TOMMASO VOLPI, M.D., Ph.D.

Curriculum Vitae

Researcher unique identifier(s): **ORCID:** 0000-0002-5451-6710

Date of birth: June 11th, 1992
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CURRENT POSITION

Nov 2022– **Postdoctoral Associate**
Yale PET Center, Department of Radiology and Biomedical Imaging, Yale University School of Medicine, New Haven, CT, USA

Main supervisor: Prof. Richard E. Carson
Other supervisors: Prof. Deepak Cyril D'Souza, Prof. Ansel T. Hillmer, Dr. Sophie Holmes, Dr. Jean-Dominique Gallezot, Prof. David Matuskey

Research areas: PET kinetic modeling, arterial input functions, synaptic density, receptor occupancy, pharmacokinetic/pharmacodynamic modeling, resting-state fMRI, multimodal integration, schizophrenia, Parkinson's disease, epilepsy, non-human primates, bolus/infusion [^{18}F]FDG PET for task studies.

Grant involvement:

- U01EB029811: NeuroExplorer: Ultra-high Performance Human Brain PET Imager for Highly-resolved In Vivo Imaging of Neurochemistry (PI: Richard E. Carson)
- U01MH107803: A Program for Innovative PET Radioligand Development and Application - A Translational Toolbox for Treatments for Mental Health (PI: Richard E. Carson, Henry Huang)
- R21MH123870: Preliminary studies of muscarinic M1 receptor availability and cognition in schizophrenia (PI: Rajiv Radhakrishnan, Deepak D'Souza)
- R01NS125482: Identifying and targeting the neural basis of depression in Parkinson's disease (PI: Sophie Holmes)
- R01MH131551: Neuroimaging Cholinergic Mechanisms of Fear Extinction in PTSD (PI: Ansel Hillmer)
- R21EB026759: Non-invasive Estimation of the Arterial Input Function in PET Studies using Whole-Body Physiological Models (PI: Jean-Dominique Gallezot)

PREVIOUS POSITIONS

2019–2022 **PhD Student in Neuroscience**
Padova Neuroscience Center, University of Padova, IT

Supervisors: Profs. Alessandra Bertoldo, Maurizio Corbetta

Thesis title: "Investigating the brain's "dark energy" through the complex coupling of [^{18}F]FDG PET and resting-state functional MRI".
Thesis defense: January 2023

Research areas: PET kinetic modeling, parametric mapping of microparameters (Variational Bayesian approach), image-derived input functions, venous plasma samples modeling, nonlinear mixed-effects modeling, resting-state fMRI, multimodal integration, PET connectivity modeling.

2018 Dec– 2019 Jul **Research fellow**
Department of Neurosciences, University of Padova, Italy

2019 Jan– 2019 Jun **Visiting Scholar**,
Department of Neurology, Washington University in Saint Louis, Missouri, USA

Research areas: cluster analysis on structural MRI, functional MRI and behavioral data from stroke patients.
Supervisor: Prof. Gordon L. Shulman

EDUCATION

2018 Mar **Medical License**,
Order of Physicians and Surgeons, Padova, Italy

2017 Sep **Doctor of Medicine (M.D.) degree**,
University of Padova, Italy
Final grade: 110/110 cum laude
Thesis: "Patterns of brain atrophy and hypometabolism associated with C9ORF72 mutation in the FTD/ALS spectrum"
Supervisor: Prof. Annachiara Cagnin

PERSONAL SKILLS

Mother Language Italian

Other Languages English (Proficient), French (Basic)

RESEARCH AND PROFESSIONAL SKILLS

Computer skills
Linux/Windows/MacOS user
MATLAB (Proficient)
R (Intermediate)
Python (Basic)
Bash (Intermediate)
LaTeX (Intermediate)
IDL (Basic)
Microsoft Office – Word, Excel, Power Point (Proficient)
Graphic and video editing (Intermediate)

