

## CURRICULUM VITÆ

### **Marco Marcon**

Nato a Bollate (MI) il 7 Luglio 1972  
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### **BIBLIOMETRIC INDICATORS RELATED TO PUBLICATIONS AND CITATIONS (SCOPUS):**

H-INDEX: 11

DOCUMENTS: 101

CITATIONS: 406

### **ACADEMIC POSITIONS:**

October 2006-to date: Assistant professor (RTI), Politecnico di Milano, Dipartimento di Elettronica, Informazione e Bioingegneria, at Image and Sound Processing Lab (ISPL).

March 2003-October 2006: Post-doc Researcher, Politecnico di Milano, Dipartimento di Elettronica, Informazione e Bioingegneria, at Image and Sound Processing Lab (ISPL).

### **EDUCATION:**

January 2000-January 2003: Philosophy Doctor, PhD (in “Applied Physics”) Politecnico di Milano: Dipartimento di Fisica. PhD Dissertation: “Spin and energy analysis of electron beams: Coupling a polarimeter based on exchange scattering to a hemispherical analyzer”.

March 2001 – November 2001 Visiting scholar at ESRF – European Synchrotron Radiation Facility – Grenoble – Project: “Gaining efficiency and resolution in soft X-ray emission spectrometers thanks to directly coupled detectors”.

1993 – 1998 Master’s Degree in Electronic Engineering at Politecnico di Milano.

### **FELLOWSHIPS:**

2002: ESRF – European Synchrotron Radiation Facility – in Grenoble (France) fellowship for participation in Beamline 31 project for soft X-Ray superresolution based on CCD sensors.

2004: Christian Albrechts university in Kiel (Germany) fellowship for mesh fusion project from multiple point clouds.

2006: BBC studios – London fellowship for accurate actor tracking from multiple synchronous and calibrated cameras.

### **DEGREE OF SUCCESS IN PREVIOUS ITALIAN OR INTERNATIONAL PROJECTS:**

2018 - to date: principal investigator for Politecnico di Milano for the Vodafone 5G National program concerning the Video Surveillance for Fire detection (Use Case 12) and Assistive Maintenance for Industrial applications (Use Case 23).

2021 – to date: principal investigator, Private Grant with “MultiMedica Spa” a Machine Learning approach for fusion of Fractional flow reserve-computed tomography (FFR-CT) and angiography imaging for early detection of vessel’s stenosis.

2019-2020: Collaboration project with Insubria University of Varese and Università di Brescia for “MultiMedica Spa” on automatic Breast Cancer Detection based on Deep Learning Techniques.

2017 – to date: private Grant: “X-Ray Food quality Assessment based on Deep Learning Techniques”.

2018 – 2020: co-principal investigator on European Project DEIS - Dependability Engineering Innovation for Cyber-Physical Systems (H2020, ref. 732242) where an ad-hoc CPS will be implemented for the automotive domain in order to get an adaptive identification of physiological parameters for professional drivers. Time of Flight (ToF) cameras based on SPAD (Single Photon Avalanche Diode) will be coupled to traditional cameras and other sensor in order to get a complete monitoring of driver physiological parameters.

2014-2017: principal investigator and project manager for Politecnico di Milano on the European Project COSSIM, (Horizon2020, ref: 644042) For a Novel, Comprehensible, Ultra-Fast, Security-Aware CPS Simulator where Politecnico di Milano together with ST Microelectronics is investigating an efficient system for distributed visual search based on a Cyber Physical System.

2018-2020: principal investigator and project manager for Politecnico di Milano on the “Regione Lombardia” project S.M.A.R.T. (Synchronous Multimedia Avionic Ring Technology) in Collaboration with Pariani Via Aspesi, 1 - 21017 San Macario (VA) for multiple-view real time stitching from multiple cameras.

2011-2014: principal investigator for the Politecnico di Milano for the European industrial Project ASTUTE (ARTEMIS) on the automotive field for the 3D scene reconstruction from multiple cockpit views, and GPS positioning improvement based on the surrounding scene.

2008-2011: principal investigator for the research project CATS (Computer Aided Tadoma System) founded by the 5x1000 national funding Grant of Politecnico di Milano for Braille real time speaker transcription for deaf-blind impaired people.

2007-2009: Researching collaborator in the Regional project PiezoMusiColor in collaboration with Fondazione Don Carlo Gnocchi, founded by Regione Lombardia, with the aim of transforming audio signals in visible and tactile sensations for deaf or autistic people.

