

Kristian P. Doyle, Ph.D.

University of Arizona
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EDUCATION

Oregon Health & Science University, Portland, OR, Ph.D. Immunology 2001-2007
University of Sussex, Brighton, UK, B.S. Biology; minor in North American Studies 1996-2000

CURRENT POSITION

University of Arizona, Tucson, AZ, Department of Immunobiology, Department of Neurology and the Arizona Center on Aging
Associate Professor 2019-Present
Research Area: Translational stroke neuroimmunology

PREVIOUS POSITIONS

University of Arizona, Tucson, AZ, Department of Immunobiology, Department of Neurology and the Arizona Center on Aging
Assistant Professor 2013-2019

Stanford University, Stanford, CA, Department of Neurology and Neurological Sciences
Postdoctoral Scholar/Research Associate 2008-2013
Principal Investigator: Marion S. Buckwalter, M.D., Ph.D.
Project: Develop a model of post-stroke dementia and investigate cause(s) of the disease.

Virogenomics, Portland, OR
Postdoctoral Fellow 2007-2008
Chief Operating Officer: Jeff King, Ph.D.
Project: Develop a primate model of stroke and test neuroprotectants in experimental stroke in Rhesus Monkeys.

Oregon Health & Science University, Portland, OR, Dept. of Molecular Microbiology and Immunology
Graduate Student 2001-2007
Ph.D. Advisor / Chair: Mary Stenzel-Poore, Ph.D.
Dissertation: "*Development of novel therapeutics for stroke: Preclinical investigations of osteopontin and 3-iodothyronamine*"

Environment Agency, Portsmouth, UK
Assistant Scientist 2000-2001
Role: Performed spectrometric analysis of soil and water samples from areas around industrial plants to determine concentrations of dangerous metals.

Caribbean Conservation Corporation, Tortuguero, Costa Rica
Research Assistant Summer 2000
Project: Establish the density dependent effects that determine the reproductive success of the Green Sea Turtle in Tortuguero, Costa Rica.

GRANT SUPPORT*(Numbers indicate total award amount)*

R01: Inflammation and Delayed Cognitive Dysfunction After Stroke (Pending) Role: Principal Investigator	2023-2028
R56: Inflammation and Delayed Cognitive Dysfunction After Stroke (\$627,236) Role: Principal Investigator	2022-2023
U19 Award: Precision Aging Network: Closing the Gap Between Cognitive Healthspan and Human Lifespan. (\$2,941,733 shared among Molecular Profiling Core Investigators) Role: Co-Investigator for Molecular Profiling Sub-Award, PI: Carol Barnes	2020-2025
STTR Award: NanO2 as a Cerebroprotectant in a tMCAO Stroke Model in Mice (\$478,050) Role: Consultant, PI: Evan Unger	2021-2022
Fondation Leducq Transatlantic Network of Excellence Award: Stroke IMPaCT (Stroke – Immune Mediated Pathways and Cognitive Trajectory) (\$6,000,000 shared among 10 network members) Role: Co-Principal Investigator, Network Directors: Marion Buckwalter and Stuart Allan	2020-2025
VA Merit Award: Enhanced Mitochondrial Function to Increase Effectiveness of Post-Stroke Rehabilitation (\$1,200,000) Role: Co-Investigator, PI: Rick Schnellmann	2019-2023
R01: Interactions between the chronic sequelae of stroke and Alzheimer's disease (\$1,885,472) Role: Principal Investigator	2019-2024
R21: A small molecule p75NTR ligand to treat post-stroke mixed dementia (\$422,125) Role: Co-Investigator, PI: Thuy-Vi Nguyen	2019-2021
F31: The role of T-lymphocytes and antibodies in B-lymphocyte mediated post-stroke cognitive decline (\$104,808) Role: Sponsor (Co-Sponsored by Dr. Janko Nikolich)	2017-2020
R01: Cellular and Molecular Mechanisms of glial scar repair following stroke (\$1,648,587) Role: Principal Investigator	2016-2021
Arizona Alzheimer's Consortium Match Projects (\$150,000) Role: Co-Investigator, PI: Gene Alexander	2015-2016
K99/R00: Inflammation and Delayed Cognitive Dysfunction After Stroke (\$918,388) Role: Principal Investigator	2012-2017
American Federation of Aging Research Postdoctoral Fellowship (\$47,000) Role: Principal Investigator	2009-2010

HONORS AND AWARDS

Travel award to attend the Eureka Institute for Translational Medicine Course in Sicily	2019
NIA award to attend the 23rd Annual Training Course in Experimental Aging Research	2015
Undergraduate Biology Research Program (UBRP) Outstanding Faculty Mentor Award	2016
UBRP Outstanding Faculty Mentor, Honorable Mention	2014
Anita Roberts Young Scientist Scholarship (\$1,200)	2010
Ellison Medical Foundation Fellowship (Tuition & Expenses for 3 wk Biology of Aging course)	2009
Hot Topic Gordon Conference Travel Award (\$1500)	2005
N.L Tartar Research Fellowship (\$2000)	2003

PROFESSIONAL ORGANIZATIONS

Society for Neuroscience	2001-present
American Society for Neurochemistry	2005-present