PET Image Analysis
Extensive experience in **PET kinetic modeling at region and voxel level**
Tracers: [^{18}F]FDG, [^{15}O]H_2O, [^{15}O]O_2, [^{11}C]UCB-J, [^{18}F]SynVesT-1, [^{11}C]LSN3172176, [^{18}F]Flubatine, [^{18}F]FPEB, [^{18}F]FE-PE2I, [^{11}C]PHNO, [^{11}C]DASB, [^{18}F]ASEM, [^{18}F]GATT-44, [^{18}F]PF-06809247, [^{18}F]K-40.
Modeling: compartment modeling, reference tissue modeling (SRTM, FRTM, MRTM), spectral analysis, graphical methods (Patlak, Logan), semiquantitative approaches (SUVR)
Noninvasive input function extraction and modeling: image-derived input functions, kinetic approaches to recover plasma input function
PET connectivity estimation: across-subject, single-subject (Euclidean similarity analysis).

MR Image Analysis
Experience in **Structural MRI preprocessing**
Tasks: Bias field correction, brain extraction, tissue segmentation, image registration, normalization, surface mapping (*ANTs, FSL, Freesurfer, Bioimage Suite*)

Experience in **Resting-state Functional MRI preprocessing**
Tasks: Slice time correction, motion correction, nuisance regression, filtering, normalization, surface mapping (*ANTs, FSL, Freesurfer, Workbench*)
Experience in **Resting-state Functional MRI analysis**
Tasks: Extraction of signal-based features, regional homogeneity, static functional connectivity, time-varying functional connectivity.

Statistical skills

Experience in
Descriptive statistics
Statistical testing (parametric and nonparametric)
Linear regression modeling
Regularization for multilinear models (ridge, LASSO, elastic net)
Feature selection approaches for multiple regression
Nonlinear regression modeling
Population modeling (linear, nonlinear mixed-effects models)
Principal, independent component analysis
Cluster analysis
Sparse inverse covariance estimation
Partial least squares, canonical correlation analysis

Data Acquisition

Yale University: **NeuroEXPLORER human data**
Aim: collecting multi-tracer PET data ([^{18}F]FDG, [^{18}F]SynVesT-1, [^{18}F]FE-PE2I, [^{18}F]FPEB, [^{18}F]Flubatine, [^{11}C]PHNO, [^{11}C]DASB) with arterial blood sampling on the NeuroEXPLORER.
PI: Richard Carson

University of Padova: "**BrainMap" Project**
Aim: simultaneously collecting dynamic [^{18}F]FDG PET, MRI (T1w MPRAGE, diffusion MRI, resting-state fMRI) and high-density EEG data (256 channels) on a Siemens Biograph mMR scanner to explore multimodal relationships
PIs: Alessandra Bertoldo, Maurizio Corbetta, Diego Cecchin

GRANTS, FELLOWSHIPS AND AWARDS

2025 Nov **Yale Biomedical Imaging Institute Fund for Exploratory Studies Program (*awarded*)**
"Towards MRS-Calibrated PET for Brain-Wide Measurements of GABA concentrations"
PIs: Robin de Graaf, Richard E. Carson, Tommaso Volpi

2025 Oct **NIH K99/R00 Pathway to Independence Award (*submitted*)**
"Imaging GABA Transporter and Inhibitory Tone Dysfunction in Schizophrenia"
PI: Tommaso Volpi
Mentors: Richard E. Carson, Deepak Cyril D'Souza, James McPartland

2025 Jun ***JNM* Editors' Choice Awards for 2024**
Li et al. "Performance Characteristics of the NeuroEXPLORER, a Next-Generation Human Brain PET/CT Imager"

SNMMI 2025, New Orleans, LA, USA

2025 Jun **Early Career Investigator Travel Bursary Awardee**
Brain & Brain PET 2025, Seoul, South Korea

2024 Jun **Physics, Instrumentation and Data Sciences Council (PIDSC) Young Investigator Award 2024 Finalist (Honorable Mention)**
SNMMI 2024, Toronto, ON, CA

