Prof. Dr. Marta Gomez-Barrero

Curriculum Vitae

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Birthday: 12.11.1988

Education

2013–2016 **PhD Telecommunications Engineering**, *Universidad Autonoma de Madrid*, Spain, Cum Laude (maximum honour for a PhD in Spain).
International Mention

2011–2013 **MPhil Computer Science and Telecommunications Engineering**, *Universidad Autonoma de Madrid*, Spain, 8.89/10.
Major on Digital Signal Processing

2006–2011 **MSc Computer Science Engineering**, *Universidad Autonoma de Madrid*, Spain, 8.52/10.
6 Distinctions

2006–2011 **MSc Mathematics**, *Universidad Autonoma de Madrid*, Spain, 8.52/10.
2 Distinctions

PhD Thesis

Title *Improving Security and Privacy in Biometric Systems*

Supervisor Dr. Javier Galbally

Description Security and privacy evaluation of biometric systems, and proposal of new biometric and multi-biometric template protection schemes based on Bloom Filters or Homomorphic Encryption, compliant with the ISO/IEC IS 24745

Awards **European Biometrics Industry Award 2015** from the European Association for Biometrics (EAB) and **Best Ph.D. Thesis Award by Universidad Autonoma de Madrid 2015/16**

Masters Thesis

Title *Biometric Security: A New Multimodal Hill-Climbing Attack*

Supervisor Dr. Javier Galbally

Description First indirect or software attack to multimodal biometric systems, with a case study in face and iris fusion

Awards Archimedes Award for Young Researches from Spanish Ministry of Education

Experience: Research

Since 2023 **Full Professor on Machine Learning**, *Universität der Bundeswehr München*, Germany.
Research Machine Learning, Pattern Recognition and Cryptography techniques applied to biometrics. Specifically, research on different aspects related to the security and privacy of biometric systems, including the development of Presentation Attack Detection (PAD) and biometric template protection (BTP) technologies.

2020–2023 **Professor for IT-Security and technical privacy protection**, *Hochschule Ansbach*, Germany.

2016–2020 **PostDoc Researcher**, *Nationales Forschungszentrum für angewandte Cybersicherheit (ATHENE)*, Germany.

Research Machine Learning, Pattern Recognition and Cryptography techniques applied to biometrics. Specifically, research on different aspects related to the security and privacy of biometric systems, including the development of Presentation Attack Detection (PAD) technologies. I was in charge of the project management tasks for the BATL, SOTAMD and RESPECT international projects. To manage the research load, I supervised two PhD students and several Master and Bachelor Theses.

2012–2016 **Doctoral Researcher**, *Universidad Autonoma de Madrid*, Spain.

Researched Computer Vision, Machine Learning, Pattern Recognition and Cryptography techniques applied to biometrics. Specifically, developed new inverse biometric techniques based on optimization algorithms for iris- and handshape-based recognition systems. Afterwards, proposed new template protection schemes based on Bloom filters (cancelable biometrics) for face, fingervein, and feature-level fusion, and based on Semi-Homomorphic Encryption for variable-length templates and multi-biometric fixed-length templates. A framework to evaluate biometric template protection schemes for benchmarks and competitive evaluations was developed, and presented within the ISO/IEC JTC 1/ SC 37 - biometrics meeting. In addition, an adaptation of Common Criteria standards for biometric systems evaluation was carried out, and an online evaluation platform (`https://www.beat-eu.org/platform/`) was developed to guarantee privacy protection in accordance with the EU Directive 95/46/EC and the current GDPR.

2011–2012 **Graduate Research Assistant**, *Universidad Autonoma de Madrid*, Spain.

Vulnerability evaluation of biometric recognition systems based on face, iris, on-line signature, and multimodal systems.

2010–2011 **Undergraduate Research Assistant**, *Universidad Autonoma de Madrid*, Spain.

Introduction to Signal Processing and biometrics, developing new indirect attacks to biometric systems based on hill-climbing algorithms.

Experience: Teaching

Since 2023 **Full Professor**, *Universität der Bundeswehr München*, Germany.

2020–2023 **Professor**, *Hochschule Ansbach*, Germany.

