JORGE JOVICICH

CURRICULUM VITAE

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Contents

PERSONAL INFORMATION 2
ACADEMIC AFFILIATIONS AND QUALIFICATIONS 2
EMPLOYMENT HISTORY 2
RESEARCH PROFILE 3
TEACHING 5
MENTORING 7
ADMINISTRATIVE ACTIVITIES AND SERVICES 13
EDITORIAL EXPERIENCE 15
HONORS & AWARDS 16
FUNDING/SUPPORT 16
ONGOING COLLABORATIONS 20
PUBLICATIONS 21
INVITED TALKS 31
RESEARCH DISSEMINATION 32

PERSONAL INFORMATION

- Name: JOVICICH, Jorge
- Professional Address:

  Center for Mind/Bain Sciences, University of Trento

  Via delle Regole, 101, 38100 Mattarello (TN), Italy.

  Tel: +39-0461-28 3064.

  Email: jorge.jovicich@unitn.it.

  URL: http://r.unitn.it/en/cimec/mri

- Born in Córdoba, Argentina, on March 13, 1968
- Argentinian and Italian citizen
- Married, two children

ACADEMIC AFFILIATIONS AND QUALIFICATIONS

- Affiliations
  - Since 2006: Center for Mind/Brain Sciences (CIMeC), University of Trento
  - Since 2006: Department of Psychology and Cognitive Science, University of Trento
- 12/2021, Full Professor Psychology (11/E1)
- 08/2020, Italian National Qualification, Full Professor Psychology (11/E1)
- 08/2020, Italian National Qualification, Full Prof. Exper. Physics (02/D1)
- 2014 Associate Professor of Psychology (11/E1)
- 01/1999, PhD in Physics, Max-Planck-Institute for Cognitive Neuroscience, Department of Physics, University of Leipzig, Germany (PhD Thesis)
- 09/1994, MSc in Medical Physics, Department of Biomedical Engineering, University of Aberdeen, U.K.
- 03/1993, Licenciatura en Física, Department of Mathematics, Physics and Astronomy, Universidad Nacional de Córdoba, Argentina (5-year progam, equivalent to Laurea Magistrale in Italy)

EMPLOYMENT HISTORY

- Since January 2006, Faculty (Ricercatore: 2006-2013, Associate Professor: 2014-2021, Full Professor: 2022-present) and Scientific MRI lab Coordinator, CIMeC, University of Trento, Italy
- 2002-2005: Harvard Medical School (Assistant in Neuroscience) and Massachusetts General Hospital (Instructor in Radiology). Co-investigator and scientific project manager for the Morphometry Biomedical Informatics Research Network
- 2000-2002: Postdoctoral fellow with Nancy Kanwisher, Massachusetts Institute of Technology, USA
- 1999-2000: Postdoctoral fellow with Christof Koch, California Institute of Technology, USA
- 1999-2000: Staff Research Associate with Thomas Ernst and Linda Chang, Harbor University of California Los Angeles - Research Education Institute, USA

- 1994-1995: Working Visitor, Magnetic Resonance Division, Radiobiology Unit, Medical Research Council, United Kingdom

RESEARCH PROFILE

- Research background: My field of expertise is the development, optimization and use of multiple aspects of magnetic resonance (MR) as a tool to study the human brain, both in health and disease. I am fascinated by MR as a non-invasive research tool because of its tremendous flexibility for studying so many different tissue properties with the same instrument. MR exploits the quantum properties of the proton as a sensor of the local environment. This sensor, by "simply" using different pulse sequences programmed on the same instrument, can provide quantitative information useful for characterizing tissue structure, microstructure, function or metabolism. However, there are always instrumental and modelling limitations to the accuracy and reproducibility of these quantitative representations. My broad research interests are two: On the one hand, the development of MR acquisition and analysis methods that contribute to obtaining more sensitive, specific and precise quantitative markers from brain MR data; on the other hand, I am interested in applying advanced MR methods to study brain plasticity processes, novel biomarkers in neurodegenerative disorders, and neuro oncology.

  With a background education in physics, I initiated my research experience implementing a functional pulse MRI sequence (single-shot gradient and spin-echo imaging, GRASE) that at the time did not exist on 3T MRI systems and which offered advantages relative to standard echo planar imaging [J79, J80]. I did this during my PhD thesis work at the Max Planck Institute for Cognitive Neurosciences in Leizpig, supervised by David Norris.

  After receiving my PhD, I decided to learn more about the applications of functional MRI in cognitive neuroscience. In a first postdoctoral fellowship at Caltech, with Christof Koch, I studied the representation of visual attention of moving targets [J77] and the representation of facial features [C198-C200, C202]. During this first postdoc, I was also affiliated with UCLA and gathered my first experience in clinical research and MR spectroscopy [J74-J76, J78]. In a second postdoc at MIT, with Nancy Kanwisher, I studied the nature of representations in the visual word form area [C184, C192].

  Following my 2nd postdoc, I joined the group of Anders Dale and Bruce Fischl at the Martinos Center/Massachusetts General Hospital/Harvard Medical School as Instructor in Radiology. For three years I worked as the Project Manager and co-investigator of the Brain Morphometry Group (Bruce Rosen, Principal Investigator), which was part of the Brain Informatics Research Network, a program funded by the National Center Research Resources branch of the National Institutes of Health, USA. In this phase of my career I started developing my expertise in brain morphometry, distortion correction of structural images and multicentric harmonization of structural MRI protocols [J70-J73].

  After joining the University of Trento, I formed the MR Methods group (http://r.unitn.it/en/cimec/mri). Through this group I support local researchers for the implementation and optimization of MRI protocols specific to their research needs. I also continued to develop and apply my imaging expertise, this time to a multicenter longitudinal neuroimaging project on dementia, in collaboration with Giovanni Frisoni.

  Research achievements: My first research achievement led to a European patent for an idea I proposed and implemented during my PhD thesis to reduce image artifacts in single-shot GRASE acquisitions. The idea consisted performing spatial encoding (i.e., the k-space trajectory) based on properties of the measured data from each brain rather than using a pre-established pattern fixed for the protocol [J80]. **This strategy enabled a reduction in artifacts in single-shot GRASE images.**

My most highly cited research is related to one of the first series of studies characterizing variability of brain morphometry across MR scanners and a strategy for correcting geometric distortions from non-linearity of the magnetic field gradients, which are different across MR system vendors [J70-J73]. **The gradient distortion correction method we proposed was adopted and recommended by the Human Connectome Protocol, which greatly increased the impact of the work.**

After I joined the faculty at the University of Trento, Giovani Frisoni (at the time in IRCSS Fatebenefratelli, Brescia) invited me to collaborate with the PharmaCog project, a large Alzheimer's study funded by the EU. My main role was to oversee the definition, implementation and harmonization of a longitudinal multicenter MR protocol for structural, diffusion and resting-state functional MRI, across 13 clinical centers distributed throughout Europe (Italy, Spain, France, Grece, The Netherlands and Germany). This led to the generation of a very rich longitudinal public dataset and about 20 papers (10 as first or last author) that characterized various aspects of protocol harmonization, as well as the longitudinal progression of early dementia MR biomarkers. This work has continued in more recent collaborations, with Giovanni Frisoni (now in Geneva, Switzerland) and in India through a collaboration with Jinkook Lee (University of Southern California, USA).

I have applied my expertise in optimizing multicenter longitudinal MR protocols to the study of plasticity effects in healthy subjects [J9]. One recent achievement, as part of an ongoing collaboration with Valeria della Maggiore (University of Buenos Aires), was the **detection of fast rapid hipoocampal plasticity effects (within 30 min) induced by a motor learning task in healthy volunteers, which was published in PNAS** [J7]. We are currently working on the follow up of this work with more advanced imaging methods.

In collaboration with Dr. Silvio Sarubbo, and with the support from a local grant (Fondazione Caritro), **my research group implemented a hospital resting-state fMRI protocol for routine use by the Neurosurgery Unit, Santa Chiara Hospital, Trento, Italy. This protocol has been in use since 2015 for both presurgical planning and post-surgery functional reorganization monitoring.** We validated the protocol by showing good agreement between the key pre-operative resting state networks and intracranial recordings during awake surgery [J22]. We also developed and made public a simple-to-use analysis pipeline for the neurosurgery team [J22]. The success of this initial neuro oncology collaboration has triggered several grant applications, some already successful and some under review. This represents both personal satisfaction and a concrete example for the **effective transfer of academic research expertise to routine clinical practice in a public hospital setting.**

A very recent methodological achievement took place in the field of brain tissue microstructure characterization from diffusion MRI methods. At the Annual Meeting of the International Society for Magnetic Resonance Imaging **this year, we presented the the first human study applying the Correlation Tensor MRI, a novel model for Kurtosis diffusion (degree of non-gaussian diffusion in tissue) in a clinical MR system** [C8]. Until now, this model, which was proposed by Noam Shemsh's group, had only been tested in preclinical animal systems, where it also showed a higher sensitivity to pathology compared to standard diffusion methods in various preclinical disease models. **Our results open the path towards further optimization and validation studies in the humans of these new promising kurtosis markers.**

- Current research: My current main research interests cover the following areas:
    - *MRI methods and modelling*: Development and optimization of MRI-derived neuroimaging markers of human brain microstructure, function and metabolism. Specifically, active lines of research include: a) the characterization of how dynamic functional connectivity metrics are influenced by fast functional MRI acquisition and analyses protocols, with the aim of understanding how dynamic connectivity may be applied in different experimental settings and populations (e.g., clinical or healthy studies) [C4, C11]; b) implementation of novel diffusion MRI protocols for microstructure mapping that are promising in animal studies

but not yet demonstrated in the human brain in vivo [C8, C19]; c) optimization of fast MR spectroscopy protocols for quantifying GABA and glutamate in vivo [C9].