2024 Jun **SNMMI 2024 Image of the Year Award**
Abstract: Exceptional Brain PET Images from the NeuroEXPLORER: Scans with Targeted Radiopharmaceuticals and Comparison to HRRT

2023 Sep **NIH Travel Award 2023 Awardee**
WMIC 2023, Prague, CZ

2023 Jun **Brain Imaging Council Travel Award 2023 Awardee**
SNMMI 2023, Chicago, IL, USA

2023 Jun **Early Career Investigator Travel Bursary Awardee**
Brain & Brain PET 2023, Brisbane, Australia

2023 Jun **"Niels Lassen" Award Finalist**
Brain & Brain PET 2023, Brisbane, Australia
Abstract: "Modeling the relationship between PET measures of synaptic density from [^{11}C]UCB-J and [^{18}F]SynVesT-1 tracers"

2022 Jul **EMBC 2022 Student Paper Competition Finalist**
EMBC 2022, Glasgow, Scotland, UK
Paper: "Modeling venous plasma samples in [18F]FDG PET studies: a nonlinear mixed-effects approach"

2022 Jun **"Niels Lassen" Award Finalist**
Brain & Brain PET 2022, Glasgow, Scotland, UK
Abstract: "The spatial organization of [^{18}F]FDG inflow and phosphorylation and their association with resting-state fMRI measures"

2022 Jun **Early Career Investigator Travel Bursary Awardee**
Brain & Brain PET 2022, Glasgow, Scotland, UK

2020 Oct **Gamma Prize – PET contest 2020 for Best Oral Proffered Talk**
PET is Wonderful 2020 Conference (virtual)
Abstract: "The negative relationship between brain metabolism and its network dynamics: stability requires more energy"

INVITATIONS FOR CONFERENCES AND LECTURES

2025 Jun **Invited speaker, Symposium "Current Advances in Molecular Connectivity", Brain and Brain PET 2025**
Talk title: Tracer Kinetics and Single-Subject PET Connectivity: Methods and Applications.

2025 Apr **Invited speaker, NIMH-Yale-Copenhagen-Karolinska Group Meeting**

Talk title: Towards True Image-Derived Input Functions on the NeuroEXPLORER.

2024 Jun **Invited speaker, Molecular Connectivity Working Group Online Series**
Talk title: Molecular connectivity & dynamic PET: comparing time series and subject series approaches.

2024 May **Invited speaker, PET PK Course 2024**
Talk title: Exploring Kinetics with the NeuroEXPLORER.

2023 Jul **Invited speaker, Brain and Brain PET 2023**
Talk title: Investigating the complex relationship between glucose metabolism and the structural and functional properties of the human brain.

2022 Sep **Invited speaker ("Gamma Prize" Winner)**
PET is Wonderful 2022 Conference, University of Edinburgh, Scotland
Talk title: Quantitative [^{18}F]FDG brain studies with image-derived input functions: impact of different extraction sites.

2022 Jul **Chair of session "Data Driven Systems and Knowledge Modeling"**
IEEE EMBC 2022, Glasgow, Scotland

2022 May **Chair of session "Aging and Dementia"**
Brain & Brain PET 2022, Glasgow, Scotland

2022 Feb **Invited speaker for 1-hr Lecture on PET quantification**
GIGA, University of Liège, Belgium
Talk title: From compartmental modeling to SUV: a (personal) journey into PET quantification.

2021 Oct **Invited speaker at [^{18}F]FDG PET Workshop**
"Assessing Brain Glucose Metabolism in Patients with Disorders of Consciousness: from Acquisition to Interpretation"
GIGA Consciousness group, University of Liège, Belgium
Talk title: Principles of [^{18}F]FDG Tracer Kinetics.

