjouai (*Florida International University*), Armando Barreto (*Florida International University*), Naphtali Rishe (*Florida International University*) and Jean Andrian (*Florida International University*)

10:00 - 10:30

Poster Highlights, Session A

Location: Regency Ballroom

Session Chair: Mark Nixon (*University of Southampton*)

An Experimental Study on Content-Based Face Annotation of Photos

Mei-Chen Yeh (*National Taiwan Normal University*), Sheng Zhang (*University of California, Santa Barbara*) and Kwang-Ting Cheng (*University of California, Santa Barbara*)

A Coarse-to-Fine Curvature Analysis-based Rotation Invariant 3D Face Landmarking

Przemyslaw Szeptycki (*LIRIS Laboratory*), Mohsen Ardabilian (*LIRIS Laboratory*) and Liming Chen (*LIRIS Laboratory*)

A Biometric Database with Rotating Head Videos and Hand-drawn Face Sketches

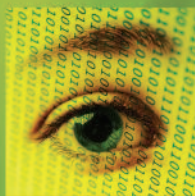
Hanan Al Nizami (*Youngstown State University*), Jeremy Adkins-Hill (*Youngstown State University*), Yong Zhang (*Youngstown State University*), John Sullins (*Youngstown State University*), Christine McCullough (*Youngstown State University*), Shaun Canavan (*University of New York at Binghamton*), Lijun Yin (*University of New York at Binghamton*)

Efficient Statistical Face Recognition Across Pose Using Local Binary Patterns and Gabor Wavelets

Ngoc-Son Vu (*Vesalis*) and Alice Caplier (*Gipsa-lab*)

Automatic Landmark Location for Face Recognition

Dianle Zhou (*Institut TELECOM, T&M SudParis*), Dijana Petrovska-Delacr  taz (*Institut TELECOM, T&M SudParis*) and Bernadette Dorizzi (*Institut TELECOM, T&M SudParis*)



BTAS 2009

Dynamic Three-Bin Real AdaBoost Using Biased Classifiers: An Application in Face Detection
Ramzi Abiantun (*Carnegie Mellon University*) and Marios Savvides (*Carnegie Mellon University*)

Recognition of Quantized Still Face Images

Tao Wu (*University of Maryland*) and Rama Chellappa (*University of Maryland*)

Isometric Deformation Modeling using Singular Value Decomposition for 3D Expression-Invariant Face Recognition

Dirk Smeets (*K.U. Leuven*), Thomas Fabry (*K.U. Leuven*), Jeroen Hermans (*K.U. Leuven*), Dirk Vandermeulen (*K.U. Leuven*) and Paul Suetens (*K.U. Leuven*)

Biometric Authentication Using Augmented Face and Random Projection

Hosik Sohn (*Korea Advanced Institute of Science and Technology*), Yong Man Ro (*Korea Advanced Institute of Science and Technology*) and Konstantinos Plataniotis (*University of Toronto*)

Point-Pair Descriptors for 3D Facial Landmark Localisation

Marcelo Romero (*The University of York*) and Nick Pears (*The University of York*)

Unconstrained Face Recognition Using MRF Priors and Manifold Traversing

Ricardo Rodrigues (*University at Buffalo*), Greyce Schroeder (*University at Buffalo*), Jason Corso (*University at Buffalo*) and Venu Govindaraju (*University at Buffalo*)

Face Alignment by Minimizing the Closest Classification Distance

Hazim Ekenel (*University of Karlsruhe*) and Rainer Stiefelhagen (*University of Karlsruhe*)

Pose Manifold Curvature is Typically Less Near Frontal Face Views

Mohammad Nayeem Teli (*Colorado State University*) and Ross Beveridge (*Colorado State University*)

Improvements in Active Appearance Model Based Synthetic Age Progression for Adult Aging

Eric Patterson (*University of North Carolina, Wilmington*), Amrutha Sethuram (*University of North Carolina, Wilmington*), Karl Ricanek (*University of North Carolina, Wilmington*) and Frederick Bingham (*University of North Carolina, Wilmington*)

On-line Signature Authentication Using Zernike Moments

Radhika Kotrike (*BMS College of Engineering*), Venkatesha Mathur (*RNS Institute of Technology*) and Sekhar Gummadi (*BMS College of Engineering*)

