



Amalia Perna

Postdoctoral Scholar, Pathology

Bio

BIO

Dr. Perna received her education at the University of Urbino (BSc in Biological Science) and at the University of Trieste (MSc in Functional Genomics). She obtained her Ph.D. in Neuroscience/Medical Sciences in 2021, from the University of Fribourg (Switzerland) in collaboration with the Swiss Integrative Center for Human Health (SICHH). During her doctoral studies, she investigated the molecular players involved in the neurodegenerative process, with special attention to Notch signaling modulation in the neuronal demise after kainic acid (KA)-induced excitotoxicity

With funding from the Swiss National Science Foundation (SNSF), Dr. Perna joined Prof. Thomas Montine's lab at Stanford University and extended her doctoral research work to single-cell technologies such as single-nucleus RNA-seq. In February 2022 she was appointed as a postdoctoral fellow in Montine Lab.

Dr. Perna's research aims to elucidate the modulation of signaling pathways in the different cell types of the brain after the perturbation of its homeostasis. She is also interested in understanding the molecular mechanisms underlying neuronal regeneration/recovery after damage and in neurodegenerative diseases.

HONORS AND AWARDS

- SNF Mobility, Swiss National Science Foundation (2019)

PROFESSIONAL EDUCATION

- PhD, University of Fribourg , Medical Sciences/Neuroscience (2021)
- MSc, University of Trieste , Functional Genomics (2017)
- BSc, University of Urbino , Biological Sciences (2014)

Publications

PUBLICATIONS

- **Paradigm Shift: Multiple Potential Pathways to Neurodegenerative Dementia.** *Neurotherapeutics : the journal of the American Society for Experimental NeuroTherapeutics*
Perna, A., Montine, K. S., White, L. R., Montine, T. J., Cholerton, B. A.
2023
- **Revealing NOTCH-dependencies in synaptic targets associated with Alzheimer's disease** *MOLECULAR AND CELLULAR NEUROSCIENCE*
Perna, A., Marathe, S., Dreos, R., Falquet, L., Egger, H., Auber, L.
2021; 115: 103657

- **TF-ChIP Method for Tissue-Specific Gene Targets** *FRONTIERS IN CELLULAR NEUROSCIENCE*
Perna, A., Alberi, L.
2019; 13: 95
- **2-Methylglutamate Prolongs Survival in a Mouse Model of Glioblastoma**
Moses, A., Kendirli, M., Abdi, S., Cheung, P., Perna, A., Montine, T., Recht, L., Beinat, C.
OXFORD UNIV PRESS INC.2025: v433
- **Epigenomic profile of GBA1 in Parkinson's disease.** *Parkinsonism & related disorders*
Berson, E., Zaghroun, R., Santoro, M., Bukhari, S., Seong, D., Shu, C. H., Perna, A., James, T., Montine, K. S., Serrano, G. E., Beach, T. G., Keene, C. D., Chang, et al
2025; 140: 108066
- **Deep learning-based cell type profiles reveal signatures of Alzheimer's disease resilience and resistance.** *Brain : a journal of neurology*
Berson, E., Perna, A., Bukhari, S., Kim, Y., Xue, L., Seong, D., Mataraso, S., Ghanem, M., Chang, A. L., Montine, K. S., Keene, C. D., Kasowski, M., Aghaeepour, et al
2025
- **Mediterranean vs. Western diet effects on the primate cerebral cortical pre-synaptic proteome: Relationships with the transcriptome and multi-system phenotypes.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Berson, E., Frye, B. M., Gajera, C. R., Saarunya, G., Perna, A., Phongpreecha, T., Shome, S., Negrey, J. D., Aghaeepour, N., Montine, T. J., Craft, S., Register, T. C., Shively, et al
2025; 21 (3): e70041
- **Basic Science and Pathogenesis.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Berson, E., Frye, B. M., Perna, A., Phongpreecha, T., Shome, S., Clarke, G., Negrey, J. D., Aghaeepour, N., Montine, T. J., Craft, S., Register, T. C., Shively, C. A.
2024; 20 Suppl 1: e089274
- **Basic Science and Pathogenesis.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Berson, E., Perna, A., Phongpreecha, T., Aghaeepour, N., Montine, T. J.
2024; 20 Suppl 1: e087057
- **Single-cell peripheral immunoprofiling of lewy body and Parkinson's disease in a multi-site cohort.** *Molecular neurodegeneration*
Phongpreecha, T., Mathi, K., Cholerton, B., Fox, E. J., Sigal, N., Espinosa, C., Reincke, M., Chung, P., Hwang, L. J., Gajera, C. R., Berson, E., Perna, A., Xie, et al
2024; 19 (1): 59
- **Quantitative estimate of cognitive resilience and its medical and genetic associations.** *Alzheimer's research & therapy*
Phongpreecha, T., Godrich, D., Berson, E., Espinosa, C., Kim, Y., Cholerton, B., Chang, A. L., Mataraso, S., Bukhari, S. A., Perna, A., Yakabi, K., Montine, K. S., Poston, et al
2023; 15 (1): 192
- **Paradigm Shift: Multiple Potential Pathways to Neurodegenerative Dementia** *NEUROTHERAPEUTICS*
Perna, A., Montine, K. S., White, L. R., Montine, T. J., Cholerton, B. A.
2023
- **Cross-species comparative analysis of single presynapses.** *Scientific reports*
Berson, E., Gajera, C. R., Phongpreecha, T., Perna, A., Bukhari, S. A., Becker, M., Chang, A. L., De Francesco, D., Espinosa, C., Ravindra, N. G., Postupna, N., Latimer, C. S., Shively, et al
2023; 13 (1): 13849
- **Whole genome deconvolution unveils Alzheimer's resilient epigenetic signature.** *Nature communications*
Berson, E., Sreenivas, A., Phongpreecha, T., Perna, A., Grandi, F. C., Xue, L., Ravindra, N. G., Payrovnaziri, N., Mataraso, S., Kim, Y., Espinosa, C., Chang, A. L., Becker, et al
2023; 14 (1): 4947
- **Prediction of neuropathologic lesions from clinical data.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Phongpreecha, T., Cholerton, B., Bhukari, S., Chang, A. L., De Francesco, D., Thuraiappah, M., Godrich, D., Perna, A., Becker, M. G., Ravindra, N. G., Espinosa, C., Kim, Y., Berson, et al
2023

- **Histone H3 Lysine 4 and 27 Trimethylation Landscape of Human Alzheimer's Disease.** *Cells*
Persico, G., Casciaro, F., Amatori, S., Rusin, M., Cantatore, F., Perna, A., Auber, L. A., Fanelli, M., Giorgio, M.
2022; 11 (4)
- **Classifying dementia progression using microbial profiling of saliva** *ALZHEIMER'S & DEMENTIA: DIAGNOSIS, ASSESSMENT & DISEASE MONITORING*
Bathini, P., Foucras, S., Dupanloup, I., Imeri, H., Perna, A., Berruex, J., Doucey, M., Annoni, J., Alberi, L.
2020; 12 (1): e12000