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The 8th International Workshop on Biometrics and Forensics (IWBF 2020), jointly organized by INESC TEC and NTNU, will take place on April 29 and 30, 2020, in Porto, Portugal.

EAB Newsletter November 30, 2019

**Next events:**

- **December 10, 2019:** German TeleTrusT Biometrics Working Group
- **February 20 – 21, 2020:** EAB Winter Workshop on Presentation Attack Detection (PAD) Evaluation and Certification
- **March 4, 2020:** EAB/NBLAW 2020 – Norwegian Biometrics Laboratory Annual Workshop 2020
- **April 29 – 30, 2020:** IWBF 2020 – 8th International Workshop on Biometrics and Forensics
- **May 7, 2020:** Norsk Biometri Forum Meeting

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**Winter Workshop on Presentation Attack Detection**

EAB and the Idiap Research Institute are organizing the first EAB Winter Workshop on Presentation Attack Detection evaluation and certification. The workshop will take place in Martigny (Switzerland) on February 20 and 21, 2020.

The aim of the workshop is to bring together researchers, companies, customers, practitioners in biometrics to present latest research findings and challenges in Presentation Attack Detection, to unveil industrial solutions and to discuss the need for evaluation and certification. The workshop will start with an half-a-day introduction to biometrics and presentation attack detection tailored for beginners. The second day will be dedicated to scientific presentations, industrial spotlights with demonstrations and networking.

You can find more information at: [https://www.eab.org/events/program/202](https://www.eab.org/events/program/202)

**Springer Book on Vascular Biometrics**

A new Springer Handbook of Vascular Biometrics is available. Vascular biometrics have emerged in recent years and are perceived as an attractive alternative to more established biometric modalities like face recognition or fingerprint recognition, respectively.

In this first edition of the Handbook of Vascular Biometrics, the current state of the art in this field is described. In addition, the Handbook provides to students, scientists and engineers detailed insight into diverse advanced topics in the various fields of vascular biometrics. In-depth investigations, accompanied by comprehensive experimental evaluations, provide the reader with theoretical and empirical explanations of fundamental and current research topics. Furthermore, research directions, open questions and issues yet to be solved are pointed out.


This book is the first that is published under the Springer – EAB agreement, which was established in 2018. see: [https://www.eab.org/news/eab-news.html/109](https://www.eab.org/news/eab-news.html/109)

According to the agreement EAB members have the opportunity to submit a book proposal to SPRINGER and to become book authors/editors. Such books can be “full-length” books (e.g. Springer’s Handbook on Fingerprint Recognition) or alternatively SpringerBriefs (50–100 page Short Books, e.g. Efficient Biometric Indexing and Retrieval Techniques for Large-Scale Systems).

Interested EAB members can contact: christoph.busch@ntnu.no
**Workshop on Biometrics and Forensics (IWBF 2020)**

The 8th International Workshop on Biometrics and Forensics (IWBF 2020), jointly organized by INESC TEC and NTNU, will take place on April 29 and 30, 2020, in Porto, Portugal.

IWBF 2020 will be co-organized by EAB and is an international forum devoted to facilitating synergies in research and development among the areas of multimedia forensics, forensic biometrics, and forensic science. This workshop provides the meeting place for those concerned with the use of advanced biometric technologies in forensic applications, attracting participants from industry, research, academia, and end-users.

CfP Submission deadline: January 10, 2020. You can read more about the workshop and the CfP at: [https://vcmi.inesctec.pt/iwbf_2020/index.html](https://vcmi.inesctec.pt/iwbf_2020/index.html)

**New ISO/IEC Standard on Use of Biometrics in Video Surveillance Systems**

A new international standard ISO/IEC 30137-1 has been published on the use of biometrics in video surveillance systems. The first part of a multipart standard covers system design and specification.

The ISO 30137 series is applicable to the use of biometrics in VSS (also known as Closed Circuit Television or CCTV systems) for a number of scenarios, including real-time operation against watchlists and in post event analysis of video data. In most cases, the biometric mode of choice will be face recognition, but this document also provides guidance for other modalities such as gait recognition.

You can read more about the standard ISO/IEC 30137-1 at: [https://www.iso.org/standard/64935.html](https://www.iso.org/standard/64935.html)

Conference Report on Security Printers 2019

Although biometrics is not the main focus of SecurityPrinters the conference programme included some interesting presentations related to biometrics.

Since 1976 Intergraf, the European Federation for Print and Digital Communication, is organising SecurityPrinters – a conference and exhibition bringing together security experts in the field of banknotes and identity. The 2019 event took place in Copenhagen and attracted > 900 participants that attended presentations by 70 speakers and visited the booths of > 90 exhibitors.