TEACHING

Fundamentals of Clinical Translational Science (CTS 500, 4 units) Lecturer, University of Arizona.	2022-Present
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Certificate course on effective Translational Medicine in collaboration (Eureka Institute) Guest lecturer, University of Arizona.	2022
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Current Research in Vision and Neurodegeneration (OPH696, 1 unit) Course Co-Director, University of Arizona.	2018-Present
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Adv. Topics: Mod. of the Biology of Aging by Inflammation, Infection, and Immunity (IMB695, 1 unit) Course Co-Director, University of Arizona.	2018-Present
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Scientific Writing (IMB521, 2 Units) Course Co-Director, University of Arizona.	2020-Present
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Medical Student Case Based Instruction (CPR-M) Clinical Reasoning Facilitator, University of Arizona.	2015-2018
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Thesis Committee Member, Kelsey Bernard Neuroscience PhD Graduate Program, University of Arizona.	2022-Present
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Thesis Committee Member, Kiara Bachtle Neuroscience PhD Graduate Program, University of Arizona.	2022-Present
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Thesis Committee Member, Ingrid Peterson Neuroscience PhD Graduate Program, University of Arizona.	2022-2022
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Thesis Committee Member, Andrew Tang Neuroscience PhD Graduate Program, University of Arizona.	2021-Present
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Thesis Committee Member, David Bradford Medical Pharmacology PhD Graduate Program, University of Arizona.	2021-Present
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Thesis Committee Member, Erica Williams Pharmacology PhD Graduate Program, University of Arizona.	2020-Present
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Thesis Committee Member, Epiphani Simmons Neuroscience PhD Graduate Program, University of Arizona.	2019-2021
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Thesis Advisor, Danielle Becketl Immunobiology Ph.D Graduate Program, University of Arizona.	2018-Present
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Thesis Advisor, Jacob Likens Cellular and Molecular Medicine Master's Program, University of Arizona.	2017-2018
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Thesis Advisor, Amanda Chung Cellular and Molecular Medicine Master's Program, University of Arizona.	2017-2018
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Thesis Advisor, Karen Rico Cellular and Molecular Medicine Master's Program, University of Arizona.	2015-2016
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Thesis Advisor, Jacob Zbesko 2015-Present
Immunobiology Ph.D Graduate Program, University of Arizona.

Advanced Immunobiology (IMB564) 2014-2105
Guest Instructor for Immunity and Infection in the Central Nervous System. University of Arizona.

CME TEACHING

Doyle, K.P. A closer look at wound healing in the brain. April 2016. Neuroscience Grand Rounds (CME). Tucson, Arizona.

Doyle, K.P. Adaptive Immunity After Stroke. September 2014. Neuroscience Grand Rounds (CME). Tucson, Arizona.

Doyle, K.P. Immune mediated delayed cognitive impairment following stroke. January 2014 Neurosurgery Didactic Conference (CME). Tucson, Arizona.

MENTORING

Kristos Johnson, Undergraduate Mentor, Physiology Major, 2021

Boaz Maiyo, Undergraduate Mentor, Physiology Major, 2021

Elizabeth Le, Undergraduate Mentor, Undergraduate Biology Research Program, 2021

Christi Williams, Graduate Student Rotation Mentor, ABBS program, Fall 2019

Anna Jaison, Highschool Mentor, Undergraduate Biology Research Program, 2019

Frankie Garcia, Undergraduate Mentor, Undergraduate Biology Research Program, 2019

Kylie Calderon*, Undergraduate Mentor, Undergraduate Biology Research Program, 2018, 2019

*Received a Western Alliance for Expanding Student Opportunities (WAESO) Award, 2018 and 2019

Danielle Bechtel, Graduate Student Mentor, ABBS program, Spring 2018 - Present

Jacob Likens, Cellular and Molecular Medicine Master's Program Mentor, Fall 2017 – Spring 2018

Amanda Chung, Cellular and Molecular Medicine Master's Program Mentor, Spring 2017 – Spring 2018

Megan Molina, Graduate Student Rotation Mentor, ABBS program, Fall 2016

Mahpiya Vanderbilt, STEP-UP Summer Research Program Mentor (NIH), 2016

Justin Mona*, Undergraduate Mentor, Neuroscience and Cognitive Science Summer Research Program, 2016

*Received a Western Alliance for Expanding Student Opportunities (WAESO) Award, 2016

Karen Rico, Pre-Medical Admissions Pathway (P-MAP) Program Mentor, Summer 2015 – Summer 2016

Megan Irish Hayes, Undergraduate Mentor, Undergraduate Biology Research Program (UBRP) Summer Research Program, 2015

Maj Krumberger*, Undergraduate Mentor, Neuroscience and Cognitive Science Summer Research Program, 2015

*Received the Excellence in Undergraduate Research Award for the NSCS Program, 2016

Alex Urzua, Undergraduate Research Mentor, Physiology Major, 2015

Jacob Zbesko, Graduate Student Rotation Mentor, ABBS program, Winter 2014 - Present

Nasiha Ahmed, Graduate Student Rotation Mentor, ABBS program, Fall 2014

Nico Contreras, Graduate Student Rotation Mentor, ABBS program, Summer – Fall 2014

Omar Mohammad Hussein*, Undergraduate Mentor, Neuroscience and Cognitive Science Summer Research Program, 2014-2015

*Received the Excellence in Undergraduate Research Award for the NSCS Program, 2015

Kristina Nicole Stepanovic**, Undergraduate Mentor, Neuroscience and Cognitive Science Summer Research Program, 2014

*Received the Outstanding Senior Award from the Department of Psychology, 2016

*Received the Outstanding Senior Award from the College of Science, 2016

Stanford Science Bus, 2009. Taught an after-school science curriculum to middle school children at Jane Lathrop Stanford Middle School, Palo Alto, CA - a low income charter school.

