Stanford

Frank M. Longo, MD, PhD

George E. and Lucy Becker Professor of Medicine and Professor, by courtesy, of Neurosurgery

Neurology & Neurological Sciences

CLINICAL OFFICE (PRIMARY)

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

Dr. Longo received his MD, and PhD in Neuroscience from the University of California, San Diego. Following an internship in medicine at New York University, he trained as a resident in neurology at the University of California, San Francisco where he also completed a fellowship in neurobiology. He joined the UCSF faculty and eventually served as professor and vice chair of UCSF's Department of Neurology. Before joining Stanford Medicine in 2006, Dr. Longo was the H. Houston Merritt Professor and Chair of Neurology at the University of North Carolina – Chapel Hill.

At Stanford Medicine, Dr. Longo is the George E. and Lucy Becker Professor of Neurology and Professor, by courtesy, of Neurosurgery. He served as the Chair of the Department of Neurology and Neurological Sciences from 2006 to 2023. Along with his colleagues, he focuses on building programs in neurology and the neurosciences.

His interests include translational research in neurodegenerative disease prevention and therapeutics, providing patient care in the Stanford Health Care Memory Disorders Clinic, and mentoring medical students and other trainees.

Dr. Longo is the 2015 recipient of the inaugural Melvin R. Goodes Prize for Excellence in Alzheimer's Drug Discovery from the Alzheimer's Drug Discovery Foundation, and his team's work on Alzheimer's therapeutics was featured on the cover of Time Magazine in 2016. He currently serves on the National Advisory Council on Aging for the National Institute on Aging at the NIH.

CLINICAL FOCUS

- Alzheimer's Disease
- Huntington Disease
- Neurology

ACADEMIC APPOINTMENTS

- Professor, Neurology & Neurological Sciences

- Professor (By courtesy), Neurosurgery
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Chief, Neurology and Rehab Services, SF, VAMC, (1995-2001)
- Assoc. Professor and Vice Chair, UC San Francisco, (1996-1999)
- Assoc. Chief of Staff for Research and Dev., SF, VAMC, (1997-2001)
- Professor and Vice Chair, UC San Francisco, (1999-2001)
- Professor and Chair, Department of Neurology, University of North Carolina, Chapel Hill, (2001-2005)
- Professor and Chair, Department of Neurology and Neurological Sciences, Stanford University, (2006-2023)
- Professor, Department of Neurology and Neurological Sciences, Stanford University, (2023- present)

HONORS AND AWARDS

- Alpha Omega Alpha Honor Medical Society at Stanford, AOA Honor Medical Society (2020)
- Melvin R. Goodes Prize for Excellence in Alzheimer's Drug Discovery, Alzheimer's Drug Discovery Foundation (2015)
- Stanford University Fellow, Stanford University (2006-2008)
- Outstanding Alumnus Award, UC San Diego (2000)
- Beeson Award, American Federation for Aging Research (1995)
- Associate Editor, Annals of Neurology (1994-1997)
- Edwin Boldrey Award for Basic Science Research, San Francisco Neurological Society (1990)
- First Place in Neuroscience, National Student Research Forum (1979)

PROFESSIONAL EDUCATION

- Medical Education: University of California San Diego School of Medicine (1981) CA
- Board Certification: Neurology, American Board of Psychiatry and Neurology (1989)
- Residency: UCSF Medical Center (1987) CA
- Internship: New York VA Medical Center (1984) NY
- Ph.D., UC San Diego , Neuroscience (1983)
- M.D., UC San Diego , Medicine (1981)
- BA, UC San Diego , Biology (1977)

LINKS

- Longo Lab: https://med.stanford.edu/longo-lab/members.html
- ADRC: http://med.stanford.edu/adrc.html
- Video Story: https://stanfordhealthcare.org/stanford-health-care-now/why-i-got-into-medicine/why-medicine-frank-longo-md-phd.html
- Get a Second Opinion: https://stanfordhealthcare.org/second-opinion/overview.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Clinical interests include Alzheimer's disease and Huntington's disease and the development of effective therapeutics for these disorders.