- *High-resolution imaging of the healthy brain*: application of advanced MRI neuroimaging methods for the quantification of longitudinal changes in brain structure and function associated to natural processes (e.g. learning), study of the associations between GABA and glutamate changes and functional connectivity at rest and during behavioral tasks.
- *High-resolution imaging of the brain disease*: application of advanced MRI neuroimaging methods for the quantification of longitudinal changes in brain structure, function and metabolism associated to disease processes (e.g., dementia), and interventions (e.g., brain surgery).

- Future perspectives: In terms of my future contributions to CIMeC, in the next years **I plan to increase my proactive role to help strengthen the integration between the CIMeC and the new Center of Medical Sciences (CISMed) at the University of Trento**. The goal will be to enhance interdisciplinary funded collaborations with the Azienda Provinciale per i Servizi Sanitari of Trento, as well as with other national and international clinical research collaborations in the context of advanced neuroimaging applied to early diagnosis, brain reorganization and treatment monitoring of brain diseases. This plan is already aligned with my ongoing research, active collaborations and grants (funded and under review). To further support this integration between CIMeC and CISMed, strategies will be evaluated that improve the efficiency of the MRI lab use by CIMeC and in collaboration with the CISMed, both for applied research and educational purposes. These initiatives will also be integrated with the *Master's in Data Science*, for the development, optimization and application of artificial intelligence methodologies in the context of clinical neuroimaging.

  In terms of my own research, I plan to continue developing and applying imaging biomarkers as outlined above under "current research". The best contribution of imaging in the clinic is for early diagnosis and prognosis, before it is obvious by other means. In the case of Alzheimer's disease or other dementias, this may allow treatments to be applied before "it's too late". Early biomarkers must be able to predict the course of the illness, even which clinical findings will follow, with a good degree of accuracy. We have known for a long time that brain pathology, as demonstrated by imaging, does not necessary predict a clinical course. This is specially the case in gliomas, where prognosis is poor still today. **How can the neuroimaging community improve their trade such that imaging biomarkers will help with this? Are we imaging the wrong place? The wrong tissue characteristics? The wrong combination of properties? At the wrong time? These are big challenges, and they involve both basic methodological research and evaluations on clinical populations.**

TEACHING

This section outlines courses taught at UniTN and other institutions. Appendix A contains details related to the UniTN courses in terms of yearly teaching hours, number of students and students' evaluations for the period 2012-2020.

UniTN, CIMeC PhD Cognitive and Brain Sciences

- 2006 – present: fMRI Methods (optional, *course coordinator*, 9 hours)
- 2017 – present: Scientific Writing (optional, *course coordinator*, 9 hours)
- 2018 – present: Scientific Writing - Responding to Reviewers (optional, *course coordinator*, 12 hours)

UniTN, CIMeC MSc Cognitive Science – Cognitive Neuroscience

- 2009 – present: Foundations of Brain Imaging [compulsory, *course coordinator*, ≈25 hours]
- 2020 – present: Fundamental Hands on Functional Neuroimaging Analysis [optional, also for MSc Data Science, *course coordinator*, ≈28 hours]
- 2012 – 2019: Hands on Methods [optional, *course coordinator*, ≈28 hours]

UniTN, Laurea Magistrale Psicologia – Neuroscienze, Department of Psychology and Cognitive Sciences, University of Trento, Italy

- 2006 – present: Metodi di indagine in neuroscienze cognitive e cliniche [compulsory, *course coordinator*, ≈44 hours]

UniTN, Laurea specialistica Fisica e Tecnologie Biomediche, Facoltà di Scienze Matematiche, Fisiche e Naturali

- 2006 – 2008, Imaging per la medicina [compulsory, *course coordinator*, ≈32 hours]

Teaching at other universities

- 2019 Invited lecturer
  - Institute of Neuroscience, Université Catholique de Louvain, Belgium
  - MRI Workshop for newbies (8 hours)
- 2018 Invited lecturer:
  - Instituto Balseiro, Universidad de Cuyo, Argentina
  - Resonancia Magnética Nuclear y Aplicaciones en Imágenes del Cerebro, Postgraduate course section (26 hours)
- 2016 Invited lecturer:
  - Instituto Balseiro, Universidad de Cuyo, Argentina
  - Escuela J A Balseiro de Física Médica Avanzada 2016
  - Magnetic Resonance Imaging Teaching Module, 18 hours, with Dr. Gonzalo Alvarez
- 2011 Invited lecturer:
  - Tokyo Institute of Technology, Tokyo, Japan
  - Introduction to Brain Science and fMRI (5 hours)
- 2001-2002: Co-Director with Randy Gollub, Teaching Assistant, Lecturer, Webpage administrator
  - Harvard Medical School – Massachusetts General Hospital
  - HST-583 Functional Magnetic Resonance Imaging – Data Acquisition and Analysis
- 2001: Co-Director with Nancy Kanwisher, Teaching Assistant, Lecturer
  - Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology
  - 9.91 Lectures: Functional MRI of High-Level Vision
  - 9.92 Lab: Functional MRI of High-Level Vision
- 2000: Co-Director with Geraint Rees and David Dubowitz, Teaching Assistant, Lecturer
  - Division of Biology, California Institute of Technology
  - Bi23 An Introduction to Functional Magnetic Resonance Imaging
- 1993: Lecturer and Teaching Assistant
  - Introduction to computers, Secretary Level Course, Universidad Nacional de Córdoba, Argentina
  - Chemical physics, Department of Physics, Universidad Nacional de Cordoba, Argentina

MENTORING

Mentoring and supervision summary: As a CIMeC PI since 2006 I have supervised a total of 7 postdocs, 7 PhD and 29 MSc thesis projects. As scientific coordinator of CIMeC's MR lab, since I 2006 I have coordinated hiring and activities of approximately 25 members of the MR staff (technicians, radiographers, physicians).

Supervision of Postdocs

1) **Manuela Moretto**, CIMeC (10/05/2022 – present)
2) **Domenico Zacà**, CIMeC (01/07/2012 – 31/03/2018)

   Currently MR Clinical Scientist, Siemens Italy
3) **Ludovico Minati**, CIMeC (01/02/2014 – 30/06/2016)

   Currently Adjunct Prof., Tokyo Institute of Technology, Japan
4) **Sara Assecondi**, CIMeC (01/11/2009 - 01/11/2011)

   Currently Ricercatore Tipo A, CIMeC, UniTN, Italy
5) **Pan Lin,** CIMeC (01/08/2007 - 30/01/2011)

   Currently Prof. at South-Central University for Nationalities, Wuhan, China
6) **Simon Robinson**, CIMeC (01/10/2006 - 30/06/2009)

   Currently Assoc. Prof. at Medical University of Vienna, Austria
7) **Marco Buiatti**, CIMeC (01/01/2007 - 31/12/2009)

   Currently Specialized Technician, Neonatal Neuroimaging CIMeC, UniTN, Italy
8) **Silvester Czaner**, MGH/MIT Athinoula A. Martinos Center for Biomedical Imaging, MGH, Department of Radiology, Harvard Medical School, Boston, MA, USA (09/2004-12/2006)

   Currently Faculty of Engineering and Technology, School of Computer Science and Mathematics, Liverpool John Moores University, U.K.

Supervision of PhD theses (N=7)

1) **2019 – present: Milena Capiglioni**
University: Support Center for Adv. Neuroimaging, University of Bern, Switzerland
Role: External Phd Co-Advisor

2) **2018 – 2022: Francesca Saviola**
Thesis: Ph.D., Doctoral School in Cognitive and Brain Sciences
University: Center for Mind/Brain Sciences, University of Trento
Supervisor: Prof. Jorge Jovicich

3) **2017-2022, Lisa Novello**
Thesis: Ph.D., Doctoral School in Cognitive and Brain Sciences
University: Center for Mind/Brain Sciences, University of Trento
Supervisor: Prof. Jorge Jovicich

4) **2013-2017, Chiara Maffei**
Thesis: Ph.D., Doctoral School in Cognitive and Brain Sciences

Thesis Title: FINDING THE MISSING CONNECTION: DIFFUSION-BASED TRACTOGRAPHY RECONSTRUCTION OF THE ACOUSTIC RADIATION AND OTHER APPLICATIONS
University: Center for Mind/Brain Sciences, University of Trento
Supervisor: Prof. Jorge Jovicich
Award: Best University of Trento PhD Thesis, 2019
Currently Postdoctoral Fellow, Harvard Medical School / Massachusetts General Hospital, Boston, USA

5) **2013-2016, Rocco Marchitelli**
Thesis: Ph.D., Doctoral School in Cognitive and Brain Sciences
Thesis Title: TEST-RETEST RELIABILITY OF INTRINSIC HUMAN BRAIN DEFAULTMODE FMRI CONNECTIVITY: A STUDY OF SLICE ACQUISITION AND PHYSIOLOGICAL NOISE CORRECTION EFFECTS
University: Center for Mind/Brain Sciences, University of Trento
Supervisor: Prof. Jorge Jovicich
Currently Neuroimaging Scientist, INSERM, Paris, France