Lauren Mamer, Undergraduate Thesis Mentor 2008-2010

SERVICE

Session Moderator , Translational Basic Sciences Oral Abstracts, International Stroke Conference, Dallas Texas	Feb. 2023
Reviewer , Free Radical Biology and Medicine (Elsevier Journal, Impact Factor: 7.376)	2022-Present
Reviewer , Special Emphasis Panel: ZRG1 CN-T (90) Neurological and Neuropsychological Injuries and Disorders study section (NIH)	2022-Present
Reviewer , Small Businesses: Neuroscience Assays, Diagnostics, Instrumentation and Interventions study section (NIH)	2022-Present
Reviewer , Innovations in Healthy Aging: Grand Challenges in Healthy Aging, University of Arizona	2022-Present
ABBS International Admissions Committee , Member, University of Arizona	2021-Present
IACUC Committee , Member, University of Arizona	2021-Present
Medical School MD/PhD Committee , Member, University of Arizona	2020-Present
UBRP Selection Committee , Member, University of Arizona (Undergraduate Biology Research Program)	2020-Present
Medical Student Research Committee , Chair, University of Arizona	2019-Present
BIO5 Postdoctoral Fellowship Merit Awards , Reviewer, University of Arizona	2018-Present
IMB Academic Program Review Self-Study Subcommittee	2018
IMB Academic Program Review Outreach and Diversity Subcommittee	2018

Reviewer , Neurobiology of Disease (Elsevier, Impact Factor: 5.05)	2017-Present
Reviewer , Neuropharmacology (Elsevier, Impact Factor: 5.01)	2017-Present
Reviewer for Faculty Seed Grants for the Research, Discovery, & Innovation Department	2017-Present
Reviewer , Journal of the American Aging Association (Impact Factor: 2.5)	2017-Present
Medical School Research Committee Member , University of Arizona	2016-2019
Faculty Mentor for Western Alliance for Expanding Student Opportunities (Students Enrolled: Justine Mona, Kylie Calderon, Frankie Garcia)	2016-Present
STEP-UP Summer Research Program Mentor (NIH) (Short-Term Research Experience for Under-represented Persons)	2016-Present
BUILDing SCHOLARS Summer Research Program Mentor (UTEP)	2016-Present
Neuroscience PhD Program Interviewer , University of Arizona College of Medicine	2016-Present
Pre-Medical Admissions Pathway (P-MAP) Program Medical School Interviewer	2016-Present
Reviewer , BMC Neurology (BioMed Central Journal, Impact Factor: 2.04)	2015-Present
Reviewer , Life Sciences (Elsevier Journal, Impact Factor: 2.5)	2015-Present
Faculty Membership , Graduate Interdisciplinary Program in Neuroscience	2015-Present
IMB Science City Committee Chair , Department of Immunobiology, University of Arizona	2016-Present
Arizona Mentors Volunteer Mentor , Office of Diversity & Inclusion, University of Arizona	2015-Present
Diversity Committee , (Chair: 2014-2017), Department of Immunobiology, University of Arizona	2014-Present
Medical School Interviewer , University of Arizona College of Medicine	2013-Present
ABBS PhD Program Interviewer , University of Arizona College of Medicine	2014-Present

COMMUNITY/OTHER

Television Interview, KVOA	Feb 2 nd , 2022
Role: Interviewed by Destiny Quinn for KVOA to discuss article "Repeated Administration of 2-Hydroxypropyl- β -Cyclodextrin (HP β CD) Attenuates the Chronic Inflammatory Response to Experimental Stroke.	
Radio Interview, Public News Service	Feb 2 nd , 2022
Role: Interviewed by Mark Richardson for Public News Service to discuss treatments to enhance recovery from stroke.	
Television Interview, KOLD News	Jan 25 th , 2022
Role: Interviewed by Shaley Sanders for KOLD News to discuss article "Repeated Administration of 2-Hydroxypropyl- β -Cyclodextrin (HP β CD) Attenuates the Chronic Inflammatory Response to Experimental Stroke.	
Radio Interview, AZPM NPR	May 7 th , 2019
Role: Interviewed by Leslie Tolbert for Arizona NPR radio station AZPM to discuss the chronic impact of stroke on the development of dementia and the potential for new treatments.	

Elementary School PresentationMay 11th, 2018

Role: Presentation to 3rd graders at Webster Elementary School, Plymouth, Indiana on careers as a scientist and the biology of wound healing following brain injury.

Radio Interview, KJZZ NPRFeb 21st, 2018

Role: Interviewed by Nicholas Gerbis of Phoenix NPR station to discuss article "Glial scars are permeable to neurodegenerative factors present in chronic stroke infarcts".

Television Interview, KGUN9Feb 21st, 2018

Role: Interviewed by Carlos Herrera of Good Morning Tucson to discuss article "Glial scars are permeable to neurodegenerative factors present in chronic stroke infarcts".

Science Magazine Interview

December 2017

Role: Interviewed by Caitlin Smith for the December 7th, 2017 edition of Science to discuss biomarkers for neurological diseases. Article title: "Biomarkers on the brain: Putting biomarkers together for a better understanding of the nervous system".

Osher Lifelong Learning Institute Seminar, University of Arizona

April 2016

Role: Guest Lecturer for the OLLI-UA summer curriculum. Presented a 2-hour seminar to an audience of over 50s enrolled in the UA Sarver Heart Center series: Heart matters. Title: A fantastic voyage through wound healing following stroke

Guest Instructor, Biologic Basis of Neurologic Disease, UCSF

December 2015

Role: Invited to speak about careers in science, the ABBS PhD program, and my own research to a group of students from underrepresented backgrounds at UCSF that are part of the Basis of Neurological Disease Course

Border Latino & American Indian Summer Exposure to Research (BLAISER)

August 2015

Role: Guest Lecturer for the BLAISER summer curriculum. Presented a 1-hour seminar to an audience of students from underrepresented groups: The Role of the Immune System in Causing Dementia after Stroke

Osher Lifelong Learning Institute Seminar, University of Arizona

May 2015

Role: Guest Lecturer for the OLLI-UA summer curriculum. Presented a 2-hour seminar to an audience of over 50s enrolled in the UA Sarver Heart Center series: Heart matters. Title: How does the immune system influence recovery from stroke?