Our research group is focused on the discovery of cellular signaling mechanisms that serve as a basis for the development of novel therapeutic approaches for Alzheimer's disease, Huntington's disease and other neurological disorders. In our Neurotrophin Program, we have pioneered the development of small molecule ligands targeted to neurotrophin receptors to promote novel signaling mechanisms. Small molecule-induced activation of these mechanisms demonstrates therapeutic efficacy in models of Alzheimer's disease, frontotemporal dementia, Huntington's disease, Parkinson's disease, Rett syndrome, spinal cord injury, HIV dementia, peripheral neuropathy and other areas. These novel compounds also promote neurogenesis from stem cells. As part of a traditionally very rare scenario in academic neurology and neuroscience, one of our novel small molecules has moved through phase one clinical trials and is currently in a phase 2a trial in Alzheimer's patients.

In our Protein Tyrosine Phosphatase (PTP) Receptor Program we have been among the leaders in elucidating the role of PTP receptors in the nervous system. We have focused on LAR, a prototype PTP receptor that we discovered to be expressed in the nervous system. Our studies demonstrated the first CNS and PNS phenotypes in a PTP receptor mutant mouse, discovered PTP extracellular domains responsible for their potent neurite promoting effects, found that LAR associates with Trk neurotrophin receptors to regulate their activity, showed that down regulating LAR promotes stem cell proliferation and stimulates hippocampal neurogenesis, and developed a novel approach for down regulating PTP activity. Our team pioneered the first synthetic peptides, with one set modeled on a LAR intracellular domain and other on an extracellular domain, capable of modulating LAR activity. These peptides have provided a novel approach for modulating PTP receptors and have made possible translational research studies by ours and other laboratories in the areas of novel therapies for spinal cord injury and brain tumors. This work also reveals candidate therapeutic targets for small molecule development.

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Organ aging signatures in the plasma proteome track health and disease.** *Nature*
  Oh, H. S., Rutledge, J., Nachun, D., Pálovics, R., Abiose, O., Moran-Losada, P., Channappa, D., Urey, D. Y., Kim, K., Sung, Y. J., Wang, L., Timsina, J., Western, et al
  2023; 624 (7990): 164-172

- **Modulation of the p75 neurotrophin receptor in the PS19 tauopathy mouse model regulates transcription profiles and inter-cellular communication across multiple populations of non-neuronal cells**
  Butler, R. R., Yang, T., Han, C., Le Guen, Y., Tran, K. C., Lallani, S., Liu, H., Leng, S., Massa, S. M., Longo, F. M.
  WILEY.2023

- **Targeting Endogenous Mechanisms of Brain Resilience for the Treatment and Prevention of Alzheimer's Disease.** *The journal of prevention of Alzheimer's disease*
  Shanks, H. R., Onuska, K. M., Massa, S. M., Schmitz, T. W., Longo, F. M.
  2023; 10 (4): 699-705

- **Modulation of p75^{NTR} on mesenchymal stem cells increases their vascular protection in retinal ischemia-reperfusion mouse model**
  Elshaer, S. L., Park, H., Pearson, L., Hill, W. D., Longo, F. M., El-Remessy, A. B.
  MARY ANN LIEBERT, INC.2023: A71

- **Senolytic therapy for Alzheimer's disease.** *Nature medicine*
  Longo, F. M., Massa, S. M.
  2023

- **Senolytic therapy for Alzheimer's disease** *NATURE MEDICINE*
  Longo, F. M., Massa, S. M.
  2023

- **Pharmacological Co-Activation of TrkB and TrkC Receptor Signaling Ameliorates Striatal Neuropathology and Motor Deficits in Mouse Models of Huntington's Disease.** *Journal of Huntington's disease*
  Simmons, D. A., Belichenko, N. P., Longo, F. M.
  2023

- **Delivery of BDNF through a Pluripotent Stem Cell-Based Platform Ameliorates Behavioral Deficits in a Mouse Model of Huntington's Disease**
  Selvaraj, S., Simmons, D. A., Chen, T., Cao, G. Y., Camelo, T. S., McHugh, T. M., Gonzalez, S., Martin, R. M., Simanauskaite, J. M., Uchida, N., Longo, F. M., Porteus, M. H.
  CELL PRESS.2023: 18

