

# Stanford

---



## Giuseppe Barisano, MD, PhD

Postdoctoral Scholar, Neurosurgery

### Bio

---

#### PROFESSIONAL EDUCATION

- Diploma, Universita Degli Studi Di Padova (2017)
- Doctor of Medicine, Universita Vita Salute SanRaffaele (2016)
- Doctor of Philosophy, University of Southern California (2022)
- PhD, University of Southern California , Neuroscience (2022)
- Diploma, Padua University , Aerospace Medicine (2017)
- Internship, Vita-Salute San Raffaele University , Neurosurgery (2017)
- MD, Vita-Salute San Raffaele University (2016)

#### STANFORD ADVISORS

- Melanie Hayden Gephart, Postdoctoral Faculty Sponsor

#### LINKS

- Twitter: [https://twitter.com/g\\_barisano](https://twitter.com/g_barisano)
- LinkedIn: <https://linkedin.com/in/giuseppe-barisano/>
- Google Scholar: <https://scholar.google.com/citations?hl=en&user=yb2x6csAAAAJ>
- Pubmed: <https://pubmed.ncbi.nlm.nih.gov/?term=Barisano+G&sort=date&size=200>
- NCBI MyBibliography: <https://www.ncbi.nlm.nih.gov/myncbi/1ryFles3yAIQD/bibliography/public/>
- Web of Science Researcher ID: <https://www.webofscience.com/wos/author/record/GSJ-1010-2022>
- Frontiers Loop: <https://loop.frontiersin.org/people/580431/>
- GitHub: <https://github.com/gbarisano>
- Strava: <https://www.strava.com/athletes/17271533>

### Publications

---

#### PUBLICATIONS

- A "multi-omics" analysis of blood-brain barrier and synaptic dysfunction in APOE4 mice. *The Journal of experimental medicine* Barisano, G., Kisler, K., Wilkinson, B., Nikolakopoulou, A. M., Sagare, A. P., Wang, Y., Gilliam, W., Huuskonen, M. T., Hung, S. T., Ichida, J. K., Gao, F., Coba, M. P., Zlokovic, et al 2022; 219 (11)
- Imaging perivascular space structure and function using brain MRI. *NeuroImage*

Barisano, G., Lynch, K. M., Sibilia, F., Lan, H., Shih, N. C., Sepehrband, F., Choupan, J.  
2022; 257: 119329

- **The effect of prolonged spaceflight on cerebrospinal fluid and perivascular spaces of astronauts and cosmonauts.** *Proceedings of the National Academy of Sciences of the United States of America*

Barisano, G., Sepehrband, F., Collins, H. R., Jillings, S., Jeurissen, B., Taylor, J. A., Schoenmaekers, C., De Laet, C., Rukavishnikov, I., Nosikova, I., Litvinova, L., Rumshiskaya, A., Annen, et al  
2022; 119 (17): e2120439119

- **Body mass index, time of day and genetics affect perivascular spaces in the white matter.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*

Barisano, G., Sheikh-Bahaei, N., Law, M., Toga, A. W., Sepehrband, F.  
2021; 41 (7): 1563-1578

- **APOE4 leads to blood-brain barrier dysfunction predicting cognitive decline.** *Nature*

Montagne, A., Nation, D. A., Sagare, A. P., Barisano, G., Sweeney, M. D., Chakhoyan, A., Pachicano, M., Joe, E., Nelson, A. R., D'Orazio, L. M., Buennagel, D. P., Harrington, M. G., Benzingier, et al  
2020; 581 (7806): 71-76

- **White matter hyperintensities modify relationships between corticospinal tract damage and motor outcomes after stroke.** *medRxiv : the preprint server for health sciences*

Ferris, J. K., Lo, B. P., Barisano, G., Brodtmann, A., Bueteifisch, C. M., Conforto, A. B., Donnelly, M. H., Egorova-Brumley, N., Hayward, K. S., Khelif, M. S., Revill, K. P., Zavaliangos-Petropulu, A., Boyd, et al  
2023

- **Editorial: Vascular and perivascular contributions to neurodegeneration.** *Frontiers in neuroscience*

Barisano, G., Bos, D., Ma, Y.  
2023; 17: 1290102

- **Effects of sleep on brain perivascular space in a cognitively healthy population.** *Sleep medicine*

Shih, N. C., Barisano, G., Lincoln, K. D., Mack, W. J., Sepehrband, F., Choupan, J.  
2023; 111: 170-179