2021 Jun **Invited speaker at Symposium "PET imaging of brain connectivity: hype or future?"**
OHBM 2021 (virtual meeting)
Organizers: Dr. Arianna Sala, Dr. Igor Yakushev

SUPERVISION OF STUDENTS

2025– **Co-Supervisor of 2 Postdoctoral Associates**
Department of Radiology and Biomedical Imaging, Yale University
Supervisor: Prof. Richard E. Carson

2025– **Co-Supervisor of 1 B.S. Student**
Department of Computer Science and Mathematics, Yale University
Supervisor: Prof. Richard E. Carson

2024 **Co-Supervisor of 1 B.S. Student**
Department of Biomedical Engineering, Yale University
Supervisor: Prof. Richard E. Carson

2023– **Co-Supervisor of 1 M.D./Ph.D. Student**
Department of Radiology, Biomedical Engineering, Yale University
Supervisor: Prof. Richard E. Carson

2021–2022 **Co-Supervisor of 2 M.S. theses in Bioengineering**,
Department of Information Engineering, University of Padova, Italy
Supervisor: Prof. Alessandra Bertoldo

TEACHING ACTIVITIES

2025 **Lecture, "Opportunities for kinetic modeling with ultra-high performance PET scanners**
Judge for Course Exams
Course: "Pharmacokinetics and Pharmacodynamics in Neuropharmacology"
Department of Radiology and Biomedical Imaging, Yale University, US
Coordinators: Profs. Jason Cai, Nicolas Guehl

2024 **Lecture, "Opportunities for kinetic modeling with ultra-high performance PET scanners**
Course: "Pharmacokinetics and Pharmacodynamics in Neuropharmacology"
Department of Radiology and Biomedical Imaging, Yale University, US
Coordinator: Prof. Jason Cai

2021-2022 **Tutoring activity**
Course: "Biomarkers, Precision Medicine and Drug Development"
Master's degree in Bioengineering
Department of Information Engineering, University of Padova, Italy
Coordinator: Prof. Mattia Veronese

2020 – 2022 **Tutoring activity**
Course: "Imaging for neuroscience"
Master's degree in Bioengineering
Department of Information Engineering, University of Padova, Italy
Coordinator: Prof. Alessandra Bertoldo

EDITORIAL AND REVIEWING ACTIVITIES

2025– Topic Coordinator for **Frontiers in Neuroscience (*ongoing*)**
Research Topic: Advances in Brain PET imaging for quantification of physiological processes.
Topic Editors: Nicolas Guehl, Maeva Dhaynaut

Reviewer for **Journal of Nuclear Medicine**, **eLife**, **Communications Biology, Communications Medicine, Cerebral Cortex, Neuroimage, Human Brain Mapping**, **Journal of Healthcare Informatics Research**, **Frontiers in Neuroscience, Medical Physics, Network Neuroscience, Frontiers in Human Neuroscience, EJNMMI Physics**, **Frontiers in Nuclear Medicine, Imaging Neuroscience.**

Reviewer for **NeuroReceptor Mapping (NRM) 2021**.

MEMBERSHIPS IN SCIENTIFIC SOCIETIES

2024– Molecular Connectivity Working Group (**MCWG**)
Validation Council, Symposium Council

2023 World Molecular Imaging Society (**WMIS**)

2023– Society of Nuclear Medicine and Molecular Imaging (**SNMMI**)

2022– International Society for Cerebral Blood Flow and Metabolism (**ISCBFM**)

2021– Institute of Electrical and Electronics Engineers (**IEEE**), Engineering in Medicine and Biology Society (**EMBS**), Nuclear and Plasma Sciences Society (**NPSS**)

2020 International Society for Magnetic Resonance in Medicine (**ISMRM**)

ATTENDED INTERNATIONAL CONFERENCES

2026 **ACNP Annual Meeting (*to be attended*)**
Nassau, Bahamas
1 Poster Presentation

2025 **SNMMI Annual Meeting**
New Orleans, US
1 Oral Presentation and 1 Poster Presentation

2025 **Brain & Brain PET 2025**
Seoul, South Korea
2 Oral Presentation and 3 Poster Presentations
Speaker at symposium “Current Advances in Molecular Connectivity”.