- **Open drug discovery in Alzheimer's disease.** *Alzheimer's & dementia (New York, N. Y.)*
  Axtman, A. D., Brennan, P. E., Frappier-Brinton, T., Betarbet, R., Carter, G. W., Fu, H., Gileadi, O., Greenwood, A. K., Leal, K., Longo, F. M., Mangravite, L. M., Edwards, A. M., Levey, et al
  2023; 9 (2): e12394

- **Myeloid deficiency of the intrinsic clock protein BMAL1 accelerates cognitive aging by disrupting microglial synaptic pruning.** *Journal of neuroinflammation*
  Iweka, C. A., Seigneur, E., Hernandez, A. L., Paredes, S. H., Cabrera, M., Blacher, E., Pasternak, C. T., Longo, F. M., de Lecea, L., Andreasson, K. I.
  2023; 20 (1): 48

- **Reduced expression of the cell intrinsic clock protein Bmal1 in myeloid cells accelerates cognitive decline and alters microglial function in aging mice**
  Iweka, C., Seigneur, E., Latif-Hernandez, A., Paredes, S., Cabrera, M., Blacher, E., Wang, Q., Longo, F., DeLecea, L., Andreasson, K.
  AMER SOC CELL BIOLOGY.2023: 761

- **Performance of a fully-automated Lumipulse plasma phospho-tau181 assay for Alzheimer's disease.** *Alzheimer's research & therapy*
  Wilson, E. N., Young, C. B., Ramos Benitez, J., Swarovski, M. S., Feinstein, I., Vandijck, M., Le Guen, Y., Kasireddy, N. M., Shahid, M., Corso, N. K., Wang, Q., Kennedy, G., Trelle, et al
  2022; 14 (1): 172

- **Modulation of p75 neurotrophin receptor (p75NTR) with LM11A-31 improves neurovascular damage in diabetic stroke**
  Ismael, S., Longo, F., Bix, G., Ishrat, T.
  SAGE PUBLICATIONS INC.2022: 219

- **Chronic partial TrkB activation reduces seizures and mortality in a mouse model of Dravet syndrome.** *Proceedings of the National Academy of Sciences of the United States of America*
  Gu, F., Parada, I., Yang, T., Longo, F. M., Prince, D. A.
  2022; 119 (7)

- **Post-stroke administration of the p75 neurotrophin receptor modulator, LM11A-31, attenuates chronic changes in brain metabolism, increases neurotransmitter levels, and improves recovery.** *The Journal of pharmacology and experimental therapeutics*
  Nguyen, T. V., Crumpacker, R. H., Calderon, K. E., Garcia, F. G., Zbesko, J. C., Frye, J. B., Gonzalez, S., Becktel, D. A., Yang, T., Tavera-Garcia, M. A., Morrison, H. W., Schnellmann, R. G., Longo, et al
  2021

- **Small molecule modulation of TrkB and TrkC neurotrophin receptors prevents cholinergic neuron atrophy in an Alzheimer's disease mouse model at an advanced pathological stage.** *Neurobiology of disease*
  Gonzalez, S., McHugh, T. L., Yang, T., Syriani, W., Massa, S. M., Longo, F. M., Simmons, D. A.
  2021: 105563

- **Suppression of HIV-associated Macrophage Activation by a p75 Neurotrophin Receptor Ligand.** *Journal of neuroimmune pharmacology : the official journal of the Society on NeuroImmune Pharmacology*
  Killebrew, D. A., Williams, K. S., Xie, Y., Longo, F., Meeker, R. B.
  2021

- **Modulation of p75(NTR) on Mesenchymal Stem Cells Improves Angiogenic Secretome and Vascular Protection in Retinal Ischemia-Reperfusion**
  El-Remessy, A. B., Elshaer, S., Park, H., Pearson, L., Hill, W., Longo, F. M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021

- **Neuroimaging, Urinary, and Plasma Biomarkers of Treatment Response in Huntington's Disease: Preclinical Evidence with the p75NTR Ligand LM11A-31.** *Neurotherapeutics : the journal of the American Society for Experimental NeuroTherapeutics*
  Simmons, D. A., Mills, B. D., Butler Iii, R. R., Kuan, J., McHugh, T. L., Akers, C., Zhou, J., Syriani, W., Grouban, M., Zeineh, M., Longo, F. M.

