



Marion S. Buckwalter, MD, PhD

Professor of Neurology and Neurological Sciences (Adult Neurology) and of Neurosurgery

CLINICAL OFFICE (PRIMARY)

- **Neurology and Neurological Sciences**

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Bio

CLINICAL FOCUS

- Neurologic Critical Care
- Neurocritical Care

ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Adult Neurology
- Member, Neurology & Neurological Sciences
- Professor - University Medical Line, Neurosurgery
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

PROFESSIONAL EDUCATION

- Board Certification: Neurocritical Care, United Council for Neurologic Subspecialties (2008)
- Board Certification: Neurology, American Board of Psychiatry and Neurology (2001)
- Board Certification, United Council for Neurologic Subspecialties , Neurocritical care re-certification (2018)
- Board Certification, United Council for Neurologic Subspecialties , Neurocritical Care (2008)
- Medical Education: University of Michigan School of Medicine (1996) MI
- MD PhD, University of Michigan , Human Genetics (1996)
- Internship, UCSF , Medicine (1997)
- Residency, UCSF , Neurology (2000)

- Fellowship, UCSF , Neurological Critical Care (2002)

LINKS

- Buckwalter Lab Site: <http://med.stanford.edu/buckwalter-lab.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The goal of the Buckwalter Lab is to improve how people recover after a stroke. We use basic and clinical research to understand the cells, proteins, and genes that lead to successful recovery of function, and also how complications develop that impact quality of life after stroke. Ongoing projects are focused on understanding how inflammatory responses are regulated after a stroke and how they affect short-term brain injury and long term outcomes like dementia and depression.

Ongoing projects focus on glial cells (astrocytes and microglia) and how they coordinate with immune cells from the blood to affect bystander brain injury in the days after stroke. We also study the brain blood vessel response to stroke in aging, and in longer term models of dementia. Finally, we are studying how conditions that co-exist in people with stroke affect these processes, for example obesity and hypertension.

In addition, we study all these processes in a clinical study that is a prospective cohort of people who have had a stroke. Participants in this "StrokeCog" study volunteer to donate blood, have brain scans, and have their cognition (thinking) measured yearly. We are continually using the collected data to learn more about what happens after stroke and to help us uncover important and treatable mechanisms that lead to post-stroke dementia and depression.

CLINICAL TRIALS

- StrokeCog-BBB to Study Cognitive Outcomes Following Stroke, Recruiting

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Karen Bradshaw

Doctoral Dissertation Co-Advisor (NonAC)

Sylvie Dobrota Lai

Doctoral Dissertation Reader (NonAC)

Yoo Jin Genie Jung

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Obesity supersedes macrophage and neutrophil activation after stroke while lipid droplets play a protective role.** *Journal of neuroinflammation*
Bradshaw, K., Holsten, J., Hahn, O., Foltz, A., Zera, K. A., Zhu, L., Haarslev, C., Wyss-Coray, T., Peterson, T. C., Buckwalter, M. S.
2026

- **Longitudinal plasma interleukin-6 and post-stroke cognitive outcomes: The Stroke-IMPACT study.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Carmichael, N. S., Deijnen, H. R., Wong, S. Y., Williams, T. O., Kontopantelis, E., Cowie, L., Jones, E., Drag, L., Buckwalter, M. S., Grainger, J. R., Allan, S. M., Smith, C. J.
2026; 22 (3): e71261
- **Higher Social Vulnerability Index is Associated with Declination of Stroke Clinical Trial Enrollment**
Le, N., Dugue, R., Buckwalter, M.
LIPPINCOTT WILLIAMS & WILKINS.2026
- **Blockade of VCAM1 or VLA4 promotes normal cerebrovasculature and prevents cognitive decline late after stroke**
Zera, K., Bradshaw, K., Zhu, L., Hahn, O., Foltz, A., Peterson, T., Yousef, H., Lee, D., Mayne, E., Wyss-Coray, T., Buckwalter, M.
LIPPINCOTT WILLIAMS & WILKINS.2026
- **Acute stroke proteomics reveals plasma increases in brain proteins and suppression of inflammatory and growth factor pathways in minor to moderate strokes**
Schmitgen, A., Aslan, A., Mlynash, M., Smith, C., Allan, S., Buckwalter, M.
LIPPINCOTT WILLIAMS & WILKINS.2026
- **Assessing post-stroke cognition in pre-clinical models: Lessons and recommendations from a multi-center study.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*
Brezzo, G., Zera, K. A., Straus, D. E., Goertz, J. E., Loppi, S. H., Crumpacker, R. R., Frye, J. B., Becktel, D. A., Cuartero, M. I., García Culebras, A., Dames, C., Berchtold, D., Fowler, et al
2025: 271678X251400241
- **Angiopoietin signalling is a central axis of amyloid-driven vascular dysfunction in Alzheimer's disease.** *bioRxiv : the preprint server for biology*
Flotho, M., Yang, A., Kern, F., Graf, S., Diks, I. F., Shin, H., Zera, K. A., Berdnik, D., Agam, M. R., Channappa, D., Shi, S. M., Belnap, M. A., Simmons, et al
2025
- **Harnessing anti-TNFR1 therapy has a limited impact on inflammation and motor function after stroke in obese male mice.** *Brain research*
Haarslev, C., Bradshaw, K., Corradini, S., Raffaele, S., Fumagalli, M., Buckwalter, M. S., Lambertsen, K. L.
2025; 1865: 149888
- **Advancing clinical trial readiness in white matter disease and related dementias: key steps for future research progress.** *GeroScience*
Sompol, P., Jicha, G. A., Hinman, J. D., Brickman, A. M., Greenberg, S. M., Arfanakis, K., Buckwalter, M. S., Llorente, I. L., Williamson, J. D., Wolf, M. S., Smith, E. E., Gupta, A., Flanagan, et al
2025
- **Cell-surface proteomic profiling identifies CD72 as a regulator of microglial tiling.** *bioRxiv : the preprint server for biology*
Chan, T. C., Rastogi, M., Williams, M. X., Zhang, S., Shi, S. M., Shuken, S. R., Bartling, T., Wild, K., Atkins, M., Hahn, O., Paulo, J. A., Jereb, S., Shuster, et al
2025
- **Clonal Expansion of T Cells in Experimental Stroke Reveals Reactivity to Type 1 Diabetes Antigens**
Doyle, K., Chapman, E., Becktel, D., Kumar, S., Berchtold, D., Dames, C., Meisel, C., Meisel, A., Cuartero, M., Moro, M., Hegarty, L., Brezzo, G., Mccoll, et al
SAGE PUBLICATIONS INC.2025: 17
- **The role of Interleukin-6 in post stroke cognitive decline**
Carmichael, N., Williams, T., Deijnen, H., Drag, L., Gutierrez, J., Buckwalter, M., Grainger, J., Allan, S., Smith, C.
SAGE PUBLICATIONS INC.2025: 8-9
- **Blood-based Metabolic Biomarkers of Post-stroke Cognitive Decline**
Deijnen, H., Grainger, J., Drag, L., Gutierrez, J., Buckwalter, M., Allan, S., Smith, C.
SAGE PUBLICATIONS INC.2025: 10
- **Establishing a Pipeline to Characterise the Immune Landscape and Pathway Activation Response in a Multi-site Longitudinal Clinical Study of Post Stroke Cognitive Decline**
Williams, T., Buckwalter, M., Smith, C., Grainger, J., Allan, S., Deijnen, H.