6) **2009-2012, Nicola Soldati**
Thesis: Doctoral School in Cognitive and Brain Sciences
Thesis Title: NOVEL DATA-DRIVEN ANALYSIS METHODS FOR REAL-TIME FMRI AND SIMULTANEOUS EEG-FMRI IMAGING
University: Center for Mind/Brain Sciences, University of Trento
Supervisors: Dr. Jorge Jovicich and Prof. Lorenzo Bruzzone
Currently Scientific Consultant, Brain Products, Munich, Germany

7) **2006 - Chiara Begliomini**
Thesis: PhD in psychological and educational sciences
Thesis Title: HAND AND OBJECT: THE TWO SIDES OF THE REACH-TO-GRASP MOVEMENT
University: Department of Cognitive Sciences, University of Trento
Supervisors: Prof. Umberto Castiello, Prof. Wolfgang Grodd, Prof. Remo Job, Dr. Jorge Jovicich
Currently Associate Professor, Department of General Psychology, University of Padova, Italy

Supervision of MSc and Laurea Magistrale theses (N=32)

1) **2023: Stefano Tambalo**
   - Thesis: Master's Degree in Cognitive Science
   - Thesis Title: COMPRESSED SENSING MPRAGE ACCELERATES AUTOMATED VOXEL PLACEMENT FOR 1-H MRS OF THE HUMAN BRAIN
   - University: University of Trento
   - Supervisor: Prof. Jorge Jovicich

2) **2023: Irene Bellin**
   - Thesis: Master's Degree in Cognitive Science
   - Thesis Title: A STUDY OF LANGUAGE NETWORK SEGREGATION BASED ON MORPHOSYNTACTIC AND THEMATIC ROLE ASSIGNMENT DEFICITS IN STROKE PATIENTS
   - University: University of Trento
   - Supervisor: Prof. Jorge Jovicich
   - Co-supervisors: Prof. Gabriele Miceli, Prof. Marco Tettamanti

3) 2023: Asia Ferrari
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: UNRAVELING THE CONTRIBUTION OF RECEPTOR DENSITY DISTRIBUTION ON FUNCTIONAL CONNECTIVITY IN THE HUMAN BRAIN DURING WORKING MEMORY TASKS
- University: University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-supervisor: Manuela Moretto

4) 2021: Sebastian Hübner
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: IN-VIVO MICROSTRUCTURAL CHARACTERISATION OF FIRST AND HIGHER ORDER THALAMIC NUCLEI: A DIFFUSION-WEIGHTED IMAGING STUDY
- University: University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisor: Lisa Novello

5) **2021 Donna Cabalo**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: AUTOMATIC DETECTION OF KEY RESTING-STATE FUNCTIONAL MRI NETWORKS IN GLIOMA PATIENTS FOR PRESURGICAL PLANNING: IMPACT OF PRE-PROCESSING AND NETWORK SELECTION STRATEGIES
- University: University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisor: Francesca Saviola

3) **2021 Laura Beghini**
- Thesis: Laurea Magistrale, Department of Physics
- Thesis Title: MAGNETIC RESONANCE SPECTROSCOPY FOR GABA AND GLUTAMATE DETECTION: A PROTOCOL OPTIMIZATION STUDY
- University: University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisor: Francesca Saviola

4) **2020 Pablo Jimenez**
- Thesis: Master's Degree in Medical Physics
- Thesis Title: IMPLEMENTACIÓN DE SECUENCIAS PARA IMÁGENES CUANTITATIVAS DE MICROESTRUCTURAS BIOLÓGICAS CON RESONANCIA MAGNÉTICA NUCLEAR
- University: Instituto Balseiro, University of Cuyo, Argentina
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisors: Dr. Analia Zwick, Instituto Balseiro, Bariloche, Argentina

5) **2020 - Giacomo Tomezzoli**
- Thesis: Laurea Magistrale, Department of Cognitive Sciences
- Thesis Title: EXECUTIVE FUNCTION DEFICITS IN PARKINSON'S DISEASE REVEAL RELATIONS BETWEEN WHITE MATTER MICROSTRUCTURAL PROPERTIES AND STRUCTURAL BRAIN CONNECTIVITY
- University: University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisor: Lisa Novello

6) **2020 - Alberto Finora**
   - Thesis: Laurea Tecnica in Radiologia Medica per Immagini e Radioterapia
   - Thesis Title: FAST T1 MAPPING: ACCURATEZZA E RIPRODUCIBILITÀ DI SEQUENZE VOLUMETRICHE PER LA RILASSOMETRIA DELL'ENCEFALO
   - University: Scuola di Medicina e Chirurgia, Università di Verona, Italia
   - Supervisor: Dr. Stefano Tambalo
   - Co-Supervisors: Prof. Jorge Jovicich, Dr. Diego Cavalli

7) **2020 - Riccardo Pederzolli**
   - Thesis: Laurea Tecnica in Radiologia Medica per Immagini e Radioterapia
   - Thesis Title: IDENTIFICAZIONE AUTOMATICA DI ARTEFATTI IN SEQUENZE SPERIMENTALI PER DIFFUSION TENSOR IMAGING
   - University: Scuola di Medicina e Chirurgia, Università di Verona, Italia
   - Supervisor: Dr. Stefano Tambalo
   - Co-Supervisors: Prof. Jorge Jovicich, Dr. Andrea Spagnolo

8) **2020 – Giovanni Videtta**
   - Thesis: Master's Degree in Cognitive Science
   - Thesis title: An empirical study on manual strategies for virtual segmentation of human white matter
   - University: Center for Mind/Brain Sciences, University of Trento
   - Supervisor: Prof. Jorge Jovicich
   - Co-Supervisor: Dr, Paolo Avesani, Fondazione Bruno Kessler, Trento

9) **2020 – Beatrice Federica Luciani**
   - Thesis: Master's Degree in Cognitive Science
   - Thesis title: THE REORGANIZATION OF FUNCTIONAL NETWORKS IN BRAIN TUMOR PATIENTS: A LONGITUDINAL STUDY APPLYING GRAPH THEORY
   - University: Center for Mind/Brain Sciences, University of Trento
   - Supervisor: Prof. Jorge Jovicich
   - Co-Supervisor: Francesca Saviola

10) **2020 – Ishrat Saba**
   - Thesis: Master's Degree in Cognitive Science
   - Thesis title: EPILEPSY RISK AND NEURODEVELOPMENT IN INFANTS WITH TUBEROUS SCLEROSIS COMPLEX: A STUDY OF TISSUE MICROSTRUCTURE MARKERS WITH DIFFUSION MAGNETIC RESONANCE IMAGING
   - University: Center for Mind/Brain Sciences, University of Trento
   - Supervisor: Prof. Jorge Jovicich
   - Co-Supervisors: A. Leemans, A. De Luca, F.E. Jansen, H. Hulshof, University Medical Center Utrecth, The Netherlands

11) **2020 – Ruben Verhagen**
   - Thesis: Master's Degree in Cognitive Science
   - Thesis title: A GEOMETRIC DEEP LEARNING MODEL FOR FILTERING OUT ANATOMICALLY IMPLAUSIBLE FIBERS FROM TRACTOGRAMS
   - University: Center for Mind/Brain Sciences, University of Trento
   - Supervisor: Prof. Jorge Jovicich
   - Co-Supervisor: Dr, Paolo Avesani, Dr. Emanuele Olivetti, Fondazione Bruno Kessler, Trento

12) **2019: Muge Akinci**
   - Thesis: Master's Degree in Cognitive Science
   - Thesis title: PROBING CORTICAL DAMAGE IN PROGRESSIVE AND RELAPSING-REMITTING MULTIPLE SCLEROSIS USING MICROSTRUCTURAL FEATURES DERIVED FROM DIFFUSION MAGNETIC RESONANCE IMAGING

- University: Center for Mind/Brain Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisor: Prof Gloria Menegaz, University of Verona

13) **2018 - Francesca Saviola**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: MAPPING ANATOMICAL CONNECTIVITY: A STRUCTURAL NETWORK ANALYSIS IN EARLY AND PROFOUNDLY DEAF PEOPLE
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisor: Dr. Olivier Collignon, University of Louvain, Belgium
- **Award: Ilenia Graziola Award, 2019 (UniTN news)**

14) **2018 – Davide Calderaro**
- Thesis: Laurea Magistrale in Psicologia
- Thesis Title: VALUTAZIONE FUNZIONALE TRAMITE "GRAPH ANALYSIS" DI PAZIENTI AMCI SEGUITI LONGITUDINALMENTE
- University: Department of Psychology and Cognitive Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich

15) **2018 - Trisha Evans Kybaya Sewava**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: A DATA-DRIVEN ANALYSIS: PREDICTING DISEASE PROGRESSION IN MILD COGNITIVE IMPAIRED PATIENTS USING STRUCTURAL MRI AND CSF BIOMARKERS
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisor: MD Nivedita Agarwal, APSS, Trento
- Co-Supervisors: Prof. Jorge Jovicich

16) **2018 - Gaetano Scianatico**
- Thesis: Laurea Magistrale in Psicologia
- Thesis Title: ASSOCIATION BETWEEN BRAIN GREY MATTER CHANGES AND CEREBROSPINAL FLUID BIOMARKERS IN FRONTOTEMPORAL DEMENTIA
- University: Department of Psychology and Cognitive Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisors: Dr. Giancarlo Logroscino, University of Bari Aldo Moro
- Dr. Domenico Zacà, University of Trento

17) **2017 - Alessia Di Sero**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: ANTIPSYCHOTIC MEDICATION ON MRI-BASED BRAIN MORPHOLOGY: AN INVESTIGATION ACROSS CORTICAL AND SUBCORTICAL GRAY MATTER
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-Supervisors: Kjetil, Nordbø Jetil Jørgensen, Ingrid Agartz, University of Oslo, Norway

18) **2016 - Julia Winkel**
- Thesis: Master in Cognitive Science
- Thesis Title: TOPOLOGICAL SELF-SIMILARITY AND QUASI-IDEMPOTENCE IN BRAIN NETWORKS
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-supervisor: Dr. Ludovico Minati

19) **2015 - Neda Rashidi Ranjbar**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: NEURAL CORRELATES OF AGE-RELATED DECLINE IN ASSOCIATIVE MEMORY
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-supervisor: Guillén Fernandez, Donders Center for Cognitive Neuroimaging, The Netherlands

20) **2015 - Francesca Sibilia**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: TRACTOGRAPHY OF THE PARAHIPPOCAMPAL TRACT IN AGING AND ALZHEIMER'S DISEASE
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisor: Prof. Jorge Jovicich
- Co-supervisor: Arun L.W. Bokde, Trinity College, Dublin, Ireland.

