

Lorenza Brusini

Curriculum Vitae



Affiliation

Department of Engineering for Innovation Medicine, University of Verona
Strada Le Grazie, 15, 37134 Verona (VR), Italy
+39 045 802 7804
lorenza.brusini@univr.it

Current position

Since 01/2022 **Temporary Assistant Professor (RTDa), Department of Engineering for Innovation Medicine, University of Verona, Verona (Italy)** [🔗](#).
GSD 09/IBIO-01 | SSD IBIO-01/A (formerly ING-INF/06)
Position funded on project AI4HEALTH – MUR DM 737 2021, €200k;
1-year extension funded on project INTELLI-MI - Regione Veneto, PR Veneto FESR 2021-2027, €378.5k (out of €2.56M).
NOTE 1: MATERNITY LEAVE 04/2022 – 09/2022
NOTE 2: MATERNITY LEAVE 11/2023 – 04/2024

National Scientific Qualification (ASN)

07/03/2025 – **ASN for Associate Professor, 02/D1 Applied Physics, Teaching and History of Physics**, third term 2023-2025 [🔗](#).
07/03/2037

Education

11/2014 – **Ph.D. in Computer Science, Science and Engineering school, University of Verona, Verona (Italy)**.
04/2018
Mention Doctor Europaeus
Thesis: “Brain Microstructure: Impact of the Permeability on Diffusion MRI”
Supervisor: Prof. Gloria Menegaz
10/2017 – **Teacher Qualification for Upper Secondary Education 24 CFU, University of Verona, Verona (Italy)**.
09/2018
Psychological, pedagogical, anthropological, and teaching methodology fields
10/2012 – **Master’s degree in Bioinformatics and Medical Biotechnologies, University of Verona, Verona (Italy), Grade – 110/110, GPA – 27.93/30**.
07/2014
Track: Bioinformatics
Diploma project: “Microstructural description of cerebral tissues from Diffusion Spectrum Imaging data”
Supervisor: Prof. Gloria Menegaz

10/2009 – **Bachelor’s degree in Bioinformatics**, *University of Verona*, Verona (Italy),
10/2012 *Grade – 106/110, GPA – 26.75/30.*
Diploma project: “Design and Implementation of Improvements to a Web Oriented System for the Management of Psychiatric Records”
Supervisor: Prof. Carlo Combi

Ph.D. Thesis Abstract

This thesis aims to explore how the exchange influences the diffusion (d)MRI signal and how this can be informative on myelin structure. We also aimed to explore how recent dMRI signal reconstruction techniques could be applied in clinics proposing a strategy for investigating the potential as biomarkers of the derived tissue descriptors. The first goal of the thesis was addressed performing Monte Carlo simulations of a system with three compartments: intra-axonal, spiraling myelin and extra-axonal. The second goal of the thesis was reached by assessing the indices derived from three dimensional simple harmonics oscillator-based reconstruction and estimation (3D-SHORE) in stroke disease. The tract-based analysis involving motor networks and the region-based analysis in grey matter (GM) were performed. The overall study could be considered the starting point for a future investigation of the interdependence of different phenomena like exchange and relaxation related to the established dMRI indices. This is valuable for the accurate dMRI data interpretation in heterogeneous tissues and different physiological conditions.

Professional Experience

08/2020 – **Post-doc Research Associate, Neuroimaging Group, Department of**
12/2021 **Computer Science**, *University of Verona*, Verona (Italy).
SSD INF/01
Supervisor: Prof. Gloria Menegaz
Theme: Local modeling of white and gray matter microstructure using diffusion MRI

08/2019 – **Post-doc Research Associate, Neuroimaging Group, Department of**
07/2020 **Computer Science**, *University of Verona*, Verona (Italy).
SSD ING-INF/06 and INF/01
Supervisor: Prof. Silvia Francesca Storti
Project: Joint Project 2015 “BrAnch”
Theme: Methods and models for the study of the functional and structural brain connectivity for transcranial magnetic stimulation applications

12/2017 – **Post-doc Research Associate, Neuroimaging Group, Department of**
07/2019 **Computer Science**, *University of Verona*, Verona (Italy).
SSD INF/01
Supervisor: Prof. Gloria Menegaz
Theme: Microstructure analysis through diffusion weighted magnetic resonance
NOTE: MATERNITY LEAVE 11/2018 – 07/2019

Research Projects

- 09/2023 – “**AI4BRAVE: AI for modeling of the Brain-Heart Axis in aging**” [🔗](#).
02/2026 Funding: €209k (total project budget: €259k) from Ministry of University and Research (MUR), call for Projects of Relevant National Interest (PRIN) 2022
Reference Code: 202292PHR2
PI: Prof. Gloria Menegaz
Duration: 24 months
Main objective: Modeling heart-brain axis aging across micro-to-macro scales using explainable AI, covering both physiological and pathological conditions.
My contract type: Leader of Work Package 1
My role: Derivation of endophenotypes from brain and cardiac MRI (WP1).
Main results of my participation:
- 3 journal articles published (please, refer to [JP17](#), [JP16](#), and [JP15](#))
 - 1 international conference paper (please, refer to [ICP17](#))

Bibliometric Parameters

ORCID [0000-0001-5357-5180](#)
Scopus ID [56641649700](#)
WOS ID [ABU-4739-2022](#)
Bibliometric indicators **Scopus, 5 Oct 2026:**
Papers (5-year): 15 *18 adj.¹*
Citations (10-year): 360 *423.53 adj.²*
h-index (10-year): 11 *12.94 adj.²*

Scientific Production Summary

19 Articles in International Peer-Reviewed Journals

6 as 1 st & Corresp. author:	IEEE JTEHM [JP11]	2024	Q1	ASJC: Biomed. Eng.
	IJMS [JP12]	2024	Q1	ASJC: Comput. Sci. Appl.
	JMRI [JP8] Co-1 st	2022	Q1	ASJC: Radiol. Nucl. Med. & Imaging
	IEEE THMS [JP4]	2021	Q1	ASJC: Comput. Sci. Appl.
	IEEE TMI [JP3]	2019	Q1	WoS: Biomed. Eng.
	IJCARS [JP1]	2016	Q2	ASJC: Health Inform.

1 Chapter in International Peer-Reviewed Books

17 Contributions in International Peer-Reviewed Conferences Proceedings

12 Abstracts in International Peer-Reviewed Conferences Proceedings

4 Contributions in National Peer-Reviewed Conferences Proceedings

5 Abstracts in National Peer-Reviewed Conferences Proceedings

Please, refer to the Attachment A for a comprehensive list of the publications.

¹ Metric adjusted for maternity leave during the 5-year window 2021 – 2026 (60 months): 10 leave months / 50 active months)

² Metric adjusted for maternity leave during the 10-year window 2016 – 2026 (120 months): 18 leave months / 102 active months)

Teaching

AY	SSD Area	Degree	Tot.Hrs
2025 – 2026	ING-INF/06	BSc & MSc	50
2024 – 2025	ING-INF/06	MSc	32
	Biomed. Eng.	PhD	20
2023 – 2024	Biomed Eng.	PhD	20
2022 – 2023	ING-INF/06	BSc	46
	ING-INF/05	MSc	10
	Bioeng.	PhD	8
2021 – 2022	ING-INF/06	BSc	10
	ING-INF/05	MSc	10
	Transv. Skills	MSc	18
2020 – 2021	Bioeng.	PhD	20

PhD Courses

11/2024 [🔗](#) **PhD Course in Computer Science: “AI and explainable models”**, *University of Verona, Verona (Italy)*.

Role: Teacher

5 CFU; 20 hours (theory – 5 hours + laboratory – 15 hours)

Area: Computer Science/Biomedical Engineering/Neuroscience

06/2024 [🔗](#) **PhD Course in Computer Science: “AI and explainable models”**, *University of Verona, Verona (Italy)*.

Role: Teacher

3.75 CFU over a total of 5 CFU; 15 hours (laboratory)

Area: Computer Science/Biomedical Engineering/Neuroscience

Editions: 03/2023 [🔗](#) **PhD Course in Computer Science: “Brain Computer Interfaces”**, *University of Verona, Verona (Italy)*.

09/2021 Role: Teacher (Co-Lecturer in 2021)

1 CFU over a total of 4 CFU; 8 hours (laboratory)

Area: Bioengineering/Neuroscience

06/2021 **PhD Course in Computer Science: “Data analysis for Biomedical Sciences”**, *University of Verona, Verona (Italy)*.