- Einführung in die IT-Sicherheit (Introduction to IT-Security, 1st Semester BSc IT-Security and Privacy Protection, German)
- Technical und Organisatorische Datenschutzmaßnahmen (Technical and organisatorial privacy protection measures, 2nd Semester BSc IT-Security and Privacy Protection, German)
- Kryptographie (Cryptography, 2nd Semester BSc IT-Security and Privacy Protection, German)
- Privacy Engineering (3rd Semester BSc IT-Security and Privacy Protection, German)
- Biometric Recognition (4th Semester BSc IT-Security and Privacy Protection, German)
- Deep Learning (4th Semester BSc IT-Security and Privacy Protection, German)
- Security and Privacy with Noisy Data (5th Semester BSc IT-Security and Privacy Protection,German)

Since 2023 **Lecturer**, *Vietnamese-German University*, Vietnam.

- Biometric Recognition (2nd Semester MSc IT-Security, English)

Since 2017 **Teaching Assistant**, *Norwegian University of Science and Technology*, Gjøvik, Norway.

- Biometric Systems (MSc and PhD Students Computer Science, English)

2018–2020 **Lecturer**, *Hochschule Darmstadt*, Germany.

- IT-Sicherheit (IT-Security, 1st Semester BSc Computer Science, German)

2017–2020 **Teaching Assistant**, *Hochschule Darmstadt*, Germany.

- Biometric Systems (MSc Computer Science, Electrical Engineering, English)
- Master Seminar: Advanced Topics in Biometrics (MSc Computer Science, Electrical Engineering, English)

2012–2016 **Teaching Assistant**, *Universidad Autonoma de Madrid*, Spain.

- Multimedia Signal Processing (3rd year, BSc Telecommunications Engineering, Spanish)
- Hardware Workshop (1st year, BSc Computer Engineering, English)

Self-Acquired Research Projects: Project Management + Research

International

2019–2023 **RESPECT: REliable, Secure and Privacy preserving multi-biometric pErson authentiCaTion**, *Deutsche Forschungsgemeinschaft (DFG) and Agencie Nationale de la Recherche (ANR)*, (GO 2981/2-1), Partners: ATHENE, HS-Ansbach, EURECOM, Inria.
Funding for ATHENE/HS-Ansbach: 535k EUR

2019–2020 **SOTAMD: State of the art of Morphing Detection**, *European Union's Internal Security Fund – Borders and Visa*, (ISFB-2018-AG-IBA-MORP), Partners: National Office for Identity Data (NOI), Bundeskriminalamt (BKA), Alma Mater Studiorum - Universita di Bologna, Norwegian University of Science and Technology (NTNU), ATHENE, Universiteit Twente.
Funding for ATHENE: 300k EUR

2017–2020 **BATL: Biometric Authentication with Timeless Learner**, *US Intelligence Advanced Research Projects Activity (IARPA)*, Thor Program (IARPA-BAA-16-04), Partners: USC Viterbi School of Engineering Computer Science Department, Idiap Research Institute, ATHENE and NTNU, TREX Enterprises, Northrop Grumman Corporation.
Funding for ATHENE: 950k USD

Research Projects: Only Research Activities

International

2012–2016 **BEAT: Biometrics Evaluation and Testing**, *European Commission*, FP7, Small or Medium-Scale Focused Research Project (FP7-SEC-284989), Partners: IDIAP, UAM, University of Surrey, EPFL, TUBITAK, Commissariat a l'Energie Atomique - LETI (CEA), Morpho, TÜViT, KU Leuven, Chalmers Tekniska Hoegskola Ab.

2011–2014 **TABULA RASA: Trusted Biometrics Under Spoofing Attacks**, *European Commission*, FP7, Small or Medium-Scale Focused Research Project (FP7-ICT-257289), Partners: IDIAP, University of Oulu, UAM, University of Southampton, University of Cagliari, EURECOM, CASIA, Starlab, Morpho, KeyLeom, Biometry,com AG, Centre for Science, Society and Citizenship (CSSC).

National: Public Funding

2018–2019 **DIRECT-PAD: Presentation Attack Detection in der Fingerprint-Erkennung. Entwicklung und Evaluierung von Detektions-Verfahren**, *Bundesamt für Sicherheit in der Informationstechnik (BSI)*.

2017–2018 **BIO-INDEX: Skalierbare biometrische Identifikations-Systeme**, *Bundesministerium für Bildung und Forschung (BMBF)*.

2016–2018 **CogniMetrics: Cognitive Biometric Authentication: Identifying People by Means of their Interaction**, *Spanish Ministry of Science and Innovation*, Plan Nacional de I+D+I (TEC2015-70627-R).