SAGE PUBLICATIONS INC.2025: 94-95

- **Investigating the Role of Thromboinflammation in Post-Stroke Cognitive Decline**
Jones, R., Luka, N., Unsworth, A., Wong, S., Jones, S., Gutierrez, J., Gittens, M., Drag, L., Buckwalter, M., South, K., Allan, S., Smith, C.
SAGE PUBLICATIONS INC.2025: 9-10
- **StrokeCog-15 Is an Efficient Neuropsychological Battery to Screen for Cognitive Impairment in Chronic Stroke.** *Stroke*
Drag, L. L., Mlynash, M., Aslan, A., Musabbir, M., Bradley, A., Lansberg, M. G., Allan, S. M., Aghaeepour, N., Smith, C., Buckwalter, M. S.
2025
- **Single-Cell Analysis in Cerebrovascular Research: Primed for Breakthroughs and Clinical Impact.** *Stroke*
Albertson, A. J., Winkler, E. A., Yang, A. C., Buckwalter, M. S., Dingman, A. L., Fan, H., Herson, P. S., McCullough, L. D., Perez-Pinzon, M. A., Sansing, L. H., Sun, D., Alkayed, N. J.
2024
- **Evidence of aberrant anti-epstein-barr virus antibody response, though no viral reactivation, in people with post-stroke fatigue.** *Journal of inflammation (London, England)*
Mouat, I. C., Zhu, L., Aslan, A., McColl, B. W., Allan, S. M., Smith, C. J., Buckwalter, M. S., McCulloch, L.
2024; 21 (1): 30
- **Joint and Individual Mitochondrial DNA Variation and Cognitive Outcomes in Black and White Older Adults.** *The journals of gerontology. Series A, Biological sciences and medical sciences*
Odden, M. C., Li, Y., Jotwani, V., Dobrota, S., Tan, A., Cummings, S. R., Shlipak, M. G., Scherzer, R., Ix, J. H., Buckwalter, M., Tranah, G. J.
2024
- **The effect of robot-assisted versus standard training on motor function following subacute rehabilitation after ischemic stroke - protocol for a randomised controlled trial nested in a prospective cohort (RoboRehab).** *BMC neurology*
Skovgaard Jensen, J., Sorensen, A. S., Kruuse, C., Nielsen, H. H., Skov, C. D., Jensen, H. B., Buckwalter, M. S., Bojsen-Moller, J., Lambertsen, K. L., Holsgaard-Larsen, A.
2024; 24 (1): 233
- **TREM1 disrupts myeloid bioenergetics and cognitive function in aging and Alzheimer disease mouse models.** *Nature neuroscience*
Wilson, E. N., Wang, C., Swarovski, M. S., Zera, K. A., Ennerfelt, H. E., Wang, Q., Chaney, A., Gauba, E., Ramos Benitez, J. A., Le Guen, Y., Minhas, P. S., Panchal, M., Tan, et al
2024
- **Blocking Formation of Neurotoxic Reactive Astrocytes is Beneficial Following Stroke.** *bioRxiv : the preprint server for biology*
Prescott, K., Munch, A. E., Brahms, E., Weigel, M. M., Inoue, K., Buckwalter, M. S., Liddelow, S. A., Peterson, T. C.
2023
- **Ipsilesional Hippocampal GABA Is Elevated and Correlates With Cognitive Impairment and Maladaptive Neurogenesis After Cortical Stroke in Mice.** *Stroke*
Torres-López, C., Cuartero, M. I., García-Culebras, A., de la Parra, J., Fernández-Valle, M. E., Benito, M., Vázquez-Reyes, S., Jareño-Flores, T., de Castro-Millán, F. J., Hurtado, O., Buckwalter, M. S., García-Segura, J. M., Lizasoain, et al
2023
- **Machine learning models of plasma proteomic data predict mood in chronic stroke and tie it to aberrant peripheral immune responses.** *Brain, behavior, and immunity*
Bidoki, N. H., Zera, K. A., Nassar, H., Drag, L. L., Mlynash, M., Osborn, E., Musabbir, M., Eun K Kim, D., Paula Mendez, M., Lansberg, M. G., Aghaeepour, N., Buckwalter, M. S.
2023
- **Translatome analysis reveals microglia and astrocytes to be distinct regulators of inflammation in the hyperacute and acute phases after stroke.** *Glia*
Hernandez, V. G., Lechtenberg, K. J., Peterson, T. C., Zhu, L., Lucas, T. A., Bradshaw, K. P., Owah, J. O., Dorsey, A. I., Gentles, A. J., Buckwalter, M. S.
2023
- **Translatome analysis reveals microglia and astrocytes to be distinct regulators of inflammation in the hyperacute and acute phases after stroke.** *bioRxiv : the preprint server for biology*
Hernandez, V. G., Lechtenberg, K. J., Peterson, T. C., Zhu, L., Lucas, T. A., Owah, J. O., Dorsey, A. I., Gentles, A. J., Buckwalter, M. S.
2023