10:30 - 11:30

Coffee and Poster Session A

Location: Regency Ballroom Foyer

11:30 - 12:30

Face Recognition

Location: Regency Ballroom

Session Chair: Trina Russ (*Digital Signal Corporation*)

Principal Gabor Filters for Face Recognition

Vitimir Struc (*University of Ljubljana*), Rok Gajsek (*University of Ljubljana*) and Nikola Pavesic (*University of Ljubljana*)

Local Feature Hashing for Face Recognition

Zhihong Zeng (*University of Houston*), Tianhong Fang (*University of Houston*), Shishir Shah (*University of Houston*) and Ioannis Kakadiaris (*University of Houston*)



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Generalized Multi-Ethnic Face Age-Estimation

Karl Ricanek (*University of North Carolina, Wilmington*), Yishi Wang (*University of North Carolina, Wilmington*), Cuixian Chen (*University of North Carolina, Wilmington*) and Susan Simmons (*University of North Carolina, Wilmington*)

12:30 - 14:00

Lunch — *On your own*

14:00 - 14:40

Quality in Biometrics

Location: Regency Ballroom

Session Chair: Bernadette Dorizzi (*Institut TELECOM, T&M SudParis*)

Impact of Combining Quality Measures on Biometric Sample Matching

Krzysztof Kryszczuk (*IBM Zurich Research Laboratory*), Jonas Richiardi (*PatternLab Sarl*) and Andrzej Drygajlo (*Swiss Federal Institute of Technology*)

A Meta-Analysis of Face Recognition Covariates

Yui Man Lui (*Colorado State University*), David Bolme (*Colorado State University*), Bruce Draper (*Colorado State University*), Ross Beveridge (*Colorado State University*), Geof Givens (*Colorado State University*) and Jonathon Phillips (*National Institute of Standards and Technology*)

14:40 - 15:40

Invited talk, Dr. Peter Vallone, “Forensic DNA Typing”

Location: Regency Ballroom

Session Chair: Kevin Bowyer (*University of Notre Dame*)

15:40 - 16:10

Coffee and Poster Session A (*cont.*)

Location: Foyer

16:10 - 17:10

Novel Biometrics

Location: Regency Ballroom

Session Chair: Venu Govindaraju (*University at Buffalo*)

Human Identification Using KnuckleCodes

Ajay Kumar (*The Hong Kong Polytechnic University*) and Yingbo Zhou (*The Hong Kong Polytechnic University*)

Periocular Biometrics in the Visible Spectrum: A Feasibility Study

Unsang Park (*Michigan State University*), Arun Ross (*West Virginia University*) and Anil Jain (*Michigan State University*)

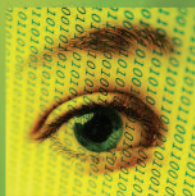
On Assessing the Robustness of Pen Coordinates, Pen Pressure and Pen Inclination to Time Variability with Personal Entropy

Nesma Houmani (*Institut TELECOM, T&M SudParis*), Sonia Garcia-Salicetti (*Institut TELECOM, T&M SudParis*) and Bernadette Dorizzi (*Institut TELECOM, T&M SudParis*)

17:30 - 20:00

BTAS 09 Welcome Reception (*Sponsored by Progeny Systems*)

Location: Tidewater Room



BTAS 2009

Tuesday, September 29, 2009

08:00 - 08:50

Registration

Location: Foyer

09:00 - 10:00

Further Iris Biometrics

Location: Regency Ballroom

Session Chair: Fred Wheeler (*GE Global Research*)

Using Fragile Bit Coincidence to Improve Iris Recognition

Karen Hollingsworth (*University of Notre Dame*), Kevin Bowyer (*University of Notre Dame*) and Patrick Flynn (*University of Notre Dame*)

SLIC: Short-Length Iris Codes

James Gentile (*IBM T.J. Watson Research Center*), Nalini Ratha (*IBM T.J. Watson Research Center*) and Jon Connell (*IBM T.J. Watson Research Center*)

Difficult Detection: A Comparison of Two Different Approaches to Eye Detection for Unconstrained Environments

