C U R R I C U L U M V I T A E

PERSONAL INFORMATION

Full Name: **STEFANO TAMBALO**

email**:** **tambalost@gmail.com**

I have worked for over 15 years on the development and application of Magnetic Resonance Imaging methods and data analysis in multidisciplinary environments. In my career, I have gained solid hands-on experience with clinical and experimental imaging devices and advanced image and data processing tools. I have significantly contributed to a wide range of research projects, including high field MRI for in vivo imaging of the Central Nervous System, characterization of nanoprobes and theranostic tools in experimental tumor models, multimodal contrast agents, development of MR imaging methods for cognitive neurosciences.

WORK EXPERIENCES

Current position: 2019 - today

Università di Trento, Center for Mind/Brain Sciences, MRI Lab

Piazza Manifattura, 1 38122 Rovereto (TN) IT

MRI Lab. Manager

2019

Centro Medico Salus

Via R. Kennedy, 16 37054 Nogara (VR) IT

Medical Radiographer

Università di Trento, Center for Mind/Brain Sciences, ACN Lab

Corso Bettini, 31 38068 Rovereto (TN) IT

Esperimenti di Manganese-Enhanced MRI per l'individuazione di circuiti neurali predisposti nell'embrione di pollo domestico (Gallus gallus) (P.I.: Prof. Giorgio Vallortigara).

2016/2019

Istituto Italiano di Tecnologia, Center for Neuroscience and Cognitive Systems,

Corso Bettini, 31 38068 Rovereto (TN) IT

Technician of MRI Research Line (P.I.: Prof. Angelo Bifone) (MRI, optical imaging, data analysis);

Laser Safety Officer

2012/2016

INSTM c/o Università di Verona, Piazzale L.A. Scuro, 10 37134 Verona IT

Research Grant – "Magnetic Nanoparticles for thermotherapy of tumors"

AIRC p.n. 11993 (MRI, AMF Hyperthermia, data analysis) (P.I.: Prof. Pasquina Marzola).

2011/2012

Università di Verona, Piazzale L.A. Scuro, 10 37134 Verona IT

Research Grant – "*in vivo* MRI experimentation and analysis of bioluminescent nano-compound with magnetic properties." (MRI, data analysis) (P.I.: Prof. Pasquina Marzola).

2010/2011

SUN – Seconda Univ. di Napoli, Piazza L. Miraglia 2, I° Policlinico 80138 Napoli IT

Research Grant - "Role of Glutamate metabotropic receptors in an experimental model of Multiple Sclerosis" (Data analysis) (P.I.: Prof. Pasquina Marzola).

2010

Università di Verona, Piazzale L.A. Scuro, 10 37134 Verona IT

Research Grant – "fMRI application to study neuronal plasticity in an experimental model of Multiple Sclerosis." (Experimental design, MRI, data analysis) (P.I.: Prof. Pasquina Marzola).

2010

Università di Verona, Piazzale L.A. Scuro, 10 37134 Verona IT

Research Grant – "*in vivo* MRI experimentation and analysis of bioluminescent nano-compound with magnetic properties." (MRI, data analysis) (P.I.: Prof. Pasquina Marzola).

2009/2010

Università di Verona, Piazzale L.A. Scuro, 10 37134 Verona IT

Research Grant – "fMRI application to study neuronal plasticity in an experimental model of Multiple Sclerosis." (MRI, data analysis) (P.I.: Prof. Pasquina Marzola).

2009

Università di Verona, Piazzale L.A. Scuro, 10 37134 Verona IT

Research Grant – "Design and implementation of pulmonary and manganese enhanced MRI." (Experimental design, MRI, data analysis) (P.I.: Prof. Pasquina Marzola).

2008

University of Antwerp, Groenenborgerlaan 171, 2020 Antwerpen, BE

Visiting Research Fellowship, fMRI in the rodent brain. (P.I.: Prof. Annemie Van Der Linden)

2006

Università di Verona, Piazzale L.A. Scuro, 10 37134 Verona IT

Grant: "Design and programming of MRI sequences for Chemical Shift Imaging applications." (MR Sequence design, data analysis) (P.I.: Prof. Pasquina Marzola).

2005-2007

Keyworld s.r.l.

ECDL Training Course – Teacher.