- **Blocking of microglia-astrocyte proinflammatory signaling is beneficial following stroke.** *Frontiers in molecular neuroscience*
Prescott, K., Münch, A. E., Brahms, E., Weigel, M. K., Inoue, K., Buckwalter, M. S., Liddelow, S. A., Peterson, T. C.
2023; 16: 1305949
- **The 2022 FASEB virtual Catalyst Conference on B Cells in Injury and Regeneration, March 30, 2022.** *FASEB journal : official publication of the Federation of American Societies for Experimental Biology*
Dwyer, L. J., Stowe, A. M., Doyle, K., Popovich, P., Engler-Chiurazzi, E., LeGuern, C., Buckwalter, M. S., Poznansky, M. C., Sirbulescu, R. F.
2022; 36 (8): e22459
- **An RNA-sequencing transcriptome of the rodent Schwann cell response to peripheral nerve injury.** *Journal of neuroinflammation*
Brosius Lutz, A., Lucas, T. A., Carson, G. A., Caneda, C., Zhou, L., Barres, B. A., Buckwalter, M. S., Sloan, S. A.
2022; 19 (1): 105
- **Immune Pathways in Etiology, Acute Phase, and Chronic Sequelae of Ischemic Stroke.** *Circulation research*
Endres, M., Moro, M. A., Nolte, C. H., Dames, C., Buckwalter, M. S., Meisel, A.
2022; 130 (8): 1167-1186
- **Prognostication of ICU Patients by Providers with and without Neurocritical Care Training.** *Neurocritical care*
Finley Caulfield, A., Mlynash, M., Eyngorn, I., Lansberg, M. G., Afjei, A., Venkatasubramanian, C., Buckwalter, M. S., Hirsch, K. G.
2022
- **Self-report Does Not Align With Objective Assessments Of Memory And Fine Motor Functioning In Stroke Survivors**
Mendez, M. P., Drag, L. L., Mlynash, M., Musabbir, M., Kim, D. K., Lansberg, M. G., Buckwalter, M. S.
LIPPINCOTT WILLIAMS & WILKINS.2022
- **Depression And Not Cognitive Ability Is Most Strongly Associated With Long-term Functional Outcomes Following Stroke.**
Drag, L. L., Musabbir, M., Mlynash, M., Mendez, M. P., Kim, D. K., Aghaepour, N., Lansberg, M. G., Buckwalter, M. S.
LIPPINCOTT WILLIAMS & WILKINS.2022
- **Higher White Blood Cell Count In The First Week After Stroke Predicts Worse Cognitive Outcomes In A Population With Smaller Ischemic Strokes**
Musabbir, M., Kim, D., Drag, L., Mlynash, M., Mendez, M., Lansberg, M. G., Smith, C. J., Buckwalter, M. S.
LIPPINCOTT WILLIAMS & WILKINS.2022
- **Targeting VCAM1 to reduce neuroinflammation in ischemia-triggered vascular dementia.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Zera, K. A., Peterson, T., Yousef, H., Lee, D., Wyss-Coray, T., Buckwalter, M. S.
1800; 17 Suppl 3: e053849
- **Brain profiling in murine colitis and human epilepsy reveals neutrophils and TNFalpha as mediators of neuronal hyperexcitability.** *Journal of neuroinflammation*
Barnes, S. E., Zera, K. A., Ivison, G. T., Buckwalter, M. S., Engleman, E. G.
2021; 18 (1): 199
- **T cells direct microglial repair of white matter after stroke.** *Trends in neurosciences*
Zera, K. A., Buckwalter, M. S.
2021
- **Spleen glia are a transcriptionally unique glial subtype interposed between immune cells and sympathetic axons.** *Glia*
Lucas, T. A., Zhu, L., Buckwalter, M. S.
2021
- **New Mechanistic Insights, Novel Treatment Paradigms, and Clinical Progress in Cerebrovascular Diseases.** *Frontiers in aging neuroscience*
Boltze, J., Aronowski, J. A., Badaut, J., Buckwalter, M. S., Caleo, M., Chopp, M., Dave, K. R., Didwischus, N., Dijkhuizen, R. M., Doepner, T. R., Dreier, J. P., Fouad, K., Gelderblom, et al
2021; 13: 623751
- **B and T Lymphocyte Densities Remain Stable With Age in Human Cortex.** *ASN neuro*
Berry, K., Farias-Itao, D. S., Grinberg, L. T., Plowey, E. D., Schneider, J. A., Rodriguez, R. D., Suemoto, C. K., Buckwalter, M. S.
2021; 13: 17590914211018117

