

# Alberto Signoroni

📍 University of Brescia, *Department of Medical and Surgical Specialities, Radiological Sciences and Public Health* – viale Europa, 11 - 25123 Brescia (Italy)

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## WORK EXPERIENCE

- 2022-ongoing**      **Associate Professor in Computer Science (SC 09/H1, SSD ING-INF/05 Sistemi di Elaborazione delle Informazioni) – University of Brescia**  
*Department of Medical and Surgical Specialities, Radiological Sciences and Public Health, University of Brescia, viale Europa 11, 25123 Brescia, Italy, [www.unibs.it](http://www.unibs.it)*
- **2023 Achievement of the “National Scientific Qualification” as Full Professor** (art.16 l.240 30.12.2010) Competition Sector 09/H1 – Information processing systems.
  - *Founder and coordinator of the activities of the **Research Laboratory MediMint (Medical Imaging and Multimodal Intelligence)** at DSMC- UniBS <https://medimint.unibs.it/>*
  - *Co-founder of the **Interdepartmental Research Laboratory TRAIL (Trustworthy AI Lab)** at UniBS <https://trail.unibs.it/>*
- 2002-2021**      **Assistant Professor in Telecommunications (ING-INF/03) – University of Brescia**  
*Information Engineering Department, University of Brescia, via Branze,38 , 25123 Brescia, Italy*  
**2016-2020**    *Member of the Academic Senate of the University of Brescia*

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## EDUCATION AND TRAINING

### Executive Master degree (Master Universitario di II livello)

*MIP, Polytechnic of Milan, Italy* [2018-2019]

### Master in Management of Research, Innovation and Technology

Subjects: Management of Innovation, University-Industry Linkage

### Doctor of Philosophy - PhD

*Università degli Studi di Brescia* [1998 – 2001]

**PhD thesis title:** “Metodologie di Rappresentazione e Compressione per Volumi Biomedici”

### Master Degree (Laurea quinquennale v.o.) in Electronics Engineering

*Università degli Studi di Brescia* [1990 – 1997]

**Grade:** 110/110 with honors

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## SCIENTIFIC INTERESTS

- Artificial Intelligence in healthcare, Machine learning and Deep learning for Medical image and data analysis, Ethics and Regulation of AI in digital healthcare, Image analysis in digital microbiology.
- Computer vision, Multidimensional visual data analysis and understanding, Geometry processing, 3D data processing (mesh and point clouds), Computer graphics applications (biomedicine, cultural heritage, computer aided design)
- Signal and image processing, Hyperspectral imaging, Compressive sensing, Image and multidimensional data coding and compression.

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## Other scientific and professional roles

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- Treasurer of the Italian section of the European Computer Graphics Association EG-IT (2023 - today)
  - Member of the Scientific Committee of AREU (Agenzia Regionale Emergenza Urgenza) della Regione Lombardia (2025 - today)
  - Member of the Biomedical Commission of the Order of Engineers of Brescia (2010 - today) and promoter of the joint working group between the Order of Engineers and the Order of Physicians and Dentists of the Province of Brescia on *Technologies and AI in the medical field* (2023 - today).
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## Responsibility/participation on competitive projects