EDUCATION

2024

Università di Torino (Torino, IT)

Currently enrolled in the PhD Program in Physics, XL cycle

2023

Università di Trento (Trento, IT)

International Master's Degree in Cognitive Science (Cognitive Neuroscience track)

2013

Università degli studi di Verona, Facoltà di Medicina e Chirurgia (Verona, IT)

Degree in Medical Radiology Techniques, Imaging and Radiotherapy

2006

Università degli studi di Verona, Facoltà di Medicina e Chirurgia (Verona, IT)

1st Level Postgraduate Master: "Elaborazione informatica di dati biomedici e telecontrollo in medicina"

2004

Università degli studi di Padova, Facoltà di Ingegneria (Padova, IT)

Degree in IT Engineering

PUBLICATIONS (LAST 10 YEARS)

Cassone B, Saviola F, Tambalo S, Amico E, Hübner S, Sarubbo S, Van De Ville D, Jovicich J. "TR(Acking) Individuals Down: Exploring the Effect of Temporal Resolution in Resting-State Functional MRI Fingerprinting". **Hum Brain Mapp. 2025**

Hübner S, Tambalo S, Novello L, Hilbert T, Kober T, Jovicich J. Advancing Thalamic Nuclei Segmentation: The Impact of Compressed Sensing on MRI Processing. **Hum Brain Mapp. 2024**

Morciano F, Marcazzan C, Rella R, Tommasini O, Conti M, Belli P, Spagnolo A, Quaglia A, Tambalo S, Trisca AG, Rossati C, Fornasa F, Romanucci G. "Comparison of Visual and Quantra Software Mammographic Density Assessment According to BI-RADS® in 2D and 3D Images." **J Imaging. 2024**

Moretto M, Luciani BF, Zigiotto L, Saviola F, Tambalo S, Cabalo DG, Annicchiarico L, Venturini M, Jovicich J, Sarubbo S. "Resting State Functional Networks in Gliomas: Validation With Direct Electric Stimulation Using a New Tool for Planning Brain Resections." **Neurosurgery. 2024**

Boudreau M, Karakuzu A, Cohen-Adad J, …, Tambalo S, et al. "Repeat it without me: Crowdsourcing the T1 mapping common ground via the ISMRM reproducibility challenge". **Magnetic Resonance in Medicine** (2024)

Moretto M, Luciani B, Zigiotto L, Saviola F, Tambalo S, Cabalo DG, Annicchiarico L, Venturini M, Jovicich J, Sarubbo S. "Resting State Functional Networks in Gliomas: Validation With Direct Electric Stimulation of a New Tool for Planning Brain Resections". **Neurosurgery** (2024)

Cannella N, Tambalo S, et al. *"Long-access heroin self-administration induces region specific reduction of grey matter volume and microglia reactivity in the rat".* **Brain, Behavior, and Immunity** (2024)

Lorenzi E, Tambalo S, Vallortigara G, Bifone A. "*Manganese Enhanced Magnetic Resonance Imaging reveals light-induced brain asymmetry in embryos"*. **Elife** (2023)

Saviola F, Tambalo S, Cabalo DG, Novello L, Pierotti E, Rabini G, Dodich A, Turella L, Van De Ville D, Jovicich J. *"Head motion correction shapes functional network estimates: evidence from healthy and Parkinson's disease cohorts"*. bioRxiv, 2022.12. 26.520413 (2022)

Bontempi P, Podda R, Daducci A, Sonato N, Fattoretti P, Fiorini S, Tambalo S, Mosconi E, Merigo F, Balietti M, Marzola P. "*MRI characterization of rat brain aging at structural and functional level: Clues for translational applications"*. **Exp Gerontol**. (2021)

Haaranen M, Scuppa G, Tambalo S, Järvi V, Bertozzi SM, Armirotti A, Sommer WH, Bifone A, Hyytiä P. "*Anterior insula stimulation suppresses appetitive behavior while inducing forebrain activation in alcohol-preferring rats"*. **Transl Psychiatry** (2020)**.**

Giri, R., Dorigoni, C., Tambalo, S., Gorrini, F., Bifone, A. "*Selective measurement of charge dynamics in an ensemble of nitrogen-vacancy centers in nanodiamond and bulk diamond"*, **Physical Review B** (2019)