Role: Co-Lecturer

1.5 CFU over a total of 5 CFU; 12 hours (laboratory)

Area: Bioengineering/Neuroscience

Master’s degree Courses

AY: 2025 – **Computer Engineering for Intelligent Systems (LM-32): “Neurohealth**
2026 [🔗](#) – **Intelligent neuro-data modeling”**, *University of Verona, Verona (Italy)*.

2nd semester Role: Teacher

2 CFU over a total of 6 CFU; 12 hours (theory)

SSD: ING-INF/06

- Editions: **Computer Engineering for Intelligent Systems (LM-32): “Healthcare intelligent systems – Advanced medical image analysis”**, *University of Verona*, Verona (Italy).
 AY: 2025 – 2026 [🔗](#)
 AY: 2024 – Role: Teacher
 2025 [🔗](#) 4 CFU over a total of 12 CFU; 32 hours (theory)
 2nd semester SSD: ING-INF/06
NOTE: Also taught concurrently in the **LM-21** (*Biomedical Engineering*) degree programmes at the University of Modena and Reggio Emilia (2025 – 2026 [🔗](#), 2024 – 2025 [🔗](#)) and at the University of Trento (2025 – 2026 [🔗](#), 2024 – 2025 [🔗](#))
- Editions: **Rehabilitation Science in Healthcare Professions (LM/SNT2): “Clinical and organizational progress in rehabilitation context – Information technology in rehabilitation”**, *University of Verona*, Verona (Italy).
 AY: 2022 – 2023 [🔗](#)
 AY: 2021 – Role: Teacher
 2022 [🔗](#) 1 CFU over a total of 10 CFU; 10 hours (theory)
 2nd semester SSD: ING-INF/05
- AY: 2021 – **Medical Bioinformatics (LM-18), Computer Science and Engineering (LM-18, LM-32), Computer Engineering for Robotics and Smart Industry (LM-32): “Data Analysis for Biomedical Sciences”**, *University of Verona*, Verona (Italy).
 1st semester
 Role: Co-Lecturer
 2 CFU (Type F); 18 hours (theory – 6 hours + laboratory – 12 hours)
 Area: Transversal skills
- Bachelor’s degree Courses**
- AY: 2025 – **Human Centered Medical System Engineering (L-8): “Acquisition and analysis of biomedical images”**, *University of Verona*, Verona (Italy).
 2026 [🔗](#)
 1st semester Role: Teacher
 0.5 CFU over a total of 6 CFU; 6 hours (laboratory)
 SSD: ING-INF/06
- AY: 2022 – **Human Centered Medical System Engineering (L-8): “Introduction to system and signal analysis with laboratory”**, *University of Verona*, Verona (Italy).
 2023 [🔗](#)
 2nd semester Role: Teacher
 3 CFU over a total of 9 CFU; 36 hours (laboratory)
 SSD: ING-INF/06
- Editions: **Physiotherapy (L/SNT2): “Advanced methodologies in neurological physiotherapy – Robotics and analysis of the movement in physiotherapy”**, *University of Verona*, Verona (Italy).
 AY: 2022 – 2023 [🔗](#)
 AY: 2021 – Role: Teacher
 2022 [🔗](#) 1 CFU over a total of 8 CFU; 10 hours (theory)
 2nd semester SSD: ING-INF/06

Tutoring

10/2017 – **Bachelor’s degree course in Computer Science (L-31) and Bioinformatics (L-31): “Signal and Image Processing”,** *University of Verona, Verona (Italy).*

Role: Tutor

24 hours

SSD: INF/01

Advisory Activity – Theses

Course	Role	Students
PhD in Comp. Sci.	Co-supervisor	1
MSc Comp. Sci. & Eng. (LM-18, LM-32)	Supervisor	2
	Co-supervisor	2
MSc Artificial Int. (LM-18)	Co-supervisor	1
MSc Med. Bioinformatics (LM-18)	Co-supervisor	1
MSc Cog. Sci (LM-55, UniTN)	Co-supervisor	1
BSc Human-Cent. Med. Sys. Eng. (L-8)	Supervisor	5
BSc Bioinformatics (L-31)	Supervisor	4
	Co-supervisor	5
BSc Comp. Sci. (L-31)	Co-supervisor	1
Total		23

Please, refer to the Attachment B for a comprehensive list of the students.

Advisory Activity – Stages and Internships

Course	Role	Students
MSc Comp. Eng. for Intelligent Sys. (LM-32)	Academic tutor	1
MSc Comp. Sci. & Eng. (LM-18, LM-32)	Company tutor	2
MSc Med. Bioinformatics (LM-18)	Company tutor	1
MSc Cog. Sci (LM-55, UniTN)	Company tutor	1
BSc Human-Cent. Med. Sys. Eng. (L-8)	Academic tutor	4
	Company tutor	3
BSc Bioinformatics (L-31)	Academic tutor	1
	Company tutor	11
Total		24

Please, refer to the Attachment B for a comprehensive list of the students.

Internships in Foreign Institutions

- 02/2017 **Lund University**, Lund (Sweden).
Local supervisor: Prof. Markus Nilsson
Description: Implementation of spiraling myelin for studying this exchange mechanism on dMRI simulated experiments.
- 01/2016 – 04/2016 **INRIA Sophia Antipolis – Méditerranée research center**, Sophia Antipolis (France).
Local supervisor: Prof. Rachid Deriche
Description: Study and implementation of different analytical simulations of diffusion MRI signal in cylindrical pores in the extra-ordinary case of permeable walls.

Collaboration and Participation to National and International Research Groups

Since **Member of the BraiNAVLab** [🔗](#).
10/2014 Leader: Prof. Gloria Menegaz, Department of Engineering for Innovation Medicine, University of Verona

I have been involved in the following funded projects of the group:

○ “*Tecnologie Intelligenti per la Medicina di Innovazione. INTELLI-MI*” [🔗](#)

Funding: €378.5k (out of €2.56M) from Regione Veneto - Programma Regionale (PR) Veneto Fondo Europeo di Sviluppo Regionale (FESR) 2021-2027

Reference code: 24729_002214

PI: Prof. Gloria Menegaz

Duration: 31 months

Period: Oct 2024–Apr 2027

Main objective: Integrating advanced intelligent technologies, from omics to robotics, to make healthcare more efficient, sustainable and personalized.

My contract type: 1-year extension of RTDa

My role: Support to project management and research on imaging and genetics in cancer and neurodegenerative diseases, including Parkinson’s disease.

Main result of my participation:

- 1 journal article published (please, refer to [JP18](#))
- 1 international conference abstract (please, refer to [ICA12](#))

○ “*AI4HEALTH: empowering neurosciences with eXplainable AI methods*” [🔗](#)

Funding: €200K from the Ministry of University and Research (MUR), DM 737/2021

PI: Prof. Gloria Menegaz

Duration: 24 months

Period: 2022–2025

Main objective: Explainable-AI modeling of brain connectivity and microstructure in health and disease, generalizable from cancer to neurodegenerative and neurological disorders.

My contract type: Research fellow (RTDa) funded by the project

My role: Brain connectivity and microstructure modeling using Explainable AI techniques on data from healthy subjects and subjects along the Alzheimer’s disease continuum.

Main results of my participation:

- 2 journal articles published as first author, 1 of these in collaboration with the University of Turin (Prof. Paolo Provero and Prof. Fabrizio Pizzagalli) (please, refer to [JP12](#) and [JP11](#))
- 1 journal article published in collaboration with the University of Padua (Dr. Lorenzo Pini) (please, refer to [JP13](#))
- 1 journal article published in collaboration with the Department of Computer Science, University of Verona (Prof. Rosalba Giugno and Prof. Carlo Combi) (please, refer to [JP10](#))
- 1 journal article, and 2 international conference papers published in collaboration with the Georgia State University/Georgia Institute of Technology/Emory University Center for Translational Research in Neuroimaging and Data Science (TReNDS, Prof. Vince D. Calhoun) (please, refer to [JP14](#), [ICP15](#), [ICP13](#))
- 1 international conference paper (please, refer to [ICP14](#))