2021

- **Establishing a Data Science Unit in an Academic Medical Center: An Illustrative Model.** *Academic medicine : journal of the Association of American Medical Colleges*
  Desai, M., Boulos, M., Pomann, G. M., Steinberg, G. K., Longo, F. M., Leonard, M., Montine, T., Blomkalns, A. L., Harrington, R. A.
  2021
- **Restoring metabolism of myeloid cells reverses cognitive decline in ageing.** *Nature*
  Minhas, P. S., Latif-Hernandez, A., McReynolds, M. R., Durairaj, A. S., Wang, Q., Rubin, A., Joshi, A. U., He, J. Q., Gauba, E., Liu, L., Wang, C., Linde, M., Sugiura, et al
  2021
- **Modulation of p75NTR on Mesenchymal Stem Cells Increases Their Vascular Protection in Retinal Ischemia-Reperfusion Mouse Model.** *International journal of molecular sciences*
  Elshaer, S. L., Park, H. S., Pearson, L. n., Hill, W. D., Longo, F. M., El-Remessy, A. B.
  2021; 22 (2)
- **Genome-wide analysis of common and rare variants via multiple knockoffs at biobank scale, with an application to Alzheimer disease genetics.** *American journal of human genetics*
  He, Z., Le Guen, Y., Liu, L., Lee, J., Ma, S., Yang, A. C., Liu, X., Rutledge, J., Losada, P. M., Song, B., Belloy, M. E., Butler, R. R., Longo, et al
  2021
- **Improved neurocognitive performance in FIV infected cats following treatment with the p75 neurotrophin receptor ligand LM11A-31.** *Journal of neurovirology*
  Fogle, J. E., Hudson, L. n., Thomson, A. n., Sherman, B. n., Gruen, M. n., Lacelles, B. D., Colby, B. M., Clary, G. n., Longo, F. n., Meeker, R. B.
  2021
- **Small molecule modulation of the p75 neurotrophin receptor inhibits multiple amyloid beta-induced tau pathologies.** *Scientific reports*
  Yang, T., Tran, K. C., Zeng, A. Y., Massa, S. M., Longo, F. M.
  2020; 10 (1): 20322
- **Restoration of motor learning in a mouse model of Rett syndrome following long-term treatment with a novel small-molecule activator of TrkB** *DISEASE MODELS & MECHANISMS*
  Adams, I., Yang, T., Longo, F. M., Katz, D. M.
  2020; 13 (11)
- **Small-molecule modulation of the p75 neurotrophin receptor inhibits a wide range of tau molecular pathologies and their sequelae in P301S tauopathy mice.** *Acta neuropathologica communications*
  Yang, T., Liu, H., Tran, K. C., Leng, A., Massa, S. M., Longo, F. M.
  2020; 8 (1): 156
- **Partial Activation of TrkB Receptors Corrects Interneuronal Calcium Channel Dysfunction and Reduces Epileptogenic Activity in Neocortex following Injury.** *Cerebral cortex (New York, N.Y. : 1991)*
  Gu, F., Parada, I., Yang, T., Longo, F. M., Prince, D. A.
  2020
- **Therapeutic Intervention of p75(NTR) With LM11A-31 Protects Against Systemic and Retinal Inflammation And Visual Impairment In A Model of Diabetic Retinopathy**
  El-Remessy, A. B., Mohamed, R., Pearson, L., Longo, F.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Editorial: Next-Generation Alzheimer's Therapeutics: Leveraging Deep Biology.** *The journal of prevention of Alzheimer's disease*
  Longo, F. M., Massa, S. M.
  2020; 7 (3): 138-139
- **Next-generation Alzheimer's Therapeutics: Leveraging Deep Biology** *JPAD-JOURNAL OF PREVENTION OF ALZHEIMERS DISEASE*
  Longo, F. M., Massa, S. M.
  2020
- **Non-Amyloid Approaches to Disease Modification for Alzheimer's Disease: An EU/US CTAD Task Force Report** *JPAD-JOURNAL OF PREVENTION OF ALZHEIMERS DISEASE*