Walter Scheirer (*University of Colorado at Colorado Springs*), Anderson Rocha (*University of Campinas*), Brian Heflin (*Securics, Inc.*) and Terry Boulton (*University of Colorado at Colorado Springs*)

10:00 - 10:30

Poster Highlights, Session B

Location: Regency Ballroom

Session Chair: Patrick Flynn (*University of Notre Dame*)

Sparsity Inspired Selection And Recognition Of Iris Images

Jaishanker K. Pillai (*University of Maryland*), Vishal Patel (*University of Maryland*) and Rama Chellappa (*University of Maryland*)

Contact Lenses: Handle with Care for Iris Recognition

Sarah Baker (*University of Notre Dame*), Kevin Bowyer (*University of Notre Dame*), Patrick Flynn (*University of Notre Dame*) and Amanda Hentz (*University of Notre Dame*)

Eye-verifier Using Ternary Template for Reliable Eye Detection in Facial Color Images

Huan Nguyen (*Inha University*), Binh Nguyen (*Inha University*) and Hakil Kim (*Inha University*)

Agent-Based Image Iris Segmentation and MultipleViews Boundary Refining

Ruggero Donida Labati (*Università degli Studi di Milano*), Fabio Scotti (*Università degli Studi di Milano*) and Vincenzo Piuri (*Università degli Studi di Milano*)

An Efficient, Two-Stage Iris Recognition System

James Gentile (*IBM T.J. Watson Research Center*), Jon Connell (*IBM T.J. Watson Research Center*) and Nalini Ratha (*IBM T.J. Watson Research Center*)

Slice-based Architecture for Biometrics: Prototype Illustration on Privacy Preserving Voice Verification

Bon Sy (*Queens College/City University of New York*)

Multi-Algorithm Fusion with Template Protection

Emile Kelkboom (*Philips Research*), Xuebing Zhou (*IGD Fraunhofer*), Christoph Busch (*IGD Fraunhofer*), Jeroen Breebaart (*Philips Research*) and Raymond Veldhuis (*University of Twente*)



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Pitfall of the Optimal Bit Allocation within Template Protection and a Remedy

Emile Kelkboom (*Philips Research*), Koen De Groot (*Philips Research*), Jeroen Breebaart (*Philips Research*), Chun Chen (*University of Twente*) and Raymond Veldhuis (*University of Twente*)

PSO Versus AdaBoost for Feature Selection in Multimodal Biometrics

Raghavendra R (*University of Mysore, India*), Bernadette Dorizzi (*Institut TELECOM, T&M SudParis*), Ashok Rao (*Channabasaveshwara Institute of Technology, Gubbi, India*) and Hemantha Kumar (*University of Mysore, India*)

Adaptive Client-Impostor Centric Score Normalization: A Case Study in Fingerprint Verification

Norman Poh (*University of Surrey*), Amin Merati (*University of Surrey*) and Josef Kittler (*University of Surrey*)

Fusion of IR and Visible light Modalities for Face Recognition

Pierre Buysens (*Orange Labs*), Marinette Revenu (*Laboratoire GREYC*) and Olivier Lepetit (*Orange Labs*)

A Study on Security Evaluation Methodology for Image based Biometrics Authentication Systems

Yasuhiro Tanabe (*Chuo University*), Kazuki Yoshizoe (*Japan Science and Technology Agency*) and Hideki Imai (*Chuo University*)

Exploiting the “Doddington Zoo” Effect in Biometric Fusion

Arun Ross (*West Virginia University*), Ajita Rattani (*University of Cagliari*) and Massimo Tistarelli (*University of Sassari*)

Biometric Fusion: Does Modeling Correlation Really Matter?

Karthik Nandakumar (*Institute for Infocomm Research*), Arun Ross (*West Virginia University*) and Anil Jain (*Michigan State University*)

Usability Testing of an Overlay to Improve Face Capture

Mary Theofanos (*National Institute of Standards and Technology*), Brian Stanton (*National Institute of Standards and Technology*), Yee-Yin Choong (*National Institute of Standards and Technology*) and Ross Micheals (*National Institute of Standards and Technology*)

Learning-based Image Representation and Method for Face Recognition

Zhiming Liu (*New Jersey Institute of Technology*), Chengjun Liu (*New Jersey Institute of Technology*) and Qingchuan Tao (*Sichuan University, China*)

10:30 - 11:30

Coffee and Poster Session B

Location: Foyer

11:30 - 12:30

Panel Session

Spoof and Counter-Spoof: Will Your Doppelganger Break the System?

