

UMBERTO CASTELLANI

Curriculum vitae et studiorum

GENERAL DATA:

- Date and place of birth: 28 May 1973, Verona - Italy.
- Citizen: italian.
- Address: Via Rotaldo 8, 37123 Verona.
- Phone: +39 0458027988
- Mobile: +39 3331816901
- e-mail: umberto.castellani@univr.it
- web page: <http://profs.sci.univr.it/~castellani>

MEMBERSHIP:

- VIPS lab, University of Verona
(<http://vips.scienze.univr.it>)
- Eurographics (European Association for Computer Graphics)
(<http://www.eg.org>)

EDUCATION:

March 2003: Dottorato di Ricerca in Informatica (PhD) from University of Verona. Title of PhD thesis: “*Image Based Modelling: from sensory data to 3D models*”. Supervisor: Prof. Vittorio Murino. Co-Supervisor: Prof. Andrea Fusiello

October 1999: Laurea degree in Computer Science from University of Verona. Title of master thesis: “*Image processing based on probabilistic approach: Markov Random Field for the restoration of stereo images*”. Supervisor: Prof. Vittorio Murino. Co-supervisor: Prof. Andrea Fusiello

POSITIONS:

- from March 2024: Full Professor at University of Verona (SSD INFO-01/A).
- July 2017 - February 2024 : Associate Professor at University of Verona (SSD INF-01).
- January 2005 - June 2017: Assistant Professor at University of Verona (SSD INF-01).
- July - December 2004: Post-doc at the Computer Science Department of University of Verona.
- November 2002 - June 2004: research contract at the Computer Science Department of University of Verona, working for the EU-Project ARROV.
- October - December 2001: Research Associate at University of Edinburgh, working for the EU-Project CAMERA under the supervision of Prof. Bob Fisher.
- November 1999 - October 2002: grant to attend the PhD course at the Computer Science Department - University of Verona.

RESEARCH KEYWORDS:

- *Computer Vision/Computer Graphics*: 3D analysis and modelling, 3D registration, segmentation, structure from motion, 3D reconstruction, spectral shape analysis, functional correspondences, soft-body simulation.
- *Machine learning*: generative models, neural network, support vector machine, metric learning, hidden Markov models, local kernels.
- *Other application*: Augmented reality, gamification, 3D object retrieval, vision in underwater environment, 3D shape benchmark, 3D body modelling, cloth animation, medical image analysis.

GRANTS:

Academic grants

- Feb 2025 - Jan 2027, “*INDICE- Digital Innovations for the Cultural and Creative Industries*”. FESR 2021-2027. Co-investigator.
- Oct 2023 - Sept 2025, “*Automatic Reconstruction and Interactive simulation of non-rigid shape for computer-aided cloth design (I-CLOTH)*”. Progetti di ricerca di Rilevante Interesse Nazionale (PRIN) 202273Z7PZ. Principal Investigator.
- Jan 2020 - Sept 2026 “*The Roman Emperor Seen from the Provinces (RESP)*”, EU contract No. 101002763. Role: Lead of computer science research.
- Jan 2018- Dec 2021, “*Smart Autonomous Robotic Assistant Surgeon (SARAS)*”, EU contract No. 779813. Co-investigator.
- Oct 2013 - Dec 2018, “*Personalised Prognostic Tools for Early Psychosis Management (PRONIA)*”, EU contract No. 602152. External-investigator.
- September 2014, “*Partially supervised learning: background and application*”, CooperInt project. Principal Investigator.
- March-April 2013, “*3D scene completion and understanding from partial-views (3DCUP)*”, CooperInt project. Principal Investigator.
- September 2012, “*Probabilistic Local Multiple Kernel Learning (PROLOKE)*”, CooperInt project. Principal Investigator.
- September 2011-2013, “*Brain Diffusion Imaging and Fiber Tracking for Radiotherapy and Surgical Planning*”(BRAINFIT), MIUR Project. Co-investigator.
- January 2008 - September 2011, “*Similarity-Based Pattern Analysis and Recognition*”(SIMBAD), EU contract No. 213250. Co-investigator.
- January 2008 - March 2010, “*2D and 3D image registration of rigid and non-rigid scenes*”, CooperInt project. Principal Investigator.
- February 2007 - January 2009, “*Three-Dimensional Shape Indexing and Retrieval Techniques*” (3-SHIRT). MIUR project. Co-investigator.
- January - December 2007, “*Medical image analysis for mental health research*”, Project of Interuniversity Consortium. Principal Investigator.
- January- December 2007 “*3D Registration of deformable models*”, Young Research Project of University of Verona. Principal Investigator.
- March 2003 - November 2005, “*Low cost 3D imaging and modelling automatic system*” (LIMA3D), MIUR Project. Co-investigator.
- December 2000 - February 2005, “*Augmented Reality for Remotely Operated Vehicles based on 3D acoustical and optical sensors for underwater inspection and survey*”(ARROV), EU contract No. GRD1-2000-25409. Co-investigator.