- **Functional MRI and Diffusion Tensor Imaging in Migraine: A Review of Migraine Functional and White Matter Microstructural Changes** *JOURNAL OF CENTRAL NERVOUS SYSTEM DISEASE*

Chou, B. C., Lerner, A., Barisano, G., Phung, D., Xu, W., Pinto, S. N., Sheikh-Bahaei, N.  
2023; 15: 11795735231205413

- **Longitudinal Changes in Cerebral Perfusion, Perivascular Space Volume, and Ventricular Volume in a Healthy Cohort Undergoing a Spaceflight Analog.** *AJNR. American journal of neuroradiology*

Tidwell, J. B., Taylor, J. A., Collins, H. R., Chamberlin, J. H., Barisano, G., Sepehrband, F., Turner, M. D., Gauthier, G., Mulder, E. R., Gerlach, D. A., Roberts, D. R.  
2023

- **Cross-Vendor Test-Retest Validation of Diffusion Tensor Image Analysis along the Perivascular Space (DTI-ALPS) for Evaluating Glymphatic System Function.** *Aging and disease*

Liu, X., Barisano, G., Shao, X., Jann, K., Ringman, J. M., Lu, H., Arfanakis, K., Caprihan, A., DeCarli, C., Gold, B. T., Maillard, P., Satizabal, C. L., Fadaee, et al  
2023

- **Structural MRI in Migraine: A Review of Migraine Vascular and Structural Changes in Brain Parenchyma.** *Journal of central nervous system disease*

Xu, W. J., Barisano, G., Phung, D., Chou, B., Pinto, S. N., Lerner, A., Sheikh-Bahaei, N.  
2023; 15: 11795735231167868

- **Association of Brain Age, Lesion Volume, and Functional Outcome in Patients With Stroke.** *Neurology*

Liew, S. L., Schweighofer, N., Cole, J. H., Zavaliangos-Petropulu, A., Lo, B. P., Han, L. K., Hahn, T., Schmaal, L., Donnelly, M. R., Jeong, J. N., Wang, Z., Abdullah, A., Kim, et al  
2023

- **Manual lesion segmentations for traumatic brain injury characterization.** *Frontiers in neuroimaging*

Bennett, A., Garner, R., Morris, M. D., La Rocca, M., Barisano, G., Cua, R., Loon, J., Alba, C., Carbone, P., Gao, S., Pantoja, A., Khan, A., Nouaili, et al  
2023; 2: 1068591