2024 **IEEE NSS/MIC/RTSD**
Tampa, Florida
1 Poster Presentation

2024 **SNMMI Annual Meeting**
Toronto, Canada
2 Oral Presentation and 1 Poster Presentation

2024 **NRM 2024**
Montreal, Canada
1 Oral Presentation and 3 Poster Presentations

2023 **World Molecular Imaging Conference 2023**
Prague, Czech Republic
1 Oral Presentation

2023 **SNMMI Annual Meeting 2023**
Chicago, IL, USA
1 Oral Presentation and 1 Poster Presentation

2023 **Brain & Brain PET 2023**
Brisbane, Australia

2 Oral Presentations

2022 **PET is Wonderful 2022**
Edinburgh, Scotland, UK
"*Gamma Prize*" Talk

2022 **Engineering in Medicine and Biology (EMBC) 2022**
Glasgow, Scotland, UK
2 Conference Papers accepted for Oral Presentations, Chair of one session

2022 **Brain & Brain PET 2022**
Glasgow, Scotland, UK
3 Oral Presentations, 2 Poster Presentations, Chair of one session

2021 **NRM 2021**
Virtual meeting
3 Poster Presentations

2021 **EMBC 2021**
Virtual meeting
1 Conference Paper accepted for Oral Presentation

2021 **OHBM 2021**
Virtual meeting
Speaker at symposium "PET imaging of brain connectivity: hype or future?"

2020 **PET is Wonderful 2020**
Virtual meeting
1 Oral Presentation, winner of *Gamma Prize*

2020 **ISMRM 2020**
Virtual meeting

2020 **OHBM 2020**
Virtual meeting

ATTENDED COURSES, SEMINARS AND SYMPOSIA

2025 **Establishing a Thriving Research Program – Fall 2025**
Yale University, CT, USA
Course Directors: Profs. Graeme Mason, Rajita Sinha

2024 **Dosimetry in radiopharmaceutical therapy, from basics to advanced**
IEEE NSS/MIC/RTSD, Tampa, Florida

2024 **Medical Image Processing with AI including Foundation Models**
IEEE NSS/MIC/RTSD, Tampa, Florida

2024 **PET Pharmacokinetics Course**
Montreal, Canada

2022 **Satellite meeting "PET for brain connectivity: back to the future?"**
Brain & Brain PET 2022, Glasgow, Scotland, UK

2022 **PET Pharmacokinetics Course**
Edinburgh, Scotland, UK

2022 **Imaging Transcriptomics: current advances and future directions**
King's College London (virtual meeting)

2021 **Noise as Signal: Finding Hemo**
Virtual meeting

2020 **Dynamic Modeling of Brain Functional Data**
King's College London (virtual)

2020 **Analysis of PET data, ISTAART Alzheimer's association**
Virtual meeting

2019 **Summer School in Computational and Theoretical Models in Neuroscience**
Venice, Italy

PUBLICATIONS

Journal Articles

1. Volpi, T.*, Naganawa, M., Carson, R.E., Hillmer, A.T*. Pseudo-Reference-based Input Function Shape" (pRef-IFS): Towards a True Image-Derived Input Function for PET Kinetic Modeling. J Cereb Blood Flow Metab. (*in press*). *corresponding authors. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

2. Celli, M., Cona, G., Volpi, T., Tronelli, V., Zangrossi, A., Corbetta, M. Predicting Visual Object Memory Through Natural Eye Movement Topography. Sci Rep. 2025 (*in press*). *Data analysis*.