Immunobiology Booth, Tucson Book Fair

March 2015

Role: Manned the University of Arizona, Department of Immunobiology booth during the 2015 Tucson Book Fair to educate the public about immunobiology, brain injury and neurodegenerative disease.

Radio Interview, KFYI-AMFeb 5th, 2015

Role: Interviewed by Kathy Cline of Phoenix radio station KFYI-AM to discuss article "*B-Lymphocyte mediated delayed cognitive impairment following stroke*".

Radio Interview, KTAR-FMFeb 9th, 2015

Role: Interviewed by Corbin Carson of Phoenix radio station KTAR-FM to discuss article "*B-Lymphocyte mediated delayed cognitive impairment following stroke*".

Careers in Scientific Research Seminar, Pima Community College

Sept 2014

Role: Provided information about the biological and biomedical sciences PhD program at the University of Arizona to students interested in a career in scientific research.

Brainworks, Tucson Book Fair

March 2014

Role: Manned the University of Arizona, Department of Neuroscience Brainworks booth during the 2014 Tucson Book Fair to educate the public about brain injury and neurodegenerative disease.

Mex-Zona Volunteers

Winter 2013

Role: Collected shoes and clothing from IMB for Mex-Zona Volunteers, a UofA undergraduate organization that delivers donated items to Puerto Penasco Mexico.

Stanford Science Olympics

Summer 2010

Role: Helped visiting elementary school students compete in Science Challenges.**Intel International Science and Engineering Fair**

May 2010

Role: Grand Awards Judge, San Jose, California.**Clipper Round the World Yacht Race.**

2007-2008

Role: Selected to represent the United States in the 2007-2008 Clipper Round the World Yacht Race.**Officer Cadet in the University of London Officer Training Core (ULOTC)**

1997-2000

Role: ULOTC is a branch of the Territorial Army Unit that acts as reserve force of the British Army.**JOURNAL ARTICLES**

S. H. Loppi, M. A. Tavera-Garcia, D. A. Bechtel, B. K. Maiyo, K. R. Johnson, T. V. Nguyen, R. G. Schnellmann, **K. P. Doyle**. *Increased fatty acid metabolism and decreased glycolysis are hallmarks of metabolic reprogramming within microglia in degenerating white matter during recovery from experimental stroke*. Submitted to Journal of Cerebral Blood Flow & Metabolism

J. C. Zbesko, J. Stokes, D. A. Bechtel, and **K. P. Doyle**. *Targeting foam cell formation to improve stroke recovery*. Submitted to Neurobiology of Disease

W. P. Pederson, L. M. Ellerman 2, E. C. Sandoval, S. Boitano, J. B. Frye, **K. P. Doyle**, H. L. Brooks, F. Polverino, J. G. Ledford. *Development of a novel mouse model of menopause-associated asthma*. American Journal of Respiratory Cell and Molecular Biology. 2022 Nov;67(5):605-609

L.J. Dwyer, A.M. Stowe, **K.P. Doyle**, P. Popovich, E. Engler-Chiurazzi, C. LeGuern, M.S. Buckwalter, M.C. Poznansky, R.F. Sirbulescu. *The 2022 FASEB virtual catalyst conference on B Cells in injury and regeneration, March 30, 2022*. FASEB J. 2022 Aug;36(8):e22459. doi: 10.1096/fj.202201027

D. A. Bechtel, J. C. Zbesko, J. B. Frye, A. G. Chung, M. Hayes, K. Calderon, J. W. Grover, A. Li, F. G. Garcia, M. A. Tavera-Garcia, R. G. Schnellmann, H. J. Wu, T. V. Nguyen, **K. P. Doyle**. *Repeated administration of 2-hydroxypropyl- β -cyclodextrin (HP β CD) attenuates the chronic inflammatory response to experimental stroke*. Journal of Neuroscience. 2022 Jan 12;42(2):325-348

T. V. Nguyen, R. H. Crumpacker, K. E. Calderon, F. G. Garcia, J. C. Zbesko, J. B. Frye, S. Gonzalez, D. A. Bechtel, T. Yang, M. A. Tavera-Garcia, H. W. Morrison, R. G. Schnellmann, F. M. Longo, and **K. P. Doyle**. *Post-stroke administration of the p75 neurotrophin receptor modulator, LM11A-31, attenuates chronic changes in brain metabolism, increases neurotransmitter levels, and improves recovery*. Journal of Pharmacology and experimental Therapeutics. 2022 Feb;380(2):126-141

C. Hoyer-Kimura, J.P. Konhilas, H.M. Mansour, R. Polt, **K.P. Doyle**, D. Billheimer, M. Hay. *Neurofilament light: a possible prognostic biomarker for treatment of vascular contributions to cognitive impairment and dementia*. Journal of Neuroinflammation. 2021 Oct 15;18(1):236

J.C. Zbesko, J.B. Frye, D.A. Bechtel, D.K. Gerardo, J. Stokes, K. Calderon, T.V. Nguyen, D. Bhattacharya D, **K.P. Doyle**. *IgA natural antibodies are produced following T-cell independent B-cell activation following stroke*. Brain Behavior and Immunity. 2021 Jan; 91: 578-586

M.J. Bartlett, A.J. Flores., T. Ye., S.I. Smidt, H.K. Dollish, J.A. Stancati, D.C. Farrell, K.L. Parent, **K.P. Doyle**, D.G. Besselsen, M.L. Heien, S.L. Cowen, K. Steece-Collier, S.J. Sherman, T. Falk. *Preclinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia*. Experimental Neurology. 2020 Nov; 333: 113413.