Gauthier, S., Aisen, P. S., Cummings, J., Detke, M. J., Longo, F. M., Raman, R., Sabbagh, M., Schneider, L., Tanzi, R., Tariot, P., Weiner, M., Touchon, J., Vellas, et al

2020

- **Non-Amyloid Approaches to Disease Modification for Alzheimer's Disease: An EU/US CTAD Task Force Report.** *The journal of prevention of Alzheimer's disease*

  Gauthier, S., Aisen, P. S., Cummings, J., Detke, M. J., Longo, F. M., Raman, R., Sabbagh, M., Schneider, L., Tanzi, R., Tariot, P., Weiner, M., Touchon, J., Vellas, et al

  2020; 7 (3): 152-157

- **Small molecule modulation of the p75 neurotrophin receptor suppresses age- and genotype-associated neurodegeneration in HIV gp120 transgenic mice.** *Experimental neurology*

  Xie, Y. n., Seawell, J. n., Boesch, E. n., Allen, L. n., Suchy, A. n., Longo, F. M., Meeker, R. B.

  2020: 113489

- **Soluble TREM2 is elevated in Parkinson's disease subgroups with increased CSF tau.** *Brain : a journal of neurology*

  Wilson, E. N., Swarovski, M. S., Linortner, P. n., Shahid, M. n., Zuckerman, A. J., Wang, Q. n., Channappa, D. n., Minhas, P. S., Mhatre, S. D., Plowey, E. D., Quinn, J. F., Zabetian, C. P., Tian, et al

  2020

- **Oral Administration of the p75 Neurotrophin Receptor Modulator, LM11A-31, Improves Erectile Function in a Mouse Model of Cavernous Nerve Injury.** *The journal of sexual medicine*

  Yin, G. N., Ock, J. n., Limanjaya, A. n., Minh, N. N., Hong, S. S., Yang, T. n., Longo, F. M., Ryu, J. K., Suh, J. K.

  2020

- **Modulation of the p75 neurotrophin receptor using LM11A-31 prevents diabetes-induced retinal vascular permeability in mice via inhibition of inflammation and the RhoA kinase pathway** *DIABETOLOGIA*

  Elshaer, S. L., Alwhaibi, A., Mohamed, R., Lemtalsi, T., Coucha, M., Longo, F. M., El-Remessy, A. B.

  2019; 62 (8): 1488–1500

- **Nerve Growth Factor Pathobiology During the Progression of Alzheimer's Disease** *FRONTIERS IN NEUROSCIENCE*

  Mufson, E. J., Counts, S. E., Ginsberg, S. D., Mahady, L., Perez, S. E., Massa, S. M., Longo, F. M., Ikonomovic, M. D.

  2019; 13

- **Methotrexate chemotherapy impairs adaptive myelination through altered BDNF-TrkB signaling**

  Geraghty, A. C., Gibson, E., Ghanem, R., Greene, J., Yang, T., Ni, L., Greenberg, M., Longo, F., Monje, M.

  WILEY.2019: E329

- **Nerve Growth Factor Pathobiology During the Progression of Alzheimer's Disease.** *Frontiers in neuroscience*

  Mufson, E. J., Counts, S. E., Ginsberg, S. D., Mahady, L., Perez, S. E., Massa, S. M., Longo, F. M., Ikonomovic, M. D.

  2019; 13: 533

- **Receptor dependence of BDNF actions in superficial dorsal horn: relation to central sensitization and actions of macrophage colony stimulating factor** *JOURNAL OF NEUROPHYSIOLOGY*

  Boakye, P. A., Rancic, V., Whitlock, K. H., Simmons, D., Longo, F. M., Ballanyi, K., Smith, P. A.

  2019; 121 (6): 2308–22

- **Receptor-dependence of BDNF Actions in Superficial Dorsal Horn; Relation to Central Sensitization and Actions of Macrophage Colony Stimulating Factor 1 (CSF-1).** *Journal of neurophysiology*

  Boakye, P. A., Rancic, V., Whitlock, K. H., Simmons, D., Longo, F. M., Ballanyi, K., Smith, P. A.