3. Vallini, G., Baron, G., Silvestri, E., Volpi, T., Vlassenko, A., Goyal, M., Chiuso, A., Cecchin, D., Corbetta, M., Bertoldo, A. Brain metabolic-functional (de)coupling from health to glioma dysfunction. Commun Biol. 2025 Dec 4. doi: 10.1038/s42003-025-09181-7. *Data analysis and interpretation, manuscript editing.*

4. Volpi, T.*, Toyonaga, T., Khattar, N., Gallezot, J.D., Naganawa, M., Vanderlinden, G., Honhar, P., Zeng, T., Fontaine, K., Mulnix, T., Hu, L., Sun, X., Henry, S., Matuskey, D., Radhakrishnan, R., Guo, L., Hu, Y., Zhang, J., Zheng, X., Nabulsi, N., Huang, Y., Badawi, R.D., Cherry, S.R., Hillmer, A.T., Jones, T., Liu, C., Morris, E., Qi, J., Li, H., Carson, R.E. Exceptional brain PET images from the NeuroEXPLORER: scans with targeted radiopharmaceuticals and comparison to HRRT. Eur J Nucl Med Mol Imaging. 2025 Nov 3. doi: 10.1007/s00259-025-07605-4. *corresponding author. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

5. Volpi, T.*, Y., Gallezot, J.D., Henry, S., Dias, M., Khattar, N., Toyonaga, T., Fontaine, F., Mulnix, T., Gravel, P., Radhakrishnan, R., Hillmer, A.T., Matuskey, D., Carson, R.E. Carotid Artery Image-Derived Blood Time-Activity Curves on the NeuroEXPLORER: Initial Multi-Tracer Validation against Arterial Sampling. J Nucl Med. 2025 Oct 3:jnumed.125.270414. doi: 10.2967/jnumed.125.270414.

*corresponding author. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

6. Volpi, T.*,**, Sadabad, F.E.**, Honhar, P., Tinaz, S., Dias, M., Toyonaga, T., Naganawa, M., Gallezot, J.D., Yang, Y., Waleed, I., Cayir, S., Radhakrishnan, R., Angarita, G., Holmes, S., Comley, R., Carson, R.E., Finnema, S.J., Matuskey, D. Relating dopamine transporter availability and synaptic density across different stages of Parkinson's Disease: a dual-tracer PET imaging study. Mov Disord. 2025 Oct 3. doi: 10.1002/mds.70041. *corresponding author, **shared first authorship. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

7. Gravel, P., Gu, J., Wang, C., Volpi, T., Gallezot, J.D., Holden, D., Fowles, K., Zheng, M.Q., Zhang, L., Borroni, E., Honer, M., Gobbi, L., Tamagnan, G., Huang, Y., Carson, R.E. Toward Imaging of the GABA Transporter Type 1 In Vivo: Quantitative Evaluation of 4 Novel PET Radiotracers in Nonhuman Primates. J Nucl Med. 2025 Sep 4:jnumed.125.270332. doi: 10.2967/jnumed.125.270332. *Data analysis and interpretation, manuscript editing.*

8. Chhabra A, Hoffmann C, Aguilar Pérez G, Korobeinikov AA, Rentsch J, Hümpfer N, Kokwaro L, Gnidovec L, Petrović A, Wallace JN, Tromm JV, Román-Vendrell C, Johnson EC, Ranković B, Perego E, Volpi T, Fernández-Busnadiego R, Köster S, Rizzoli SO, Ewers H, Morgan JR, Milovanović D. Condensates of synaptic vesicles and synapsin-1 mediate actin sequestering and polymerization. EMBO J. 2025 Aug 14. doi: 10.1038/s44318-025-00516-y. *Data analysis*.

9. Reed, M. B., Cocchi, L., Sander, C., Chen, J., Matheson, G.J., Fisher, P., Volpi, T., Khattar, N., DeLorenzo, C., Gryglewski, G., Silberbauer, L. R., Murgas, M., Godbersen, G. M., Nics, L., Walter, M., Hacker, M., Bertoldo, A., Lubberink, M., Silfstein, M., Ogden, T. R., Mann, J. J., Suhara, T., Varrone, A., Boellaard, R., Gunn, R.N., Hammers, A., Biswal, B., Rosen, B., Knudsen, G. M., Carson, R., Price, J., Lanzenberger, R., Hahn, A. Connecting the Dots: Approaching a Standardized Nomenclature for Molecular Connectivity in Positron Emission Tomography. Eur J Nucl Med Mol Imaging. 2025 Jun 2. doi: 10.1007/s00259-025-07357-1. *Data interpretation, manuscript editing.*