21) **2014 - Barbara Kreilkamp**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: IMAGE ARTIFACTS IN BRAIN DIFFUSION TENSOR IMAGING: DEFINITION, DETECTION AND EFFECTS ON MEASUREMENT REPRODUCIBILITY BASED ON TEST-RETEST DATA
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisors: Prof. Jorge Jovicich
- Co-Supervisor: Dr. Domenico Zacà

22) **2013 - Niyati Roy Chowdhury**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: ALTERED WHITE MATTER INTEGRITY IN THE AUDITORY CORTEX AND ASSOCIATION AREAS OF A PATIENT WITH BILATERAL PROFOUND DEAFNESS: A DIFFUSION TENSOR IMAGING STUDY
- University: Faculty of Cognitive and Education Sciences, University of Trento.
- Supervisors: Dr. Nivedita Agarwal, APSS Trento
- Co-Supervisors: Prof. Francesco Pavani, Dr. Jorge Jovicich

23) **2013- Pouya Ghaemmaghami**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: FUNCTIONAL CONNECTIVITY IN DEFAULT MODE NETWORK DURING RESTING STATE: AN EVALUATION OF THE EFFECTS OF DATA PRE-PROCESSING
- University: Center for Mind/Brain Sciences, University of Trento
- Supervisors: Dr. Jorge Jovicich
- Co-Supervisors: Dr. Domenico Zacà

24) **2012 - Rocco Marchitelli**
- Thesis: Master's Degree in Cognitive Science
- Thesis Title: SMALL-WORLD PROPERTIES OF THE DEFAULT MODE NETWORK DURING RESTING STATE AND PASSIVE AUDITORY STIMULI
- University: Faculty of Cognitive and Education Sciences, University of Trento
- Supervisors: Prof. Uri Hasson
- Co-Supervisors: Dr. Jorge Jovicich

25) **2010 - Francesca Maule**
- Thesis: Laurea Specialistica in Ingegneria Biomedica

- Thesis Title: TEST-RETEST REPRODUCIBILITY IN BRAIN DIFFUSION MRI
- University: Faculty of Bioengineering, University of Pavia
- Supervisors: Dr. Jorge Jovicich, Prof. Giovanni Magenes
- Co-Supervisors: Dr. Nico Papinutto

26) **2010 - Javier Kreiner**
- Thesis: International Master
- Thesis Title: EXTRACTION OF SINGLE-TRIAL ERPs: A COMBINED ICA AND WAVELET APPROACH
- University: Faculty of Science, University of Trento & University of Edinburgh
- Supervisors: Dr. Jorge Jovicich, Prof. Maurizio Marchese
- Co-Supervisors: Dr. Sara Assecondi

27) **2009 - Christian Valt**
- Thesis: Laurea Magistrale in Psicologia
- Thesis Title: THE BRAIN DEFAULT MODE NETWORK: A DESIGN OF BEHAVIOURAL EXPERIMENTS TO TEST INDEPENDENCE OF TASK, DIFFICULTY AND MODALITIES
- University: Faculty of Cognitive and Education Sciences, University of Trento
- Supervisors: Dr. Jorge Jovicich
- Co-Supervisors: Dr. Pan Lin, Dr. Simon Robinson

28) **2008 - Andrea Mognon**
- Thesis: Laurea Specialistica in Ingegneria delle Telecomunicazioni
- Thesis Title: TECNICHE AUTOMATICHE INNOVATIVE PER LA RIVELAZIONE DI ARTEFATTI OCULARI IN SEGNALI EEG
- University: Engineering Faculty, University of Trento
- Supervisors: Prof. Lorenzo Bruzzone, Dr. Jorge Jovicich.
- Co-Supervisors: Dr. Marco Buiatti, Ing. Michele Dalponte

29) **2008 - Nicola Soldati**
- Thesis: Laurea Specialistica in Ingegneria delle Telecomunicazioni
- Thesis Title: AUTOMATIC ANALYSIS OF FMRI DATA FOR DETECTION AND CHARACTERIZATION OF BRAIN RESTING STATES
- University: Engineering Faculty, University of Trento
- Supervisors: Prof. Lorenzo Bruzzone, Dr. Jorge Jovicich
- Co-Supervisors: Dr. Simon Robinson, Ing. Claudio Persello

ADMINISTRATIVE ACTIVITIES AND SERVICES

- Scientific MR lab coordinator: January 2006 – present, Center for Mind/Brain Sciences, University of Trento, Italy.
  - 4T MRI - Mattarello (2006-2018): Signed installation completion in December 2005, scanner maintenance, reparations and decommissioning; MRI protocol implementations; MRI user support; peripheral equipment (MR compatibility evaluations, operational procedures for MR staff and users); first ethical committee procedures at UniTN; development of lab wiki (later expanded to CIMEC wiki); definition of operational procedures later implemented on other labs (lab booking system & lab scheduling agenda).
  - 3T MRI - Mattarello (2018-present): Scanner tender (preparation and technical evaluation of offers); scanner installation and maintenance; peripheral equipment; MRI protocol implementations and user support.

In 2020-2021, with a key role of the Medical Physicist Safety Expert (Nicola Pace), we reorganized the internal rules for human MRI scanning to allow for a more efficient use of the lab in terms of the medical coverage needs.

- LNIF transfer from Mattarello to Building 10, Manifattura Tabacchi, Rovereto (2011-present): In 2011, Prof. Alfonso Caramazza (CIMeC Director at the time) designated me as the point of contact between CIMeC's functional neuroimaging lab directors (Mattarello: MRI, MEG, TMS and Rovereto: EEG) and the University of Trento architects to define CIMeC's needs for the new Building 10 of Manifattura, designed to host CIMeC's neuroimaging labs, related technicians, postdocs and students. My role was two-fold in this process. One role as MRI lab scientific coordinator, was to define the MRI lab needs with the Medical Physicist Safety Expert and the Responsible Physician of the MR lab and adapt them to the constraints defined by the UniTN architects. The other role, especially in the early stages, was to coordinate periodic meetings between all neuroimaging lab scientific coordinators, UniTN architects and the CIMeC Directors until the final executive project was defined from the point of view of CIMeC's needs. This work was completed for the most part in 2019, when we responded to final requests from the "Unità operativa prevenzione e sicurezza negli ambienti di lavoro (Uopsal)". The work related to Building 10 is currently under way, having effectively started in mid-2021.

  The last crucial step will be the actual transition from Mattarello to Rovereto, which is expected to start in early 2023. As the scientific coordinator of the MRI lab, I will have a leading role, together with the "Esperto Responsabile", to coordinate interactions between Siemens and UniTN for the construction in Building 10 of a new magnet shielded room, followed by the coordination between researcher's scanning and the MRI shutdown at Mattarello, transportation and installation in Building 10, MRI protocol tests before research activity restarts at Building 10.

- MR Staff: I coordinated the hiring and supervision of approximately 25 people, who since 2006 covered various temporary MRI staff roles needed for the operation of the lab (in bold current MRI staff)

  - Esperto Responsabile: Paolo Ferrari, **Nicola Pace**
  - Medico responsabile del laboratorio: Gianpaolo Basso, Nivedita Agarwal, **Angelo Recchia**
  - Medico responsabile dell'esame: Gianpaolo Basso (CIMeC faculty), Stefano Parlamento, Francesco Donato, Francesca Zapinni, Raffaella Di Giacopo, Fabrizio Pallaver, Benedetta Casale, Marika Falla, Claudio Boninsegna, Luigi Cattaneo (CIMeC faculty), **Enzo Moser**, **Angelo Recchia**
  - Radiographers: **Mauela Orsini**, Hanna Liisa Inkala, Angela Serafin, Giulia Fratti, Lorenzo Giovanelli, Andrea Pellegrini,
  - Research assistants: Nico Dario Papinutto, Pietro Chiesa, Vittorio Iacovella, **Stefano Tambalo**

- Center for Mind/Brain Sciences Interim Deputy Director: July 2015-July 2016, University of Trento, Italy.
- Member of committees
  - CIMeC Doctoral School (faculty board member since 2006)
  - CIMeC Doctoral Selection Commission, 35th Cycle (2019 faculty board member)
  - Department of Psychology and Cognitive Sciences (faculty board member since 2006)
  - Final Exam for Cognitive Psychology Sciences and Techniques, Department of Psychology and Cognitive Science (commission member since 2018)

- Final Exam for Cognitive and Brain Sciences Doctorate, CIMeC - 30th cycle – December 2017
- CIMeC Strategic Committee for the development of the Department of Excellence project (2018-2022, head board member)
- Head of the "Cognitive Sciences" Area for the India-Trento Program for Advanced Research (ITPAR), 2018-2021
- Scientific Committee Member and Exam Committee Member, Bernardo Clesio College, University of Trento (2021-2025)
- CIMEC representative for the committee that fosters clinical research and education collaboration between the University of Trento and the Humanitas University, in support of the Interdepartmental Center for Medical Sciences (2021-present)
- CIMeC proponent and representative of the Advancement of brain cancer diagnosis and treatment strategic project

- Scientific Project Manager & researcher: May 2002 – December 2005, Biomedical Informatics Research Network – Brain Morphometry, Massachusetts General Hospital, USA.
  - NCRR (National Center for Research Resources, USA) funded initiative aimed at creating a testbed to address biomedical researcher's needs to access and analyse neuroimaging data at a variety of aggregation levels distributed at multiple sites across the USA.
  - With the Brain Morphometry BIRN Principal Investigator (Bruce Rosen, MGH), I was responsible of coordinating and monitoring with various work packages with the PIs and researchers the partner sites (Brigham and Women's Hospital, Massachusetts Institute of Technology, Duke University, Washington Saint Louis, University of California Los Angeles, University of California San Diego, University of California Irvine, John Hopkins University), organize meetings, prepare and present reports to the NIH, participated in one successful grant renewal.