K.P. Doyle, M.S. Buckwalter. *Immunological mechanisms in poststroke dementia*. Current Opinion in Neurology. 2020 Feb; 33 (1):30-36

M. Hay, Polt R, M.L. Heien, T.W. Vanderah, T.M. Largen-Milnes, K.E. Rodgers, T. Falk, M.J. Bartlett, **K.P. Doyle**, J. Konhilas. *A novel angiotensin-(1-7)-glycosylated mas receptor agonist for treating vascular cognitive impairment and inflammation related memory dysfunction*. The Journal of Pharmacology and Experimental Therapeutics. 2019 Apr;369 (1): 9-25

A. Chung, J. Beischel Frye, J.C. Zbesko, E. Constantopoulos, M. Hayes, A.G. Figueroa, W.A. Day, J.P. Konhilas, B.S. McKay, T.V. Nguyen, **K.P. Doyle**. *Liquefaction of the brain following stroke shares a similar molecular and morphological profile with atherosclerosis and mediates secondary neurodegeneration in an osteopontin dependent mechanism*. eNeuro. 2018 Nov 8;5(5)

T.V. Nguyen, M. Hayes, J.B. Frye, J.C. Zbesko, N.P. Belichenko, F. M. Longo, **K.P. Doyle**. *Alzheimer's disease pathology colocalizes with a homeostatic myelin repair pathway in two mouse models of mixed dementia*. Acta Neuropathologica Communications. 2018 Sept; 6(1):100

S. Taylor, E. Mehina, E. White, P. Reeson, **K. Doyle**, and C. Brown. *Suppressing interferon gamma stimulates microglial responses and repair in the diabetic brain*. Journal of Neuroscience. 2018 Oct; 38(40):8707-8722

*Selected as a Journal of Neuroscience Journal Club article: D. Cozachenco, M.C. Selles and F.C. Ribeiro, *Interferon- γ as a potential link between diabetes mellitus and dementia*, 39, 24 (2019)

K.M. Felix, I.A. Jaimez, T.V Nguyen, H. Ma, W.A. Raslan, C.N. Klinger, **K.P Doyle**, H.J Wu. *Gut microbiota contributes to resistance against pneumococcal pneumonia in immunodeficient Rag-/- mice*. Frontiers in Cellular and Infection Microbiology. 2018 Apr; 8:118

J.C. Zbesko, T.V. Nguyen, T. Yang, J. Beischel Frye, O. Hussain, M. Hayes, Amanda Chung, W.A. Day, K. Stepanovic, M. Krumberger, J. Mona, **K.P. Doyle**. *Glial Scars are permeable to neurodegenerative factors present in chronic stroke infarcts*. Neurobiology of Disease. 2018 Apr; 112:63-78*

*Altmetric Attention Score of 145 (Top 5%): <https://www.altmetric.com/details/31697317/news>

C. Branca, E. Ferreira, T.V Nguyen, **K.P Doyle**, A. Caccamo, S. Oddo. *Genetic reduction of Nrf2 exacerbates cognitive deficits in a mouse model of Alzheimer's disease*. Human Molecular Genetics. 2017; 26(24): 4823-4835

C.A. Danilo, E. Constantopoulos, L.A. McKee, H. Chen, J. A. Regan, Y. Lipovka, S. Lahtinen, L.K. Stenman, T.V. Nguyen, **K.P. Doyle**, M.J. Slepian, Z. Khalpey, J.P. Konhilas. *Bifidobacterium animalis subsp. lactis 420 mitigates the pathological impact of myocardial infarction in the mouse*. Benef Microbes. 2017; 8(2):257-269

T.V. Nguyen, J.B. Frye, J.C. Zbesko, K. Stepanovic, M. Hayes, A. Urzua, G. Serrano, T.G. Beach, **K.P. Doyle**. *Multiplex immunoassay characterization and species comparison of inflammation in acute and non-acute ischemic infarcts in human and mouse brain tissue*. Acta Neuropathol Commun. 2016 Sep 6; 4(1):100.

K.P. Doyle, M.S. Buckwalter. *Does B lymphocyte-mediated autoimmunity contribute to post-stroke dementia?* Brain Behav Immun. 2016 Aug; 64: 1-8

K.P. Doyle. *Unraveling the pathophysiology of chronic stroke lesions could yield treatments for stroke-related dementia*. Future Neurology, 2016; 11(1): 1-4

K.P. Doyle, L.N. Quach, M. Sole, R.C. Axtell, T.V. Nguyen, G.J. Soler-Llavina, S. Jurado, J. Han, L. Steinman, F.M. Longo, J.A. Schneider, R.C. Malenka, M.S. Buckwalter. *B-Lymphocyte mediated delayed cognitive impairment following stroke*. Journal of Neuroscience, 2015; 35(5): 2133-2145*

*Highlighted in Nature Reviews Immunology: Y. Bordon, *B Cells Meddling with the Mind*, 15,135 (2015)

*Highlighted in Nature Reviews Drug Discovery: Y. Bordon, *Stroke: Meddling with the Mind*, 14,166 (2015)

K.P. Doyle, L.N. Quach, H. E. D'Arceuil, and M.S. Buckwalter. *Ferumoxytol administration does not alter infarct volume or the inflammatory response to stroke in mice*. Neuroscience Letters, 2014; 584:236-240

E. Cekanaviciute, N. Fathali, **K.P Doyle**, A.M. Williams, J. Han, and M.S. Buckwalter. *Astrocytic transforming growth factor-Beta signaling reduces subacute neuroinflammation after stroke in mice*. Glia. 2014; 62: 1227-1240

J. Pollak, **K.P Doyle**, L. Mamer, M. Shamloo, and M.S. Buckwalter. *Stratification substantially reduces variability in the hypoxic-ischemic stroke model*. *Brain and Behaviour*. 2 (5):698-706, 2012

K.P. Doyle and M.S. Buckwalter, *The double-edged sword of inflammation after stroke: What sharpens each edge?* *Annals of Neurology*. 71(6):729-31, 2012