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- Investigator in the EU project coordinator unit: VIPSTAR: Visually Impaired children and adolescents: bridging the gap with Personalized Prevention Strategies, Tools, Approaches, and Resources, Funded under the European Commission Horizon Europe – Grant ID 101156263, Budget 8M€ (2025-2028).
  - Vice-Principal Investigator, RU leader: QT-Seed: Quality-of-life Technological and Societal Exploitation of ECG Diagnostics, funded by MIUR under the action PRIN 2022 (PI prof. Riccardo Bernardini UniUD) Oct. 2023 – Sep. 2025
  - Principal investigator: ResponsiX: Responsible and clinically deployable AI-driven evaluation of COVID-19 disease severity on Chest X-rays, funded by MIUR under the action FISR 2020 – Phase 1 (FISR2020IP\_02278) ranked 3<sup>rd</sup> over 2550 proposals. Budget 63.583 € (Jun-Nov 2021)
  - Principal Investigator: SIRENA (Smart Indoor REal time documentation and NAVigation for architectural and landscape design), funded by Regione Lombardia POR FESR 2014-2020 (Smart Fashion and Design D.D.U.O. N. 3169/2016) Partners: Gexcel (head), Milan Ingegneria Srl. Total budget 1.035.000 euro, UniBS Budget 70.000 euro (Nov 2016 – Nov 2018).
  - Principal Investigator: UniBS Strategic Programme Health & Wealth - RESHAPER (Reverse Engineering of Self-care and Healthcare Aids for Personalized Empowerment and Rehabilitation) co-funded by University of Brescia and OpenTechnologies srl (Rezzato, BS), in a partnership with Fondazione Teresa Camplani – Casa di cura Domus Salutis (Brescia), Budget 75.000 euro (Mag 2016 – Ott 2018)
  - Task Leader: Cluster Fabbrica Intelligente, prog. n.2 “Adaptive Manufacturing” funded by MIUR (CTN01\_00163\_216730), Task 2.5 Advanced technologies for Machine Vision and Image Analysis. Task partner: Copan Italia SpA. (gen 2014 - dic 2017). Scientific leader UniBS: Prof. Emilio Sardini. Total Project Budget 10.174.000 euro (task budget 120.000 euro)
  - Task leader BHIMM: Built Heritage Information Modelling/Management, funded by MIUR-PRIN 2010-2011 (gen 2013 – feb 2016).
  - Principal Investigator: ABC3D (Acquisizione comunicazione e diffusione di dati e modelli 3D di elevata qualità e realismo per applicazioni professionali nell’ambito dei Beni Culturali) funded by MIUR – Regione Lombardia. (mar 2012 – set 2014). Partnership: Open Technologies srl (head) – Gexel – Femar Consulting – University of Brescia. Budget 825.500 euro
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## Main Scientific and Industrial Collaborations

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- Z-Inspection (<http://z-inspection.org>) – Prof. Roberto Zicari (group leader) - 2021-today
- LIGHT scarl - Lifescience Innovation Good Healthcare Technology – 2023-today
- Copan WASP (a division of Copan spa), Italy 2012-today
- Gexcel srl, Italy 2016-today
- Institute of Neuroscience and Psychology, University of Glasgow, UK – Michele Svanera, Lars Muckli (group leader) – Subjects: Neuroanatomical MRI imaging, Brain image segmentation – 2018-today
- Film Department at ELTE, Budapest, Hungary – András Bálint Kovács + Department of Communication Science, Vrije Universiteit Amsterdam, The Netherlands – Katalin Bálint — Subjects: Automated extraction of filmmaking features from movies, authorship recognition, film viewers’ emotional analysis – 2018-today
- Medacta International – CH – 2023 – today
- Open Technologies srl, 2010-2022
- Graphics and Geometry Group, University of Bielefeld, Germany – Mario Botsch (group leader) — Subjects: Geometry processing, 3D data deformation – 2013-2014
- Computer Vision Laboratory, ETH Zurich, Switzerland – Hayko Riemenschneider, Luc Van Gool (group leader) — Subjects: 3D Computer Vision, 3D Stereo Reconstruction – 2012-2014

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## Teaching activities and responsibilities

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- For 25 years he has been regularly teaching for whole cycle, first level and master's degrees engineering programs with various courses taught in English, for courses in the area of information engineering, in particular in the areas of computer science and telecommunications. He took ownership and didactic responsibility for numerous exams in the field of analog and numerical signal processing, image analysis, information theory, electronic communications. Over the years he has been involved in the activation of five new courses: Advanced Methods for Information Representation, Traffic Modeling for Telecommunication Networks, Law and Regulations of TLC, Remote Sensing Data Analysis and Image Data Analysis. The teaching load is stable between 120 and 140 hours of frontal teaching per year. The teaching activity is coherent and often synergistic with respect to research activities.
- **Current teaching activity a.y. 2024-25 at University of Brescia** (unless otherwise specified)
  - Responsible of the course of **Image Data Analysis** (6 CFU) and ownership of the Remote Sensing (9CFU) course – MSc in Communication Technologies and Multimedia, and MSc in Computer Engineering (in English) (60 hours teaching)
  - Responsible of the course of **Law & Regulations for Telecommunications** (6 CFU) – BSc in Electronic and Telecommunication Engineering and Bsc in Computer Engineering (30 hours teaching)
  - Responsible of the course of **Information processing systems** (2 CFU) – BSc in Orthoptic and ophthalmologic assistance (24 hours teaching)
  - Responsible of the course of **Artificial Intelligence for Medical Diagnosis Support** (1 CFU) – MD in Medicine and Surgery, 5<sup>th</sup> year (8 hours teaching)
  - Responsible of the course of **Artificial Intelligence for Medical Image Diagnosis in Oncology** (1 CFU) – Scuola di Specializzazione in Oncologia, (8 hours teaching)
  - Teaching activity (10 hours **Trustworthy AI** course) in the II level Master "**eXplainable Artificial Intelligence in Healthcare Management**", Department of Economics and Business Sciences, University of Pavia.
- **Member of Doctorate Faculty Boards of PhD courses**
  - 2006-2015 University of Brescia, Information Engineering Dept., Phd Course in "INGEGNERIA DELLE TELECOMUNICAZIONI"
  - 2013-2016 University of Brescia, Information Engineering Dept., PhD Course in "INGEGNERIA DELL'INFORMAZIONE"
  - **2012-today** University of Brescia, Information Engineering Dept., PhD Course in "**TECHNOLOGY FOR HEALTH**"