Location: Regency Ballroom

Stephanie Schuckers (*Clarkson University*), Arun Ross (*West Virginia University*), Rob Rowe (*Lumidigm*) and Phil Quick (*Cognitec Systems*)

12:30 - 14:00

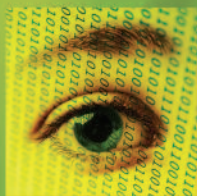
Lunch — On your own

14:00 - 15:00

Fingerprint Biometrics

Location: Regency Ballroom

Session Chair: Ajay Kumar (*Hong Kong Polytechnic University*)



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A Novel Matching Algorithm for Distorted Fingerprints Based on Penalized Quadratic Model
 Kai Cao (*Institute of Automation, Chinese Academy of Sciences*), Xin Yang (*Institute of Automation, Chinese Academy of Sciences*), Xunqiang Tao (*Institute of Automation, Chinese Academy of Sciences*), Yangyang Zhang (*Institute of Automation, Chinese Academy of Sciences*) and Jie Tian (*Institute of Automation, Chinese Academy of Sciences*)

Statistical Analysis of Fingerprint Sensor Interoperability Performance
 Shimon Modi (*Purdue University*), Stephen Elliott (*Purdue University*) and Hakil Kim (*Inha University*)

Fingerprint Recognition Performance in Rugged Outdoors and Cold Weather Conditions
 Ron Stewart (*Orica Canada Inc.*), Matt Estevao (*Carleton University*) and Andy Adler (*Carleton University*)

15:00 - 16:00 **Invited talk: Dr. Hany Farid, “Digital Tampering and Forensics”**

Location: Regency Ballroom
 Session Chair: Nalini Ratha (*IBM T.J. Watson Research Center*)

16:00 - 16:30 **Tea and Poster Session B (contd.)**

Location: Foyer

16:30 - 17:30 **Face Biometrics**

Location: Regency Ballroom
 Session Chair: Tim Faltemier (*Progeny Systems*)

Towards 3D-aided Profile-Based Face Recognition
 Boris Efraty (*University of Houston*), Emil Ismailov (*University of Houston*), Shishir Shah (*University of Houston*) and Ioannis Kakadiaris (*University of Houston*)

Age Estimation Using Active Appearance Models and Support Vector Machine Regression
 Luu Khoa (*Concordia University*), Karl Ricanek (*University of North Carolina, Wilmington*), Tien Bui (*Concordia University*) and Ching Suen (*Concordia University*)

Robust Modified Active Shape Model for Automatic Facial Landmark Annotation of Frontal Faces
 Keshav Seshadri (*Carnegie Mellon University*) and Marios Savvides (*Carnegie Mellon University*)

18:30 - 21:30 **Conference Banquet**

Location: Potomac Room

Wednesday, September 30, 2009

09:00 - 10:00 **Security/ Cancelable Biometrics**

Location: Regency Ballroom
 Session Chair: Massimo Tistarelli (*University of Sassari*)

Generating Provably Secure Cancelable Fingerprint Templates Based on Correlation-invariant Random Filtering
 Kenta Takahashi (*Hitachi, Ltd.*) and Shinji Hirata (*Hitachi, Ltd.*)

Multi-Biometrics Based Cryptographic Key Regeneration Scheme
 Sanjay Kanade (*Institut TELECOM T&M, SudParis*), Dijana Petrovska-Delacrétaz (*Institut TELECOM T&M, SudParis*) and Bernadette Dorizzi (*Institut TELECOM T&M, SudParis*)



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Parameterized Geometric Alignment for Minutiae-Based Fingerprint Template Protection
Bian Yang (*Gjøvik University College*) and Christoph Busch (*Gjøvik University College*)

10:00 - 10:30

Poster Highlights, Session C

Location: Regency Ballroom

Radar Micro-Doppler for Long Range Front-View Gait Recognition

Dave Tahmouh (*U.S. Army Research Laboratory*) and Jerry Silvius (*U.S. Army Research Laboratory*)