J. Han, J. Pollak, T. Yang, M.R. Siddiqui, **K.P. Doyle**, K. Taravosh-Lahn, E. Cekanaviciute, A. Han, J.Z. Goodman, B. Jones, D. Jing, S.M. Massa, F.M. Longo, and M.S. Buckwalter. *Delayed administration of a small molecule tropomyosin-related kinase B ligand promotes recovery After hypoxic-ischemic stroke*. *Stroke*. 43(7) 1918-24, 2012

K.P Doyle, N. Fathali, M.R. Siddiqui, and M.S. Buckwalter. *Distal hypoxic stroke: A new mouse model of stroke with high throughput, low variability and a quantifiable functional deficit*. *Journal of Neuroscience Methods*, 207 (1): 31-40, 2012

A. Csiszar, A. Podlutzky, N. Podlutzkaya, W.E. Sonntag, S.Z. Merlin, E.E. Philipp, **K. Doyle**, A. Davila, F.A. Recchia, P. Ballabh, J.T. Pinto and Z. Ungvari. *Testing the oxidative stress hypothesis of aging in primate fibroblasts: Is there a correlation between species longevity and cellular ROS production?* *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*. 2012 Jan 4 67 (8): 841-52, 2012

F.R. Bahjat, R.L. Williams-Karnesky, S.G. Kohama, G.A. West, **K.P. Doyle**, N.S. Lessov, M.D. Spector, T.R. Hobbs, and M.P. Stenzel-Poore. *Proof of Concept: Pharmacological preconditioning with a Toll-like receptor agonist protects against cerebrovascular injury in a primate model of stroke*. *Journal of Cerebral Blood Flow and Metabolism*, 31 (5): 1229-42, 2011

K.P Doyle, E. Cekanaviciute, L.E. Mamer, M.S. Buckwalter. *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*. Oct 11;7(1):62, 2010

G.A. West, K.J. Golshani, **K.P. Doyle**, N.S. Lessov, T.R. Hobbs, S.G. Kohama, M.M. Pike, C.D. Kroenke, M.R. Gafe, M.D. Spector, E.T. Tobar, R.P. Simon and M.P. Stenzel-Poore. *A new model of cortical stroke in the rhesus macaque*. *Journal of Cerebral Blood Flow and Metabolism*, 29 (6):1175-86, 2009.

K.P. Doyle, M.P. Stenzel-Poore, and R.P. Simon. *Mechanisms of ischemic brain damage*. *Neuropharmacology*, 55 (3):310-8, 2008.

K.P. Doyle, S.L. Stevens, N.S. Lessov, T. Yang, T.M.P. Ciesielski, R.P. Simon, J.S. King, and M.P. Stenzel-Poore. *Nasal administration of osteopontin peptide mimetics confers robust neuroprotection in stroke*. *Journal of Cerebral Blood Flow and Metabolism*, 28 (6):1235-48, 2008.

K.P. Doyle, K.L. Suchland, T.M.P. Ciesielski, N.S. Lessov, D.K. Grandy, T. S. Scanlan, and M. P. Stenzel-Poore. *Novel thyroxine derivatives, thyronamine and 3-iodothyronamine, induce transient hypothermia and marked neuroprotection against stroke injury*. *Stroke*, 38:2569-2576, 2007.

R. Meller, S. Stevens, M. Minami, J. Cameron, S. King, H. Rosenzweig, **K.P. Doyle**, N. Lessov, R. Simon and M. Stenzel-Poore. *Neuroprotection by osteopontin in stroke*. *Journal of Cerebral Blood Flow and Metabolism*. 25 (2):217-225, 2005.

K.P. Doyle, R.P. Simon, A. Snyder, M.P. Stenzel-Poore. *Working with GFP in the brain*. *Biotechniques*, 34:492-494, 2003.

BOOKS, WEBINARS, CHAPTERS, SPECIAL ISSUES

K.P. Doyle and M.S. Buckwalter, *A mouse model of permanent focal ischemia: Distal Middle Cerebral Artery Occlusion*. Richard Milner (ed.), *Cerebral Angiogenesis: Methods and Protocols*, *Methods in Molecular Biology*, vol. 1135, 2014

K.P. Doyle and T.V Nguyen. *Advancing neuroimmunology: Untangling biomarkers in the brain*. URL: <http://webinar.sciencemag.org/webinar/archive/advancing-neuroimmunology>. Science Webinar Series, 2015

INVITED TALKS

K.P. Doyle. *Targeting foam cells to improve stroke recovery*. March 2023. UCSF, San Francisco, CA

K.P. Doyle. *Chronic inflammation post-stroke and its relation to dementia*. February 2023. International Stroke Conference, Dallas, Texas

K.P. Doyle. *Targeting foam cells to improve stroke recovery*. January 2023. The University of Miami, Miami, FL

K.P. Doyle. *Managing the fire within: Treating the chronic inflammatory response to stroke to improve recovery*. October 2022. The University of Kentucky, Lexington, KY

K.P. Doyle. *Understanding neurodegeneration after stroke, plasma biomarkers, and the role of B-lymphocytes*. May 2022. University of Edinburgh, Edinburgh, UK

K.P. Doyle. *The role of B-lymphocytes in stroke recovery: taking the bad with the good*. March 2022. Virtual FASEB Catalyst Conference, B-Cells in Injury and Regeneration

K.P. Doyle. *Managing the fire within: Treating the chronic inflammatory response to stroke to improve recovery*. September 2021. Department of Physiology Seminar Series, University of Arizona, Tucson, AZ

K.P. Doyle. *The chronic consequences of stroke*. January 2021. Neuroscience Grand Rounds, University of Arizona, Tucson, AZ (via Zoom)

K.P. Doyle. *Neuroimmunology and neuroinflammation lecture*. June 2020. Dine College, AZ (via Zoom)

K.P. Doyle. *The chronic consequences of stroke*. June 2020. Tulane University School of Medicine, New Orleans, LA (via Zoom)

K.P. Doyle. *The pathophysiology of chronic stroke: What happens after brain tissue dies?* March 2020. Frontiers in Immunobiology & Immunopathogenesis Symposium, University of Arizona, Tucson, AZ.