- “*AntIAGING: Artificial Intelligence for Healthy Aging*” [🔗](#)
Funding: €121K from Programma Regionale (PR) Veneto Fondo Sociale Europeo (FSE)+ 2021-2027
Reference code: 1695-0009-553-20
PI: Prof. Gloria Menegaz
Duration: 24 months
Period: Jan 2023–2025
Main objective: Explainable-AI integration of neuroimaging and omics data to model aging along the heart–brain axis.
My contract type: Collaborator
My role: Identification and characterization of MRI-derived endophenotypes.
Main result of my participation: Invited talk, “Phenotyping the Human Brain with MRI”, University of Verona, 24 June 2025. [🔗](#)
- “*A computational solution for bringing neuroimaging genetic into translational research (EDIPO)*” [🔗](#)
Funding: €180K from Fondazione Cariverona (Scientific Excellence Research Call 2018)
Reference code: 2018.0855.2019)
PI: Prof. Gloria Menegaz
Duration: 36 months
Period: 2020–2023
Main objective: Cutting-edge methods for imaging genetics, decoding the genetic basis of brain structure and function from big heterogeneous data.
My contract type: Collaborator
My role: Processing of cerebral diffusion MRI from subjects along the Alzheimer’s disease continuum, and development of Explainable AI models for imaging-genetics.
Main results of my participation:
 - 1 journal article published as first author (please, refer to [JP4](#))
 - 1 journal article and 1 international conference paper published in collaboration with the University of Barcelona (Prof. Petia Radeva) (please, refer to [JP7](#), [ICP12](#))

Additional Collaborations within the Group:

- Since 2026 ○ *Prof. Christine Fernandez-Maloigne, University of Poitiers*
My role: EXplainable AI methods with aim of application to biomedical data.
Main results of my participation: 1 international conference paper published (please, refer to [ICP16](#))
- 2019–2023 ○ *Prof. Leticia Rittner, University of Campinas*
My role: Processing of cerebral diffusion MRI from healthy subjects
Main results of my participation: 1 journal article and 1 international conference paper published (please, refer to [JP9](#), [ICP9](#))
- 2016–2023 ○ *Prof. Rachid Deriche, INRIA Sophia Antipolis-Méditerranée, Université Côte d’Azur*
My role: Processing of cerebral diffusion MRI from healthy and multiple sclerosis subjects, and analysis using AI methods
Main results of my participation: 1 journal article and 1 international conference paper published (please, refer to [JP6](#), [ICP7](#))

- 2018–2023 ○ *Prof. Massimiliano Calabrese, Department of Neuroscience, Biomedicine and Movement, University of Verona*
My role: Processing of cerebral diffusion MRI from healthy and MS subjects (from Verona University Hospital), and analysis using statistical and AI methods
Main results of my participation:
- 2 journal articles published, 1 as co-first author (please, refer to [JP8](#), [JP5](#))
 - 1 book chapter (please, refer to [BC1](#))
 - 2 international conference papers (please, refer to [ICP10](#), [ICP8](#))
- 2017–2019 ○ *Prof. Markus Nilsson, Department of Diagnostic Radiology, Lund University*
My role: Investigation of exchange mechanism in the context of dMRI signal modeling.
Main results of my participation: 1 journal article and 1 international conference paper published as first author (please, refer to [JP3](#), [ICP4](#))
- 2014–2019 ○ *Prof. Cristina Granziera, University of Basel, Switzerland*
My role: Processing of cerebral diffusion MRI acquired at multiple time points from healthy and stroke subjects (data from Lausanne University Hospital), and statistical analysis of derived data
Main results of my participation:
- 3 journal articles published, 1 as first author (please, refer to [IJP1](#), [JP2](#), [JP1](#))
 - 3 international conference papers published, 1 as first author (please, refer to [ICP6](#), [ICP2](#), [ICP1](#))

International Events Organization

- 06/2027, upcoming **10th European Medical and Biological Engineering Conference**, Ischia (Italy).
My role: Co-organizer of the special session on "Multiscale and Multimodal Perspectives on Brain Connectivity for Translational Neuroscience" [🔗](#)
- 05/2024, 27th **21st International Symposium on Biomedical Imaging, IEEE**, Athens (Greece).
My role: Lead organizer & chair of the special session on "Interpretable imaging genetics: towards the molecular mechanisms underlying brain structure and function" [🔗](#)
Supported by: Dept. of Engineering for Innovation Medicine, Fondazione Cariverona, Intel
- 09/2019, 23 – 27th **2019 School on Brain Connectomics**, University of Verona, Verona (Italy).
My role: Component of the organizing committee [🔗](#)
Supported by: PhD School in Natural Sciences and Engineering & Dept. of Computer Science of the University of Verona, MICCAI, IEEE Signal Processing Society
- 10/2017, 09 – 13th **2017 School on Brain Connectomics**, University of Verona, Verona (Italy).
My role: Component of the local committee [🔗](#)
Supported by: PhD School in Natural Sciences and Engineering & Dept. of Computer Science of the University of Verona, MICCAI, IEEE Signal Processing Society, Verona Brain Research Foundation

Participation to National and International Societies

- National Group of Bioengineering (GNB) (since 2026)
- IEEE member (since 2021)
- IEEE Signal Processing Society (since 2021)
- IEEE Engineering in Medicine and Biology Society (since 2021)

Roles in International Scientific Societies

IEEE Bio Imaging and Signal Processing Technical Committee (BISP TC) [🔗](#).

My role: **Co-chair** of the "Communication&Outreach" sub-committee
Term: 2024-2026

Editorial and Program Responsibilities

Editorial Roles

- Since 2024 ○ Associate editor for Pattern Recognition [🔗](#)
J Impact factor: 9.1 (2026)
Q1 in Artificial Intelligence, Computer Vision and Pattern Recognition, Signal Processing, Software (2026)
- Since 2023 ○ Review editor for the following international peer-reviewed journals: [🔗](#)
- Brain Imaging and Stimulation (Frontiers in Human Neuroscience)
J Impact factor: 3.6 (2026)
 - Brain Imaging Methods (Frontiers in Neuroscience, Frontiers in Neuroimaging)
Frontiers in Neuroscience Impact Factor (2026): 4.0
Frontiers in Neuroimaging Impact Factor (2026): 2.5

Program Committee Roles

- 2027 ○ Area chair for IEEE International Symposium on Biomedical Imaging (ISBI)
Nominated via the IEEE SPS BISP TC

Referee Activity

International peer-reviewed journals

- Pattern Recognition (since 2024)
- Frontiers in Neuroscience (since 2024)
- Frontiers in Human Neuroscience (since 2024)
- IEEE Transactions on Medical Imaging (since 2024)
- Nature Scientific Reports (since 2023)
- IEEE Access (since 2021)
- BioMedical Engineering OnLine (since 2019)
- International Journal of Computer Assisted Radiology and Surgery (since 2019)

International peer-reviewed conferences

- IEEE International Symposium on Biomedical Imaging (ISBI) (since 2026)

Awards and Travel Grants

- 2018, 2015 **Educational Stipend ISMRM:** The International Society for Magnetic Resonance in Medicine (ISMRM) society invites applications for educational stipends that offer support for the attendance of students, postdoctoral and clinical trainees to present abstracts at the ISMRM Annual Meeting.

2015 **Student Travel Award MICCAI:** The Medical Image Computing and Computer Assisted Intervention (MICCAI) Student Travel Awards scheme serves to: i) reward the best first author students and to subsidise their attendance to the present their work at the annual MICCAI conference; ii) assist in building the MICCAI community by selecting early career participants from countries of lower-income countries.

2015 **Cooperint, University of Verona:** Public competition for the financing of projects with the purpose to stimulate international relationships in the research environment.

Obtained financing: 2,5k €

Host: Prof. Rachid Deriche (Inria Sophia Antipolis-Méditerranée, Université Côte d'Azur, Athena Project-Team)

Description: study and implementation of different analytical simulations of diffusion MRI signal in cylindrical pores in the extra-ordinary case of permeable walls.