Louise Cole from IATA presented the IATA ONE ID concept and promoted collaboration for a seamless, efficient and more secure air travel. The concept relies on a single capture of passenger data, and controlled distribution of the information among the various stakeholders involved on a need-to-know and authorised-to-know basis.

Patrick Grother from NIST provided the audience with an update on NIST’s activities around face recognition and explained why we have entered into a new era in face recognition. With the proliferation of AI technologies including deep convolutional neural networks, open-source implementations thereof (TensorFlow, Caffe etc.), fast GPUs, and, particularly, massive Internet-derived datasets of face photographs, face recognition has undergone an industrial revolution over the last six years.

This has produced a new generation of algorithms that are simultaneously tolerant of extraneous image quality problems and capable of discriminating faces in large populations. The result is that recognition error rates have reduced massively, such that searches that failed in prior years will now yield the correct matches.

Christoph Busch and Dinusha Frings shared insights of state of the art morphing detection. Widespread deployment of Automatic Border Control (ABC), along with electronic Machine Readable Travel Documents (eMRTD) for person verification, has enabled a prominent use case of face biometrics in border control applications. Many countries issue eMRTD passports on the basis of a printed biometric face photo submitted by the applicant, a procedure which allows the possibility of the photo being either altered to beautify the subject’s appearance or morphed to conceal his/her identity. If an eMRTD passport is issued with a morphed facial image, two or more data subjects can then use it to pass a border control. It is worth pointing out that the audience became rather unsettled by the security risks morphed face images in ID documents can create – hopefully this will result in certain processes to be changed...

To sum it up attending SecurityPrinters 2019 was very enjoyable – the mix of attendants as well as the quality of the presentations is good.

The next SecurityPrinters Conference will take place in Lyon, France from March 24–26, 2021. See: https://www.securityprinters.org/

EAB Biometric News, November 30, 2019

Facial Recognition Technology and Fundamental Rights

The European Union Agency for Fundamental Rights (FRA) has published a paper regarding facial recognition technology and considerations in the context of law enforcement.

While several national law enforcement authorities in the EU are using technology to compare footage from Video Surveillance System (VSS) with images in databases, the paper looks at the fundamental rights implications of relying on face recognition technology. The paper is focusing on the applications law enforcement and border-management. EAB has been involved in the ongoing discussions, which led FRA to the publication of their most recent and important position paper


In the context of VSS read also: https://www.eab.org/news/eab-news.html/283
NIST Draft Report on one-to-one Verification

The U.S. NIST has published a new draft of the Interagency Report on one-to-one verification.

This new draft includes results for ten new developers and twelve returning developers submitted to NIST since October 2019.


The 1:1 track of FRVT remains open. You can find more information at: https://www.nist.gov/programs-projects/frvt-11-verification

Precise Biometrics adds passive liveness detection to facial recognition access control system

Precise Biometrics has integrated passive liveness detection capabilities into its facial recognition-based physical access control systems, increasing security without requiring any additional action on the part of the user.

In August, Precise integrated its YOUNiQ facial recognition technology with a door opening system for physical access control. The company has continued to develop the offering, and added the new feature to apply artificial intelligence to ensure that biometric collected come from a live person, and not a spoof attack.

“The combination of passive facial recognition and passive liveness detection is a first of its kind within identification software for access control systems, paving the way for a seamless and more secure user experience. We already have several ongoing pilot projects with partners in various sectors and are working hard with preparations for the commercialization,” says Precise CTO Tom Søberg.

Read more: https://www.biometricupdate.com/201911/precise-biometrics-adds-passive-liveness-detection-to-facial-recognition-access-control-system

Preparations for a nationwide Indian Facial Recognition System

The Indian government has released plans for a nationwide facial recognition system, which is criticised due to the potential privacy impact related to increased surveillance.

The contract was initially expected to be awarded in November by the National Crime Records Bureau (NCRB) of India. Now the last date for submission of bids at the CPP portal has been extended till 03.01.2020. see: http://ncrb.gov.in/TENDERS/tenders.htm


You can read more at: https://www.dw.com/en/india-setting-up-worlds-biggest-facial-recognition-system/a-51147243

UK Government Plans discussed by Ethics Group

The Biometrics and Forensic Ethics Group (BFEG) in the UK has commented on governments plans regarding the Forensic Information Databases Service Strategy Board and the Home Office Biometrics program.

The group identified several potential problems with the program. You can find more information at: https://www.theregister.co.uk/2019/11/05/home_office_biometrics_programme/

EAB Biometric News, November 30, 2019

Usability of Biometrics

Researchers of the Mitre Corporation have published a study on the usability of passwordless multi-factor authentication schemes.