K.P. Doyle. *Is there a link between the inflammatory response to stroke and post-stroke dementia?* January 2020. Arizona Alzheimer's Consortium 18th Annual Retreat, Lake Havasu, AZ

K.P. Doyle. *The Pathophysiology of Chronic Stroke: What Happens After Brain Tissue Dies?* October 2019. xMAP Connect Meeting, San Diego, CA

K.P. Doyle. *The Pathophysiology of Chronic Stroke: What Happens After Brain Tissue Dies?* July 2019. University of Manchester, Manchester, UK

K.P. Doyle. *Inflammation and inflammasome activation following stroke*. May 2019. GLIA Scientific Meeting, Childrens' Hospital of Philadelphia, Philadelphia, PA

K.P. Doyle. *Why does the brain undergo liquefactive necrosis following stroke?* January 2019. University of Arizona, Neuroscience & Cognitive Science Research Blitz, Tucson, AZ

K.P. Doyle. *Liquefaction of the brain following stroke shares a similar molecular and morphological profile with atherosclerosis*. November 2018. Society for Neuroscience, Satellite Symposium on Neuroinflammation, Degeneration, and Disease, San Diego, California

K.P. Doyle. *The Pathophysiology of Chronic Stroke Infarcts: What Happens After Brain Tissue Dies?* October 2018. Micro Lunch, Department of Immunobiology, University of Arizona, Tucson, Arizona

K.P. Doyle. *The Pathophysiology of Chronic Stroke Infarcts: What Happens After Brain Tissue Dies?* September 2018. Department of Neurology, Stanford, California

K.P. Doyle. *Does crystalline cholesterol derived from myelin debris cause liquefaction of the brain following stroke?* April 2018. University of Arizona Neuroscience DataBlitz, Museum of Contemporary Art, Tucson, AZ

K.P. Doyle. *The chronic sequelae of stroke.* April 2018. Neurology Department Faculty Meeting, University of Arizona College of Medicine, Tucson, Arizona

K.P. Doyle. *How long does it take for the brain to heal following stroke?* September 2017. Department of Animal Care Seminar Series, University of Arizona, Tucson, Arizona

K.P. Doyle. *How long does it take for the brain to heal following stroke?* September 2017. Department of Pharmacology Seminar Series, University of Arizona, Tucson, Arizona

K.P. Doyle and T.V Nguyen. *Advancing Neuroimmunology: Untangling Biomarkers in the Brain.* Science Webinar, sciencemag.org. October 28th, 2015

K.P. Doyle. *B lymphocyte-mediated delayed cognitive impairment following stroke.* June 2015. The 2015 Alzheimer's Disease Congress. London, United Kingdom.

K.P. Doyle. *Immune-mediated delayed cognitive impairment following stroke.* May 2015. First Friday Seminar Series, Oklahoma State University Center for Health Sciences, Tulsa, Oklahoma.

K.P. Doyle. *Immune-mediated delayed cognitive impairment following stroke.* April 2015. Research Seminar Series. Casa Colina Hospital and Centers for Healthcare, Pomona, California.

K.P. Doyle. *B lymphocyte-mediated delayed cognitive impairment following stroke.* March 2015. Frontiers in Immunobiology & Immunopathogenesis Symposium. University of Arizona, Tucson, Arizona.

K.P. Doyle. Adaptive immune responses in the brain after stroke can cause delayed cognitive dysfunction. October 2014, Guest Speaker, Banner Sun Health Research Institute Seminar Series, Sun City, Arizona.

K.P. Doyle. Careers in Scientific Research. September 2014, Guest Speaker, Pima Community College, Tucson, Arizona.

K.P. Doyle. Inflammation and delayed cognitive dysfunction after stroke. 2013 Guest Speaker, Barshop Institute, University of Texas Health Science Center, San Antonio, Texas.

K.P. Doyle. TGF-beta signaling increases in aging and signals to innate immune cells in the weeks after stroke. 2011 Keystone Conference on TGF-beta in immune responses: From bench to bedside. Snowbird, Utah.

K.P. Doyle. Osteopontin: A novel neuroprotectant for stroke therapy. 2005 Gordon Conference on Small integrin binding proteins. Big Sky, Montana.

ABSTRACTS

K.P. Doyle, S.L. Stevens, S. King, N. Lessov, R. Meller, R.P. Simon, and M.P. Stenzel-Poore. *The Therapeutic Potential of Osteopontin in Ischemic Brain Injury.* Society for Neuroscience, New Orleans, Louisiana, 2003

K.P. Doyle, K.L. Suchland, N. Lessov, T.S. Scanlan, D.K. Grandy, and M. Stenzel-Poore. *Novel thyroxine derivatives, 3-iodothyronamine (T₁AM) and thyronamine (T₀AM), induce long-lasting hypothermia and marked neuroprotection following stroke.* Society for Neuroscience, Washington DC, 2005

K.P. Doyle, K.L. Suchland, N. Lessov, D.K. Grandy, T. Ciesielski and M. Stenzel-Poore. *A novel thyroxine derivative, 3-iodothyronamine (T₁AM), induces long-lasting hypothermia and delayed tolerance to ischemic brain injury.* American Society for Neurochemistry, Portland, Oregon, 2005