2013–2015 **BIO-SHIELD: Performance Evaluation and Countermeasures to Attacks and Security Threats on Biometric Systems**, *Spanish Ministry of Science and Innovation*, Plan Nacional de I+D+I (TEC2012-34881).

2010–2013 **CONTEXTS: Concepts and Technologies for Services Development**, *Spanish Ministry of Science and Innovation*, Plan Nacional de I+D+I (S2009/TIC-1485).

2010–2012 **BIO-CHALLENGE: Critical Aspects in Last-Generation Biometric Recognition: Quality, Vulnerabilities, Privacy and Acquisition at a Distance**, *Spanish Ministry of Science and Innovation*, Plan Nacional de I+D+I (TEC2009-11186).

National: Private Funding

2015–2016 **BIOTRACE_100: High-Performance Biometric Signature Authentication System for Banking Applications**, *R&D Contract with Cecabank*, Transfer of privacy-preserving signature recognition technology, including the development of an SDK to be integrated with the Ceca systems..

2014–2015 **e-BioSign: Improvement of Signature Comparison Technology**, *R&D Contract with Cecabank*, Development of methods and tools to enable the forensic comparison of dynamic signatures, under the same principles followed by forensic experts when comparing signature images..

2010–2014 **Catedra UAM - Telefonica**, *R&D Contract with Telefonica International*, R&D in biometrics for secure authentication. Various dissemination actions at university level to promote science and technology with application to the areas of interest of Telefonica..

Patents

2019– **Detecting artificial facial images using facial landmarks**, *https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018234384*.

Languages

Spanish **Native Speaker**

English **Bilingual Proficiency**

German **Full Professional Proficiency**

Italian **Full Professional Proficiency**

Norwegian **Professional Working Proficiency**

Portuguese **Elementary Proficiency**

Russian **Elementary Proficiency**

Talks

2023-04-18 **Evaluation of Biometric Template Protection Schemes**, *EAB & CITeR Biometrics Workshop*, IDIAP, Switzerland, https://eab.org/events/program/312?ts=1697463424736.

2023-03-08 **Biometric Information Protection**, *NBL Anual Workshop*, NTNU, Norway, https://eab.org/events/program/306?ts=1678279750415.

2023-02-28 **Encryption for Dummies**, *euLISA Lunch talk*, Online.

2022-07-14 **Biometrics - Security and Privacy**, *Lecture Series Cybercrime*, Cybercrime and Forensic Computing at FAU, Nürnberg, Germany.

2021-04-29 **A Tutorial on Presentation Attack Detection**, *EAB Workshop on Fingerprint Presentation Attack Detection*, Online, https://eab.org/events/program/243?ts=1635328382660.

2020-10-28 **Presentation Attack Detection and Unknown Attacks**, *NIST Int. Face Performance Conf. (IFPC)*, Online, https://www.nist.gov/news-events/events/2020/10/international-face-performance-conference-ifpc-2020.

2020-07-09 **Lecture and Hands-On Session on Information Security**, *VISUM Summer School*, Online, http://visum.inesctec.pt/.

2020-06-15 **Webinar on Biometric Template Protection and Evaluation**, *European Association for Biometrics (EAB) Webinars*, BigBlueButton, Available at https://eab.org/events/lecture_barrero-200615.html.

2019-06-13 **Keynote on the Latest Advances on Biometric Template Protection and Presentation Attack Detection**, *Identity Week*, London, UK, https://www.terrapinn.com/exhibition/identity-week/.

2019-04-25 **Seminar on Biometric Template Protection and Evaluation**, *COSIC Seminar at the KU Leuven*, Leuven, Belgium, https://www.eab.org/news/eab-news.html/187.

2018-12-10 **Tutorial on Biometric Template Protection and Evaluation**, *IEEE Int. Workshop on Information Forensics and Security (WIFS)*, Hong Kong, https://wifs2018.comp.polyu.edu.hk/tutorials.html.

2018-11-28 **Vulnerability Evaluation of Presentation + Morphing Attacks**, *NIST Int. Face Performance Conf. (IFPC)*, Gaithersburg, USA, https://www.nist.gov/news-events/events/2018/11/international-face-performance-conference-ifpc-2018.

2017-10-19 **Secure and Privacy Preserving Biometric Systems: from Biometric Template Protection to Presentation Attack Detection**, *Preserving Privacy in an age of increased surveillance - A Biometrics Perspective*, IBM London, UK, http://eab.org/events/past_events.html?ts=1508493277447.