- **Mapping causal circuit dynamics in stroke using simultaneous electroencephalography and transcranial magnetic stimulation.** *BMC neurology*
Rolle, C. E., Baumer, F. M., Jordan, J. T., Berry, K., Garcia, M., Monusko, K., Trivedi, H., Wu, W., Toll, R., Buckwalter, M. S., Lansberg, M., Etkin, A.
2021; 21 (1): 280
- **Home-based Virtual Reality Therapy for Hand Recovery After Stroke.** *PM & R : the journal of injury, function, and rehabilitation*
Lansberg, M. G., Legault, C. n., MacLellan, A. n., Parikh, A. n., Muccini, J. n., Mlynash, M. n., Kemp, S. n., Buckwalter, M. S., Flavin, K. n.
2021
- **Immune responses to stroke: mechanisms, modulation, and therapeutic potential.** *The Journal of clinical investigation*
Iadecola, C., Buckwalter, M. S., Anrather, J.
2020
- **Home-Based Virtual Reality Therapy for Hand Recovery After Stroke**
MacLellan, A., Legault, C., Parikh, A., Lugo, L., Kemp, S., Mlynash, M., Buckwalter, M., Flavin, K., Lansberg, M.
LIPPINCOTT WILLIAMS & WILKINS.2020
- **Development of a Comprehensive Neuropsychological Battery to Assess Post-Stroke Cognitive Functioning**
Drag, L., Aghaeepour, N., Mlynash, M., Osborn, E., Rah, E., Buckwalter, M., Lansberg, M.
LIPPINCOTT WILLIAMS & WILKINS.2020
- **Obesity Drives Delayed Infarct Expansion, Inflammation, and Distinct Gene Networks in a Mouse Stroke Model.** *Translational stroke research*
Peterson, T. C., Lechtenberg, K. J., Piening, B. D., Lucas, T. A., Wei, E. n., Chaib, H. n., Dowdell, A. K., Snyder, M. n., Buckwalter, M. S.
2020
- **A longitudinal study of the post-stroke immune response and cognitive functioning: the StrokeCog study protocol.** *BMC neurology*
Drag, L. L., Mlynash, M. n., Nassar, H. n., Osborn, E. n., Kim, D. E., Angst, M. S., Aghaeepour, N. n., Buckwalter, M. n., Lansberg, M. G.
2020; 20 (1): 313
- **Development of a CD19 PET tracer for detecting B cells in a mouse model of multiple sclerosis.** *Journal of neuroinflammation*
Stevens, M. Y., Cropper, H. C., Lucot, K. L., Chaney, A. M., Lechtenberg, K. J., Jackson, I. M., Buckwalter, M. S., James, M. L.
2020; 17 (1): 275
- **Infection as a Stroke Risk Factor and Determinant of Outcome After Stroke.** *Stroke*
Elkind, M. S., Boehme, A. K., Smith, C. J., Meisel, A. n., Buckwalter, M. S.
2020: STROKEAHA120030429
- **The Local and Peripheral Immune Responses to Stroke: Implications for Therapeutic Development.** *Neurotherapeutics : the journal of the American Society for Experimental NeuroTherapeutics*
Zera, K. A., Buckwalter, M. S.
2020
- **Immunological mechanisms in poststroke dementia.** *Current opinion in neurology*
Doyle, K. P., Buckwalter, M. S.
2019
- **Aged blood impairs hippocampal neural precursor activity and activates microglia via brain endothelial cell VCAM1** *NATURE MEDICINE*
Yousef, H., Czapalla, C. J., Lee, D., Chen, M. B., Burke, A. N., Zera, K. A., Zandstra, J., Berber, E., Lehallier, B., Mathur, V., Nair, R. V., Bonanno, L. N., Yang, et al
2019; 25 (6): 988+
- **A YEAR-LONG IMMUNE PROFILE OF THE SYSTEMIC RESPONSE IN ACUTE STROKE SURVIVORS**
Tsai, A., Berry, K., Beneyto, M. M., Gaudilliere, D., Ganio, E. A., Culos, A., Ghaemi, M. S., Choisy, B., Djebali, K., Einhaus, J. F., Bertrand, B., Tanada, A., Stanley, et al
LIPPINCOTT WILLIAMS & WILKINS.2019: 155
- **Augmented beta2-adrenergic signaling dampens the neuroinflammatory response following ischemic stroke and increases stroke size.** *Journal of neuroinflammation*
Lechtenberg, K. J., Meyer, S. T., Doyle, J. B., Peterson, T. C., Buckwalter, M. S.
2019; 16 (1): 112