Arosio P, Albino M, Orsini F, Ferruti P, Manfredi A, Cabrera L, Caneschi A, Marzola P, Tambalo S, Nicolato E, Sangregorio C, Lascialfari A, Ranucci E. "*Multifunctional Nanovectors Based on Polyamidoamine Polymers for Theranostic Application"*. **J Nanosci Nanotechnol**. (2019)

Gorrini, F., Giri, R., Avalos, CE., Tambalo, S., Mannucci, S., Basso, L., Bazzanella, N., Dorigoni, C., Cazzanelli, M., Marzola, P., Miotello, A., Bifone A. *"Fast and sensitive detection of paramagnetic species using coupled charge and spin dynamics in strongly fluorescent nanodiamonds"*, **ACS applied materials & interfaces** (2019)

Scuppa, G., Tambalo, S., Pfarr, S., Sommer, W.H., Bifone, A. *"Aberrant insular cortex connectivity in abstinent alcohol dependent rats is reversed by dopamine D3 receptor blockade",* **Addiction Biology** (2019)

Tambalo, S., Scuppa, G., Bifone, A. *"Segmented Echo Planar Imaging Improves Detection of Subcortical Functional Networks",* **Scientific Reports** (2019)

Arosio P., Albino M., Orsini F., Ferruti P., Manfredi A., Cabrera L., Caneschi A., Marzola P., Tambalo S., Nicolato E., Sangregorio C., Lascialfari A., Ranucci E.. *"Multifunctional nanovectors based on polyamidoamine polymers for theranostic application"*, **Journal of nanoscience and nanotechnology** (2019)

Giri, R., Gorrini, F., Dorigoni, C., Avalos, C.E., Cazzanelli, M., Tambalo, S., Bifone, A. *"Coupled charge and spin dynamics in high-density ensembles of nitrogen-vacancy centers in diamond.",* **Physical Review B** (2018)

Mannucci, S., Tambalo, S., Conti, G., Ghin, L., Milanese, A., Carboncino, A., Nicolato, E., Marinozzi, M.R., Benati, D., Bassi, R., Marzola, P., Sbarbati, A. *"Magnetosomes Extracted from Magnetospirillum gryphiswaldense as Theranostic Agents in an Experimental Model of Glioblastoma."* **Contrast Media and Molecular Imaging** (2018)

Marinozzi, M.R., Pandolfi, L., Malatesta, M., Colombo, M., Collico, V., Lievens, P.M.-J., Tambalo, S., Lasconi, C., Vurro, F., Boschi, F., Mannucci, S., Sbarbati, A., Prosperi, D., Calderan, L. *"Innovative approach to safely induce controlled lipolysis by superparamagnetic iron oxide nanoparticles-mediated hyperthermic treatment."* **International Journal of Biochemistry and Cell Biology** (2017)

Stefano Tambalo*, Luca Peruzzotti-Jametti*, Roberta Rigolio*, Silvia Fiorini, Pietro Bontempi, Giulia Mallucci, Beatrice Balzarotti, Paola Marmiroli, Andrea Sbarbati, Guido Cavaletti, Stefano Pluchino and Pasquina Marzola. *"Functional Magnetic Resonance Imaging of Rats with Experimental Autoimmune Encephalomyelitis Reveals Brain Cortex Remodeling.*" *equal contribution. **Journal of Neuroscience** (2015)

Orlando T, Mannucci S, Fantechi E, Conti G, Tambalo S, Busato A, Innocenti C, Ghin L, Bassi R, Arosio P, Orsini F, Sangregorio C, Corti M, Casula MF, Marzola P, Lascialfari A, Sbarbati A. *"Characterization of magnetic nanoparticles from Magnetospirillum Gryphiswaldense as potential theranostics tools."* **Contrast Media and Molecular Imaging** (2015)

ABSTRACTS, POSTERS, PROCEEDINGS, BOOK CHAPTERS (LAST 10 YEARS)

Moretto M, Luciani B, Zigiotto L, Saviola F, Tambalo S, Cabalo D, Venturini M, Annicchiarico L, Sarubbo S, Jovicich J. A comparative analysis of resting-state fMRI and direct electrical stimulation for presurgical functional mapping in glioma, **GliMR 4th Annual Meeting**, Porto, Portugal, May 3, 2023.