Oral Presentations

- **Brusini, L.***, Boscolo Galazzo, I.*, Akinci, M., Cruciani, F., Pitteri, M., Ziccardi, S., Bajrami, A., Castellaro, M., Salih, A., Pizzini, F. B., Jovicich, J., Calabrese, M.** and Menegaz, G.** (2021), Microstructural modulations in the hippocampus allow to characterizing relapsing-remitting versus primary progressive multiple sclerosis. In: Crimi A., Bakas S. (eds) Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries. BrainLes 2020. Lecture Notes in Computer Science, 12658. Springer, Cham. https://doi.org/10.1007/978-3-030-72084-1_7 
Venue: Lima, Peru (online)
- Zucchelli, M., **Brusini, L.** and Menegaz, G. (2018), Two-parameters compartmental models for diffusion MRI: a comparative analysis. IX Congresso AIRMM, Italian Chapter ISMRM, Padova 
Venue: Padova, Italy
- **Brusini, L.**, Obertino, S., Zucchelli, M., Boscolo Galazzo, I., Krueger, G., Granziera, C. and Menegaz, G. (2015), Assessment of Mean Apparent Propagator-based Indices as Biomarkers of Axonal Remodeling After Stroke. In: Navab N., Hornegger J., Wells W., Frangi A. (eds) Medical Image Computing and Computer-Assisted Intervention – MICCAI 2015. MICCAI 2015. Lecture Notes in Computer Science, 9349. Springer, Cham. https://doi.org/10.1007/978-3-319-24553-9_25 
Venue: Munich, Germany
- **Brusini, L.**, Zucchelli, M., Ricciardi, G.K., Pizzini, F., Montemezzi, S. and Menegaz, G. (2015), In-Vivo Quantification of Brain Microstructure: a Preliminary Analysis using SHORE Diffusion Model. VI Congresso AIRMM, Italian Chapter ISMRM, Verona 
Venue: Verona, Italy

Poster Presentations

- **Brusini, L.**, Menegaz, G. and Nilsson, M. (2018), Monte Carlo simulations of diffusion in myelin spirals: Impact on diffusional water exchange. 2018 Joint Annual Meeting ISMRM-ESMRMB, Paris, France, 16th - 21st June [🔗](#)
Venue: Paris, France
- Zucchelli, M., **Brusini, L.** and Menegaz, G. (2018), Two-parameters compartmental models for diffusion MRI: a comparative analysis. IX Congresso AIRMM, Italian Chapter ISMRM, Padova [🔗](#)
Venue: Padova, Italy
- **Brusini, L.**, Obertino, S., Zucchelli, M., Boscolo Galazzo, I., Krueger, G., Granziera, C. and Menegaz, G. (2015), Assessment of Mean Apparent Propagator-based Indices as Biomarkers of Axonal Remodeling After Stroke. In: Navab N., Hornegger J., Wells W., Frangi A. (eds) Medical Image Computing and Computer-Assisted Intervention – MICCAI 2015. MICCAI 2015. Lecture Notes in Computer Science, 9349. Springer, Cham. https://doi.org/10.1007/978-3-319-24553-9_25 [🔗](#)
Venue: Munich, Germany
- **Brusini, L.**, Zucchelli, M., Daducci, A., Granziera, C. and Menegaz, G. (2015), Are SHORE-based biomarkers suitable descriptors for microstructure in DSI? 2015 ISMRM 23rd Annual Meeting & Exhibition, Toronto, Ontario, Canada, 30th May - 5th June [🔗](#)
Venue: Toronto, Ontario, Canada
- **Brusini, L.**, Zucchelli, M., Granziera, C. and Menegaz, G. (2014), Microstructural description of cerebral tissues from diffusion spectrum imaging data. 2014 IEEE International Conference on Healthcare Informatics (ICHI), Verona, Italy, 15th - 17th September [🔗](#)
Venue: Verona, Italy

Languages

Italian	Mothertongue	
English	Good	<i>oral and written</i>
French	Basic	<i>oral and written</i>

Last updated: 5 October 2026

List of Publications

Journal Papers

NOTE: For each publication, the following bibliometric indicators (all referring to the year of publication), are provided: subject category, journal quartile and percentile from Scopus (WoS where relevant), and journal impact factor from WoS. The number of citations and the candidate's contribution are also reported.

[†]Co-first authors | [‡]Co-last authors | ✉Corresp. author

- JP18 Dolci, G., Saglia, S., **Brusini, L.**, Calhoun, V.D., Boscolo Galazzo, I., Menegaz, G. (2026), Algebraic Connectivity Reveals Modulated High-Order Functional Networks in Alzheimer's Disease. IEEE Journal of Biomedical and Health Informatics. <https://doi.org/10.1109/JBHI.2026.3725845>
ASJC: Health Informatics
Q: Q1 (94th percentile)
JIF: 7.7 (2025)
Cit.: 0 (Scopus, 5 Oct 2026)
Individual contrib.: Conceptualization, Supervision, Writing – Review & Editing.
- JP17 Pini, L., Tuzzato, C., Griffa, A., **Brusini, L.**, Cruciani, F., Allali, G., Corbetta, M., Menegaz, G., Boscolo Galazzo, I. (2025), Brain Connectivity Gradients Alterations in Discordant Cerebrospinal Fluid Profile for Alzheimer's Disease Biomarkers. Human Brain Mapping, 46(16): e70406. <https://doi.org/10.1002/hbm.70406>
ASJC: Radiology, Nuclear Medicine and Imaging
Q: Q1 (92nd percentile)
JIF: 4.0 (2025)
Cit.: 2 (Scopus, 5 Oct 2026)
Individual contrib.: methodology and reviewing the draft.
- JP16 Tessadori, J., Boscolo Galazzo, I., Storti, S.F., Pini, L., **Brusini, L.**, Cruciani, F., Sona, D., Menegaz, G.[‡], Murino, V.[‡] (2025), Linking dynamic connectivity states to cognitive decline and anatomical changes in Alzheimer's disease. NeuroImage, 320: 121448. <https://doi.org/10.1016/j.neuroimage.2025.121448>
ASJC: Cognitive Neuroscience
Q: Q1 (90th percentile)
JIF: 5.3 (2025)
Cit.: 7 (Scopus, 5 Oct 2026)
Individual contrib.: Writing – Review & editing.
NOTE: WoS subject category — Neuroimaging (Q1, 91.7th percentile)
- JP15 Chiurco, C., Favaro, A., Storti, S.F., **Brusini, L.**, Salih, A., Boscolo Galazzo, I., Plis, S., Menegaz, G. (2025), The Marriage of Neurotechnologies and Artificial Intelligence: Ethical, regulatory, and technological aspects. IEEE Signal Processing Magazine, 42(5): 80 – 97. <https://doi.org/10.1109/MSP.2025.3611565>
ASJC: Electrical and Electronic Engineering
Q: Q1 (97th percentile)
JIF: 10.8 (2025)
Cit.: 4 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Formal analysis, Investigation, Writing – Review & editing.

- JP14 Dolci, G., Ellis, C.A., Cruciani, F., **Brusini, L.**, Abrol, A., Boscolo Galazzo, I., Menegaz, G., Calhoun, V.D. (2025), Multimodal MRI accurately identifies amyloid status in unbalanced cohorts in Alzheimer's disease continuum. *Network Neuroscience*, 9(1): 259 – 279. https://doi.org/10.1162/netn_a_00423
ASJC: Computer Science Applications
Q: Q1 (76th percentile)
JIF: 3.4 (2025)
Cit.: 7 (WoS, 5 Oct 2026)
Individual contrib.: Data curation, Writing – Review & editing.
- JP13 Pini, L., **Brusini, L.**, Griffa, A., Cruciani, F., Allali, G., Frisoni, G.B., Corbetta, M., Menegaz, G., Boscolo Galazzo, I. (2025), Functional dynamic network connectivity differentiates biological patterns in the Alzheimer's disease continuum. *Neurobiology of Disease*, 208: 106866. <https://doi.org/10.1016/j.nbd.2025.106866>
ASJC: Neurology
Q: Q1 (89th percentile)
JIF: 6.0 (2025)
Cit.: 6 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Writing – Review & editing.
NOTE: WoS subject category: Neurosciences (Q1, 84.7th percentile)
- JP12 **Brusini, L.**✉, Dolci, G., Pini, L., Cruciani, F., Pizzagalli, F., Provero, P., Menegaz, G., Boscolo Galazzo, I. (2024), Morphometric Similarity Patterning of Amyloid- β and Tau Proteins Correlates with Transcriptomics in the Alzheimer's Disease Continuum. *International Journal of Molecular Sciences*, 25(23): 12871. <https://doi.org/10.3390/ijms252312871>
ASJC: Computer Science Applications
Q: Q1 (84th percentile)
JIF: 4.9 (2024)
Cit.: 1 (Scopus, 5 Oct 2026)
Individual contrib.: Conceptualization, Methodology, Software, Formal analysis, Investigation, Data curation, Writing – Original draft preparation, Writing – Review & editing, Visualization, Project administration, Funding acquisition.
- JP11 **Brusini, L.**✉, Cruciani, F., Dall'Aglio, G., Zajac, T., Boscolo Galazzo, I., Zucchelli, M., Menegaz, G. (2024), XAI-Based Assessment of the AMURA Model for Detecting Amyloid- β and Tau Microstructural Signatures in Alzheimer's Disease. *IEEE Journal of Translational Engineering in Health and Medicine*, 12: 569 – 579. <https://doi.org/10.1109/JTEHM.2024.3430035>
ASJC: Biomedical Engineering
Q: Q1 (77th percentile)
JIF: 4.4 (2024)
Cit.: 14 (Scopus, 5 Oct 2026)
Individual contrib.: Conceptualization, Methodology, Software, Formal analysis, Investigation, Data curation, Writing – Original draft preparation, Writing – Review & editing, Project administration, Funding acquisition.