- **Radiolabeling and pre-clinical evaluation of a first-in-class CD19 PET Tracer for imaging B cells in multiple sclerosis**
Stevens, M., Cropper, H., Jackson, I., Chaney, A., Lechtenberg, K., Buckwalter, M., James, M. L.
SOC NUCLEAR MEDICINE INC.2019
- **A year-long immune profile of the systemic response in acute stroke survivors.** *Brain : a journal of neurology*
Tsai, A. S., Berry, K., Beneyto, M. M., Gaudilliere, D., Ganio, E. A., Culos, A., Ghaemi, M. S., Choisy, B., Djebali, K., Einhaus, J. F., Bertrand, B., Tanada, A., Stanley, et al
2019
- **Deep Immune Profiling of the Post-Stroke Peripheral Immune Response Reveals Tri-phasic Response and Correlations With Long-Term Cognitive Outcomes**
Tsai, A. S., Berry, K., Beneyto, M. M., Gaudilliere, D., Ganio, E. A., Choisy, B., Djebali, K., Baca, Q., Quach, L., Drag, L., Lansberg, M. G., Angst, M. S., Gaudilliere, et al
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Feasibility and Utility of Home-Based Gait Analysis Using Body-Worn Sensors**
Huang, E., Sharp, M. T., Osborn, E., MacLellan, A., Mlynash, M., Kemp, S., Buckwalter, M. S., Lansberg, M. G.
LIPPINCOTT WILLIAMS & WILKINS.2019
- **C-11-DPA-713 Versus F-18-GE-180: A Preclinical Comparison of Translocator Protein 18 kDa PET Tracers to Visualize Acute and Chronic Neuroinflammation in a Mouse Model of Ischemic Stroke** *JOURNAL OF NUCLEAR MEDICINE*
Chaney, A., Cropper, H. C., Johnson, E. M., Lechtenberg, K. J., Peterson, T. C., Stevens, M. Y., Buckwalter, M. S., James, M. L.
2019; 60 (1): 122–28
- **Aged blood impairs hippocampal neural precursor activity and activates microglia via brain endothelial cell VCAM1.** *Nature medicine*
Yousef, H. n., Czupalla, C. J., Lee, D. n., Chen, M. B., Burke, A. N., Zera, K. A., Zandstra, J. n., Berber, E. n., Lehallier, B. n., Mathur, V. n., Nair, R. V., Bonanno, L. N., Yang, et al
2019
- **11C-DPA-713 versus 18F-GE-180: A preclinical comparison of TSPO-PET tracers to visualize acute and chronic neuroinflammation in a mouse model of ischemic stroke.** *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*
Chaney, A. n., Cropper, H. C., Johnson, E. M., Lechtenberg, K. J., Peterson, T. C., Stevens, M. Y., Buckwalter, M. S., James, M. L.
2018
- **Clopidogrel and Aspirin in Acute Ischemic Stroke and High-Risk TIA.** *The New England journal of medicine*
Johnston, S. C., Easton, J. D., Farrant, M. n., Barsan, W. n., Conwit, R. A., Elm, J. J., Kim, A. S., Lindblad, A. S., Palesch, Y. Y.
2018
- **Depression one year after hemorrhagic stroke is associated with late worsening of outcomes.** *NeuroRehabilitation*
Stern-Nezer, S., Eyngorn, I., Mlynash, M., Snider, R. W., Venkatsubramanian, C., Wijman, C. A., Buckwalter, M. S.
2017
- **Neurotoxic reactive astrocytes are induced by activated microglia.** *Nature*
Liddelow, S. A., Guttenplan, K. A., Clarke, L. E., Bennett, F. C., Bohlen, C. J., Schirmer, L., Bennett, M. L., Münch, A. E., Chung, W., Peterson, T. C., Wilton, D. K., Frouin, A., Napier, et al
2017; 541 (7638): 481-487
- **Imaging B cells in a mouse model of multiple sclerosis using (64)Cu-Rituximab-PET.** *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*
James, M. L., Hoehne, A. n., Mayer, A. T., Lechtenberg, K. n., Moreno, M. n., Gowrishankar, G. n., Ilovich, O. n., Natarajan, A. n., Johnson, E. M., Nguyen, J. n., Quach, L. n., Han, M. n., Buckwalter, et al
2017
- **Astrocytes: Integrative Regulators of Neuroinflammation in Stroke and Other Neurological Diseases.** *Neurotherapeutics*
Cekanaviciute, E., Buckwalter, M. S.
2016; 13 (4): 685-701
- **Stroke, Inflammation and the Immune Response: Dawn of a New Era** *NEUROTHERAPEUTICS*
Becker, K. J., Buckwalter, M.
2016; 13 (4): 659–60