2007-2013: co-principal investigator on Piattaforma Tecnologica Alpina PTA project granted by “FESR Fondo europeo per lo sviluppo regionale”.

2003-2008: Researching collaborator in: IST-2000-28436 European Project "ORIGAMI: A new paradigm for high-quality mixing of real and virtual" and the Network of Excellence Visnet (Networked Audiovisual Media Technologies) and Visnet II.

#### **PATENTS**

2015: M.Marcon, D.Sarubbo “A system for Checking a Correct Oral Hygiene Procedure” WO2016020803 (PCT/IB2015/055755)

2004:M. Marcon, L. Piccarreta, A. Sarti, S. Tubaro, "A novel method for modelling surfaces from sparse data based on the evolution of a level-set of a volumetric function" PCT/EP2004/052154

2006:M.Marcon, D. Onofrio, "Method for recognition between a first object and a second object each represented by images" PCT No. PCT/EP2006/002479

#### **EDITORIAL POSITION**

2020-to date: Guest Editor for “Sensors” (IF=3.275) and organizer of the special issue “Sensors for 3D Cameras System”.

## SELECTED PAPERS

1. "A Class Hierarchy for Data Acquisition" Gualtiero Chiaia e Marco Marcon, *C/C++ User Journal* Vol.16 No. 11, (Nov. 1998) 39 – 47
2. "Input electron optics for Mott detector used in secondary electron magnetometry", L. Duò, M. Marcon, F. Ciccacci, *J. El. Spectr. Rel. Phenom.* 95 (1998) 259.
3. "A new analyzer for spin resolved electron spectroscopies", R. Bertacco, L. Duò, G. Isella, M. Marcon, F. Ciccacci, *J. Magn. Magn. Mat.* 226-230 (2001) 2076.
4. "Electronic structure of epitaxial thin NiO(100) films grown on Ag(100): towards a firm experimental basis", M. Portalupi, L. Duò, G. Isella, R. Bertacco, M. Marcon, F. Ciccacci, *Phys. Rev. B* 64 (2001) 165402.
5. "Electronic Structure of Epitaxial Thin NiO(100) Films Grown on Ag(100)" M. Portalupi, L. Duò, G. Isella, R. Bertacco, M. Marcon, F. Ciccacci; proceedings of IUVESTA 15th International Vacuum Congress (IVC-15), AVS 48th International Symposium (AVS-48), 11th International Conference on Solid Surfaces (ICSS-11)
6. "Versatile apparatus for investigating ultrathin magnetic films", G. Isella, M. Marcon, R. Bertacco, G. Trezzi, N. Incorvaia, F. Ciccacci, L. Duò, *J. Electr. Spectr. Rel. Phenom.* 122 (2002) 221. [Erratum: *ibid.* 125 (2002) 77].
7. "Unoccupied electron states of  $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ ", R. Bertacco, M. Portalupi, M. Marcon, L. Duò, F. Ciccacci, M. Bowen, J.P. Contour, A. Barthélémy, *J. Magn. Magn. Mat.* 242-245 (2002) 710.
8. "Epitaxial thin NiO films grown on Fe(001) and the effect of temperature", L. Duò, M. Portalupi, M. Marcon, R. Bertacco, F. Ciccacci, *Surf. Sci.* 518 (2002) 234.
9. "Spin and energy analysis of electron beams: coupling a polarimeter based on exchange scattering to a hemispherical analyzer", R. Bertacco, M. Marcon, L. Duò, F. Ciccacci, *Rev. Sci. Instrum.* 73 (2002) 3867.
10. "Study of bulk ground state properties of Cerium intermetallics by linear dichroism in 4f Resonant Inelastic X-ray Scattering", C. Dallera, M. Marcon, G. Ghiringhelli, A. Tagliaferri, N.B. Brookes, G. Olcese, A. Palenzona, L. Braicovich, *Solid State Communication*, 121, 635-640 (2002).
11. "Understanding the bias dependence of magnetoresistance in the system  $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3/\text{SrTiO}_3/\text{Co}$ " Bowen, M.; Bertacco, R.; Barthelemy, A.; Portalupi, M.; Marcon, M.; Duo, L.; Ciccacci, F.; Contour, J.P.; Fert, A.; Petroff, F.; Jacquet, E.; Humbert, J.; Vaures, A.; *Magnetics Conference, 2002. INTERMAG Europe 2002. Digest of Technical Papers. 2002 IEEE International 28 April-2 May 2002 Page(s):DE1*
12. "A fast level-set approach to 2D and 3D reconstruction from unorganized sample points" Marcon, M.; Picarreta, L.; Sarti, A.; Tubaro, S.; *Image and Signal Processing and Analysis, 2003. ISPA 2003. Proceedings of the 3rd International Symposium on Volume 2, 18-20 Sept. 2003 Page(s):1171 - 1175 Vol.2*
13. "Fast point-cloud wrapping through level-set evolution Marcon, M.; Piccarreta, L.; Sarti, A.; Tubaro, S.; *Visual Media Production, 2004. (CVMP). 1st European Conference on 15-16 March 2004 Page(s):119 – 125*
14. "A Fast Level-set Approach to Surface Modeling from Unorganized Sample Points" M. Marcon, L. Picarreta, A. Sarti, S. Tubaro; *ICCV 2003 Ninth IEEE International Conference on. Computer Vision.*
15. "Complete Object Modeling Using a Volumetric Approach For Mesh Fusion" Giovanni Dainese, Marco Marcon, Augusto Sarti, Stefano Tubaro, proceedings of WIAMIS'05, Workshop on Image Analysis for multimedia Interactive Services
16. "A Volumetric Approach for Mesh Fusion and Complete Object Modeling" Giovanni Dainese, Marco Marcon, Augusto Sarti, Stefano Tubaro, *Multimedia.Information@DEsign for Cultural Heritage - MIDECH 2005, April 2005, ISBN 88-548-0029-5*
17. G. Dainese, M. Marcon, A. Sarti, S. Tubaro, K. Kucharski, W. Skarbek, A. H. Sadka, Yun Sheng, *Towards 3D Face Recognition. Proc. Polish National Conference on*