- May 2001 - April 2002, “*Simulations for Audio and Video Augmented Reality*”(SAVAR), Young Research Project of University of Verona. Principal investigator.
- August 2001 - December 2001, “*CAD Modelling of Built Environments from Range Analysis*”(CAM-ERA), EU contract No. FMRX-CT970127. Co-investigator.

Industrial grants

- Dec 2023 - Nov 2025 “*VVV - Voglio Vedere Verde*”, Fondazione Cariverona, Co-investigator.
- Jan 2024 - July 2024 “*Deep matching for structure and motion (DEMO)*”, 3Dflow company. Principal Investigator.
- July 2023 - Jan 2024 “*Advanced visual inspection*”, AIVIZ company. Principal Investigator.
- March 2021-July 2022 “*Gamification for an innovative exploration of cultural heritage in Verona*”, Comune di Verona. Principal investigator.
- Feb 2019 - Jan 2021 “*Procedural generation of urban environment*”, Antemotion. Principal investigator.
- Sept 2019 - Aug 2021 “*Sky System: a procedural system for sky generation*”, Milestone. Principal investigator.
- Nov 2018 - Sept 2020 : “*Automatic extraction of anthropometric measurements from digital 3D scan of human bodies*”, Igoodi. Principal investigator.
- Feb 2016 - April 2017: “*3D image acquisition by photometric stereo (3DPhoto)*”, 3Dflow. Principal investigator.
- Jan-Dec 2016 “*3D reconstruction from stereo images using linear cameras(STSL)*”, eVS. Principal investigator.
- March 2014 - Feb 2015 “*Content based image retrieval for fashion archives*”, Openinnovation. Principal investigator.
- Dec 2013 - April 2015 “*Efficient tracking from challenging images: B-Quant*”, eVS. Co-investigator.
- Jan-Dec 2013 “*Advanced medical image acquisition and analysis*”, MEDEA-IRCS. Principal investigator.

ACADEMIC ACTIVITIES:

Teaching activities

- Signal and Image processing (AA2026-27).
- HCI-Multimodal Systems (AA2024-25–AA2026-27).
- Computer Graphics (AA 2024-25 – 2025-26).
- Graphics Programming (AA 2020-21 — AA 2026-27).
- Computer Vision (AA 2012-13 – AA 2023-24).
- Digital Design (AA 2021-22 – 2022-23).
- Multimedia production (AA 2010-11 – AA 2020-21).
- Image and Volume data Analysis (AA 2019-2020).
- Human Computer Interaction (AA 2009-10 and AA 2018-19).
- Computer Science for Cultural Heritage (AA 2008-09).
- Mathematical methods in image processing and shape analysis - seminar course (AA 2013-14).

University services

- Director of the Phd Programme in Computer Science (2025-today).
- Director of the Master in *Computer Game Development* (2012-today).
- Member of AQ committee of Computer science department (2016-today).
- Researcher representative of Computer science department (2010-2012).
- Member of Computer Science PhD Committee.
- Member of scientific committee of the Master in *Computer Game Development*.

SUPERVISION

- Hui Shi, Post-laurea (Jan 2026 - today).
- Mathias Dalla Palma, Post-laurea
- Federico Masi, Post-laurea (Dec 2024 - today).
- Davide Garavaso, Post-laurea (Dec 2023 - Dec 2025).
- Marcello De Vincenzi, Post-laurea (Mar 2024 - Sept 2024).
- Davide Furlani, Post-laurea (Dec 2023 - Jan 2025).
- Pietro Musoni, postDoc (Feb 2023- Jan 2024).
- Riccardo Bartolomioli, Post-laurea (Jan 2023 - Sept 2024).
- Sebastiano Fregnan, Post-laurea (Jan 2023 - Dec 2023).
- Pietro Musoni, PhD student (Oct 2019- Dec 2022).
- Raffaele Berardo, Post-laurea (Oct 2021 - July 2023).
- Alberto Falezza, Post-laurea (Oct 2021 - July 2023).
- Andrea Peretto, Post-laurea (Oct 2019-Sept 2020).
- Marco Comencini, Post-laurea, (March 2019- Feb 2021).
- Simone Melzi, Post-doc (Nov 2017- Oct 2019).
- Riccardo Marin, Phd student (Oct 2017- today).
- Simone Melzi, Phd student (Nov 2014-Oct 2017).
- Marco Schivi, Post-laurea, (Nov 2016 - Dec 2017).
- Luca Magri, Post Doc, (Dicembre 2015-Aprile 2017).
- Letizia Squarcina, Post Doc, (Feb 2014- Jan 2017).
- Federico Recchia, Post-laurea, (Feb 2016- Jan 2017).