- **Does B lymphocyte-mediated autoimmunity contribute to post-stroke dementia?** *Brain, behavior, and immunity*
Doyle, K. P., Buckwalter, M. S.
2016
- **Antibodies to myelin basic protein are associated with cognitive decline after stroke.** *Journal of neuroimmunology*
Becker, K. J., Tanzi, P., Zierath, D., Buckwalter, M. S.
2016; 295-296: 9-11
- **Antibodies to myelin basic protein are associated with cognitive decline after stroke** *JOURNAL OF NEUROIMMUNOLOGY*
Becker, K. J., Tanzi, P., Zierath, D., Buckwalter, M. S.
2016; 295: 9-11
- **Glial Fibrillary Acidic Protein-Expressing Glia in the Mouse Lung** *ASN NEURO*
Suarez-Mier, G. B., Buckwalter, M. S.
2015; 7 (5)
- **Metronidazole-Induced Encephalopathy: Not Always a Reversible Situation** *NEUROCRITICAL CARE*
Hobbs, K., Stern-Nezer, S., Buckwalter, M. S., Fischbein, N., Caulfield, A. F.
2015; 22 (3): 429-436
- **Albumin induces excitatory synaptogenesis through astrocytic TGF-beta/ALK5 signaling in a model of acquired epilepsy following blood-brain barrier dysfunction** *NEUROBIOLOGY OF DISEASE*
Weissberg, I., Wood, L., Kamintsky, L., Vazquez, O., Milikovsky, D. Z., Alexander, A., Oppenheim, H., Ardizzone, C., Becker, A., Frigerio, F., Vezzani, A., Buckwalter, M. S., Huguenard, et al
2015; 78: 115-125
- **B-Lymphocyte-Mediated Delayed Cognitive Impairment following Stroke.** *journal of neuroscience*
Doyle, K. P., Quach, L. N., Solé, M., Axtell, R. C., Nguyen, T. V., Soler-Llavina, G. J., Jurado, S., Han, J., Steinman, L., Longo, F. M., Schneider, J. A., Malenka, R. C., Buckwalter, et al
2015; 35 (5): 2133-2145
- **Ferumoxytol administration does not alter infarct volume or the inflammatory response to stroke in mice.** *Neuroscience letters*
Doyle, K. P., Quach, L. N., Arceuil, H. E., Buckwalter, M. S.
2015; 584: 236-240
- **Astrocytic transforming growth factor-beta signaling reduces subacute neuroinflammation after stroke in mice.** *Glia*
Cekanaviciute, E., Fathali, N., Doyle, K. P., Williams, A. M., Han, J., Buckwalter, M. S.
2014; 62 (8): 1227-1240
- **Astrocytic TGF-β signaling limits inflammation and reduces neuronal damage during central nervous system Toxoplasma infection.** *Journal of immunology*
Cekanaviciute, E., Dietrich, H. K., Axtell, R. C., Williams, A. M., Egusquiza, R., Wai, K. M., Koshy, A. A., Buckwalter, M. S.
2014; 193 (1): 139-149
- **A mouse model of permanent focal ischemia: distal middle cerebral artery occlusion.** *Methods in molecular biology (Clifton, N.J.)*
Doyle, K. P., Buckwalter, M. S.
2014; 1135: 103-110
- **Chronic Over-Expression of TGF beta 1 Alters Hippocampal Structure and Causes Learning Deficits** *HIPPOCAMPUS*
Martinez-Canabal, A., Wheeler, A. L., Sarkis, D., Lerch, J. P., Lu, W., Buckwalter, M. S., Wyss-Coray, T., Josselyn, S. A., Frankland, P. W.
2013; 23 (12): 1198-1211
- **Suppression of Inflammation with Conditional Deletion of the Prostaglandin E-2 EP2 Receptor in Macrophages and Brain Microglia** *JOURNAL OF NEUROSCIENCE*
Johansson, J. U., Pradhan, S., Lokteva, L. A., Woodling, N. S., Ko, N., Brown, H. D., Wang, Q., Loh, C., Cekanaviciute, E., Buckwalter, M., Manning-Bog, A. B., Andreasson, K. I.
2013; 33 (40): 16016-16032
- **Serum Neuron-Specific Enolase Levels from the Same Patients Differ Between Laboratories: Assessment of a Prospective Post-cardiac Arrest Cohort.** *Neurocritical care*
Mlynash, M., Buckwalter, M. S., Okada, A., Caulfield, A. F., Venkatasubramanian, C., Eynogon, I., Verbeek, M. M., Wijman, C. A.