2017-06-22 **Biometric Symmetry: Implications on Template Protection**, *da/sec Scientific Talk*, Hochschule Darmstadt, Germany, https://www.dasec.h-da.de/teaching/dasec-scientific-talk/2017-06-22-on-biometrics/.

2017-05-09 **Security and Privacy in Biometric Systems**, *Lecture at COINS Information Security Winter School*, Finse, Norway, https://coinsrs.no/coins-winter-school-2017-in-finse/.

2017-03-10 **Biometric Template Protection and Unlinkability**, *NISlab Seminar*, NTNU, Gjøvik, Norway.

2017-01-30 **Measuring Unlinkability in Biometric Template Protection Schemes**, *Presentation at ISO/JTC1 SC37 WG5 meeting*, Sydney, Australia.

2015-09-09 **Fully Unlinkable and Irreversible Template Protection Based on Bloom Filters**, *EAB Biometrics Research and Industry Awards 2015*, Darmstadt, Germany, http://eab.org/events/program/77.

2015-02-20 **Biometric Template Protection and Bloom Filters**, *NISlab Seminar*, NTNU, Gjøvik, Norway.

Doctoral Research Stays

Feb–March 2016 **NBL, NISlab - NTNU i Gjøvik**, *Norway*, Advisor: Prof. Christoph Busch.
Multi-biometric template protection system based on Bloom Filters.

May–July 2015 **COMLAB - Università Roma TRE**, *Italy*, Advisor: Prof. Patrizio Campisi.
Multi-biometric template protection system based on Homomorphic Encryption.

Jan–March 2015 **NBL, NISlab - Høgskolen i Gjøvik**, *Norway*, Advisor: Prof. Christoph Busch.
Fingervein template protection system based on Bloom Filters.

Oct–Dec 2013 **Center for Advanced Security Research Darmstadt (CASED)**, *Germany*, Advisor: Prof. Christoph Busch.
Face template protection system based on Bloom Filters

Awards and Honors

2021 **Best Paper Award at WIFS 2021** *IEEE SPS*

2018 **Best Paper Award at Odyssey 2018** *ISCA/SpLC*

2017 **Best Paper Awards Finalist at IWBF 2017** *IAPR*

2016 **Best Paper Awards Finalist at IWBF 2016** *COST*

2016 **Best Ph.D. Thesis Award by Universidad Autonoma de Madrid 2015/16** *UAM*

2015 **European Biometrics Industry Award 2015** *European Association for Biometrics (EAB)*

2015 **Siew-Sngiem Best Paper Award at ICB 2015** *IAPR/IEEE*

2013 **Archimedes Award for Young Researches** *Spanish Ministry of Education*

2013 **ICB Best Poster Award** *IAPR/IEEE*

Certificates

2018 **Protecting Human Research Participants** *NIH - National Institutes of Health*
2017 **Human Subjects Research - Social-Behavioral-Educational Basic** *CITI Program*
2008 **Certificate of Proficiency in English (Grade B)** *Cambridge University*

Services

2023–2025 **Member IEEE Information Forensics and Security TC** *IEEE Signal Processing Society*
Since 2023 **EAB Deputy Chair** *European Association for Biometrics*
Since 2023 **Member of Gesellschaft für Informatik (GI) and Chair of BIOSIG** *GI e.V.*
Since 2022 **Conference Chair** *Int. Association for Pattern Recognition - Technical Committee on Biometrics (IAPR TC4)*
2019–2023 **Co-Chair of the EAB Academia Special Interest Group** *European Association for Biometrics*
Since 2016 **Member of the European Association for Biometrics (EAB)**
Since 2016 **Member of the Deutsches Institut für Normung (DIN)** *Delegate for the ISO/IEC JTC 1/SC 37 – Biometrics*
2021–2022 **Research Dean** *Hochschule Ansbach, Fakultät W*

Journal Reviewer (JCR)