EDITORIAL EXPERIENCE

- **Reviewer for scientific journals**

  2004-Present Human Brain Mapping, Cortex, NeuroImage,
  2008-Present Archives of General Psychiatry, IEEE Transactions in Medical Imaging
  2009-Present European Journal of Neurology, Neuroscience Letters, Electronic Letters
  2010-Present Magnetic Resonance in Medicine, PLOSOne, Neurobiology of Ageing
  2013-Present Journal Neuroscience Methods
  2015-Present Neuroimge Clinical
  2016-Present Nature Scientific Reports, Nature Reviews Neuroscience
  2017-Present Neuroscience

- **Reviewer for grant agencies**

  2003-Present Austrian Science Foundation
  2008-Present Agencia Nacional de Evaluación y Prospectiva, Spain
  2019 Fondazione Cariplo Verona

- **Editorial Boards**

  2019 (07-12) Journal of Alzheimer's Disease
  2008-2010 Journal Psyche

- **Reviewer for conference abstracts**

2003-Present	International Society of Magnetic Resonance in Medicine, International IEEE Engineering in Medicine and Biology Conference
2009-Present	European Society for Magnetic Resonance in Medicine and Biology
2015-Present	Alzheimer's Association International Conference

- **Scientific committees**
  2020, December 11, Myelin Imaging: State of the art and challenges, Satellite Course, Annual Virtual IT-ISMRM Meeting
  2019, June 24-28, 1st Summer School of Interdisciplinary Research on Brain Network Dynamics
  2019, June 20-22, Connect Brain Vo. II

HONORS & AWARDS

- 2021, ISMRM Research Exchange award
- 2018, Visiting Professor (6 months), Dep. of Medical Physics, Balseiro Institute, Argentina
- 2009-2010, Safety Committee Member, ISMRM
- 2001, Athinoula Martinos Foundation Fellow, USA
- 1996-1999, Postgraduate fellowship, Max-Planck-Institute, Germany
- 1993-1994, Postgraduate fellowship, British Council, Argentina
- 1992, Undergraduate scholarship (2 months), National Laboratory of Synchrotron Light, Brazil

FUNDING/SUPPORT

Currently active grants

- **Title: Artificial Intelligence at Trento**
  Funding source: Provincia Autonoma di Trento, Trento, Italy
  Duration: September 2022-December 2023
  Funding: 40,000 EUR
  Principal Investigator: Paolo Avesani (Fondazione Bruno Kessler) and Jorge Jovicich
  Role: Recruit and co-supervise a MSc graduate to work on the project, which is aimed at developing and implementing data driven methods for the automatic segmentation of human brain tissues from MRI data.

- **Title: Advanced neuroimaging to study ageing**
  Funding source: Comune di Rovereto, Rovereto, Italy
  Duration: September 2022 - August 2024
  Funding: 28,800 EUR
  Principal Investigator: Jorge Jovicich
  Role: Recruit and supervise a MSc graduate to work on the project, which is aimed at evaluating innovative magnetic resonance neuroimaging markers for the characterization of cognitive decline associated with aging.

- **Title: In-vivo multimodal validation of magnetic resonance based neural current imaging sequences**
  Funding source: International Society for Magnetic Resonance in Medicine, Research Exchange
  Duration: September 2022-August 2023
  Funding: Research exchange that will host a PhD student (Milena Capiglioni) from Inselspital, University of Bern, Switzerland for the implementation and execution of experiments of CIMeC to validate novel neural current imaging strategies (5,000 US$)

Principal Investigator: Jorge Jovicich (host mentor) and Prof. Roland Wiest, Inselspital, University of Bern, Switzerland (home mentor)

- **Title:** "**NeuSurPlan and integrated approach to neurosurgery planning based on multimodal data**" - CUP: C65F21000270003
  Funding source: Provincia Autonoma di Trento, Trento, Italy
  Duration: November 2021-November 2023
  Funding: Through a collaboration agreement between APSS-CIMeC, CIMeC will hire a postdoc and a research assistant (114,000 EUR)
  Principal Investigator: Dr. Silvio Sarubbo, Neurosurgery Unit Chief, Santa Chiara Hospital, APSS, Trento, Italy
  Role: With Dr. Sarubbo, J. Jovicich will select and co-supervise a postdoc and a research assistant to support the project components related to functional connectivity analyses.

- **Call**: Erasmus + International Credit Mobility University of Trento and University of Cuyo, Argentina
  Duration: from 2019 to 2023
  Mobility funds: Incoming (3 students, 1 academic, 1 admin staff), Outgoing (1 academic, 1 admin staff)
  Role: Jorge Jovicich is the promotor, academic and research liaison with the University of Cuyo, Argentina and the Instituto Balseiro for this collaboration, and for the development of the Institutional Agreements.

- **Full title: Quantitative brain images by heavy nuclear magnetic resonance by molecular diffusion: new paradigms for longitudinal preclinical and clinical studies**
  Duration: 2018-2021
  Funding Legal Entity: Argentinean Ministry of Research (1,230,000 ARG$)
  Programme/Action or Call: Proyectos de Investigación Científica y Tecnológica (PICT-2018-04333)
  Argentine Principal Investigator: Gonzalo Alvarez, Instituto Balseiro.
  Italian Principal Investigator: Jorge Jovicich, University of Trento

Past funding

- **Title**: **Neuroimaging avanzato per il potenziamento della diagnosi e cura della patologia neuro-oncoloica cerebrale**
  Funding source: Fondazione Paolina Lucarelli Irion
  Duration: September 2021-August 2022
  Funding: One-year undergraduate scholarship (12,000 EUR)
  Principal Investigator: Jorge Jovicich and Dr. Silvio Sarubbo

- **Title: Investigating in-vivo human brain dynamic connectivity with fast fMRI**
  Funding source: International Society for Magnetic Resonance in Medicine, Research Exchange
  Duration: April 2021-March 2022
  Funding: Research exchange of CIMeC PhD student (Francesca Saviola) that will be hosted at EPFL (University of Geneva, Switzerland) to optimize functional time varying connectivity analyses in the context of fast fMRI (5,000 US$)
  Principal Investigator: Jorge Jovicich (home mentor) and Prof. Dimitri Van De Ville (host mentor)

- **Full title:** Structural and inflammatory components of cortical pathology in multiple sclerosis
  Duration: from 01/04/2017 to 31/03/2020

Funding Legal Entity: Italian Foundation for Multiple Sclerosis (FISM)
Programme/Action or Call: Italian Foundation for Multiple Sclerosis 2016
Principal Investigator: Roberta Magliozzi, Neurology Section of Dept. of Neuroscience, Biomedicine and Movement University of Verona, Italy
Role: As co-investigator, Prof. Jorge Jovicich, Center for Mind/Brain Sciences (CIMeC), University of Trento, assists with 3T and 7T brain MRI data acquisition and analyses of brain ex-vivo MRI.

- **Acronym:** LASI (R01AG051125)
  Full title: Harmonized Diagnostic Assessment of Dementia For Longitudinal Aging Study of India
  Duration: from 2015 to 2020
  Funding Legal Entity: National Institute of Aging (NIA), U.S.A.
  Programme/Action or Call: Research Project Grants (RO1)
  Principal Investigator: Jinkook Lee, University of Southern California, U.S.A.
  Role: As co-investigator, Prof. Jorge Jovicich, Center for Mind/Brain Sciences (CIMeC), University of Trento, assists with the multicentric 3T MRI protocol implementation in the India MRI centers.

- **Acronym:** ITPAR (India-Trento Programme for Advanced Research)
  Full title: Brain Functional Connectivity in health and Disease
  Duration: from 2018 to 2020
  Funding Legal Entity: Department of Science and Technology, India and Autonomous Province of Trento and the University of Trento
  Italian Principal Investigator: Jorge Jovicich, CIMeC, University of Trento, Italy
  Indian Principal Investigator: S.P. Arun, Indian Institute of Science, Bangalore, India
  Website: https://www.unitn.it/en/ateneo/54843/itpar

- **Acronym:** RETE-AD (NET -2011-02346784)
  Full title: Development of operational research diagnostic criteria for diagnosis of Alzheimer's disease in the preclinical/predementia phase and implementation of SOPs for imaging and CSF biomarkers in Memory Clinics. An integrated care pathway for early diagnosis and best management in the National Health Service of five Italian regions.
  Duration: from 1/09/2015 to 31/08/2019
  Funding Legal Entity: Italian Ministry of Health
  Programme/Action or Call: Bando di ricerca finalizzata 2011-2012
  Principal Investigator: Fabrizio Tagliavini, Fond. IRCCS Istituto Neurologico Carlo Besta, Milano, Italy
  Role: As co-investigator, Prof. Jorge Jovicich, Center for Mind/Brain Sciences (CIMEC), University of Trento, participates in a working group (WP4) for the harmonization of MRI protocols of the consortium.