2013; 19 (2): 161-166

- **A small molecule p75(NTR) ligand prevents cognitive deficits and neurite degeneration in an Alzheimer's mouse model.** *Neurobiology of aging*
Knowles, J. K., Simmons, D. A., Nguyen, T. V., Vander Griend, L., Xie, Y., Zhang, H., Yang, T., Pollak, J., Chang, T., Arancio, O., Buckwalter, M. S., Wyss-Coray, T., Massa, et al
2013; 34 (8): 2052-2063
- **Blood-brain barrier dysfunction-induced inflammatory signaling in brain pathology and epileptogenesis** *EPILEPSIA*
Kim, S. Y., Buckwalter, M., Soreq, H., Vezzani, A., Kaufner, D.
2012; 53: 37-44
- **Stratification substantially reduces behavioral variability in the hypoxic-ischemic stroke model.** *Brain and behavior*
Pollak, J., Doyle, K. P., Mamer, L., Shamloo, M., Buckwalter, M. S.
2012; 2 (5): 698-706
- **Stratification substantially reduces behavioral variability in the hypoxic-ischemic stroke model** *BRAIN AND BEHAVIOR*
Pollak, J., Doyle, K. P., Mamer, L., Shamloo, M., Buckwalter, M. S.
2012; 2 (5): 698-706
- **Delayed Administration of a Small Molecule Tropomyosin-Related Kinase B Ligand Promotes Recovery After Hypoxic-Ischemic Stroke** *STROKE*
Han, J., Pollak, J., Yang, T., Siddiqui, M. R., Doyle, K. P., Taravosh-Lahn, K., Cekanaviciute, E., Han, A., Goodman, J. Z., Jones, B., Jing, D., Massa, S. M., Longo, et al
2012; 43 (7): 1918-1924
- **The double-edged sword of inflammation after stroke: What sharpens each edge?** *ANNALS OF NEUROLOGY*
Doyle, K. P., Buckwalter, M. S.
2012; 71 (6): 729-731
- **Distal hypoxic stroke: A new mouse model of stroke with high throughput, low variability and a quantifiable functional deficit** *JOURNAL OF NEUROSCIENCE METHODS*
Doyle, K. P., Fathali, N., Siddiqui, M. R., Buckwalter, M. S.
2012; 207 (1): 31-40
- **A comparison of cooling techniques to treat cardiac arrest patients with hypothermia.** *Stroke research and treatment*
Finley Caulfield, A., Rachabattula, S., Eyngorn, I., Hamilton, S. A., Kalimuthu, R., Hsia, A. W., Lansberg, M. G., Venkatasubramanian, C., BAUMANN, J. J., Buckwalter, M. S., Kumar, M. A., Castle, J. S., Wijman, et al
2011; 2011: 690506-?
- **A Comparison of Cooling Techniques to Treat Cardiac Arrest Patients with Hypothermia** *STROKE RESEARCH AND TREATMENT*
Caulfield, A., Rachabattula, S., Eyngorn, I., Hamilton, S. A., Kalimuthu, R., Hsia, A. W., Lansberg, M. G., Venkatasubramanian, C., Baumann, J. J., Buckwalter, M. S., Kumar, M. A., Castle, J. S., Wijman, et al
2011
- **TGF beta signaling in the brain increases with aging and signals to astrocytes and innate immune cells in the weeks after stroke** *JOURNAL OF NEUROINFLAMMATION*
Doyle, K. P., Cekanaviciute, E., Mamer, L. E., Buckwalter, M. S.
2010; 7
- **Intravenous Thrombolysis Plus Hypothermia for Acute Treatment of Ischemic Stroke (ICTuS-L) Final Results** *STROKE*
Hemmen, T. M., Raman, R., Guluma, K. Z., Meyer, B. C., Gomes, J. A., Cruz-Flores, S., Wijman, C. A., Rapp, K. S., Grotta, J. C., Lyden, P. D.
2010; 41 (10): 2265-2270
- **Outcome prediction in mechanically ventilated neurologic patients by junior neurointensivists** *NEUROLOGY*
Caulfield, A. F., GABLER, L., Lansberg, M. G., Eyngorn, I., Mlynash, M., Buckwalter, M. S., Venkatasubramanian, C., Wijman, C. A.
2010; 74 (14): 1096-1101
- **Diagnostic Yield of CT Angiography in Addition to MRI/MRA in Spontaneous Intracerebral Hemorrhage**
Snider, R. W., Thai, D., Narayana, R. K., Mlynash, M., Caulfield, A., Venkatasubramanian, C., Buckwalter, M., Fischbein, N., Wijman, C. A.
LIPPINCOTT WILLIAMS & WILKINS.2010: E310

- **Diagnostic Accuracy of MRI in Spontaneous Intra-cerebral Hemorrhage (DASH): Initial Results** *International Stroke Conference*
Wijman, C. A., Snider, R. W., Venkatasubramanian, C., Caulfield, A. F., Buckwalter, M., Eyngorn, I., Fischbein, N., Gean, A., Schwartz, N., Lansberg, M., Mlynash, M., Kemp, S., Thai, et al
LIPPINCOTT WILLIAMS & WILKINS.2010: E210–E211
- **Accuracy of Serum NSE and S-100 Protein in Predicting Outcome After Cardiac Arrest**
Mlynash, M., Caulfield, A., Eyngorn, I., Buckwalter, M. S., Wijman, C. A.
LIPPINCOTT WILLIAMS & WILKINS.2010: E307
- **Prognostic Accuracy of Serum Neuron-Specific Enolase Levels in Comatose Post-Cardiac Arrest Patients**
Mlynash, M., Caulfield, A., Eyngorn, I., Buckwalter, M. S., Wijman, C. A.
LIPPINCOTT WILLIAMS & WILKINS.2009: E146–E147
- **A Mouse Model for Studying Functional Recovery from Stroke**
Pollak, J., Debsi, B., Mamer, L. E., Liu, S., Doyle, K. P., Jones, B., Shamloo, M., Buckwalter, M.
LIPPINCOTT WILLIAMS & WILKINS.2009: E214
- **TGF-beta Production And Signaling After Stroke.**
Doyle, K. P., Mamer, L. E., Buckwalter, M. S.
LIPPINCOTT WILLIAMS & WILKINS.2009: E174
- **Real-time Imaging of molecular signaling after stroke - Novel reporter mice for dissection of in vivo responses to TGF-beta** *33rd International Stroke Conference*
Buckwalter, M. S., Luo, J., Debsi, B., Wyss-Coray, T.
LIPPINCOTT WILLIAMS & WILKINS.2008: 659–59
- **Glia-dependent TGF-beta signaling, acting independently of the TH17 pathway, is critical for initiation of murine autoimmune encephalomyelitis** *JOURNAL OF CLINICAL INVESTIGATION*
Luo, J., Ho, P. P., Buckwalter, M. S., Hsu, T., Lee, L. Y., Zhang, H., Kim, D., Kim, S., Gambhir, S. S., Steinman, L., Wyss-Coray, T.
2007; 117 (11): 3306-3315
- **Immune Regulation of Regenerative Responses to Stroke: TGF-b1 and Neurogenesis**
Buckwalter, M. S., Yamane, M., Wyss-Coray, T.
WILEY-LISS.2007: 532
- **Increased T cell recruitment to the CNS after amyloid beta(1-42) immunization in Alzheimer's mice overproducing transforming growth factor-beta 1** *JOURNAL OF NEUROSCIENCE*
Buckwalter, M. S., Coleman, B. S., Buttini, M., Barbour, R., Schenk, D., Games, D., Seubert, P., Wyss-Coray, T.
2006; 26 (44): 11437-11441
- **Chronically increased transforming growth factor-beta 1 strongly inhibits hippocampal neurogenesis in aged mice** *AMERICAN JOURNAL OF PATHOLOGY*
Buckwalter, M. S., Yamane, M., Coleman, B. S., Ormerod, B. K., Chin, J. T., Palmer, T., Wyss-Coray, T.
2006; 169 (1): 154-164
- **Modelling neuroinflammatory phenotypes in vivo.** *Journal of neuroinflammation*
Buckwalter, M. S., Wyss-Coray, T.
2004; 1 (1): 10
- **Chronically increased brain TGF beta-1 leads to hippocampal microgliosis and decreased hippocampal neurogenesis in adult mice**
Buckwalter, M. S., Yamane, M., Lee, S., Palmer, T. D., Wyss-Coray, T.
ELSEVIER SCIENCE INC.2004: S168
- **Modelling neuroinflammatory phenotypes in vivo** *JOURNAL OF NEUROINFLAMMATION*
Buckwalter, M. S., Wyss-Coray, T.
2004; 1
- **Molecular and functional dissection of TGF-beta 1-induced cerebrovascular abnormalities in transgenic mice** *3rd World Congress on Vascular Factors in Alzheimers Disease*
Buckwalter, M., Pepper, J. P., Gaertner, R. F., Von Euw, D., Lacombe, P., Wyss-Coray, T.