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## Editorial and Conference organization activities

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### Editorial activities

- Associate Editor: IEEE Transactions on Circuits and Systems for Video Technology (2010-2015)
- Associate Editor: Applied Bionics and Biomechanics, Hindawi (2020-2023)
- Guest Editor: Computers & Graphics (Elsevier) - Special Section on Smart Tools and Applications in Computer Graphics (STAG 2018) – Vol.82 Aug 2019

### Conference Organization

- General Chair: International Conference of the EUROGRAPHICS Italian chapter on Smart Tools and Applications in Graphics, STAG 2018 (<http://stag2018.unibs.it>)
- Area Chair: International Conference on 3D Vision, 3DV 2018
- Technical Programme Committee: IEEE International Conference on Image Processing, ICIP 2014, ICIP 2015
- Technical Programme Committee: EUSIPCO 2018
- Technical Programme Committee: EUROGRAPHICS Smart Tools and Applications for Graphics, STAG 2015, STAG 2016, STAG 2017, STAG 2018, STAG 2019, STAG 2020
- Special Session Chair and Organizer: Industrial and professional applications for multimedia and multidimensional signal processing, GTTI Thematic meeting on Multimedia Signal Processing MMSP2019 (<https://www.gtti-mmmsp2019.deib.polimi.it/program>)
- Organizer (co-chair): 3rd GTTI Thematic meeting on Multimedia Signal Processing MMSP2013 (Feb 2013, Vezza d'Oglio, BS)

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## Main “Third Mission” activities

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### Research/teaching responsibilities in third mission activities

- for 4 Industrial PhD programmes (Dottorato in Apendistato di Alta Formazione)
- >10 applied research activities with Companies (FARO-Open Technologies, Copan Group, Gexcel, Antares Vision)
- Granted patent inventor: “Scalable video coding method” US8233526 B2, PCT PCT/IT2005/000599

**Matured skill** in the translation of research results into prototypes and product/services for industrial deployment. Awareness of cultural and operational gaps between academy and industry (as well as other professional fields, such as healthcare organizations) and matured skills in filling this gap. Active in social innovation initiatives and sustainable consumption.

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## Awards

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- 2015 Best Associate Editor Award: IEEE Transactions on Circuits and Systems for Video Technology
  - Awards received as Advisor to doctoral students:
    - 2020 GTTI Best PhD Thesis Award, received by Mattia Savardi for the thesis entitled " Deep Learning Driven Methods for Medical Image Analysis and Media Psychology".
    - 2017 Francesco Carassa Award "for the best publication and related presentation" received during the annual GTTI meeting (association of the Telecommunications and Information Technologies Group), received by Mattia Savardi for the work "Deep learning approaches to images and video content".
    - 2013 GTTI Best PhD Thesis Award, received by Francesco Bonarrigo for the thesis entitled "Robust and computationally effective multi-view alignment techniques for high-end 3D modeling pipelines".
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## Publications

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- Google Scholar: <https://scholar.google.it/citations?user=VQOouzYAAAAJ&hl=it&oi=ao>
- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=6602355844>
- ORCID: <http://orcid.org/0000-0002-8383-3766>

### Bibliometric indicators (Apr 4, 2025)

Scopus: Documents 101, Citations 2151, H-index 22

Google Scholar: Citations 2664, H-index 28