- JP10 Cruciani, F., Aparo, A., **Brusini, L.**, Combi, C., Storti, S.F., Giugno, R., Menegaz, G., Boscolo Galazzo, I. (2024), Identifying the joint signature of brain atrophy and gene variant scores in Alzheimer’s Disease. *Journal of Biomedical Informatics*, 149: 104569. <https://doi.org/10.1016/j.jbi.2023.104569>
ASJC: Health Informatics
Q: Q1 (86th percentile)
JIF: 4.5 (2024)
Cit.: 7 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Investigation, Writing – Review & editing.
- JP9 Pinheiro, G.R., **Brusini, L.**, Carmo, D., Prôa, R., Abreu, T., Appenzeller, S., Menegaz, G., Rittner, L. (2023), Thalamus Segmentation Using Deep Learning with Diffusion MRI Data: An Open Benchmark. *Applied Sciences*, 13(9): 5284. <https://doi.org/10.3390/app13095284>
ASJC: General Engineering
Q: Q1 (79th percentile)
JIF: 2.5 (2023)
Cit.: 4 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Writing – Review & editing.
- JP8 Boscolo Galazzo, I.[†], **Brusini, L.**[✉], Akinci, M., Cruciani, F., Pitteri, M., Ziccardi, S., Bajrami, A., Castellaro, M., Salih, A.M.A., Pizzini, F.B., Jovicich, J., Calabrese, M.[‡], Menegaz, G.[‡] (2022), Unraveling the MRI-Based Microstructural Signatures Behind Primary Progressive and Relapsing–Remitting Multiple Sclerosis Phenotypes. *Journal of Magnetic Resonance Imaging*, 55: 154 – 163. <https://doi.org/10.1002/jmri.27806>
ASJC: Radiology, Nuclear Medicine and Imaging
Q: Q1 (91st percentile)
JIF: 4.4 (2022)
Cit.: 9 (Scopus, 5 Oct 2026)
Individual contrib.: Conceptualization, Methodology, Software, Formal analysis, Investigation, Data curation, Writing – Original draft preparation, Writing – Review & editing, Visualization.
- JP7 Boscolo Galazzo, I., Cruciani, F., **Brusini, L.**, Salih, A., Radeva, P., Storti, S.F., Menegaz, G. (2022), Explainable Artificial Intelligence for Magnetic Resonance Imaging Aging Brainprints: Grounds and challenges. *IEEE Signal Processing Magazine*, 39(2): 99 – 116. <https://doi.org/10.1109/MSP.2021.3126573>
ASJC: Electrical and Electronic Engineering
Q: Q1 (98th percentile)
JIF: 14.9 (2022)
Cit.: 28 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Formal analysis, Investigation, Writing – Review & editing.

- JP6 Cruciani, F., **Brusini, L.**, Zucchelli, M., Pinheiro, G.R., Setti, F., Boscolo Galazzo, I., Deriche, R., Rittner, L., Calabrese, M., Menegaz, G. (2021), Interpretable deep learning as a means for decrypting disease signature in multiple sclerosis. *Journal of Neural Engineering*, 18: 0460a6. <https://doi.org/10.1088/1741-2552/ac0f4b>
ASJC: Biomedical Engineering
Q: Q1 (83rd percentile)
JIF: 5.0 (2021)
Cit.: 20 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Formal analysis, Investigation, Writing – Review & editing.
- JP5 Pitteri, M., Boscolo Galazzo, I., **Brusini, L.**, Cruciani, F., Dapor, C., Marastoni, D., Menegaz, G., Calabrese, M. (2021), Microstructural mri correlates of cognitive impairment in multiple sclerosis: The role of deep gray matter. *Diagnostics*, 11(6): 1103. <https://doi.org/10.3390/diagnostics11061103>
ASJC: Clinical Biochemistry
Q: Q4 (19th percentile)
JIF: 3.9 (2021)
Cit.: 9 (Scopus, 5 Oct 2026)
Individual contrib.: Software, Formal analysis, Writing – Review & editing.
NOTE: WoS subject category: Medicine, general & internal (Q2, 65.41st percentile)
- JP4 **Brusini, L.**✉, Stival, F.✉, Setti, F.✉, Menegatti, E.✉, Menegaz, G.✉, Storti, S.F.✉ (2021), A Systematic Review on Motor-Imagery Brain-Connectivity-Based Computer Interfaces. *IEEE Transactions on Human-Machine Systems*, 51(6): 725-733. <https://doi.org/10.1109/THMS.2021.3115094>
ASJC: Computer Science Applications
Q: Q1 (84th percentile)
JIF: 4.1 (2021)
Cit.: 58 (Scopus, 5 Oct 2026)
Individual contrib.: Methodology, Investigation, Data curation, Writing – Review & editing, Visualization.
- JP3 **Brusini, L.**✉, Menegaz, G., Nilsson, M. (2019), Monte Carlo simulations of water exchange through myelin wraps: Implications for diffusion MRI. *IEEE Transactions on Medical Imaging*, 38(6): 1438-1445. <https://doi.org/10.1109/TMI.2019.2894398>
ASJC: Computer Science Applications
Q: Q1 (98th percentile)
JIF: 6.7 (2019)
Cit.: 29 (Scopus, 5 Oct 2026)
Individual contrib.: Conceptualization, Methodology, Software, Formal analysis, Investigation, Data curation, Writing – Original draft preparation, Writing – Review & editing, Visualization.
NOTE: WoS subject category — Biomedical engineering (Q1, 89.08th percentile)

- JP2 Boscolo Galazzo, I., **Brusini, L.**, Obertino, S., Zucchelli, M., Granziera, C., Menegaz, G. (2018), On the viability of diffusion MRI-based microstructural biomarkers in ischemic stroke. *Frontiers in Neuroscience*, 12: 92. <https://doi.org/10.3389/fnins.2018.00092>
ASJC: General Neuroscience
Q: Q2 (66th percentile)
JIF: 3.6 (2018)
Cit.: 35 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Formal analysis, Investigation, Writing – Review & editing.
- JP1 Zucchelli, M., **Brusini, L.**, Méndez, A.C., Daducci, A., Granziera, C., Menegaz, G. (2016), What lies beneath? Diffusion EAP-based study of brain tissue microstructure. *Medical Image Analysis*, 32: 145-156. <https://doi.org/10.1016/j.media.2016.03.008>
ASJC: Health Informatics
Q: Q1 (97th percentile)
JIF: 4.2 (2016)
Cit.: 33 (Scopus, 5 Oct 2026)
Individual contrib.: Data curation, Writing – Review & editing.
NOTE: WoS subject category — Biomedical engineering (Q1, 91.56th percentile)

Invited Journals Papers

- IJP1 **Brusini, L.**✉, Obertino, S., Boscolo Galazzo, I., Zucchelli, M., Krueger, G., Granziera, C., Menegaz, G. (2016), Ensemble average propagator-based detection of microstructural alterations after stroke. *International Journal of Computer Assisted Radiology and Surgery*, 11, 1585-1597. <https://doi.org/10.1007/s11548-016-1442-z>
ASJC: Health Informatics
Q: Q2 (55th percentile)
JIF: 1.6 (2016)
Cit.: 22 (Scopus, 5 Oct 2026)
Individual contrib.: Conceptualization, Methodology, Software, Formal analysis, Investigation, Data curation, Writing – Original draft preparation, Writing – Review & editing, Visualization.

Book Chapters

- BC1 Cruciani, F., **Brusini, L.**, Zucchelli, M., Pinheiro, G.R., Setti, F., Boscolo Galazzo, I., Deriche, R., Rittner, L., Calabrese, M. and Menegaz, G. (2023) Chapter 6 - Explainable Deep Learning for decrypting disease signature in Multiple Sclerosis. In: Quénot, G., Bourqui, R., Benois-Pineau, J., Petkovic, D. (eds.), *Explainable Deep Learning AI – Methods and challenges* (pp. 97-123). Academic Press. <https://doi.org/10.1016/B978-0-32-396098-4.00012-0>
Cit.: 4 (Scopus, 5 Oct 2026)

Conferences

International.