- Radiocommunications and Broadcasting (KKRRIT-2005), Cracow (Poland), 15-17 Giugno 2005, pp.:101-110.
18. G. Dainese, M. Marcon, A. Sarti, S. Tubaro, Complete Object Modeling using a Volumetric Approach for Mesh Fusion, Proc. 6th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS-2005), April 13-15, 2005 - Montreux, Switzerland, pp.:436-444.
  19. G. Dainese, M. Marcon, A. Sarti, S. Tubaro, Accurate Depth-map estimation for 3D face modelling. Proc. 13th European Signal Processing Conference (EUSIPCO-2005), Antalya, 4-5 September 2005, pp.:1883-1886.
  20. G. Dainese, M. Marcon, A. Sarti, S. Tubaro, 3D Object Modeling with a Voxelset Carving Approach. Proc. IEEE International Conference on Image Processing (ICIP05), Genova, 11-14 September 2005, pp.: 1053-1056.
  21. "Clustering of Human Actions using Invariant Body Shape Descriptor and Dynamic Time Warping" Massimiliano Pierobon, Marco Marcon, Augusto Sarti and Stefano Tubaro, Proceedings of International Conference on Advanced Video and Signal based Surveillance, AVSS '05, 15-16 sept. 2005, pages 22-25.
  22. "Colored Visual Tags: A Robust Approach For Augmented Reality" Andrea Dell'Acqua, Marco Ferrari, Marco Marcon, Augusto Sarti, Stefano Tubaro, Proceedings of International Conference on Advanced Video and Signal based Surveillance, AVSS '05, 15-16 sept. 2005, pages 423-427.
  23. "Classification of Human Body Actions by Invariant Body Shape Descriptor" Massimiliano Pierobon, Marco Marcon, Augusto Sarti and Stefano Tubaro, Proceedings of the 2<sup>nd</sup> Workshop on Immersive Communication and Broadcast Systems, ICOB '05, Berlin, 27-28 October 2005.
  24. "Viseme Segmentation by LDA Hysteresis" Stanisław Badura, Mariusz Leszczyński, Marco Marcon, Jürgen Rurainsky, Władysław Skarbek, Proceedings of the 2<sup>nd</sup> Workshop on Immersive Communication and Broadcast Systems, ICOB '05, Berlin, 27-28 October 2005.
  25. "Fast and Realistic 3D Face Reconstruction from a Set of Views for Multimedia Applications" Giovanni Dainese, Marco Marcon, Augusto Sarti and Stefano Tubaro; Proceedings of the 2<sup>nd</sup> European Conference on Visual Media Production CVMP 2005, pp. 162-167, London, 30 November–1 December.
  26. Toffetti, G., Tagliasacchi, M., Marcon, M., Sarti, a., Tubaro, S., & Ramchandran, K. (2005). Image compression in a multi-camera system based on a distributed source coding approach. *Proc. Europ. Signal Proc. Conf., Antalya*, (1), 1–4.
  27. Giovanni Dainese , Marco Marcon , Augusto Sarti , Stefano Tubaro "3D Object Modeling with a Vowel Set Carving Approach" I-1054, 1053–1056. International conference on Image Processing (ICIP 2005)
  28. Pierobon, M., Marcon, M., Sarti, a., & Tubaro, S. (2006). 3-D Body Posture Tracking For Human Action Template Matching. *2006 IEEE International Conference on Acoustics Speech and Signal Processing Proceedings*, 2, 501–504. <http://doi.org/10.1109/ICASSP.2006.1660389>
  29. Colletto, F., Marcon, M., Sarti, A., & Tubaro, S. (2006). A robust method for the estimation of reliable wide baseline correspondences. *Proceedings - International Conference on Image Processing, ICIP*, 1041–1044. <http://doi.org/10.1109/ICIP.2006.312733>
  30. Dinardo, M. E., Piazzalunga, a., Braicovich, L., Bisogni, V., Dallera, C., Giarda, K., ... Ghiringhelli, G. (2007). Gaining efficiency and resolution in soft X-ray emission spectrometers thanks to directly illuminated CCD detectors. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 570(1), 176–181. <http://doi.org/10.1016/j.nima.2006.10.024>