- **Full title:** Studio longitudinale con neuroimaging funzionale della plasticità pre e post-operatoria nei pazienti con tumori cerebrali
  Duration: from 1/12/2015 to 30/11/2017
  Funding Legal Entity: Fondazione Cassa di Risparmio Trento e Rovereto (Caritro)
  Programme/Action or Call: Progetto di ricerca scientifica svolti da giovani ricercatori 2015
  Young researcher: Dr. Domenico Zacà
  Scientific Supervisor: Dr. Jorge Jovicich

- **Acronym:** SRA-NED
  Full title: Harmonization of acquisition and processing of brain imaging biomarkers for neuro-degenerative diseases: a strategic research agenda for best-practice guidelines
  Duration: from 01/10/2016 to 30/06/2017
  Funding Legal Entity: EU – Joint Program of Neurodegenerative Diseases (JPND)
  Programme/Action or Call: JPND 2016 call: Brain Imaging Working Groups

Principal Investigator: Giovanni Frisoni, University of Geneva, Switzerland
Co-Principal Investigator: Jorge Jovicich, University of Trento, Italy
Web page: http://www.sra-ned.org/

- **Acronym:** GENUS (R01MH092380)
  Full title: Genetics of ENdophenotypes of Neurofunction to Understand Schizophrenia
  Duration: from 2012 to 2016
  Funding Legal Entity: National Institute of Mental Health (NIMH), U.S.A.
  Programme/Action or Call:
  Principal Investigator: Tracey Petryshen, Harvard University
  Role: As co-investigator, Prof. Jorge Jovicich, Center for Mind/Brain Sciences (CIMEC), University of Trento, participates assisting with the harmonization of multicentric brain anatomic MRI data.
  Website: http://genus.mgh.harvard.edu/

- **Acronym:** ATTEND
  Full title: Characterizing and improving brain mechanisms of attention
  Duration: 02/09/2013 – 01/09/2017
  Funding Legal Entity: Autonomous Province of Trento (PAT)
  Programme/Action or Call: Grandi progetti di Ricerca 2012
  Principal Investigator: David Melcher, CIMEC, University of Trento
  Role: As co-investigator, Prof. Jorge Jovicich, Center for Mind/Brain Sciences (CIMEC), University of Trento contributed towards the setup and optimization of real-time fMRI experiments.
  Website: https://www.attendproject.eu/

- **Acronym:** PHARMACOG (Grant no.115009)
  Full title: Prediction of cognitive properties of new drug candidates for neurodegenerative diseases in early clinical development
  Duration: 01/01/2010 - 31/12/2014
  Funding Legal Entity: Innovative Medicine's Initiatives
  Programme/Action or Call: European Community's Seventh Framework Programme (FP7/2007-2013) for the Innovative Medicine Initiative under Grant Agreement No 115009.
  Principal Investigator: EU-wide Academic Coordinator, Prof Régis Bordet, University of Lille, France Working Package 5 - Human Imaging PI: Giovanni B. Frisoni
  Role: As co-investigator, Prof. Jorge Jovicich, Center for Mind/Brain Sciences (CIMEC), University of Trento, lead the harmonization of multicentric brain structural and functional MRI data from 13 clinical MRI sites from 6 different EU countries and contributed to the longitudinal MRI analysis.
  Website: http://www.pharmacog.org

- **Full title:** Neural and cognitive bases of selective attention (grant.6855769)
  Duration: 01/01/2008 – 01/01/2010
  Funding Legal Entity: Ministry of Education, Universities and Research (MIUR)
  Programme/Action or Call: PRIN 2008
  Principal Investigator: Carlo Alberto Marzi, University of Verona, Italy; Francesco Pavani PI from University of Trento
  Role: Co-Investigator collaborating with the functional MRI experiments

- **Acronym:** mBIRN
  Full title: Brain Morphometry Biomedical Informatics Research Network
  Duration: from September 2001 to December 2005 (period of my involvement)
  Funding Legal Entity: National Center for Research Resources (NCRR), National Institute of Health (NIH), U.S.A. Grant: U24 RR021382

Principal Investigator: Bruce Rosen, Massachusetts General Hospital – Harvard Medical School, Boston, U.S.A.
Roles:
Overall project management for the multicentric Morphometry BIRN (mBIRN) project
Co-investigator for the mBIRN Acquisition and Calibration working group

- **Full title:** Addressing the neural basis of stochastic resonance in humans: a combined EEG and high-resolution fMRI approach
  Duration: August 1, 2006 – July 31, 2007
  Funding Legal Entity: Province of Trento, Italy
  Principal Investigator: Jorge Jovicich, Department of Cognitive Sciences

ONGOING COLLABORATIONS

I have developed a large network of national and international collaborations over the years. Below I list those that are currently active on various work fronts.

MRI methods and modelling

- Noam Shemesh, Champalimaud Foundation, Lisbon, Portugal. The collaboration involves the implementation of his Correlation Tensor MRI framework on a 3T clinical scanner.
- Gonzalo Alvarez and Analia Zwick, Department of Medical Physics, Instituto Balseiro, Argentina. The collaboration involves the translation of their pre-clinical diffusion protocols for axon diameter mapping on a 3T clinical scanner.
- Dimitri Van De Ville, Head of Medical Image Processing Laboratory, École polytechnique fédérale de Lausanne, Switzerland. The collaboration involves optimizing and evaluating his framework for dynamic functional connectivity metrics (coactivated patterns) when using fast fMRI.
- Alessandro Daducci, Department of Computer Sciences, University of Verona, Italy. Our collaboration involves the use of human brain myelin mapping techniques for white matter bundles characterization.

Industry collaborations

- Tobias Kober, Managing Director, Advanced Clinical Imaging Technology, Siemens Healthineers, Switzerland
- Thorsten Feiweir, Siemens Healthcare GmbH, Erlangen, Germany

Brain plasticity in healthy and sensory deprived subjects

- Valeria della Maggiore, Department of Physiology, School of Medicine, National University of Buenos Aires, Argentina. The collaboration involves the mapping of functional and structural plasticity processes in motor learning tasks.
- Olivier Collignon, Université Catholique de Louvain, Belgium. The collaboration involves mapping structural and functional brain reorganization induced by deafness or blindness.
- Manuela Piazza, CIMeC, University of Trento (recently funded EUREGIO grant). The collaboration involves the development of a longitudinal MRI protocol to study learning processes that affect arithmetic expertise

Alzheimer's research

- Giovanni Frisoni, University of Geneva, Switzerland, for dementia MR studies.

- Ileana Jelescu, Lausanne University Hospital, Switzerland, for 7T dementia MR studies.
- Jinkook Lee, University of Southern California, USA, PI of the Longitudinal Aging Study in India – Diagnostic Assessment of Dementia. In this project I collaborated with the implementation and analysis of multicentric 3T MR data from early dementia volunteers.
- Michela Pievani and Moira Marizzoni, IRCS Fatebenefratelli Brescia, Italy, for dementia MR studies.

Parkinson's research

- Luca Turella, Alessandra Dodich and Costanza Papagno, CIMeC, University of Trento

Multiple sclerosis research

- Roberta Magliozzi and Massimiliano Calabrese, Department of Neuroscience, Biomedicine and movement, University of Verona
- Matilde Inglese, Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DINOGMI), University of Genoa, Genoa, Italy

Oncology research

- Silvio Sarubbo, Neurosurgery Unit Chief, Santa Chiara Hospital, Trento, Italy
- Sabina Venarini, Proton Therapy Center, Azienda Provinciale per i Servizi Sanitari, Trento, Italy

PUBLICATIONS

Research productivity outline:

- **Academic age**: 26 years (since PhD in 1998):
- **Total**: 98 papers (Scopus) in international peer reviewed journals, including 2 editorials and 3 reviews
- **H-index**: Google Scholar: 37; Scopus: 32
- **Sum of citations**: Google Scholar: >9200; Scopus: >6500
- **Other**: Co-author of 2 book chapters and > 210 conference abstracts
- Updated publication metrics: Google Scholar; Research Gate, Scopus, ORCID

Peer reviewed scientific publications

J1. Henriques RN, Ianuș A, Novello L, Jovicich J, Jespersen SN, Shemesh N. Efficient PCA denoising of spatially correlated redundant MRI data. **Imaging Neuroscience 2024** (in press).

J2. Quattrini G, Pini L, Galazzo Ilaria Boscolo, Jelescu IO, Jovicich J, Manenti R, Frisoni GB, Marizzoni M, Pizzini FB, Pievani M. Microstructural alterations in the locus coeruleus-entorhinal cortex pathway in Alzheimer's disease and frontotemporal dementia, **Alzheimer's & Dementia: Diagnosis, Assessment & DIesease Monitoring 2024** (pubmed).