NEW YORK ACAD SCIENCES.2002: 87-95

- **Construction of a 3-Mb contig and partial transcript map of the central region of mouse chromosome 11** *GENOMICS*
WATKINSCHOW, D. E., Douglas, K. R., Buckwalter, M. S., Probst, F. J., Camper, S. A.
1997; 45 (1): 147-157
- **Genetic mapping of 21 genes on mouse chromosome 11 reveals disruptions in linkage conservation with human chromosome 5** *GENOMICS*
WATKINSCHOW, D. E., Buckwalter, M. S., Newhouse, M. M., Lossie, A. C., Brinkmeier, M. L., Camper, S. A.
1997; 40 (1): 114-122
- **A FRAMESHIFT MUTATION IN THE MOUSE ALPHA(1) GLYCINE RECEPTOR GENE (GLRA1) RESULTS IN PROGRESSIVE NEUROLOGICAL SYMPTOMS AND JUVENILE DEATH** *HUMAN MOLECULAR GENETICS*
Buckwalter, M. S., Cook, S. A., Davisson, M. T., White, W. F., Camper, S. A.
1994; 3 (11): 2025-2030
- **A MISSENSE MUTATION IN THE GENE ENCODING THE ALPHA(1) SUBUNIT OF THE INHIBITORY GLYCINE RECEPTOR IN THE SPASMODIC MOUSE** *NATURE GENETICS*
Ryan, S. G., Buckwalter, M. S., LYNCH, J. W., Handford, C. A., Segura, L., Shiang, R., Wasmuth, J. J., Camper, S. A., Schofield, P., OCONNELL, P.
1994; 7 (2): 131-135
- **GENETIC-MAPPING AND EVALUATION OF CANDIDATE GENES FOR SPASMODIC, A NEUROLOGICAL MOUSE MUTATION WITH ABNORMAL STARTLE RESPONSE** *GENOMICS*
Buckwalter, M. S., Testa, C. M., Noebels, J. L., Camper, S. A.
1993; 17 (2): 279-286
- **LYSYL OXIDASE (LOX) MAPS BETWEEN GRL-1 AND ADRB-2 ON MOUSE CHROMOSOME-18** *MAMMALIAN GENOME*
Lossie, A. C., Buckwalter, M. S., Camper, S. A.
1993; 4 (3): 177-178
- **LOCALIZATION OF THE HUMAN CHROMOSOME-5Q GENES GABRA-1, GABRG-2, IL-4, IL-5, AND IRF-1 ON MOUSE CHROMOSOME-11** *MAMMALIAN GENOME*
Buckwalter, M. S., Lossie, A. C., SCARLETT, L. M., Camper, S. A.
1992; 3 (10): 604-607
- **MOUSE CHROMOSOME-11** *6TH INTERNATIONAL WORKSHOP ON MOUSE GENOME MAPPING*
BUCHBERG, A. M., Buckwalter, M. S., Camper, S. A.
SPRINGER VERLAG.1992: S162-S181
- **LOCALIZATION OF THE PANHYPOPITUITARY DWARF MUTATION (DF) ON MOUSE CHROMOSOME-11 IN AN INTERSUBSPECIFIC BACKCROSS** *GENOMICS*
Buckwalter, M. S., Katz, R. W., Camper, S. A.
1991; 10 (3): 515-526
- **Mouse chromosome 11.** *Mammalian genome*
BUCHBERG, A. M., Moskow, J. J., Buckwalter, M. S., Camper, S. A.
1991; 1: S158-91
- **BACTERIOPHAGE-MU SITES REQUIRED FOR TRANSPOSITION IMMUNITY** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Darzins, A., KENT, N. E., Buckwalter, M. S., CASADABAN, M. J.
1988; 85 (18): 6826-6830