31. Marcon, M., Piccarreta, L., Sarti, A., & Tubaro, S. (2008). Fast PDE approach to surface reconstruction from large cloud of points. *Computer Vision and Image Understanding*, 112(3), 274–285. <http://doi.org/10.1016/j.cviu.2008.05.008>
32. Tebaldini, S., Marcon, M., Sarti, A., & Tubaro, S. (2008). Uncalibrated view synthesis from relative affine structure based on planes parallelism. *Proceedings - International Conference on Image Processing, ICIP*, (1), 317–320. <http://doi.org/10.1109/ICIP.2008.4711755>
33. Marcon, M., Rurainsky, J. (2009). 3D face reconstruction from a single camera using a multi mirror set-up. *3rd International Conference on Imaging for Crime Detection and Prevention (ICDP 2009)*, P8–P8. <http://doi.org/10.1049/ic.2009.0236>
34. Marcon, M., Frigerio, E., Sarti, A., Tubaro, S. (2012). 3D correspondences in textured depth-maps through planar similarity transform. *2012 IEEE International Conference on Emerging Signal Processing Applications, ESPA 2012 - Proceedings*, 17–20. <http://doi.org/10.1109/ESPA.2012.6152434>
35. Milani, S., Frigerio, E., Marcon, M., & Tubaro, S. (2012). Denoising infrared structured light DIBR signals using 3D morphological operators. *3DTV-Conference*. <http://doi.org/10.1109/3DTV.2012.6365441>
36. Bottegoni, F., Ferrari, Isella, G., Cecchi A., Marcon, M., Chrastina, D., Ciccacci, F. (2012). Ge/SiGe heterostructures as emitters of polarized electrons. *Journal of Applied Physics*, 111(6). <http://doi.org/10.1063/1.3698290>
37. Frigerio, E., Marcon, M., Sarti, A., & Tubaro, S. (2012). Correction method for nonideal iris recognition. *Proceedings - International Conference on Image Processing, ICIP*, 1149–1152. <http://doi.org/10.1109/ICIP.2012.6467068>
38. Frigerio, E., & Marcon, M. (2013). Iris Image Correction Method from Unconstrained Images. In *Lecture Notes in Computational Vision and Biomechanics 13 Bio-Imaging and Visualization for Patient- Customized Simulations* (pp. 201–224).
39. Pau, D. Pietro, Buzzella, A., Marcon, M., & Plebani, E. (2013). Mixing Retrieval and Tracking using Compact Visual Descriptors, 103–107. *IEEE Third international Conference on Consumer Electronics – Berlin ICCE 2013*
40. Frigerio, E., Marcon, M., & Tubaro, S. (2013). Does the Skin Texture Contain Useful Information to State the Identity ? In *5th international conference on Imaging for Crime Prevention and Detection ICDP-13*.
41. P. Karimi, M. Marcon, E. Plebani, D. Pau and L. Celona, “Training an Object Detector using only positive samples”. *IEEE international workshop on Consumer Electronics 2014*.
42. M.Marcon, A.Sarti, S. Tubaro, “ Piecewise Distortion Correction for Fisheye Lenses” *International Conference on Image Processing, ICIP 2015*.

The complete and updated list of publications can be found at OrcID website: <https://orcid.org/0000-0001-6557-2120>