PROFESSIONAL SERVICE:

- Education paper Co-Chair of Eurographics 2027.
- Member of the editorial board of the Pattern Recognition journal (2016-2025).
- Member of the Executive Board of Eurographics Italian Chapter (2012-2015).
- Co-Chair of Smart Tools and Applications in Graphics (STAG). EG Italian chapter 2024.
- Program Chair of International conference on 3D Vision (3DV) 2018.
- Co-Chair of the ICCV Workshop on Multiview Relationships in 3D Data (MVR3D) 2017.
- Publicity/Web Chair of Image Analysis and Processing Image (ICIAP) 2015.
- Co-Chair of the ECCV Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA) 2014.

- General Chair of the Eurographics Workshop on 3D Object Retrieval (3DOR) 2013.
- Co-Chair of the ECCV Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA) 2012.
- Co-Chair of 3D Shape Retrieval Contest SHREC 2010.
- Co-Chair of Eurographics Italian Chapter 2009.
- Area-chair of the British Machine Vision Conference (BMVC) 2016.
- In 2015 and 2016 he participated as invited member at the PC-meeting for the Medical Image Computing and Computer Assisted Intervention Conference (MICCAI).
- Member of Program Committee of Eurographics 27-19; STAG 26-20, SGP Phd School 19; 3DOR 26-11; MICCAI 16-15, SIMBAD 15,13,11; 3DV 18,16,15,14; Web3D 15; ACCV 16,14,13,12,10; 3DIMPVT 13-11; Eurographics Short Paper 12; QU3ST 12; PCP 12; SCIA 11; ACIVS 08-09-10; NORDIA 14-09.
- Reviewer of the following international journals: IEEE Transaction on Pattern Analysis and Machine Intelligence; International Journal of Computer Vision; Computer Graphics Forum; Computer and Graphics; Artificial Intelligence in Medicine; IEEE Journal on Oceanic Engineering; IEEE Transaction on System, Man, and Cybernetics; IEEE Transaction on Robotics; IEEE Transaction on Image Processing; IEEE Multimedia; IET Computer Vision; Computer Vision and Image Understanding; Image and Vision Computing Journal; Pattern Recognition Letters; Pattern Recognition; International Journal of Pattern Recognition and Artificial Intelligence; Pattern Analysis and Applications; Journal of Electronic Imaging; Electronic Letters on Computer Vision and Image Analysis; The Visual Computer; Numerical Mathematics: Theory, Methods and Applications.
- Reviewer of the following international conferences: CVPR 24-05; Eurographics 27, 26, 23, 22, 19, 16, 15, 14; ICCV 21, 17, 15, 11, 09, 07, 05; ICIP 16, 15, 14, 13, 12, 11, 10, 09, 08, 07, 06, 05; Pacific Graphics 15; MICCAI 14; ECCV 20, 16, 12, 10, 08, 06, 04; BMVC 08, 07, 06; ICPR 12, 10, 08, 06; 3DIM 11, 09, 07; MIRAGE 09, 07, 05; AMDO 08, 06; ICIAP 11, 09, 07, 05; VISAPP 07; AIME 09, 05.

INVITED TALKS

- *Modeling Humans and Garments: From Geometry to Simulation*. Keynote Speaker at ICIP Workshop on 4DHumans 2026. 13 September 2026, invited by Prof. Nicola Conci.
- *Analysis and simulation of clothed humans*. University College London (UK), 7 August 2025. Invited by Prof. Niloy Mitra.
- *3D shape analysis for matching, modelling and classification*. University of Milan, 14 March 2017. Invited by Prof. Alessandro Rizzi.
- *Heterogeneous data integration and normalization for psychosis characterization*. Italian Institute of Technology (IIT), 22 September 2016. Invited by Prof. Vittorio Murino.
- *Brain classification with heterogeneous data for psychosis characterization*. Invited talk at MICCAI Programme Committee Workshop, 27 Maggio 2016. Invited by Prof. Sebastien Ourselin.
- *3D shape matching by bag-of-features descriptors*. University of Padova, 30 October 2014. Invited by Dott.ssa Ombretta Gaggi.
- *Machine learning techniques embodying imaging, psychopathological and clinical features for classification of pathologies*. Minisymposium on Neuroimaging in psychiatry, Engineering in Medicine and Biology (EMBC), 26 Agosto 2015. Invited by Prof. Paolo Brambilla.
- *Metodi automatici di decisione per il supporto alla diagnosi di pazienti con psicosi*. University of Udine, 25 November 2013. Invited by Prof. Paolo Brambilla.
- *3D analysis and classification*. University of applied sciences Western Switzerland (CH), 23 July 2013. Invited by Prof. Henning Muller.
- *Exploiting geometry in Counting Grids*. University of Lugano (CH), 13 June 2013. Invited by Prof. Michael Bronstein.