Proceedings

- ICP17 Dolci, G., Zorzi, E., Filippi, V., Saglia, S., **Brusini, L.**, Boscolo Galazzo, I., Menegaz, G. (2026), Wavelet-Based Scale-Wise Functional Connectivity Revealed Modulations Due to a β -Tau Proteins in Alzheimer's Disease. 2026 IEEE 23rd International Symposium on Biomedical Imaging (ISBI). <https://doi.org/10.1109/ISBI61048.2026.11515823>
Cit.: 0 (Scopus, 5 Oct 2026)
- ICP16 Morasso, C., Groussard, T., Dolci, G., **Brusini, L.**, Biardeau, T., Helbert, D., Fernandez Maloigne, C., Menegaz, G. (2026), Train2explain: Training Optimization for Explanation Improvement. 2026 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP). <https://doi.org/10.1109/ICASSP55912.2026.11463140>
Cit.: 0 (IEEE Xplore, 5 Oct 2026)
- ICP15 Dolci, G., Cruciani, F., **Brusini, L.**, Pini, L., Boscolo Galazzo, I., Calhoun, V.D., Menegaz, G. (2024), Diffusion MRI allows capturing the Amyloid- β and τ Proteins status in Alzheimer's Disease Continuum. 2024 IEEE 21st International Symposium on Biomedical Imaging (ISBI). <https://doi.org/10.1109/ISBI56570.2024.10635105>
Cit.: 2 (Scopus, 5 Oct 2026)
- ICP14 Treccani, I., Dolci, G., **Brusini, L.**, Cruciani, F., Boscolo Galazzo, I., Menegaz, G. (2024), Polygenic Risk Scores are Associated to A β - τ Protein Accumulation in Alzheimer's Disease. 2024 IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRaine). <https://doi.org/10.1109/MetroXRaine62247.2024.10797069>
Cit.: 0 (Scopus, 5 Oct 2026)
- ICP13 Dolci, G., Morasso, C., Cruciani, F., **Brusini, L.**, Pini, L., Calhoun, V.D., Boscolo Galazzo, I., Menegaz, G. (2024), Integrated Gradients Demystified: An MRI Case Study on A β - τ Protein Localization. 2024 IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRaine). <https://doi.org/10.1109/MetroXRaine62247.2024.10796298>
Cit.: 0 (Scopus, 5 Oct 2026)
- ICP12 Salih, A., Boscolo Galazzo, I., Cruciani, F., **Brusini, L.**, Radeva, P. (2022), Investigating Explainable Artificial Intelligence for MRI-based Classification of Dementia: A New Stability Criterion for Explainable Methods. 2022 IEEE International Conference on Image Processing (ICIP), <https://doi.org/10.1109/ICIP46576.2022.9897253>
Cit.: 18 (Scopus, 5 Oct 2026)
- ICP11 Siviero, I., **Brusini, L.**, Menegaz, G., Storti, F.S. (2022), Motor-imagery EEG signal decoding using multichannel-empirical wavelet transform for brain computer interfaces. 2022 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI). <https://doi.org/10.1109/BHI56158.2022.9926766>
Cit.: 13 (Scopus, 5 Oct 2026)
- ICP10 **Brusini, L.**[†], Cruciani, F.[†], Boscolo Galazzo, I., Pitteri, M., Storti, S. F., Calabrese, M., Lorenzi, M., Menegaz, G. (2021), Multivariate data analysis suggests the link between brain microstructure and cognitive impairment in multiple sclerosis. 2021 IEEE 18th International Symposium on Biomedical Imaging (ISBI), 685-688. <https://doi.org/10.1109/ISBI48211.2021.9433799>
Cit.: 5 (Scopus, 5 Oct 2026)

- ICP9 Pinheiro, G.R., **Brusini, L.**, Bajrami, A., Pizzini, F.B., Calabrese, M., Reis, F., Appenzeller, S., Menegaz, G., Rittner, L. (2021), Diffusion MRI and silver standard masks to improve CNN-based thalamus segmentation. Progress in Biomedical Optics and Imaging - Proceedings of SPIE, 11596: 115962L. <https://doi.org/10.1117/12.2581895>
Cit.: 4 (Scopus, 5 Oct 2026)
- ICP8 **Brusini, L.**[†], Boscolo Galazzo, I.[†], Akinci, M., Cruciani, F., Pitteri, M., Ziccardi, S., Bajrami, A., Castellaro, M., Salih, A., Pizzini, F. B., Jovicich, J., Calabrese, M.[‡], Menegaz, G.[‡] (2021), Microstructural modulations in the hippocampus allow to characterizing relapsing-remitting versus primary progressive multiple sclerosis. In: Crimi A., Bakas S. (eds) Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries. BrainLes 2020. Lecture Notes in Computer Science, 12658 LNCS: 70-79. Springer, Cham. https://doi.org/10.1007/978-3-030-72084-1_7
Cit.: 3 (Scopus, 5 Oct 2026)
- ICP7 Cruciani, F., **Brusini, L.**, Zucchelli, M., Pinheiro, G.R., Setti, F., Boscolo Galazzo, I., Deriche, R., Rittner, L., Calabrese, M., Menegaz, G. (2021), Explainable 3D-CNN for Multiple Sclerosis Patients Stratification. In: Del Bimbo A. et al. (eds) Pattern Recognition. ICPR International Workshops and Challenges. ICPR 2021. Lecture Notes in Computer Science, 12663 LNCS: 103-114. Springer, Cham. https://doi.org/10.1007/978-3-030-68796-0_8
Cit.: 6 (Scopus, 5 Oct 2026)
- ICP6 **Brusini, L.**, Boscolo Galazzo, I., Zucchelli, M., Granziera, G., Menegaz, G. (2019), Can Diffusion MRI Reveal Stroke-Induced Microstructural Changes in GM? In: Crimi A., Bakas S., Kuijf H., Keyvan F., Reyes M., van Walsum T. (eds) Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries. BrainLes 2018. Lecture Notes in Computer Science, 11383 LNCS: 464-471. Springer, Cham. https://doi.org/10.1007/978-3-030-11723-8_47
Cit.: 0 (Scopus, 5 Oct 2026)
- ICP5 **Brusini, L.**[†], Cruciani, F.[†], Boscolo Galazzo, I., Galbusera, A., Borin, M., Paolone, G., Diana, G., Buffelli, M., Gozzi, A., Menegaz, G. (2019), Can Single Shell Diffusion Mri Detect Synaptic Plasticity in Mice? 2019 IEEE 16th International Symposium on Biomedical Imaging (ISBI), 182-185. <https://doi.org/10.1109/ISBI.2019.8759467>
Cit.: 0 (Scopus, 5 Oct 2026)
- ICP4 **Brusini, L.**, Menegaz, G., Nilsson, M. (2018), Assessing tissue heterogeneity by non-Gaussian measures in a permeable environment. 2018 26th European Signal Processing Conference (EUSIPCO), 2018-Sep: 1147-1151. <https://doi.org/10.23919/EUSIPCO.2018.8552929>
Cit.: 2 (Scopus, 5 Oct 2026)
- ICP3 Zucchelli, M., **Brusini, L.**, Méndez, C.A., Menegaz, G. (2016), Multi-Tensor MAPMRI: how to estimate microstructural information from crossing fibers. In: Fuster A., Ghosh A., Kaden E., Rath Y., Reiser M. (eds) Computational Diffusion MRI. Mathematics and Visualization. Springer, Cham. https://doi.org/10.1007/978-3-319-28588-7_6
Cit.: 0 (Scopus, 5 Oct 2026)

ICP2 Obertino, S., **Brusini, L.**, Boscolo Galazzo, I., Zucchelli, M., Granziera, C., Cristani, M., Menegaz, G. (2016), Shore based biomarkers allow patients versus control classification in stroke. 2016 IEEE 13th International Symposium on Biomedical Imaging (ISBI), 1097-1100. <https://doi.org/10.1109/ISBI.2016.7493457>
Cit.: 3 (Scopus, 5 Oct 2026)

ICP1 **Brusini, L.**, Obertino, S., Zucchelli, M., Boscolo Galazzo, I., Krueger, G., Granziera, C., Menegaz, G. (2015) Assessment of mean apparent propagator-based indices as biomarkers of axonal remodeling after stroke. In: Navab, N., Hornegger, J., Wells, W., Frangi, A. (eds) Medical Image Computing and Computer-Assisted Intervention – MICCAI 2015. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 9349. Springer, Cham. https://doi.org/10.1007/978-3-319-24553-9_25
Cit.: 12 (Scopus, 5 Oct 2026)

Abstracts

ICA12 Saglia, S., **Brusini, L.**, Dolci, G., Menegaz, G., Boscolo Galazzo, I. (2026), Latent multivariate patterns link tau pathology to intrinsic brain activity in Alzheimer's disease. Organization for Human Brain Mapping (OHBM) 2026 Annual Meeting, Bordeaux, France, 14th - 18th June