J3. Rabini G, Funghi G, Meli C, Pierotti E, Saviola F, Jovicich J, Dodich A, Papagno C, Turella L. Functional alterations in resting-state networks for Theory of Mind in Parkinson's disease. **Eur J Neurosci. 2023** Sep 6:e16145. (pubmed)

J4. Lee J, Petrosyan S, Khobragade P, Banerjee J, Chien S, Weerman B, Gross A, Hu P, Smith JA, Zhao W, Aksman L, Jain U, Shanthi GS, Kurup R, Raman A, Chakrabarti SS, Gambhir IS, Varghese M, John JP, Joshi H, Koul PA, Goswami D, Talukdar A, Mohanty RR, Yadati YSR, Padmaja M, Sankhe L, Rajguru C, Gupta M, Kumar G, Dhar M, Jovicich J, Ganna A, Ganguli M, Chatterjee P, Singhal S, Bansal R,

Bajpai S, Desai G, Bhatankar S, Rao AR, Sivakumar PT, Muliyala KP, Sinha P, Loganathan S, Meijer E, Angrisani M, Kim JK, Dey S, Arokiasamy P, Bloom DE, Toga AW, Kardia SLR, Langa K, Crimmins EM, Dey AB. Deep phenotyping and genomic data from a nationally representative study on dementia in India. **Sci Data. 2023** Jan 20;10(1):45. (pubmed)

J5. Zigiotto L; Amorosino G; Saviola F; Jovicich J; Annicchiarico L; Rozzanigo U; Olivetti E; Avesani P; Sarubbo S. Spontaneous Unilateral Spatial Neglect recovery after brain tumor resection: a multimodal diffusion and rs-fMRI case report. **Journal of Neuropsychology 2023** (pubmed)

J6. Deleglise A, Donnelly-Kehoe PA, Yeffal A, Jacobacci F, Jovicich J, Amaro E Jr, Armony JL, Doyon J, Della-Maggiore V. Human motor sequence learning drives transient changes in network topology and hippocampal connectivity early during memory consolidation. **Cereb Cortex. 2023** (pubmed)

J7. Saviola F, Zigiotto L, Novello L, Zacà D, Annicchiarico L, Corsini F, Rozzanigo U, Papagno C, Jovicich J, Sarubbo S. The role of the default mode network in longitudinal functional brain reorganization of brain glioma. **Brain Structure and Function**. **2022** (pubmed)

J8. Novello L, Henriques RN, Ianuş A, Feiweier T, Shemesh N, Jovicich J. In vivo Correlation Tensor MRI reveals microscopic kurtosis in the human brain on a clinical 3T scanner. **Neuroimage**. **2022** Mar 23:119137. (pubmed)

J9. Battal C, Gurtubay-Antolin A, Rezk M, Mattioni S, Bertonati G, Occelli V, Targher S, Maffei C, Jovicich J, Collignon O. Structural and functional network-level reorganization in the coding of auditory motion directions and sound source locations in the absence of vision. **J Neuroscience 2022** (pubmed)

J10. Abellaneda-Pérez K, Martin-Trias P, Cassé-Perrot C, Vaqué-Alcázar L, Lanteaume L, Solana E, Babiloni C, Lizio R, Junqué C, Bargalló N, Rossini PM, Micallef J, Truillet R, Charles E, Jouve E, Bordet R, Santamaria J, Rossi S, Pascual-Leone A, Blin O, Richardson J, Jovicich J, Bartrés-Faz D. BDNF Val66Met gene polymorphism modulates brain activity following rTMS-induced memory impairment. **Scientific Reports 2022** Jan 7;12(1):176. (pubmed)

J11. Boscolo Galazzo I, Brusini L, Akinci M, Cruciani F, Pitteri M, Ziccardi S, Bajrami A, Castellaro M, Salih AMA, Pizzini FB, Jovicich J, Calabrese M, Menegaz G. Unraveling the MRI-Based Microstructural Signatures Behind Primary Progressive and Relapsing-Remitting Multiple Sclerosis Phenotypes. **J Magn Reson Imaging. 2022** Jan;55(1):154-163. (pubmed)

J12. Novello L, Agarwal N, Vennarini S, Lorentini S, Zacà D, Mussano A, Pasternak O, Jovicich J. Longitudinal Changes in Brain Diffusion MRI Indices during and after Proton Beam Therapy in a Child with Pilocytic Astrocytoma: A Case Report. **Diagnostics 2021** Dec 23;12(1):26. doi: 10.3390/diagnostics12010026 (pubmed)

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Book chapters & Conference Papers

- Neuroscienze psichiatriche e computazionali (Paolo Brambilla, Minerva Medica, ISBN: 8855320688)
    - Connettomica strutturale e funzionale delle malattie psichiatriche - Connettomica funzionale e strutturale nelle psicosi all'esordio (Alessandro Pigoni, Francesca Saviola, Jorge Jovicich, Paolo Brambilla)
    - Connettomica strutturale e funzionale delle malattie psichiatriche - Connettomica della schizofrenia (Nicola Dusi, Francesca Saviola, Jorge Jovicich, Paolo Brambilla)
- Brainlesion 2020: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries. Lecture Notes in Computer Science, vol 12658. Springer, Cham.
    - Brusini L.,Boscolo Galazzo I., 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. (2021) Microstructural Modulations in the Hippocampus Allow to Characterizing Relapsing-Remitting Versus Primary Progressive Multiple Sclerosis.

Conference Abstracts

- Please refer to Appendix B for the complete list (≈210 abstracts)

Theses

- Max-Planck-Institute for Cognitive Neuroscience Leipzig, Germany, January 1999
  Ph.D. Thesis: *An investigation of the use of Gradient- and Spin-echo (GRASE) imaging for functional magnetic resonance imaging*

  Also, as book: Leipzig: Max Planck Institute of Cognitive Neuroscience, 1999 (MPI Series in Cognitive Neuroscience; 4). ISBN 3-9806089-3-X kart

- University of Aberdeen, United Kingdom, September 1994
  M.Sc. Thesis: *Physiological monitoring in a strong magnetic field*

- Universidad Nacional de Córdoba, Argentina, March 1993

Licenciate Physics Thesis: *Monte Carlo simulation of synchrotron radiation mammography*

Patent

- Jovicich J, Norris DG. Template Interactive Phase-Encoding (TIPE) for magnetic resonance imaging. Max-Planck-Gesellschaft. German patent 1998.

INVITED TALKS

- Jovicich J, Selection of molecular diffusion dynamic regimes using oscillating gradients with preclinical 9.4T and clinical 3T MRI, Corso di Alta Formazione - Le frontiere della RM in diffusione: nuovi metodi e applicazioni di ricerca in neurologia", Siemens Healthineers, April 14, 2023, Milan, Italy.
- Jovicich J. La plasticità cerebrale delle funzioni cognitive pre-, intra- e post-intervento neurochirurgico sovratentoriale: I: dagli strumenti alla clinica (plenary talk), X Theoretical-Practical course on neurosurgical neurophysiological monitoring, 16-17 December 2022, Mestre, Italy
- Jovicich J. Overview of data acquisition and pre-processing factors that affect brain diffusion MRI quality. 2019 School on Brain Connectomics, September 23-27, Verona, Italy
- Jovicich J. Extracting Brain networks by resting-state functional MRI. Connect Brain Vol. II, June 20, 2019, Trento, Italy. (Meeting Program)
- Jovicich J. and Sarubbo S. Medical Physics Section: Exciting the proton to study and save the brain: resting state functional connectivity in brain awake surgery. Medical Physics Department seminar, Centro Atomico Bariloche, 19th October 2018, Bariloche, Argentina.
- Jovicich J. The proton in dementia studies: brain quantitative magnetic resonance. 103ª Reunión de la Asociación Física Argentina, 17-20 2018, September, Buenos Aires, Argentina.
- Jovicich J. Two-year longitudinal monitoring of amnestic mild cognitive impairment patients with prodromal Alzheimer's disease using topographical biomarkers derived from resting state fMRI. 11th Biennial Conference Barcelona-Pittsburgh 23-25 May 2018, Barcelona, Spain
- Jovicich J. Quality assurance and denoising in functional brain MRI connectivity. IX Congresso della Associazione Italiana Risonanza Magnetica in Medicina - Italian Chapter di ISMRM, 10-11 Maggio 2018, Padova, Italia
- Jovicich J. A survey for neuroimaging harmonization needs for large-scale neurodegenerative biomarker studies. European Congress of Radiology, February 28- March 4 2018, Vienna, Austria
- Jovicich J. Neuroimágenes estructurales y funcionales con resonancia magnética, Instituto Balseiro, Noviembre 15, 2017, Bariloche, Argentina
- Jovicich J. Nuclear Magnetic Resonance Imaging: Applications in Neuroscience Research, 103rd National Congress of the Italian Physics Society, September 14, 2017, Trento, Italia
- Jovicich J. European Alzheimer's Disease Neuroimaging Initiative – World Wide Update Meeting, July 14, 2017, London, England.
- Jovicich J. Imágenes del cerebro como biomarcadores para la predicción del Alzheimer. Instituto Balseiro, Octubre 19, 2016, Bariloche, Argentina.
- Jovicich J. Indagine strutturale dei cambiamenti cerebrali dal decadimento cognitivo alle demenze. Presentation within the workshop: "Diagnosi precoce e trattamento della Sordità e delle Apnee notturne ostruttive (OSA) nella prevenzione del Decadimento Cognitivo, dell'Alzheimer e delle Demenze: Quale ruolo?". October 1st, 2016, Rovereto, Italy.
- Jovicich J. European ADNI. World Wide Alzheimer's Disease Neuroimaging Initiative, July 22, 2016, Toronto, Canada.
- Jovicich J. Natural head motion effects on structural MRI. LANVIE–Laboratoire de Neuroimagerie du Vieillissement. Hôpitaux Universitaires de Genève et Université de Genève. June 29, 2016, Geneva, Switzerland.
- Jovicich J. Evaluating MRI-derived neural dynamic markers. Network Dynamics and Complexity Workshop, Department of Physics and CIMEC, University of Trento. May 20, 2016, Trento, Italy.