2021–2022 **IEEE Trans. on Pattern Analysis and Machine Intelligence** *Q1*
2021–2022 **IEEE Trans. on Dependable and Secure Computing** *Q1*
2014–2022 **IEEE Trans. on Information Forensics and Security** *Q1*
2017 **IEEE Trans. on Cybernetics** *Q1*
2015 **Elsevier Information Fusion** *Q1*
2016–2021 **Elsevier Pattern Recognition** *Q1*
2020–2021 **Elsevier Computer & Security** *Q1*
2016 **MDPI AG Sensors** *Q2*
2014–2018 **Elsevier Expert Systems with Applications** *Q1*
2016 **MDPI AG Entropy** *Q2*
2015–2016 **IEEE Trans. on Systems Man Cybernetics - Systems** *Q2*
2015–2017 **Elsevier Pattern Recognition Letters** *Q2*
2015–2018 **Elsevier Multimedia Tools and Applications** *Q2*
2016 **IEEE Trans. on Learning Technologies** *Q3*
2012–2020 **IET Biometrics** *Q3*
2015 **IET Image Processing** *Q3*
2015 **EURASIP Journal on Image and Video Processing** *Q3*
2015 **IEICE Trans. Fundam. Electron. Commun. Comput. Sci.** *Q4*
2015–2021 **EURASIP Journal on Information Security**

Journal Editor

2022 **IET Biometrics**, *BIOSIG 2022 SI on Transparent, Unbiased and Reliable Methods for Person Authentication*.
2021 **IET Biometrics**, *BIOSIG 2021 SI on Efficient, Reliable, and Privacy-Friendly Biometrics*.
2021 **Pattern Recognition**, *SI on Masked Face Recognition and Touchless Biometrics at the time of COVID-19*.
2020 **IET Biometrics**, *BIOSIG 2020 SI on Trustworthiness of Person Authentication*.

2017 **Datenschutz und Datensicherheit**, *Schwerpunkt: Biometrie - Sicherheits- und DS-Konzepte*, English: Biometrics - Security and Privacy Concepts.

Journal Associate Editor

2022– **EURASIP Journal on Image and Video Processing**.

2020– **IET Biometrics**.

2019– **EURASIP Journal on Information Security**.

Organization of International Conferences

2024 **Program Chair at Int. Joint Conf. on Biometrics, IJCB** *Buffalo, USA*

2023 **General Chair at Int. Workshop on Information Forensics and Security, WIFS** *Nurnberg, Germany*

2023 **Publication Chair at Int. Joint Conf. on Biometrics, IJCB** *Ljubljana, Slovenia*

2022 **Tutorial Chair at Int. Joint Conf. on Biometrics, IJCB** *Abu Dhabi, UAE*

2012 **Program Comm. European Signal Processing Conf., EUSIPCO** *Belgrade, Serbia*

Since 2021 **General Chair of BIOSIG** *Darmstadt, Germany*

2021 **Area Chair at Int. Joint Conf. on Biometrics, IJCB** *Shenzhen, China + Online*

2021 **Round Table Chair EAB Research Project Conference** *Online*

2021 **Round Table Chair EAB Workshop on Fingerprint Image Quality (NFIQ 2.0)** *Online*

2021 **Panel Discussion Chair EAB Workshop on Fingerprint PAD** *Online*

2021 **Organiser EAB Workshop on Fingerprint PAD** *Online*

2021–2023 **Sponsor Chair at WACV Workshop on Explainable & Interpretable Artificial Intelligence for Biometrics** *Online*

2020 **Publication Chair at Int. Workshop on Biometrics and Forensics, IWBF** *Porto, Portugal*

2018 **Special Session Chair at European Signal Processing Conf., EUSIPCO** *Rome, Italy*

2018 **Program Comm. Int. Conf. on Identity, Security and Behavior Analysis, ISBA** *Singapore*

2017 **Program Comm. European Signal Processing Conf., EUSIPCO** *Kos, Greece*

2017 **Program Comm. Int. Carnahan Conf. on Security Technology, ICCST** *Madrid, Spain*

Since 2016 **Program Committee BIOSIG** *Darmstadt, Germany*

2016 **Program Comm. Int. Conf. Image Proc. Theory, Tools and App., IPTA** *Oulu, Finland*

2015 **Program Committee Int. Conf. on Biometrics, ICB** *Phuket, Thailand*

2014 **Program Committee Int. Joint Conf. on Biometrics, IJCB** *Florida, USA*

2013 **Local Organizing Committee Int. Conf. on Biometrics, ICB** *Madrid, Spain*