ICA11 Saglia, S., Tosato, E.M.S., Pini, L., Dolci, G., **Brusini, L.**, Tuzzato, C., Boscolo Galazzo, I., Menegaz, G. (2025), Atrophy Network Mapping Across Tauopathies: Convergent Networks but Limited Diagnostic Utility. EBRAINS Summit 2025, Brussels, Belgium, 8th - 11th December

ICA10 Siviero, I., **Brusini, L.**, Menegaz, G., Storti, S.F. (2022), Multichannel EEG Signal Decoding Using Empirical Wavelet Transform for Motor-Imagery BCI. 2022 44th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), Glasgow, United Kingdom, 11th - 15th July

ICA9 Cruciani, F., **Brusini, L.**, Dolci, G., Boscolo Galazzo, I., Altmann, A., Lorenzi, M., Menegaz, G. (2021), A multivariate imaging study for decrypting the link between polygenic risk scores and microstructure in Mild Cognitive Impairment. 2021 IEEE International Conference on Biomedical and Health Informatics (BHI), Athens, Greece, 21st - 24th September

ICA8 **Brusini, L.**, Cruciani, F., Akinci, M., Boscolo Galazzo, I., Pizzini, F. B., Jovicich, J., Storti, S. F., Calabrese, M., Menegaz, G. (2019), Can DTI and 3D-SHORE Based Indices Differentiate RRMS from PMS Patients? 2019 Organization for Human Brain Mapping (OHBM) Annual Meeting, Rome, Italy, 9th - 13th June

ICA7 Akinci, M., Cruciani, F., **Brusini, L.**, Boscolo Galazzo, I., Calabrese, M., Jovicich, J., Menegaz, G. (2019), Correlating Dti and 3d-Shore Based Indices with Neurological Disability Scores of Multiple Sclerosis Patients. 2019 IEEE 16th International Symposium on Biomedical Imaging (ISBI), Venice, Italy, 8th - 11th April

- ICA6 **Brusini, L.**, Menegaz, G., Nilsson, M. (2018), Monte Carlo simulations of diffusion in myelin spirals: Impact on diffusional water exchange. 2018 Joint Annual Meeting ISMRM-ESMRMB, Paris, France, 16th - 21st June
- ICA5 **Brusini, L.**, Zucchelli, M., Obertino, S., Menegaz, G. (2016), Characterization of diffusion MRI signal non Gaussianity using MAPMRI. 2016 ISMRM Workshop on Breaking the Barriers of Diffusion MRI, Lisbon, Portugal, 11th - 16th September
- ICA4 Zucchelli, M., **Brusini, L.**, Menegaz, G. (2016), Detection of fiber crossing and fanning using the Multi-Tensor Distribution Model. 2016 ISMRM Workshop on Breaking the Barriers of Diffusion MRI, Lisbon, Portugal, 11th - 16th September
- ICA3 Obertino, S., **Brusini, L.**, Boscolo Galazzo, I., Zucchelli, M., Daducci, A., Menegaz, G., Granziera, C. (2016), Cortico-Subcortical motor network integrity relates to functional recovery after stroke. 2016 ISMRM 24th Annual Meeting & Exhibition, Singapore, 7th - 13th May
- ICA2 **Brusini, L.**, Zucchelli, M., Daducci, A., Granziera, C., Menegaz, G. (2015), Are SHORE-based biomarkers suitable descriptors for microstructure in DSI? 2015 ISMRM 23rd Annual Meeting & Exhibition, Toronto, Ontario, Canada, 30th May - 5th June
- ICA1 **Brusini, L.**, Zucchelli, M., Granziera, C., Menegaz, G. (2014), Microstructural description of cerebral tissues from diffusion spectrum imaging data. 2014 IEEE International Conference on Healthcare Informatics (ICHI), Verona, Italy, 15th - 17th September
Cit.: 0 (Scopus, 5 Oct 2026)

Proceedings

- NCP4 Filippi, V., Paolini, E., Cruciani, F., **Brusini, L.**, Dal Santo, F., Menegaz, G., Boscolo Galazzo, I., Storti, S. F. (2023), Decoding the interplay between brain structural and functional connectivity in Alzheimer's disease. VIII Congresso Gruppo Nazionale di Bioingegneria (GNB), Padua, Italy, 21st - 23rd June. Patron Editore. ISBN 978-885558011-3
Cit.: 0 (Scopus, 5 Oct 2026)
- NCP3 Cruciani, F., Cinquetti, E., **Brusini, L.**, Aparo, A., Combi, C., Boscolo Galazzo, I., Menegaz, G. (2023), Exploring the potential of MCVAE for patients stratification and skewed data compensation across the AD continuum. VIII Congresso Gruppo Nazionale di Bioingegneria (GNB), Padua, Italy, 21st - 23rd June. Patron Editore. ISBN 978-885558011-3
Cit.: 0 (Scopus, 5 Oct 2026)
- NCP2 **Brusini, L.**, Boscolo Galazzo, I., Zucchelli, M., Granziera, C., Menegaz, G. (2018), Diffusion MRI sensitivity to contralateral GM modulations after stroke. VI Congresso Gruppo Nazionale di Bioingegneria (GNB), Milan, Italy, 25th - 27th June
- NCP1 **Brusini, L.**[†], Cruciani, F.[†], Boscolo Galazzo, I., Galbusera, A., Borin, M., Diana, G., Buffelli, M., Gozzi, A., Menegaz, G. (2018), Assessing the effects of synaptic plasticity using structural MRI in the mouse. VI Congresso Gruppo Nazionale di Bioingegneria (GNB), Milan, Italy, 25th - 27th June

Abstracts

- NCA5 Dolci, G., Saglia, S., **Brusini, L.**, Calhoun, V.D., Boscolo Galazzo, I., Menegaz, G. (2026), Algebraic connectivity as a criterion for weighting encapsulated subnetworks in hypergraphs in AD. XVII Congresso AIRMM, Italian Chapter ISMRM, Novara

- NCA4 Zucchelli, M., **Brusini, L.**, Menegaz, G. (2018), Two-parameters compartmental models for diffusion MRI: a comparative analysis. IX Congresso AIRMM, Italian Chapter ISMRM, Padova
- NCA3 **Brusini, L.**, Zucchelli, M., Daducci, A., Granziera, C., Menegaz, G. (2016), Diffusion MRI characterization of stroke lesions using 3D-SHORE microstructural indices. VII Congresso AIRMM, Italian Chapter ISMRM, Bologna
- NCA2 Zucchelli, M., Ricciardi, G.K., **Brusini, L.**, Pizzini, F., Montemezzi, S., Menegaz, G. (2016), Diffusion MRI characterization of glioma using MAPMRI reconstruction: a preliminary study. VII Congresso AIRMM, Italian Chapter ISMRM, Bologna
- NCA1 **Brusini, L.**, Zucchelli, M., Ricciardi, G.K., Pizzini, F., Montemezzi, S., Menegaz, G. (2015), In-Vivo Quantification of Brain Microstructure: a Preliminary Analysis using SHORE Diffusion Model. VI Congresso AIRMM, Italian Chapter ISMRM, Verona

Attachment B – List of Supervision Activities

Advisory Activity – Theses

The list below reports all theses supervised or co-supervised, with student names omitted for privacy reasons.