- Jovicich J., Structural and functional brain MRI markers for neurodegenerative diseases: multi-site reliability and evaluations on amnestic mild cognitive impaired subjects. Center for Brain and Cognition, Universitat Pompeu Fabra, October 2, 2015.
- Jovicich J., Multicenter MRI studies: Italian Chapter International Society for Magnetic Resonance in Medicine Annual Meeting, Verona, Italy, April 16-17, 2015.
- Jovicich J., Multi-center test-retest rs-fMRI: preliminary experiences from Pharmacog, Alzheimer's Disease Neuroimaging Initiative (ADNI2) – Private Partner Scientific Board Meeting, Maryland USA, 7-8 November 2012.
- Jovicich J., Quality control for multicenter fMRI studies, Quality Control Mini Categorical Course, European Society for Magnetic Resonance in Medicine and Biology, Lisbon, Portugal, October 6, 2012.
- Jovicich J., Rikien Brain Science Institute, Tokyo, Japan. February 02, 2011.
- Jovicich J., IV European Conference of Medical Physics on: Advances in High Field MRI, Udine, Italy. 23-25 September, 2010.
- Jovicich J., Experiences and Optimisation of Multicentre MRI Research Studies, Scottish Imaging Network: A Platform for Scientific Excellence (SINAPSE). Edinburgh, United Kingdom, March 26 2010.
- Jovicich J., Facultad de Matemática, Astronomia y Física, Universidad Nacional de Córdoba, Córdoba, Argentina. November 12, 2008
- Jovicich J., Instituto Oncologico "Dr. Urrutia", Córdoba, Argentina. December 27, 2007.
- Jovicich J., Winter School of Biophotonics, University of Trento, Trento. February 25, 2007.
- Jovicich J., Department of Physics and Medical Technology VU University Medical Center, Amsterdam, The Netherlands. October 10 2006
- Jovicich J., The National Center for Research and Care of Alzheimer's Disease IRCCS San Giovanni di Dio FBF, Brescia, Italy. April 10 2006.
- Jovicich J., Red de Investigación para Informática Biomédica, Centro de Investigaciones en Química Biologica de Córdoba, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba, Córdoba, Argentina. July 2004.
- Jovicich J., Biomedical Informatics Research Network, The Key Lab of Cognitive Science, Institute of Biophysics, Chinese Academy of Science, Beijing, China. May 2004.
- Jovicich J., Basic Physics of MRI, for HST-532J Course: Hyperthermia: Biology, Technology, and Cancer Therapy, Health Science and Technology, Harvard-MIT, Boston, USA. April 2004

RESEARCH DISSEMINATION

- 16-17.12.2023, Auditorium Fausto Melotti, Rovereto
    - Alzheimer. Two days dedicated to the topic of dementia
    - Public: completely open

- 17.11.2023, Teatro G Sartori di Ala, Pronti Qua
    - Tumori cerebrali l'alleanza di cure, ricerca e sociale. Annual action organized by the Pronti Qua Association, in collaboration with the Neurosurgery Operating Unit, Santa Chiara Hospital, Trento (Silvio Sarubbo), the Bruno Kessler Foundation (Paolo Avesani) , and the CIMeC (J. Jovicich). Information and awareness evening for glioblastoma research, to create a network between relatives, family members and doctors, to give information and support to families facing this disease.

  - Public: completely open

- 03.05.2023, Liceo Scientifico Galileo Galilei, Trento
  - Dissemination presentation to students of the 3rd, 4th and 5th year, together with Dr Silvio Sarubbo (Neurosurgery Unit, APSS) and Dr. Paolo Avesani (Neuroinformatics Lab, Bruno Kessler Foundation)
  - Public: Students and parents

- 18.03.2023, Olimpiade delle Neuroscience, Trento
  - Public: Students participating at the Regional Trento Neuroscience Olympic evaluation, and instructors/parents accompanying them

- 01.12.2022, Teatro san Marco, Trento
  - Title: Tumori cerebrali l'alleanza di cure, ricerca e sociale
  - Initative: Associazione Pronti Qua
  - Public: General public

- 11.07.2022, Rovereto
  - Title: Insieme per migliorare trattamenti e prognosi in tumori
  - Initiative: J. Jovicich (CIMeC) and Silvio Sarubbo (APSS, Neurosurgery Unit)
  - Public: General public
  - University of Trento announcement
  - **TV:** interviews shown on the following news (July 11): della Rai , and Trentino Tv
  - **Online news**: l'Adigetto (July 11), il Dolomiti (July 12) e UnserTirol (July 12)
  - **Printed news**: l'Adige (July 12)
  - **Institutional channels**: Apss , UniTrento, ProvinciaAutonomaTrento

- 20-24 June, 2022, Rovereto & Mattarello
  - Title: Alternanza-Scuola Lavoro al CIMeC
  - Initiative: CIMeC & University of Trento (responsible J. Jovicich)
  - Public: 19 students from 7 high-schools (3rd and 4th year), Province of Trento, Italy
  - Facebook link (may need to copy link and paste on browser)

- 25 May, 2022, Clesio College
  - Title: Neuroimaging with MRI research
  - Initiative: Second Semester Seminars for Clesio College students
  - Public: open to University of Trento members
  - Related: Clesio College Scientific Committee member

- 29/11-01/12 .2021, Santa Chiara Hospital, Trento, Italy
  - Title: *Workshop Neuroscienze Cliniche e Neuro-imaging Avanzato*
  - Initiative: Evento organizzato dalla UO di Neurochirurgia con il supporto del Servizio Formazione di APSS e finalizzato alla presentazione delle attività e delle linee di ricerca del NeuSurPlan ad una platea di UUOO e centri di ricerca nazionali ed internazionali già partner, o potenziali tali, al fine di favorire la sinergia e lo sviluppo di ricerche complementari o supplementari. Evento promosso a mezzo social con la partecipazione di oltre 30 clinici e 20 ricercatori.

- 22.11.2021, Vigolo Vattaro, Trento, Italy
  - Title: *Serata di informazione e divulgazione scientifica sui tumori cerebrali*
  - Initiative: Evento organizzato dalla associazione Pronti Qua! In collaborazione con i clinici di APSS ed in ricercatori di APSS, CIMeC ed FBK coinvolti nelle attività del progetto

NeuSurPlan, con la partecipazione delle autorità di APSS e PAT e promosso a mezzo social e stampa

- 02.07.2021, Mattarello, University of Trento, Italy
  - Title: Una giornata al CIMeC - Lab sulle Neuroimmagini, Programma Alternanza Scuola/Lavoro UniTrento
  - Initiative: CIMeC & University of Trento (responsible J. Jovicich)

- 10.07.2019, Rovereto, Italy
  - Title: Studiando il cervello senza aprirlo con la risonanza magnetica: come si fa?
  - Initiative: "**CIMeC Città: alla scoperta della mente**"
  - Public: General public
  - University of Trento announcement
  - Facebook announcement
  - Twitter announcement
  - Local press

- 2018, University of Trento, Italy
  - Contribution for the generation of dissemination videos, coordinating those made at the MRI Laboratory
  - CIMEC presentation – Italian
  - CIMeC | Decennale del CIMeC all'Università di Trento
  - Magnetic Resonance Imaging Laboratory – Italian
  - Magnetic Resonance Imaging Laboratory – English

- 17.03.2018, University of Trento, Italy:
  - Title: **Neuroimmagini in neuroscienze: risonanza magnetica**
  - Initiative: "Olimpiade delle Neuroscienze – Selezione Regionale
  - Public: School students (13-19 years old), participating at the regional Neuroscience Olympics.

- 05.02.2018, Liceo Da Vini School, Trento, Italy
  - Title: **Neuroimmagine per lo studio della mente ed il cervello**
  - Initiative: Seminari Tematici
  - Public: School students (13-19 years old)

- 07.01.2018, Public Television, RAI 3, "Tapis Roulant"
  - Idea CIMeC

- 26.12.2017, **Trasmissioni Radio e TV:**
  - "*C'è qualcuno? Storie di neuroni*", ciclo di 13 interviste radiofoniche a cura della RAI Radio1 fascia regionale (in onda sulle frequenze fm 88.6, 91, 91.3 o 91.5 ogni martedì alle ore 12:25, subito dopo il radiogiornale locale)

- 29.10.2017, Public Italian Television, RAI for CIMeC's 10-year anniversary
  - VivinTretino

- 24.10.2016, Radio Nacional Bariloche
  - "El Balseiro en Nacional"

- 19.10.2016, Open public colloquium: Instituto Balseiro, Bariloche, Argentina
  - Title: "Imágenes del cerebro como biomarcadores para la predicción del Alzheimer"

- 23.09.2011, University of Trento, Trento, Italy:

  - Title: **Cervelli in Moto: Come funzionano le tecniche di analisi del cervello?**
  - Initiative: La notte dei ricercatori - Trento

- 2004: New arrivals Program, Umana/Barnes Middle School, 312 Border St East Boston, U.S.A
  - Volunteered to meet 6th grade class children to describe research in neuroscience, and to show them the MGH lab facilities. The goal is to motivate children to continue studying and to stimulate their curiosity for learning. Many of these children are native Spanish speakers who are just starting to learn English (March 2004)
  - Volunteered, along with other professionals, to assist to Career's Day describing the scientific career path (September 2004)