Cassone B, Moretto M, Tambalo S, Saviola F,Zigiotto L, Venturini M, Annicchiarico L, Sarubbo S, Jovicich J, Intrinsic functional connectivity fingerprinting reveals more heterogeneous network organization in high- than in low-grade glioma patients, **GliMR 4th Annual Meeting**, Porto, Portugal, May 5, 2023. PRIZE FOR BEST ABSTRACT PRESENTATION

Moretto M.; Luciani B.F.; Saviola F.; Tambalo S.; Zigiotto L.; Cabalo D.G., Annicchiarico L.; Venturini M.; Sarubbo S., Jovicich J. Functional mapping in gliomas: a comparison between presurgical resting-state fMRI and intraoperative Direct Electrical Stimulation. **International Society for Magnetic Resonance in Medicine** - Annual 2023 Meeting, Toronto, Canada Giugno 3-8, 2023. Abstract 2332.

Cassone B, Saviola F, Tambalo S, Amico E, Van De Ville D, Jovicich J. TR(acking) individuals down: Exploring the effect of temporal resolution in resting-state fingerprinting. **International Society for Magnetic Resonance in Medicine** - Annual 2023 Meeting, Toronto, Canada Giugno 3-8, 2023. Abstract 4061.

Hübner S, Tambalo S, Kober T. Jovicich J. Human brain thalamic nuclei segmentation: compressed-sensing MRI acceleration effects on 3D MPRAGE variants for clinical 3T. **International Society for Magnetic Resonance in Medicine** - Annual 2023 Meeting, Toronto, Canada Giugno 3-8, 2023. Abstract 5084.

Tambalo S, Hübner S, Saviola F, Kober T. Jovicich J. Compressed-sensing MPRRAGE accelerates automated voxel placement for 1-H MRS of the human brain. **International Society for Magnetic Resonance in Medicine** - Annual 2023 Meeting, Toronto, Canada Giugno 3-8, 2023. Abstract 5148

Beghini L, Saviola F, Tambalo S, Jovicich J. Detection of GABA dynamics with edited functional MR spectroscopy at 3 Tesla: a comparison of modelling strategies. **International Society for Magnetic Resonance in Medicine** - Annual 2022 Meeting, London U.K., May 7-12, 2022. Abstract 3680 (digital poster).

Saviola F, Tambalo S, Van De Ville D, Jovicich J. Temporal resolution impacts in-vivo human brain dynamic functional MRI connectivity. **International Society for Magnetic Resonance in Medicine** - Annual 2022 Meeting, London U.K., May 7-12, 2022. Abstract 0999 (digital poster).

Saviola F, Tambalo S, Gift-Cabalo D, Novello L, Pierotti E, Dodich A, Papagno C, Turella L, Van De Ville D, Jovicich J. Static and dynaic connectivity are differentially affected by head moton: a healthy control and Parkinson's disease study. **International Society for Magnetic Resonance in Medicine** - Annual 2022 Meeting, London U.K., May 7-12, 2022. Abstract 2476 (digital poster).

Luciani F, Gift Cabalo D, Saviola F, Zigiotto L, Tambalo S, Zacà D, Novello L, Sarubbo S, Jovicich J. Low-grade glioma resting-state fMRI pre-operative maps: a comparison with functional atlas from direct electrode stimulation. **International Society for Magnetic**

Resonance in Medicine - Annual 2022 Meeting, London U.K., May 7-12, 2022. (digital poster).

Saviola F, Zigiotto L, Tambalo S, Annicchiarico L, Corsini F, Rozzanigo U, Sarubbo S, Jovicich J. Intrinsic dynamic functional connectivity in brain gliomas. **Organization of Human Brain Mapping** - Annual 2022 Meeting, Glasgow U.K., 19-23 June 2022. (digital poster).