PhD programmes

- Co-supervision

- *PhD in Computer Science – 39th cycle (01/10/2023 – 30/09/2026), University of Verona*: The candidate's PhD project focuses on the multi-modal study of the brain (structure, function, genetics) in both physiological and pathological condition. To this end, the main representations used are graphs, multilayer graphs, and hypergraphs, to be analyzed by means of XAI

Master's degrees

- Supervision

- *MS degree in Computer Science and Engineering, University of Verona (2023, 24 CFU)*: Multiview connectome-based generative adversarial networks and deep learning for early detection of Alzheimer's disease
- *MS degree in Computer Science and Engineering, University of Verona (2023, 24 CFU)*: Unlocking the potentials of Multi-Task Learning with 3D-Neural Discriminative Dimensionality Reduction layers for Alzheimer's Disease assessment

- Co-supervision

- *MS degree in Artificial Intelligence, University of Verona (2025, 24 CFU)*: Graph Signal Processing for Temporal Dynamics of Structure-Function Coupling in Brain Connectivity
- *MS degree in Computer Science and Engineering, University of Verona (2023, 24 CFU)*: Unraveling Alzheimer's Disease Risk with brain connectomics and Interpretable Deep Learning
- *MS degree in Medical Bioinformatics, University of Verona (2023, 24 CFU)*: Integrating Neuroimaging and Transcriptomics to unravel the pathophysiological mechanisms in Alzheimer's disease
- *MS degree in Computer Science and Engineering, University of Verona (2022, 24 CFU)*: Multi-Task Learning for neurodegenerative disease diagnosis
- *MS degree in Cognitive Science, University of Trento (2018, 30 CFU)*: Investigation of cortical damage in progressive and relapsing-remitting multiple sclerosis using microstructural features derived from diffusion MRI

Bachelor's degrees

○ Supervision

- *BS degree in Human Centered Medical System Engineering, University of Verona (2026, 6 CFU):* Diffusion MRI Processing for Cognitive Decline Assessment in PPMI
- *BS degree in Human Centered Medical System Engineering, University of Verona (2026, 6 CFU):* Characterization of Structural Connectivity in Individuals with Essential Tremor
- *BS degree in Human Centered Medical System Engineering, University of Verona (2026, 6 CFU):* Characterizing Alzheimer's Disease brain changes relying on Diffusion Weighted Imaging
- *BS degree in Bioinformatics, University of Verona (2026, 3 CFU):* From Sparse Linear Regression to Non-linear Gradient Attribution: A Comparative Study on fMRI Hypergraph Estimation
- *BS degree in Human Centered Medical System Engineering, University of Verona (2026, 6 CFU):* Characterization of Structural Connectivity in Individuals with Essential Tremor
- *BS degree in Bioinformatics, University of Verona (2025, 3 CFU):* Diffusion-Weighted Brain Magnetic Resonance Imaging Processing: A Multicenter Study
- *BS degree in Human Centered Medical System Engineering, University of Verona (2025, 6 CFU):* Cerebral diffusion Magnetic Resonance Imaging investigation in Alzheimer's Disease continuum
- *BS degree in Bioinformatics, University of Verona (2023, 3 CFU):* Cerebral glioma: exploration of structural connectivity in the contra-lesioned hemisphere
- *BS degree in Bioinformatics, University of Verona (2023, 3 CFU):* Can the AMURA-derived microstructural information support a early diagnosis of Alzheimer's disease?

○ Co-supervision

- *BS degree in Bioinformatics, University of Verona (2022, 3 CFU):* *In silico* and *in vivo* measures of the cerebral microstructure: the hidden potential of single shell acquisitions
- *BS degree in Computer Science, University of Verona (2021, 6 CFU):* Analysis of the Motor-Imagery based BCI Classification Performance using EEG derived Brain Connectivity Measures
- *BS degree in Bioinformatics, University of Verona (2021, 3 CFU):* Investigation of the cerebral gray matter microstructure through diffusion weighted imaging in healthy and pathological subjects
- *BS degree in Bioinformatics, University of Verona (2020, 3 CFU):* Assessment of the relationship between brain tissue dMRI microstructural descriptors and neurological and clinical evaluation of multiple sclerosis patients through partial least squares statistics
- *BS degree in Bioinformatics, University of Verona (2020, 3 CFU):* Longitudinal analysis of brain tissue dMRI microstructural descriptors from multiple sclerosis patients data
- *BS degree in Bioinformatics, University of Verona (2017, 3 CFU):* Assessment of the effects of synaptic plasticity using structural and diffusion MRI in the mouse

Advisory Activity – Stages and Internships

The list below reports all stages supervised as academic or company tutor, with student names omitted for privacy reasons.

Master's degrees

○ Company tutor

- *MS degree in Computer Science and Engineering, University of Verona (from 11/2022 to 04/2023, 18 CFU):* Unraveling Alzheimer's Disease Risk with brain connectomics and Interpretable Deep Learning
- *MS degree in Medical Bioinformatics, University of Verona (from 10/2022 to 01/2023, 9 CFU):* Integrating Neuroimaging and Transcriptomics to unravel the pathophysiological mechanisms in Alzheimer's disease
- *MS degree in Computer Science and Engineering, University of Verona (from 10/2021 to 11/2021, 3 CFU):* Brain age and disease classification in the Alzheimer's Disease Neuroimaging Initiative cohort: a multi-modal and multi-task approach
- *MS degree in Cognitive Science, University of Trento (from 09/2018 to 11/2018, 15 CFU):* Investigation of cortical damage in progressive and relapsing-remitting multiple sclerosis using microstructural features derived from diffusion MRI

○ Academic tutor

- *MS degree in Computer Engineering for Intelligent Systems, University of Verona (from 02/2026 to 05/2026, 6 CFU):* Brain microstate and functional connectivity analysis from source-reconstructed EEG in patients with drug-resistant epilepsy.

Bachelor's degrees

- Company tutor

- *BS degree in Human Centered Medical System Engineering, University of Verona (from 03/2026 to 05/2026, 7 CFU):* Diffusion-weighted MRI preprocessing in Parkinson Progression Marker Initiative
- *BS degree in Bioinformatics, University of Verona (from 03/2026 to 05/2026, 3 CFU):* Comparative study on fMRI hypergraphs estimation
- *BS degree in Bioinformatics, University of Verona (from 03/2025 to 06/2025, 3 CFU):* OASIS database: MR images data preprocessing
- *BS degree in Human Centered Medical System Engineering, University of Verona (from 10/2024 to 01/2025, 9 CFU):* Cerebral diffusion Magnetic Resonance Imaging investigation in Alzheimer's Disease continuum
- *BS degree in Human Centered Medical System Engineering, University of Verona (from 11/2024 to 01/2025, 9 CFU):* Characterizing Alzheimer's Disease brain changes relying on Diffusion Weighted Imaging
- *BS degree in Bioinformatics, University of Verona (from 03/2023 to 06/2023, 5 CFU):* Cerebral glioma: investigation of the structural connectivity in the contralesional hemisphere
- *BS degree in Bioinformatics, University of Verona (from 03/2023 to 05/2023, 5 CFU):* Can the AMURA-derived microstructural information support a early diagnosis of Alzheimer's disease?
- *BS degree in Bioinformatics, University of Verona (from 01/2022 to 04/2022, 6 CFU):* Implementation of the MAPMRI single shell model for the diffusion MRI signal reconstruction
- *BS degree in Bioinformatics, University of Verona (from 12/2020 to 02/2021, 6 CFU):* Investigation of the cerebral gray matter microstructure through diffusion weighted imaging in healthy and pathological subjects
- *BS degree in Bioinformatics, University of Verona (from 12/2020 to 02/2021, 9 CFU):* Preprocessing of dMRI data from patients with Alzheimer's disease
- *BS degree in Bioinformatics, University of Verona (from 01/2020 to 05/2020, 4 CFU):* Assessment of the relationship between brain tissue dMRI microstructural descriptors and neurological and clinical evaluation of multiple sclerosis patients through partial least squares statistics
- *BS degree in Bioinformatics, University of Verona (from 01/2020 to 06/2020, 5 CFU):* Longitudinal analysis of brain tissue dMRI microstructural descriptors from multiple sclerosis patients data
- *BS degree in Bioinformatics, University of Verona (from 01/2020 to 02/2020, 4 CFU):* Development of an automatic pipeline for extracting connectivity matrices based on brain tissue dMRI microstructural descriptors from HCP data
- *BS degree in Bioinformatics, University of Verona (from 01/2017 to 07/2017, 3 CFU):* Assessment of the effects of synaptic plasticity using structural and diffusion MRI in the mouse

○ Academic tutor

- *BS degree in Human Centered Medical System Engineering, University of Verona (from 12/2025 to 02/2026, 7 CFU):* Preprocessing and analysis of functional MRI data, including functional connectivity feature extraction, for the study of neurodegenerative diseases.
- *BS degree in Human Centered Medical System Engineering, University of Verona (from 10/2025 to 12/2025, 7 CFU):* Preprocessing of diffusion MRI data and extraction of structural connectivity in patients with essential tremor.
- *BS degree in Human Centered Medical System Engineering, University of Verona (from 10/2025 to 12/2025, 7 CFU):* Preprocessing and structural connectivity extraction from diffusion MRI data in subjects with essential tremor.
- *BS degree in Human Centered Medical System Engineering, University of Verona (from 03/2025 to 04/2025, 7 CFU):* Multimodal analysis of functional MRI data to extract static and dynamic connectivity descriptors of brain processes, and evaluation of their predictive and discriminant power.
- *BS degree in Bioinformatics, University of Verona (from 05/2023 to 06/2023, 3 CFU):* Data analysis pipeline for functional connectivity and functional gradients under different parameterizations, assessing their impact in healthy vs. Alzheimer's comparisons.