Improving Hand-Based Verification Through Online Finger Template Update Based on Fused Confidences

Gholamreza Amayeh (*University of Nevada*), George Bebis (*University of Nevada*) and Mircea Nicolescu (*University of Nevada*)

Medical Biometrics: The Perils of Ignoring Time Dependency

Foteini Agrafioti (*University of Toronto*), Francis Bui (*University of Toronto*) and Dimitrios Hatzinakos (*University of Toronto*)

Fingerprint Skeleton Matching based on Local Descriptor

Julien Bohné (*Sagem Sécurité*) and Vincent Despiegel (*Sagem Sécurité*)

A New Approach to Unwrap a 3-D Fingerprint to a 2-D Rolled Equivalent Fingerprint

Sara Shafaei (*University of Louisville*), Tamer Inanc (*University of Louisville*) and Laurence Hassebrook (*University of Kentucky*)

A Comparison of Fingerprint Image Quality and Matching Performance Between Healthcare and General Populations

Christine Blomeke (*Purdue University*), Stephen Elliott (*Purdue University*), Benny Senjaya (*Purdue University*) and Gregory Hales (*Purdue University*)

A Novel Approach to Design of User Re-authentication Systems

Harini Jagadeesan (*Virginia Tech*), Michael Hsiao (*Virginia Tech*)

Cost Curve Analysis of Biometric System Performance

Bojan Cukic (*West Virginia University*) and Mayra Sacanamboy (*West Virginia University*)

Online Learning and Biometrics: A Case Study in Face Classifier Update

Richa Singh (*Indraprastha Institute of Information Technology, Delhi*), Mayank Vatsa (*Indraprastha Institute of Information Technology, Delhi*), Arun Ross (*West Virginia University*) and Afzel Noore (*West Virginia University*)

Comparing Verification Performance of Kids and Adults for Fingerprint, Palmprint, Hand-geometry and Digitprint Biometrics

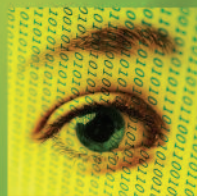
Andreas Uhl (*University of Salzburg*) and Peter Wild (*University of Salzburg*)

Satellite Communications as a Viable Method for Biometric Record Transfer in Field Biometric Devices

Tanya Haberman (*Trident Research LLC*), Miguel Cardoza (*Trident Research LLC*) and Christopher Miles (*Department of Homeland Security - Science and Technology Directorate*)

Spectral Minutiae Representations of Fingerprints Enhanced by Quality Data

Haiyun Xu (*University of Twente*) and Raymond Veldhuis (*University of Twente*)



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An Introduction to Biometric-completeness: The Equivalence of Matching and Quality

Jonathon Phillips (*National Institute of Standards and Technology*) and Ross Beveridge (*Colorado State University*)

GREYC Keystroke: a Benchmark for Keystroke Dynamics Biometric Systems

Romain Giot (*ENSICAEN - GREYC - University of Caen*), Mohamad El-Abed (*ENSICAEN - GREYC - University of Caen*) and Christophe Rosenberger (*ENSICAEN - GREYC - University of Caen*)

Keystroke Dynamics With Low Constraints SVM Based Passphrase Enrollment

Romain Giot (*ENSICAEN - GREYC - University of Caen*), Mohamad El-Abed (*ENSICAEN - GREYC - University of Caen*) and Christophe Rosenberger (*ENSICAEN - GREYC - University of Caen*)

10:30 - 11:30

Coffee and Poster Session C

Location: Foyer

11:30 - 12:30

Panel Session

What Good Are Quality Metrics, Anyway?