The study, which was published in September this year, has a focus on fingerprint, eye and palm recognition and compares the effectiveness, efficiency and the perceived usability with non-biometric authentication schemes (PIN). The study is also concerned about data subjects with disabilities, as one out of five adults (in the United States) has a disability.

You can find the study at: [https://www.mitre.org/sites/default/files/publications/pr19-1396-usability-biometrics-for-disabilities.pdf](https://www.mitre.org/sites/default/files/publications/pr19-1396-usability-biometrics-for-disabilities.pdf)

EAB Biometric News, November 30, 2019

Presentation Attacks on Smartphone Fingerprint Recognition

According to a recent Forbes report, Chinese hackers claim that they can successfully execute a presentation attack against any fingerprint scanner used in Smartphones.

The presentation attacks of the X-Lab security team were recently reported at the GeekPwn 2019 conference.


EAB Biometric News, November 30, 2019

Researchers of Hochschule Darmstadt and Inria publish Overview Article on Facial Beautification in Face Recognition

Researchers provide a Survey on the Impact and Detection of Facial Beautification in Face Recognition

Facial beautification induced by plastic surgery, cosmetics or retouching has the ability to substantially alter the appearance of face images. Such types of beautification can negatively affect the accuracy of face recognition systems.

In an open-access overview article by researchers of Hochschule Darmstadt and Inria, a conceptual categorisation of beautification is presented, relevant scenarios with respect to face recognition are discussed, and related publications are revisited. Additionally, technical considerations and trade-offs of the surveyed methods are summarized along with open issues and challenges in the field. The survey is targeted to provide a comprehensive point of reference for biometric researchers and practitioners working in the field of face recognition, who aim at tackling challenges caused by facial beautification. Read entire article: [https://ieeexplore.ieee.org/document/8877744](https://ieeexplore.ieee.org/document/8877744)
**euLISA – Future Architecture for Interoperable IT Systems**


You can find the agenda at: [https://www.eulisaroundtable.eu/presentations-october-2019/](https://www.eulisaroundtable.eu/presentations-october-2019/)


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**EDPB Guidelines on Processing of personal Data**

Back in July 2019 the European Data Protection Board (EDPB) has published guidelines on processing of personal data through video devices.

These guidelines discuss the compliance of video surveillance and face recognition under the GDPR.

You can read the guidelines at: [https://edpb.europa.eu/sites/edpb/files/consultation/edpb_guidelines_201903_videosurveillance.pdf](https://edpb.europa.eu/sites/edpb/files/consultation/edpb_guidelines_201903_videosurveillance.pdf)

A discussion of these guidelines was presented at the NBF meeting on October 17th. See: [https://www.eab.org/upload/documents/1756/Arnes-Datatilsynet-191017.pdf](https://www.eab.org/upload/documents/1756/Arnes-Datatilsynet-191017.pdf)

See also the revised and more strict guidelines of the Danish supervisory authority (SA) on the publishing of images on which individuals can be identified. The SA no longer makes a distinction between situational images for which it required previously no prior consent and portrait pictures for which prior consent was needed. Data controllers shall now assess and motivate the publication of the picture(s) on which individuals can be identified.
Frontex Conference on Biometrics for Borders
Morphing and Morphing Attack Detection Methods, Warsaw, October 8–10, 2019

FRONTEX has been gathering over 200 participants in a 2-Day conference with morphing as its main theme.

The event was bracketed by two panels and included four thematic sessions totaling 26 speakers, and was launched by Mr. Javier Quesada, FRONTEX’s Head of Unit, Research and Innovation. High ranked executives from FRONTEX and the EU opened the event, namely Mr. Fabrice Leggeri, Executive Director of FRONTEX, the European Border and Coastal Guard Agency, and Mr. Olivier Onidi, Deputy Director-General, Directorate-General for Migration and Home Affairs of the European Commission.

EAB members did actively participate as panelists as well as speakers during the 2-day event.

The first panel reviewed “Biometrics for Border control and the Role of Frontex”. The 4 subsequent thematic sessions included:

- The challenges of morphing for border control,
- National approaches to prevent and detect morphing,
- Ongoing research in the area of morphing and morphing attack detection methods,
- The application of biometric technologies at our Borders: an industry perspective.

The closing panel concluded to “the way ahead for borders and biometrics”.

It is noteworthy that EAB members were invited to take part in both panels, and actively participated via their own academia presentations in three out of four thematic sessions.