- **Decreased functional connectivity is associated with increased levels of Cerebral Spinal Fluid soluble-PDGFR#, a marker of blood brain barrier breakdown, in older adults.** *Research square*  
 Contreras, J. A., Fujisaki, K., Ortega, N., Barisano, G., Sagare, A., Pappas, I., Chui, H., Ringman, J. M., Joe, E. B., Zlokovic, B., Toga, A. W., Pa, J. 2023
- **Functional connectivity alterations in traumatic brain injury patients with late seizures.** *Neurobiology of disease*  
 La Rocca, M., Barisano, G., Garner, R., Ruf, S. F., Amoroso, N., Monti, M., Vespa, P., Bellotti, R., Erdogdu, D., Toga, A. W., Duncan, D. 2023; 106053
- **Arterial Spin Labeling in Migraine: A Review of Migraine Categories and Mimics** *JOURNAL OF CENTRAL NERVOUS SYSTEM DISEASE*  
 Pinto, S. N., Lerner, A., Phung, D., Barisano, G., Chou, B., Xu, W., Sheikh-Bahaei, N. 2023; 15
- **Brain perivascular spaces and autism: clinical and pathogenic implications from an innovative volumetric MRI study.** *Frontiers in neuroscience*  
 Sotgiu, M. A., Lo Jacono, A., Barisano, G., Saderi, L., Cavassa, V., Montella, A., Crivelli, P., Carta, A., Sotgiu, S. 2023; 17: 1205489
- **Neuroimaging aspects and clinical significance of giant perivascular spaces in the brain.** *Precision cancer medicine*  
 Barisano, G. 2022; 5
- **Reply to Wostyn et al.: Potential models for perivascular space (PVS) enlargement and spaceflight-associated neuro-ocular syndrome (SANS).** *Proceedings of the National Academy of Sciences of the United States of America*  
 Barisano, G., Tomilovskaya, E., Roberts, D. R., Wuyls, F. L. 2022; 119 (32): e2208241119
- **A large, curated, open-source stroke neuroimaging dataset to improve lesion segmentation algorithms.** *Scientific data*  
 Liew, S. L., Lo, B. P., Donnelly, M. R., Zavaliangos-Petropulu, A., Jeong, J. N., Barisano, G., Hutton, A., Simon, J. P., Juliano, J. M., Suri, A., Wang, Z., Abdullah, A., Kim, et al 2022; 9 (1): 320
- **Chronic Stroke Sensorimotor Impairment Is Related to Smaller Hippocampal Volumes: An ENIGMA Analysis.** *Journal of the American Heart Association*  
 Zavaliangos-Petropulu, A., Lo, B., Donnelly, M. R., Schweighofer, N., Lohse, K., Jahanshad, N., Barisano, G., Banaji, N., Borich, M. R., Boyd, L. A., Bueteifisch, C. M., Byblow, W. D., Cassidy, et al 2022; 11 (10): e025109
- **Prevalence of dementia and mild cognitive impairment in indigenous Bolivian forager-horticulturalists.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*  
 Gatz, M., Mack, W. J., Chui, H. C., Law, E. M., Barisano, G., Sutherland, M. L., Sutherland, J. D., Eid Rodriguez, D., Quispe Gutierrez, R., Copajira Adrian, J., Bani Cuata, J., Borenstein, A. R., Walters, et al 2022
- **Blood-brain barrier link to human cognitive impairment and Alzheimer's Disease.** *Nature cardiovascular research*  
 Barisano, G., Montagne, A., Kisler, K., Schneider, J. A., Wardlaw, J. M., Zlokovic, B. V. 2022; 1 (2): 108-115
- **A standardized protocol for manually segmenting stroke lesions on high-resolution T1-weighted MR images.** *Frontiers in neuroimaging*  
 Lo, B. P., Donnelly, M. R., Barisano, G., Liew, S. L. 2022; 1: 1098604
- **Distribution and volume analysis of early hemorrhagic contusions by MRI after traumatic brain injury: a preliminary report of the Epilepsy Bioinformatics Study for Antiepileptic Therapy (EpiBioS4Rx).** *Brain imaging and behavior*  
 La Rocca, M., Barisano, G., Bennett, A., Garner, R., Engel, J., Gilmore, E. J., McArthur, D. L., Rosenthal, E., Stanis, J., Vespa, P., Willyerd, F., Zimmermann, L. L., Toga, et al 2021; 15 (6): 2804-2812
- **Editorial for "MRI-Based Investigation of Association Between Cerebrovascular Structural Alteration and White Matter Hyperintensity Induced by High Blood Pressure".** *Journal of magnetic resonance imaging : JMRI*  
 Huuskonen, M. T., Barisano, G., Chakhoyan, A., Zlokovic, B. V. 2021; 54 (5): 1527-1528