10. Volpi, T.*, Holden, D., Gallezot, J.D., Nabulsi, N., Lim, K., Labaree, D., Gao, H., Kapinos, M., Keliher, E., Trapa, P., Varrone, A., Halldin, C., Maresca, K.P., Huang, Y., Carson, R.E. A novel approach for modeling in vivo enzyme turnover in the presence of a suicide inhibitor drug: a proof-of-concept brain PET study on MAG lipase. J Cereb Blood Flow Metab. 2025 May 15:271678X251329254. *corresponding author. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

11. Volpi, T.*, Lee, JJ., Vlassenko, A.G., Goyal M.S., Corbetta, M., Bertoldo. A. The brain's "dark energy" puzzle *upgraded*: [^{18}F]FDG uptake, delivery and phosphorylation, and their coupling with resting-state brain activity. J Cereb Blood Flow Metab. 2025 May 15:271678X251329707. *corresponding author. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

12. Severino, M., Peretti, D. E., Bardiau, M., Cavaliere, C., Doyen, M., Gonzalez-Escamilla, G., Horowitz, T., Nørgaard, M., Mejia Perez, J. A., Perovnik, M., Rullmann, M., Steenken, D., Talmasov, D., Tang, C., Volpi, T., Xu, Z., Bertoldo, A., Calhoun, V. D., Caminiti, S. P., Di, X., Habeck, C., Jamadar, S., Perani, D., Sala, A., Sossi, V., Yakushev, I., Pereira, J. B., Veronese, M. Molecular connectivity studies in

neurotransmission: a scoping review. Imaging Neurosci 2025; 3: imag_a_00530. *Manuscript editing.*

13. Tong, J., Chen, B., Volpi, T., Li, Y., Ellison, P.A., Cai, Z. Current Advances in PARP1-Targeted Theranostics. J Labelled Comp Radiopharm. 2025 Jan-Feb;68(1-2):e4135. doi: 10.1002/jlcr.4135.PMID: 39995212. *Manuscript preparation and editing.*

14. De Francisci, M., Silvestri, E., Bettinelli, A., Volpi, T., Goyal, M.S., Vlassenko, A.G., Cecchin, D., Bertoldo, A. EMATA: a toolbox for the automatic extraction and modeling of arterial inputs for tracer kinetic analysis in [18F]FDG brain studies. EJNMMI Phys. 2024 Dec 24;11(1):105. doi: 10.1186/s40658-024-00707-2. PMID: 39715888. *Data interpretation, manuscript editing.*

15. Omidvari, N., Shanina, H, Leung, E.K., Sun, X., Li, Y., Mulnix, T., Gravel, P., Henry, S., Matuskey, D., Volpi, T., Jones, T., Badawi, R.D., Li, H., Carson, R.E., Qi, J., Cherry, S.R., Quantitative Accuracy Assessment of the NeuroEXPLORER for Diverse Imaging Applications: Moving Beyond Standard Evaluations. J Nucl Med. 2025 Jan 3;66(1):150-157. doi: 10.2967/jnumed.124.268309. PMID: 39638433. *Data interpretation, manuscript editing.*

16. Vallini, G., Volpi, T.*, Silvestri, E.*, Lee, J.J., Vlassenko, A.G., Goyal, M.S., Cecchin, D., Corbetta, M., Bertoldo, A. Individual-level metabolic connectivity from dynamic [18F]FDG PET reveals glioma-induced impairments in brain architecture and offers novel insights beyond the SUVR clinical standard. Eur J Nucl Med Mol Imaging. 2025 Feb;52(3):836-850. doi: 10.1007/s00259-024-06956-8. Epub 2024 Oct 30. PMID: 39472368. *shared second authorship. *Data interpretation, manuscript editing.*