Main takeaways

Based on various speaker presentations, there seems to be a strong consensus on sharing resources and intensify European as well as transcontinental links. It includes associating, for example, achievements via NIST controlled ongoing measurements and performance verifications of most recent morphing algorithms with large-scale public data bases made available to European academia to train DNNs to specific morphing detection use cases.

Recognizing the two focal points where MAN/PAD has to apply, namely during MRTD enrolment (single image “cleanness” verification) and border clearance MRTD ID check (1:1 dual image verification), work in progress evidences a number of different modelling approaches to MAD/PAD.

It is worth noting that a focused effort towards this threat mitigation was funded by the EU as a specific consortium named SOTAMD (State-of-the-Art Morphing Detection) in which several EAB members from the academia do actively participate in a joint effort with the Dutch National Office for Identity Data (NOI) and the German BKA.

Further Reading

You can read more about the conference at: https://frontex.europa.eu/media-centre/news-release/frontex-hosts-conference-on-biometrics-in-warsaw-889K4E

You can read more about the morphing and morphing attack detection at: https://www.christoph-busch.de/projects-mad.html

Face Recognition Program in France

A new nationwide face recognition program will be launched soon in France with the intention to create legal digital identities for citizens.

The new program is called Certified online Authentification on Mobile (Alicem) and was developed to simplify the access to online services, support the fight against identity theft, and protecting biometric data on the phone.

You can read more at: https://nakedsecurity.sophos.com/2019/10/08/nationwide-facial-recognition-program-underway-in-france/
New Lecture Recordings are Available for EAB Members

In order to increase the value of the EAB membership, the set of recorded biometric keynote talks is growing on the EAB website. Selected keynote talks were recorded over 2019 and are now available for EAB members exclusively. The list of keynotes includes:

- Walter Scheirer: "The Limits and Potentials of Deep Learning for Facial Analysis"
- Richard Rinkens: "Implication of the Interoperability Regulations"
- Alice J. O'Toole: "Turning a face recognition black box white"
- Julien Bringer: "Blockchain Standards in ISO TC 307"
- John Callahan: "Blockchain and Biometric Identity Management"

You can view those lectures at: https://www.eab.org/events/lectures.htm

BTAS Conference Report

The 10th International Conference on Biometrics: Theory, Applications and Systems (BTAS) was held on the Tampa, Florida from 23 to 26 September 2019.

BTAS 2019 was co-located with the FedID, the U.S. federal government’s primary outreach and collaboration-building event in the worldwide identity community since 1995. The conference also included a special session on generalizability and adaptability problems in biometrics.

You can read the full conference report at: https://www.eab.org/files/newsletter/btas2019-report-191012.pdf
EAB Biometric Training – We need your input!

At the recent EAB General Assembly in Darmstadt held on the 17th September 2019, the Association committed itself to exploring the development and support of biometric training initiatives.

Across the stakeholders represented at the Assembly, there was evidence to support the development of training programmes on biometric systems and technologies that may be i) delivered both to end-users and students, ii) that may include both advanced and introductory-level material iii) across a range of subjects (including, but certainly not limited to, technical, legal, ethics, practical usage and testing issues).

Our initial ideas relate to Training Schools. At this stage we need input from EAB members at two levels:

1. A group of people to define a framework for training events – this may look at novel opportunities to complement existing biometric training programmes. We foresee that this group will meet electronically almost once a month with the initial aim of defining the platform for the first pilot event by the end of the year. Work will also continue into the New Year monitoring the progress of the initiative.

2. The wider EAB membership can provide inputs as to i) what are the training requirements of the community that you represent (and at what level); ii) what training you may be able to provide; iii) what kind of financial support you believe can be provided to ensure the sustainability of training initiatives. We are particularly interested in hearing also from end-users of biometric systems to your training requirements to match the training events to EAB expertise.

We are looking to act quite quickly on this so I’d be grateful if you could provide your inputs by sending an email to r.m.guest@kent.ac.uk

Richard Guest Chair, EAB Training and Education Committee.

Monitoring Bachelor, Master and PhD Theses

Call for Contributions

During the EAB general assembly it was proposed to compose an annual academic graduation monitoring report, which should provide information about academic theses that are completed in EAB member institutions.

Such report will be composed early January 2020 and will contain Bachelor-, Master- or PhD-theses. Please contribute to this report and submit the work of your students in the following format:

- Name of the student (optional with photo)
- Title of the thesis
- Level (Bachelor, Master, PhD)
- Institution
- Supervisor
- Contact email
- Abstract

We kindly ask for your support and participation of this initiative and to submit your contribution by 15th December 2019.

Please contact Christoph Busch at email: christoph.busch@eab.org