Organization of International Competitions

2016 **Keystroke Biometrics Ongoing Competition (KBOC) at BTAS** *Buffalo, USA*

Peer Reviewed Publications

Journal Articles

[1] C. Busch, F. Deravi, D. Frings, E. Kindt, R. Lessmann, A. Nouak, J. Salomon, M. Achcar, F. Alonso-Fernandez, D. Bachenheimer, D. Nethell, J. Bigun, M. Brawley, G. Brockmann, E. Cabello, P. Campisi, A. Cepilovs, M. CLee, M. Cohen, C. Croll, A. Czyzewski, B. Dorizzi, M. Drahansky, P. Drozdowski, C. Fankhauser, J. Fierrez, **M. Gomez-Barrero**, G. Hasse, R. Guest, E. Komleva, S. Marcel, G. L. Marcialis, K. Mercier, E. Mordini, S. Mouille, P. Navratilova, J. Ortega-Garcia, D. Petrovska, N. Poh, I. Racz, R. Ramachandra, C. Rathgeb, C. Remillet, U. Seidel, L. Spreeuwers, B. Strand, S. Toivonen, and A. Uhl, "Facilitating free travel in the schengen area," *IET Biometrics*, 2023.

[2] L. J. Gonzalez-Soler, **M. Gomez-Barrero**, and C. Busch, "Toward," *IEEE Access*, vol. 11, pp. 68 512–68 524, Jul. 2023.

[3] C. Busch, A. Czajka, F. Deravi, P. Drozdowski, **M. Gomez-Barrero**, G. Hasse, O. Henniger, E. Kindt, J. Kolberg, A. Nouak, K. Raja, R. Raghavendra, C. Rathgeb, J. Salomon, and R. Veldhuis, "A response to the EDPS 'misunderstandings in biometrics' by the european association for biometrics," *IET Biometrics*, vol. 11, no. 1, pp. 79–86, Jan. 2022.

[4] **M. Gomez-Barrero**, P. Drozdowski, C. Rathgeb, J. Patino, M. Todisco, A. Nautsch, N. Damer, J. Priesnitz, N. Evans, and C. Busch, "Biometrics in the era of COVID-19: Challenges and opportunities," *IEEE Trans. on Technology and Society*, vol. 3, no. 4, pp. 307–322, Dec. 2022, Available at `http://arxiv.org/abs/2102.09258`.

[5] L. J. Gonzalez-Soler, **M. Gomez-Barrero**, and C. Busch, "On the generalisation capabilities of fisher vector based face presentation attack detection," *IET Biometrics*, vol. 10, pp. 480–496, 2021.

[6] L. J. Gonzalez-Soler, **M. Gomez-Barrero**, L. Chang, A. Perez-Suarez, and C. Busch, "Local feature encoding for unknown presentation attack detection: An analysis of different local feature descriptors," *IET Biometrics*, vol. 10, no. 4, pp. 374–391, 2021.

[7] L. J. Gonzalez-Soler, **M. Gomez-Barrero**, L. Chang, A. Perez-Suarez, J. Hernandez-Palancar, and C. Busch, "Fingerprint presentation attack detection based on local features encoding for unknown attacks," *IEEE Access*, vol. 9, pp. 5806–5820, 2021.

[8] J. Kolberg, D. Glaesner, R. Breithaupt, **M. Gomez-Barrero**, J. Reinhold, A. von Twickel, and C. Busch, "On the effectiveness of impedance-based fingerprint presentation attack detection," *MDPI Sensors*, vol. 21, no. 17, p. 5686, 2021.

[9] J. Kolberg, M. Grimmer, **M. Gomez-Barrero**, and C. Busch, "Anomaly detection with convolutional autoencoders for fingerprint presentation attack detection," *IEEE Trans. on Biometrics, Behavior, and Identity Science*, vol. 3, no. 2, pp. 190–202, 2021, Available at `http://arxiv.org/abs/2008.07989`.

[10] J. Kolberg, **M. Gomez-Barrero**, and C. Busch, "On the generalisation capabilities of fingerprint presentation attack detection methods in the short wave infrared domain," *IET Biometrics*, vol. 10, no. 4, pp. 359–373, 2021.

[11] J. Tapia, **M. Gomez-Barrero**, R. Lara, A. Valenzuela, and C. Busch, "Selfie periocular verification using an efficient super-resolution approach", pattern recognition," *ArXiv Preprint*, 2021, Available at `https://arxiv.org/abs/2102.08449`.