- *Statistical 3D Shape Analysis by Local Generative Descriptors*. University College London (UK), 15 March 2013. Invited by Prof. Niloy Mitra.
- *Brain Morphometry by Probabilistic Latent Semantic Analysis*. University d’Auvergne (France), 25 January 2011. Invited by Prof. Adrien Bartoli.
- *Brain Morphometry by Probabilistic Latent Semantic Analysis*. Fondazione Bruno Kessler (FBK) Trento, 26 October 2010. Invited by Paolo Avesani.
- *Exploiting BoW paradigm for 3D Shape Description and Matching*. Siam Conference on Imaging Science (IS10), Chicago 15 March 2010. Invited by Alex and Micheal Bronstein.
- *Pattern recognition techniques for shape modelling and matching*. CNR Pisa, 1 July 2009. Invited by Roberto Scopigno.
- *Medical image classification: the cases of cancer area characterization and brains in Schizophrenia research*. Technischen Universität München, 31 March 2009. Invited by Prof. Nassir Navab.
- *Robust deformation capture from temporal range data for surface rendering*. DIKU Copenhagen, 24 March 2009. Invited by Prof. Søren Olsen.
- *3D shape modeling and matching: vision in underwater environment and shape matching using a statistical learning approach*. Purdue University, 4 August 2008. Invited by Johnny Park.
- *Some activities at the VIPS lab: 3D shape matching using Hidden Markov Models and Geo-located image analysis*. Carnegie Mellon University, 23 July 2008. Invited by Alyosha Efros.
- *Recent advances on 3D shape modelling: an overview with a focus on 3D face recognition systems*. Michigan State University, 12 July 2008. Invited by Prof. Anil K. Jain.
- *3D acoustic image processing for underwater visual inspection and navigation*, Università Blaise Pascal, Clermont Ferrand, 07 Feb 2007. Invited by Adrien Bartoli.

JOURNEYS

- July - August 2023: *Visiting Professor* New York University (USA), with Prof. Daniele Panozzo.
- Oct - Nov 2015 (15 days): *Invited Professor* University d’Auvergne (France), with Prof. Adrien Bartoli.
- Feb - March 2013 at the University College London (UCL) - with Prof. Niloy Mitra.
- June-July 2012 at the Istituto Italiano di Tecnologia (IIT) - with Prof. Vittorio Murino.
- November 2010 at the ISIT - University d’Auvergne (France) with Prof. Adrien Bartoli.
- June-July 2008 at the Michigan State University (USA) with Prof. Anil K. Jain.
- Feb and April 2007 at the Université Blaise Pascal in Clermont Ferrand (France) with Prof. Adrien Bartoli.
- Aug-Dec 2001 at the University of Edinburgh with Prof. Bob Fisher.

PUBLICATIONS:

Special issues edited

- S.1 Computer and Graphics, Special Section on Smart Tools and Applications in Graphics (STAG 2024), with Valeria Garro, Andrea Giachetti, Ariel Caputo, Nicola Capece (guest editors).
- S.2 The Visual Computer, Special Issue on 3D Object Retrieval 2013, with Silvia Biasotti, Iannis Pratikakis and Tobias Schreck (guest editors).

Edited Proceedings

- E.1 Proceedings of International Conference on 3D Vision (3DV), with Andrea Fusiello, Tomas Pajdla, Yoichi Sato, Alla Sheffer - Publisher: IEEE.
- E.2 Proceedings of the Workshop Multiple View Relation in 3D data 2017 (MVR3D), with Tolga Birdal, Emanuele Rodola, Andrea Torsello, Slobodan Ilic, Gul Varol - Publisher: Springer.
- E.3 Proceedings of the Workshop Non-Rigid Shape Analysis and Deformable Image Alignment 2014 (NORDIA), with Alex Bronstein and Maks Ovsjanikov - Publisher: Springer.
- E.4 Eurographics Symposium Proceedings of 3D Object Retrieval 2013 (3DOR), with Silvia Biasotti, Iannis Prelikakis, Tobias Schreck, Afzal Godir, and Remco Vetkamp- Publisher: Eurographics.
- E.5 Proceedings of the Workshop Non-Rigid Shape Analysis and Deformable Image Alignment 2012 (NORDIA), with Alex Bronstein, Micheal Bronstein and Stefano Beretti - Publisher: Springer.

An updated list of publication is available here: (<http://www.di.univr.it/?ent=persona&id=32&lang=en#tab-pubblicazioni>)

Verona, September 16, 2026

In Fede

Umberto Castellani