Luciani BL, Saviola F, Zigiotto L, Tambalo S, Zacà D, Novello L, Sarubbo S, Jovicich J.. Post-surgery network reorganization in glioma patients: a longitudinal study of functional segregation and centrality. **International Society for Magnetic Resonance in Medicine** - Annual 2021 Meeting, Abstract 4755 (digital poster)

Saviola F, Tambalo S, Jovicich J. Temporal filtering affects time-varying functional connectivity metrics of the human brain. **International Society for Magnetic Resonance in Medicine** - Annual 2021 Meeting, Abstract 4445 (digital poster)

Tambalo S, Finora A, Cavalli D, Jovicich J. Fast T1 mapping: Accuracy and reproducibility of volumetric sequences for relaxometry. **International Society for Magnetic Resonance in Medicine** - Annual 2021 Meeting, Abstract 5145 (digital poster)

Tambalo S, Pederzzoli R, Spagnolo A, Novello L, Jovicich J. Automatic detection of poor “fat-suppression-like” artifacts in brain diffusion MRI. **International Society for Magnetic Resonance in Medicine** - Annual 2021 Meeting, Abstract 4673 (digital poster)

Tomezzoli G, Novello L, Saviola F, Tambalo S, Luciani BF, Pierotti E, Charroud C, Gober A, Giacomoni F, Narduzzi P, Meli C, Falla M, Dodich A, Turella L, Papagno C, Jovicich J, Evidence on the association between executive functions and tractography-derived nodal properties in Parkinson's disease **International Society for Magnetic Resonance in Medicine** - Annual 2021 Meeting, Abstract 2562 (digital poster)

Beghini L, Saviola F, Tambalo S, Jovicich J. Interleaved acquisition of GABA and BOLD fluctuations in a clinical 3T MRI system: a phantom study. **Organization for Human Brain Mapping** - Annual meeting 2021, Abstract 2288 (digital poster)

Tomezzoli G, Novello L, Saviola F, Tambalo S, Luciani BF, Pierotti E, Charroud C, Gober A, Giacomoni F, Narduzzi P, Meli C, Falla M, Dodich A, Turella L, Papagno C, Jovicich J, Executive function performance and brain nodal properties in Parkinson's Disease. **Organization of Human Brain Mapping** - Annual 2021 Meeting, Abstract 2336 (digital poster)

Saviola, F, Tambalo S, Jovicich J. Time-varying functional brain connectivity: temporal resolution and temporal filtering effects. **Organization of Human Brain Mapping** - Annual 2021 Meeting, Abstract 2232 (digital poster)

Luciani BF, Saviola F, Zigiotto L, Tambalo S, Zacà D, Novello L, Sarubbo S, Jovicich J. Longitudinal functional connectomic changes in post-surgery glioma patients. **Organization of Human Brain Mapping** - Annual 2021 Meeting, Abstract 2249 (digital poster)

Gift Cabalo D, Saviola F, Tambalo S, Luciani B., Zacà D, Zigiotto L, Sarubbo S, Jovicich J. Automated identification of key resting-state fMRI networks in preoperative glioma patients. **Organization of Human Brain Mapping** - Annual 2021 Meeting, Abstract 2673 (digital poster)

Tambalo S, Saviola F, Jovicich J. Fieldmap based unwarping of EPI images improves susceptibility induced distortions and spatial localization of DMN. Annual **International Society for Magnetic Resonance in Medicine** - Italian Chapter, 2020, Digital poster

Novello L, Tambalo S, Feiweier T, Jovicich, J. Double-diffusion-encoding MRI: Phantom evaluation of concomitant gradient effects with single- and twice-refocused sequences. Annual **International Society for Magnetic Resonance in Medicine** - Italian Chapter, 2020, Digital poster

Luciani B, Saviola F, Zigotto L, Tambalo S, Zacà D, Sarubbo S, Jovicich J. The role of glioma grade, lateralization and network hubs in post-surgical longitudinal recovery: a graph theory

study of intrinsic functional MRI. Annual **International Society for Magnetic Resonance in Medicine** - Italian Chapter, 2000, Digital poster

Novello L, Tambalo S, Feiweier T, Jovicich J - Double-Diffusion-Encoding MRI: phantom evaluation of concomitant gradient effects with single- and twice-refocused sequences – Annual **International Society for Magnetic Resonance in Medicine** MeetingOnline Meeting 2020, Digital Poster

Impact of fat suppression methods on ADC quantification in abdomen Diffusion Weighted Imaging. **European Congress of Radiology** 2018 D. Cavalli, S. Tambalo, G. Todesco, N. Cardobi, R. Pozzi-Mucelli

ISMRM Italian Chapter, Verona (IT); Oral Communication: “Quantitative assessment of fat suppression efficiency in 3D abdominopelvic MRI sequences.” Tambalo S, Cavalli D, Ventura B, Cardobi N, Zamboni G, Pozzi Mucelli R. 2015.