- **Minocycline decreases blood-brain barrier permeability following aneurysmal subarachnoid hemorrhage: a randomized, double-blind, controlled trial.** *Journal of neurosurgery*  
Strickland, B. A., Barisano, G., Abedi, A., Shiroishi, M. S., Cen, S., Emanuel, B., Bulic, S., Kim-Tenser, M., Nguyen, P., Giannotta, S. L., Mack, W., Russin, J. 2021; 1-9
- **Smaller spared subcortical nuclei are associated with worse post-stroke sensorimotor outcomes in 28 cohorts worldwide.** *Brain communications*  
Liew, S. L., Zavaliangos-Petropulu, A., Schweighofer, N., Jahanshad, N., Lang, C. E., Lohse, K. R., Banaj, N., Barisano, G., Baugh, L. A., Bhattacharya, A. K., Bigjahan, B., Borich, M. R., Boyd, et al  
2021; 3 (4): fcab254
- **Lesion Normalization and Supervised Learning in Post-traumatic Seizure Classification with Diffusion MRI.** *Computational diffusion MRI : MICCAI Workshop*  
Akbar, M. N., Ruf, S., La Rocca, M., Garner, R., Barisano, G., Cua, R., Vespa, P., Erdo#mu#, D., Duncan, D.  
2021; 13006: 133-143
- **Volumetric distribution of perivascular space in relation to mild cognitive impairment.** *Neurobiology of aging*  
Sepehrband, F., Barisano, G., Sheikh-Bahaei, N., Choupan, J., Cabeen, R. P., Lynch, K. M., Crawford, M. S., Lan, H., Mack, W. J., Chui, H. C., Ringman, J. M., Toga, A. W.  
2021; 99: 28-43
- **Perivascular Space Imaging at Ultrahigh Field MR Imaging.** *Magnetic resonance imaging clinics of North America*  
Barisano, G., Law, M., Custer, R. M., Toga, A. W., Sepehrband, F.  
2021; 29 (1): 67-75
- **Evaluation of Cerebral Blood Flow Measured by 3D PCASL as Biomarker of Vascular Cognitive Impairment and Dementia (VCID) in a Cohort of Elderly Latinx Subjects at Risk of Small Vessel Disease.** *Frontiers in neuroscience*  
Jann, K., Shao, X., Ma, S. J., Cen, S. Y., D'Orazio, L., Barisano, G., Yan, L., Casey, M., Lamas, J., Staffaroni, A. M., Kramer, J. H., Ringman, J. M., Wang, et al  
2021; 15: 627627
- **Effects of ambient particulate matter on vascular tissue: a review.** *Journal of toxicology and environmental health. Part B, Critical reviews*  
Shkirkova, K., Lamorie-Foote, K., Connor, M., Patel, A., Barisano, G., Baertsch, H., Liu, Q., Morgan, T. E., Sioutas, C., Mack, W. J.  
2020; 23 (7): 319-350
- **Nonparenchymal fluid is the source of increased mean diffusivity in preclinical Alzheimer's disease.** *Alzheimer's & dementia (Amsterdam, Netherlands)*  
Sepehrband, F., Cabeen, R. P., Barisano, G., Sheikh-Bahaei, N., Choupan, J., Law, M., Toga, A. W.  
2019; 11: 348-354
- **Image processing approaches to enhance perivascular space visibility and quantification using MRI.** *Scientific reports*  
Sepehrband, F., Barisano, G., Sheikh-Bahaei, N., Cabeen, R. P., Choupan, J., Law, M., Toga, A. W.  
2019; 9 (1): 12351
- **Perivascular space fluid contributes to diffusion tensor imaging changes in white matter.** *NeuroImage*  
Sepehrband, F., Cabeen, R. P., Choupan, J., Barisano, G., Law, M., Toga, A. W.  
2019; 197: 243-254
- **Assessing test-retest reliability of phase contrast MRI for measuring cerebrospinal fluid and cerebral blood flow dynamics.** *Magnetic resonance in medicine*  
Sakhare, A. R., Barisano, G., Pa, J.  
2019; 82 (2): 658-670
- **Signal Hyperintensity on Unenhanced T1-Weighted Brain and Cervical Spinal Cord MR Images after Multiple Doses of Linear Gadolinium-Based Contrast Agent.** *AJNR. American journal of neuroradiology*  
Barisano, G., Bigjahan, B., Metting, S., Cen, S., Amezcuia, L., Lerner, A., Toga, A. W., Law, M.  
2019; 40 (8): 1274-1281
- **A MACHINE LEARNING MODEL TO PREDICT SEIZURE SUSCEPTIBILITY FROM RESTING-STATE FMRI CONNECTIVITY.** *Spring simulation conference (SpringSim)*  
Garner, R., La Rocca, M., Barisano, G., Toga, A. W., Duncan, D., Vespa, P.  
2019; 2019
- **7-Tesla MRI of the brain in a research subject with bilateral, total knee replacement implants: Case report and proposed safety guidelines.** *Magnetic resonance imaging*

Barisano, G., Culo, B., Shellock, F. G., Sepehrband, F., Martin, K., Stevens, M., Wang, D. J., Toga, A. W., Law, M.  
2019; 57: 313-316

• **Clinical 7 T MRI: Are we there yet? A review about magnetic resonance imaging at ultra-high field.** *The British journal of radiology*

Barisano, G., Sepehrband, F., Ma, S., Jann, K., Cabeen, R., Wang, D. J., Toga, A. W., Law, M.  
2019; 92 (1094): 20180492

• **Analytic Tools for Post-traumatic Epileptogenesis Biomarker Search in Multimodal Dataset of an Animal Model and Human Patients.** *Frontiers in neuroinformatics*

Duncan, D., Barisano, G., Cabeen, R., Sepehrband, F., Garner, R., Braimah, A., Vespa, P., Pitkänen, A., Law, M., Toga, A. W.  
2018; 12: 86

• **Complications of Radiotherapy and Radiosurgery in the Brain and Spine.** *Neurographics (2011)*

Barisano, G., Bergamaschi, S., Acharya, J., Rajamohan, A., Gibbs, W., Kim, P., Zada, G., Chang, E., Law, M.  
2018; 8 (3): 167-187