17. Li, H., Badawi, R.D., Cherry, S.R., Fontaine, K., He, L., Henry, S., Hillmer, A.T., Hu, L., Khattar, N., Leung, E.K., Li, T., Li, Y., Liu, C., Liu, P., Lu, Z., Majewski, S., Matuskey, D., Morris, E.D., Mulnix, T., Omidvari, N., Samanta, S., Selfridge, A., Sun, X., Toyonaga, T., Volpi, T., Zeng, T., Jones, T., Qi, J., Carson, R.E. Performance Characteristics of the NeuroEXPLORER, a Next-Generation Human Brain PET/CT Imager. J Nucl Med. 2024 Aug 1;65(8):1320-1326. doi: 10.2967/jnumed.124.267767. PMID: 38871391. *Data analysis, interpretation, manuscript editing. Featured article of the month (August 2024), Editor's choice Award (2024).*

18. Cayir, S., Volpi, T., Toyonaga, T., Gallezot, J.D., Yanghong, Y., Sadabad, F.E., Mulnix, T., Mecca, A.P., Fesharaki-Zadeh, A, Matuskey, D. Relationship between Neuroimaging and Cognition in Frontotemporal Dementia: A [^{18}F]FDG PET and Structural MRI Study. J Neuroimaging. 2024 Sep-Oct;34(5):627-634. doi: 10.1111/jon.13206. Epub 2024 Apr 26. PMID: 38676301. *Conceptualization, data analysis, interpretation, manuscript editing.*

19. Volpi, T.*, Silvestri, E., Lee, J.J., Vlassenko, A.G., Goyal, M.S., Corbetta, M., Bertoldo, A*. The brain's "dark energy" puzzle: how strongly is glucose metabolism linked to resting-state brain activity? J Cereb Blood Flow Metab. 2024 Aug;44(8):1433-1449. doi: 10.1177/0271678X241237974. Epub 2024 Mar 5.PMID: 38443762. *corresponding author. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

20. Volpi, T.*, Maccioni, L., Colpo, M., Debiasi, G., Capotosti, A., Ciceri, T., Carson, R.E., DeLorenzo, C., Hahn, A., Knudsen, G., Lammertsma, A.A., Price, J.C., Sossi, V., Wang, G,, Zanotti-Fregonara, P., Bertoldo, A., Veronese, M., An update on the use of image-derived input functions for human PET studies: new hopes or old illusions? EJNMMI Res. 2023 Nov 10;13(1):97. doi:10.1186/s13550-023-01050-w.

PMID: 37947880. *corresponding author. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

21. Volpi, T., Vallini, G., Silvestri, E., De Francisci, M., Durbin, T., Corbetta, M., Lee, J.J., Vlassenko, A.G., Goyal, M.S., Bertoldo, A. A new framework for metabolic connectivity mapping using bolus [18F]FDG PET and kinetic modeling. J Cereb Blood Flow Metab. 2023 Nov;43(11):1905-1918. doi:10.1177/0271678X231184365. PMID: 37377103. *Research conceptualization, data analysis and interpretation, manuscript preparation and editing.*

22. Volpi, T.*, Fang, X.T.*, Holmes, S.E., Esterlis, I., Carson, R.E., Worhunsky P.D. Linking resting-state network fluctuations with systems of coherent synaptic density: a multimodal fMRI and 11C-UCB-J PET study. Front Human Neurosci. 2023. doi:10.3389/fnhum.2023.1124254. PMID: 36908710. *shared first authorship. *Research conceptualization, data interpretation, manuscript editing.*

23. Palombit, A., Silvestri, E., Volpi, T., Aiello, M., Cecchin, D., Bertoldo A., Corbetta, M. Variability of regional glucose metabolism and the topology of functional networks in the human brain. Neuroimage. 2022 May 4;257:119280. doi:10.1016/j.neuroimage.2022.119280. PMID: 35525522. *Research conceptualization, data analysis and interpretation, manuscript editing.*

Preprints

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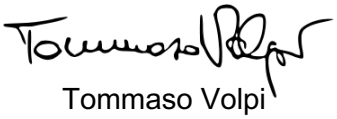
New Haven (CT), December 5th, 2025



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