Location: Regency Ballroom

Patrick Grother (*National Institute of Standards and Technology*), Krzysztof Kryszczuk (*IBM Zurich Research Lab*) and Austin Hicklin (*Noblis*)

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12:30 - 14:00

Lunch — On your own

14:00 - 15:00

Invited talk, Dr. Alice O’Toole, “Insights from the Intersection of Psychological and Computational Approaches to Face and Body Biometrics”

Location: Regency Ballroom

Session Chair: Mark Nixon (*University of Southampton*)

15:00 - 16:40

Best-Reviewed Papers from BTAS 2009

Location: Regency Ballroom

Session Chair: Rama Chellappa (*University of Maryland*)

Canonical Stiefel Quotient and its Application to Generic Face Recognition in Illumination Spaces

Yui Man Lui (*Colorado State University*), Ross Beveridge (*Colorado State University*) and Michael Kirby (*Colorado State University*)

Partial Matching of Interpose 3D Facial Data for Face Recognition

Panagiotis Perakis (*University of Athens*), George Passalis (*University of Athens*), Theoharis Theoharis (*University of Athens*), George Toderici (*University of Houston*) and Ioannis Kakadiaris (*University of Houston*)

Simultaneous Latent Fingerprint Recognition: A Preliminary Study

Mayank Vatsa (*Indraprastha Institute of Information Technology, Delhi*), Richa Singh (*Indraprastha Institute of Information Technology, Delhi*), Afzel Noore (*West Virginia University*) and Keith Morris (*West Virginia University*)

A 3D-Assisted Generative Model for Facial Texture Super-resolution

Pouria Mortazavian (*CVSSP, University of Surrey*), Josef Kittler (*CVSSP, University of Surrey*) and William Christmas (*CVSSP, University of Surrey*)

Quality Based Rank-Level Fusion in Multibiometric Systems

Ayman Abaza (*West Virginia University*) and Arun Ross (*West Virginia University*)

16:40 -

Conference Closes



IEEE Third International Conference on Biometrics: Theory, Applications and Systems

BTAS '09 Organizing Committee

General Chair

Kevin W. Bowyer
University of Notre Dame, U.S.A.

Program Co-chairs

Mark Nixon
University of Southampton, U.K.

Nalini Ratha
IBM T.J. Watson Research Center, U.S.A.

Program Committee

Mohamed Abdel-Mottaleb, *University of Miami, U.S.A.*
Andy Adler, *Carleton University, Canada*
George Bebis, *University of Nevada – Reno, U.S.A.*
Ross Beveridge, *Colorado State University, U.S.A.*
Vijaykumar Bhagavatula, *Carnegie-Mellon University, U.S.A.*
Bir Bhanu, *UC – Riverside, U.S.A.*
Terry Boult, *University of Colorado – Colorado Springs, U.S.A.*
Julien Bringer, *Sagem Sécurité, FR*
Joseph Campbell, *MIT Lincoln Lab, U.S.A.*
Patrizio Campisi, *University of “Roma Tre”, Italy*
Rama Chellappa, *University of Maryland, U.S.A.*
Michal Choras, *University of Technology and Life Sciences, Poland*
John Daugman, *Cambridge University, U.K.*
Bernadette Dorizzi, *Institut TELECOM, T&M SudParis, France*
Ahmed Elgammal, *Rutgers University U.S.A.*
Michael Fairhurst, *University of Kent, U.K.*
Julian Fierrez, *Universidad Autonoma de Madrid, Spain*
Sonia Garcia-Salicetti, *Institut National des Télécommunications, France*
Venu Govindaraju, *University of Buffalo, U.S.A.*
Olaf Henniger, *Fraunhofer Institute for Secure Infor. Technology, Germany*
Ioannis Kakadiaris, *University of Houston, U.S.A.*
Josef Kittler, *University of Surrey, U.K.*
Mark Koch, *Sandia National Labs, U.S.A.*
Emine Krichen, *Sagem, France*
Krzysztof Kryszczuk, *IBM Zurich Research Laboratory, Switzerland*
Eric Kukula, *Purdue University, U.S.A.*
Ajay Kumar, *The Hong Kong Polytechnic University, Hong Kong*
Xuelong Li, *University of London, U.K.*
Chengjun Liu, *New Jersey Institute of Technology, U.S.A.*
Brian Martin, *L-1 Identity Solutions, U.S.A.*
Aleix Martinez, *The Ohio State University, U.S.A.*
James Matey, *U.S. Naval Academy, U.S.A.*
Jiri Navratil, *IBM Thomas J. Watson Research Center, U.S.A.*
Elaine Newton, *National Institute of Standards and Technology, U.S.A.*
Lawrence O’Gorman, *Bell Labs, U.S.A.*
Nick Orlans, *MITRE, U.S.A.*
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