  2019

- **Early life stress disrupts intestinal homeostasis via NGF-TrkA signaling** *NATURE COMMUNICATIONS*

  Wong, H., Qin, H., Tsang, S., Zuo, X., Che, S., Chow, C., Li, X., Xiao, H., Zhao, L., Huang, T., Lin, C., Kwan, H., Yang, et al

  2019; 10

- **Early life stress disrupts intestinal homeostasis via NGF-TrkA signaling.** *Nature communications*

  Wong, H. L., Qin, H., Tsang, S. W., Zuo, X., Che, S., Chow, C. F., Li, X., Xiao, H., Zhao, L., Huang, T., Lin, C. Y., Kwan, H. Y., Yang, et al

  2019; 10 (1): 1745

- **Modulation of the p75 neurotrophin receptor suppresses age-related basal forebrain cholinergic neuron degeneration** *SCIENTIFIC REPORTS*

Xie, Y., Meeker, R. B., Massa, S. M., Longo, F. M.
2019; 9

- **Modulation of the p75 neurotrophin receptor suppresses age-related basal forebrain cholinergic neuron degeneration.** *Scientific reports*
  Xie, Y., Meeker, R. B., Massa, S. M., Longo, F. M.
  2019; 9 (1): 5273

- **Modulation of the p75 neurotrophin receptor using LM11A-31 prevents diabetes-induced retinal vascular permeability in mice via inhibition of inflammation and the RhoA kinase pathway.** *Diabetologia*
  Elshaer, S. L., Alwhaibi, A. n., Mohamed, R. n., Lemtalsi, T. n., Coucha, M. n., Longo, F. M., El-Remessy, A. B.
  2019

- **Loss of Adaptive Myelination Contributes to Methotrexate Chemotherapy-Related Cognitive Impairment.** *Neuron*
  Geraghty, A. C., Gibson, E. M., Ghanem, R. A., Greene, J. J., Ocampo, A. n., Goldstein, A. K., Ni, L. n., Yang, T. n., Marton, R. M., Pa#ca, S. P., Greenberg, M. E., Longo, F. M., Monje, et al
  2019

- **Reduced cognitive deficits after FLASH irradiation of whole mouse brain are associated with less hippocampal dendritic spine loss and neuroinflammation.** *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*
  Simmons, D. A., Lartey, F. M., Schüler, E. n., Rafat, M. n., King, G. n., Kim, A. n., Ko, R. n., Semaan, S. n., Gonzalez, S. n., Jenkins, M. n., Pradhan, P. n., Shih, Z. n., Wang, et al
  2019

- **A Small Molecule TrkB Neurotrophin Receptor Partial Agonist as Possible Treatment for Experimental Nonarteritic Anterior Ischemic Optic Neuropathy** *CURRENT EYE RESEARCH*
  Shariati, M., Kumar, V., Yang, T., Chakraborty, C., Barres, B., Longo, F., Liao, Y.
  2018; 43 (12): 1489-1499

- **A Small Molecule TrkB Neurotrophin Receptor Partial Agonist as Possible Treatment for Experimental Nonarteritic Anterior Ischemic Optic Neuropathy.** *Current eye research*
  Ali Shariati, M., Kumar, V., Yang, T., Chakraborty, C., Barres, B. A., Longo, F. M., Liao, Y. J.
  2018: 1–11

- **Alzheimer's associated amyloid and tau deposition co-localizes with a homeostatic myelin repair pathway in two mouse models of post-stroke mixed dementia** *ACTA NEUROPATHOLOGICA COMMUNICATIONS*
  Nguyen, T. V., Hayes, M., Zbesko, J. C., Frye, J. B., Congrove, N. R., Belichenko, N. P., McKay, B. S., Longo, F. M., Doyle, K. P.
  2018; 6: 100

- **Unsolicited Patient Complaints Identify Physicians with Evidence of Neurocognitive Disorders** *AMERICAN JOURNAL OF GERIATRIC PSYCHIATRY*
  Cooper, W. O., Martinez, W., Domenico, H. J., Callahan, S., Kirkby, B. P., Finlayson, A. R., Foster, J. J., Johnson, T. M., Longo, F. M., Merrill, D. G., Jacobs, M. L., Pichert, J. W., Catron, et al
  2018; 26 (9): 927–36