[12] R. Tolosana, R. Vera-Rodriguez, C. Gonzalez-Garcia, J. Fierrez, S. Rengifo, A. Morales, J. Ortega-Garcia, J. C. Ruiz-Garcia, S. Romero-Tapiador, J. Jiang, S. Lai, L. Jin, Y. Zhu, J. Galbally, M. Diaz, M. A. Ferrer, **M. Gomez-Barrero**, I. Hodashinsky, K. Sarin, A. Slezkin, M. Bardamova, M. Svetlakov, M. Saleem, C. L. Szcs, B. Kovari, F. Pulsmeyer, M. Wehbi, D. Zanca, S. Ahmad, S. Mishra, and S. Jabin, "Svc-ongoing: Signature verification competition," *ArXiv Preprint*, 2021, Available at `https://arxiv.org/abs/2108.06090`.

[13] K. Raja, M. Ferrara, A. Franco, L. Spreeuwers, I. Batskos, F. D. Wit, **M. Gomez-Barrero**, U. Scherhag, D. Fischer, S. Venkatesh, J. M. Singh, G. Li, L. Bergeron, S. Isadskiy, R. Ramachandra, C. Rathgeb, D. Frings, U. Seidel, F. Knopjes, R. Veldhuis, D. Maltoni, and C. Busch, "Morphing attack detection - database, evaluation platform and benchmarking," *IEEE Trans. on Information Forensics and Security*, vol. 16, pp. 4336–4351, 2020.

[14] **M. Gomez-Barrero** and J. Galbally, "Reversing the irreversible: A survey on inverse biometrics," *Elsevier Computers & Security*, vol. 90, p. 101 700, Mar. 2020.

[15] **M. Gomez-Barrero**, J. Kolberg, and C. Busch, "Fingerabdruck Präsentation Angriffe Erkennung: Aktueller Stand und offene Herausforderungen," *Datenschutz und Datensicherheit*, vol. 44, pp. 26–31, Jan. 2020.

[16] A. Nautsch, A. Jim'enez, A. Treiber, J. Kolberg, C. Jasserand, E. Kindt, H. Delgado, M. Todisco, M. A. Hmani, A. Mtibaa, M. A. Abdelraheem, A. Abad, F. Texeira, **M. Gomez-Barrero**, D. Petrovska, G. Chollet, N. Evans, T. Schneider, J. F. Bonastre, B. Raj, I. Trancoso, and C. Busch, "Preserving privacy in speaker and speech characterisation," *Computer Speech & Language*, vol. 58, pp. 441–480, 2019.

[17] R. Tolosana, **M. Gomez-Barrero**, C. Busch, and J. Ortega-Garcia, "Biometric presentation attack detection: Beyond the visible spectrum," *IEEE Trans. on Information Forensics and Security*, vol. 15, no. 1, pp. 1261–1275, Dec. 2019.

[18] **M. Gomez-Barrero**, J. Galbally, C. Rathgeb, and C. Busch, "General framework to evaluate unlinkability in biometric template protection systems," *IEEE Trans. on Information Forensics and Security*, vol. 3, no. 6, pp. 1406–1420, Jun. 2018.

[19] **M. Gomez-Barrero**, C. Rathgeb, G. Li, R. Raghavendra, J. Galbally., and C. Busch, "Multi-biometric template protection based on Bloom filters," *Information Fusion*, vol. 42, pp. 37–50, Jul. 2018.

[20] **M. Gomez-Barrero**, C. Rathgeb, U. Scherhag, and C. Busch, "Predicting the vulnerability of biometric systems to attacks based on morphed biometric information," *IET Biometrics*, vol. 7, no. 4, pp. 333–341, Jul. 2018.

[21] E. Martiri, **M. Gomez-Barrero**, B. Yang, and C. Busch, "Biometric template protection based on Bloom filters and honey templates," *IET Biometrics*, vol. 6, no. 1, pp. 19–26, Jan. 2017.

[22] **M. Gomez-Barrero**, "Biometrie und Datenschutz," *Datenschutz und Datensicherheit, Gateway*, vol. 41, no. 7, p. 448, Jul. 2017.

[23] **M. Gomez-Barrero**, J. Galbally, A. Morales, and J. Fierrez, "Privacy-preserving comparison of variable-length data with application to biometric template protection," *IEEE Access*, vol. 5, no. 1, pp. 8606–8619, Dec. 2017.

[24] **M. Gomez-Barrero**, E. Maiorana, J. Galbally, P. Campisi, and J. Fierrez, "Multi-biometric template protection based on Homomorphic Encryption," *Pattern Recognition*, vol. 67, pp. 149–163, Jul. 2017.

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