COURSES

2022

MRS 2022: Overcoming the Barriers to Clinical Use - Online, Center for Biomedical Imaging https://cibm.ch

2020

FSL Mini-Course on Arterial Spin Labeling (BASIL) - Online University of Nottingham https://www.nottingham.ac.uk/

2020

Siemens IDEA Sequence Programming - VIRTUAL - MR8SDE

2010

CNR, Pisa (PI)

“AFNI & SUMA workshop 2010”

Training on FMRI data analysis.

2009

Università degli Studi di Verona (VR)

“Progetto Challenge: Professionisti per lo sviluppo del distretto calzaturiero e

delle imprese.” R&D strategies for industries and organizations

2007

University of Antwerp, Antwerp (BE)

“microMRI Technology.” Experimental and Advanced preclinical MRI techniques: perfusion, bolus tracking, fMRI, DWI/DTI.

2007

Bruker BioSpin MRI GmbH, Ettlingen (DE)

“European Users’ Meeting”

TEACHING

2023 - today

Università degli studi di Verona, Facoltà di Medicina e Chirurgia (Verona, IT)

Post-graduate Master: Master in Risonanza Magnetica: Tecniche di Acquisizione, Ottimizzazione e Analisi di Immagine

Course: Introduzione alla programmazione (Matlab) (12h)

Course: Introduzione alla programmazione delle sequenze RM (12h)

Course: Tecniche avanzate (DWI, fMRI, DTI, ASL, qMRI, PWI e Relaxometry) (24h)

Course: Image Processing (24h)

2017 - today

Medical Radiology Techniques, Imaging and Radiotherapy

Seminar: "Experimental MR Contrast Agents" (4h)

Seminar: "Advanced MR Imaging (fMRI, DWI/DTI)" (4h)

Seminar: "Quantitative MRI in Neuroimaging" (2h)

Course: "Evidence Based Radiography" (12h)

2016

Università degli studi di Verona, Facoltà di Medicina e Chirurgia (Verona, IT)

Medical Radiology Techniques, Imaging and Radiotherapy

Seminar: "Experimental MR Contrast Agents" (4h)2015

Università degli Studi di Verona (VR)

PhD program in Multimodal Imaging in Biomedicine

"Preclinical FMRI: methods and applications" (2h)

Università degli studi di Verona, Facoltà di Medicina e Chirurgia (Verona, IT)
Medical Radiology Techniques, Imaging and Radiotherapy

Seminar: "Experimental MR Contrast Agents" (4h)

2014

Università degli studi di Verona, Facoltà di Medicina e Chirurgia (Verona, IT)

Medical Radiology Techniques, Imaging and Radiotherapy

Seminar: "Introduzione all'analisi di immagini biomediche" (4h)

Università degli Studi di Verona (VR)

PhD program in Multimodal Imaging in Biomedicine

"Preclinical FMRI: methods and applications" (2h)

2013

Università degli Studi di Verona (VR)

PhD program in Multimodal Imaging in Biomedicine

"Preclinical FMRI: methods and applications" (2h)

AWARDS

2010

Conti, G, Tambalo, S, Villetti, G, Catinella, S, Carnini, C, Bassani, F, Sonato, N, Sbarbati, A, Marzola, P: *"Evaluation of lung inflammation induced by intratracheal administration of LPS in mice: comparison between MRI and histology".*

Young Investigators Award, 2nd place, ESMRMB Annual Meeting, Antalya Turkey.

FOREIGN LANGUAGES

ENGLISH (TOEFL 2006, UNIV. OF VERONA 2013: B1, UNIV. OF TRENTO 2020: B2)

Reading EXCELLENT

Writing GOOD

Speaking GOOD

IT SKILLS

Operating Systems: *MacOS, Linux/UNIX, MS Windows*.

Programming Languages: *Matlab, Python, Java, C++, shell scripting*.

Data Analysis: *Matlab, R, FSL, SPM, AFNI, ImageJ*.

MRI Software: *Bruker ParaVision*, *Spinsolve NMR, Siemens Syngo*

DRIVING LICENCES

A, B