- **TSPO-PET imaging using [F-18]PBR06 is a potential translatable biomarker for treatment response in Huntington's disease: preclinical evidence with the p75(NTR) ligand LM11A-31** *HUMAN MOLECULAR GENETICS*
  Simmons, D. A., James, M. L., Belichenko, N. P., Semaan, S., Condon, C., Kuan, J., Shuhendler, A. J., Miao, Z., Chin, F. T., Longo, F. M.
  2018; 27 (16): 2893–2912

- **TSPO-PET Imaging Using [18F]PBR06 is a Potential Translatable Biomarker for Treatment Response in Huntington's Disease: Preclinical Evidence with the p75NTR Ligand LM11A-31.** *Human molecular genetics*
  Simmons, D. A., James, M. L., Belichenko, N. P., Semaan, S., Condon, C., Kuan, J., Shuhendler, A. J., Miao, Z., Chin, F. T., Longo, F. M.
  2018

- **Partial TrkB receptor activation suppresses cortical epileptogenesis through actions on parvalbumin interneurons** *NEUROBIOLOGY OF DISEASE*
  Gu, F., Parada, I., Yang, T., Longo, F. M., Prince, D. A.
  2018; 113: 45–58

- **Glial scars are permeable to the neurotoxic environment of chronic stroke infarcts** *NEUROBIOLOGY OF DISEASE*
  Zbesko, J. C., Nguyen, T. V., Yang, T., Frye, J., Hussain, O., Hayes, M., Chung, A., Day, W., Stepanovic, K., Krumberger, M., Mona, J., Longo, F. M., Doyle, et al
  2018; 112: 63–78

- **Microglial complement receptor 3 regulates brain A beta levels through secreted proteolytic activity** *JOURNAL OF EXPERIMENTAL MEDICINE*
  Czirr, E., Castello, N. A., Mosher, K. I., Castellano, J. M., Hinkson, I. V., Lucin, K. M., Baeza-Raja, B., Ryu, J. K., Li, L., Farina, S. N., Belichenko, N. P., Longo, F. M., Akassoglou, et al
  2017; 214 (4): 1081-1092

- **[F-18]GE-180 PET Detects Reduced Microglia Activation After LM11A-31 Therapy in a Mouse Model of Alzheimer's Disease** *THERANOSTICS*
  James, M. L., Belichenko, N. P., Shuhendler, A. J., Hoehne, A., Andrews, L. E., Condon, C., Nguyen, T. V., Reiser, V., Jones, P., Trigg, W., Rao, J., Gambhir, S. S., Longo, et al
  2017; 7 (6): 1422-1436

- **A small-molecule TrkB ligand restores hippocampal synaptic plasticity and object location memory in Rett syndrome mice.** *Disease models & mechanisms*
  Li, W. n., Bellot-Saez, A. n., Phillips, M. L., Yang, T. n., Longo, F. M., Pozzo-Miller, L. n.
  2017; 10 (7): 837–45

- **A small molecule p75NTR ligand normalizes signalling and reduces Huntington's disease phenotypes in R6/2 and BACHD mice.** *Human molecular genetics*
  Simmons, D. A., Belichenko, N. P., Ford, E. C., Semaan, S., Monbureau, M., Aiyaswamy, S., Holman, C. M., Condon, C., Shamloo, M., Massa, S. M., Longo, F. M.
  2016; 25 (22): 4920-4938

- **Neurotrophin receptor signaling as a therapeutic target for Huntington's Disease.** *CNS & neurological disorders drug targets*
  Simmons, D. A., Longo, F. M., Massa, S. M.
  2016: -?

- **A small molecule TrkB/TrkC neurotrophin receptor co-activator with distinctive effects on neuronal survival and process outgrowth.** *Neuropharmacology*
  Yang, T., Massa, S. M., Tran, K. C., Simmons, D. A., Rajadas, J., Zeng, A. Y., Jang, T., Carsanaro, S., Longo, F. M.
  2016; 110: 343-361

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