K.P. Doyle, S. Stevens, R. Meller, S. King, T. Ciesielski, N. Lessov, R.P. Simon and M. Stenzel-Poore. *Osteopontin: A Novel Neuroprotectant for Stroke Therapy*. Gordon Research Conference on Small Integrin Binding Proteins, Big Sky, Montana, 2006

K.P. Doyle, E. Cekanaviciute, L.E Mamer, M.S Buckwalter. *TGF β signaling increases with age and modulates astrogliosis and the inflammatory response to stroke*. American Federation for Aging Research, Santa Barbara, California, 2010

K.P. Doyle, E. Cekanaviciute, L.E. Mamer, M.S. Buckwalter. *TGF β signaling increases in aging and signals to innate immune cells in the weeks after stroke*. Society for Neuroscience, San Diego, California, 2010

K.P. Doyle, E. Cekanaviciute, L.E. Mamer, M.S. Buckwalter. *TGF β signaling increases in aging and signals to innate immune cells in the weeks after stroke*. Keystone Conference on TGF β Signalling, Snowbird, Utah, 2011

K.P. Doyle, N. Fathali, M.R. Siddiqui and M.S. Buckwalter. *Distal Hypoxic stroke: A new mouse model of stroke with high throughput, low variability and a quantifiable functional deficit*. Society for Neuroscience, Washington DC, 2011

K.P. Doyle, R. Axtell, T.V. Nguyen, A. Garcia-Barker, A. Shah, G. Suarez Mier, J. Han and M. Buckwalter. *A T cell response to Wallerian degeneration causes delayed cognitive dysfunction after brain injury*. Gerontological Society of America, Boston, Massachusetts, 2011

K.P. Doyle, M. Solé, A. Garcia-Barker, T.V. Nguyen, R.C. Axtell, F.M. Longo, M.S. Buckwalter. *Inflammation and delayed cognitive dysfunction after stroke*. American Heart Association, Los Angeles, California, 2012

K.P. Doyle, M. Solé, R.C. Axtell, G. Soler-Llavina, S. Jurado, T.V. Nguyen, A. Shah, J. Han, L. Steinman, F. M. Longo, R.C. Malenka, Marion S Buckwalter. *Modeling post-stroke dementia in mice: B-lymphocyte dependent cognitive deficits appear weeks after stroke*. Society for Neuroscience, San Diego, California, 2013

K.P. Doyle, Lisa N. Quach, M. Solé, R.C. Axtell, T.V. Nguyen, G.J. Soler-Llavina, S. Jurado, J. Han, L. Steinman, F.M. Longo, J.A. Schneider, R.C. Malenka, and M.S. Buckwalter. *Immune mediated delayed cognitive impairment following stroke*. American Society for Neurochemistry, Long Beach, California, 2014

T.V. Nguyen, J. Frye, K.N. Stepanovic, and **K.P. Doyle**. *Characterization of inflammation in acute and non-acute ischemic infarcts in human brain tissue*. Society for Neuroscience, Washington DC, 2014

T.V. Nguyen, J. Frye, O. Hussein and **K.P. Doyle**. *Scanning and transmission electron microscopy of the glial scar after stroke*. Society for Neuroscience, Washington DC, 2014

K.P. Doyle, L.N. Quach, M. Solé, R.C. Axtell, T.V. Nguyen, G.J. Soler-Llavina, S. Jurado, J. Han, L. Steinman, F.M. Longo, J.A. Schneider, R.C. Malenka, and M.S. Buckwalter. *B lymphocyte-mediated delayed cognitive impairment following stroke*. Keystone Meeting; Neuroinflammation in Diseases of the Central Nervous System. Taos, New Mexico, 2015

K.P. Doyle, O. Hussein, J. Frye, N. Contreras, N. Ahmed, and T.V. Nguyen. *Scanning and transmission electron microscopy of the glial scar after stroke*. Keystone Meeting; Neuroinflammation in Diseases of the Central Nervous System. Taos, New Mexico, 2015

T.V. Nguyen, J. Frye, N. Contreras, and **K.P. Doyle**. *Characterization of inflammation in acute and non-acute ischemic infarcts in human brain tissue* Keystone Meeting; Neuroinflammation in Diseases of the Central Nervous System. Taos, New Mexico, 2015

M. Krumberger, J. C. Zbesko, O. Hussain, T.V. Nguyen, and **K. P. Doyle**. *Following stroke neurodegenerative factors leak from newly formed blood vessels but are prevented from entering healthy brain tissue by endocytic glial scars*. American Society for Neurochemistry, Denver, Colorado, 2016

T. V. Nguyen, M. Hayes, J. B. Frye, and **K. P. Doyle**. *Exacerbation of inflammation, neurodegeneration, and delayed cognitive impairment in an aged mouse model of stroke*. American Society for Neurochemistry, Denver, Colorado, 2016

J. C. Zbesko, T. V. Nguyen, J. B. Frye, and **K. P. Doyle**. *Characterization of the inflammatory and pathological profile of ischemic infarcts in humans with post-stroke dementia*. American Society for Neurochemistry, Denver, Colorado, 2016

K. P. Doyle, K. Becker, J. A. Schneider, and M. S. Buckwalter. *Adaptive immune responses to stroke cause post-stroke cognitive decline in mice and are associated with it in stroke survivors*. VasCog Congress, Amsterdam, The Netherlands, October 2016

T. V. Nguyen, J.B. Frye, J. C. Zbesko, A. Urzua, K. Stepanovic, M. Hayes and **K. P. Doyle**. *Characterization of Inflammation in Acute and Non-Acute Ischemic Infarcts in Human and Mouse Brain Tissue*. Society for Neuroscience, San Diego, 2016

J. C. Zbesko, T. V. Nguyen, O. Hussain, W. A. Day, J. Beischel Frye, M. Hayes, M. Krumberger, J. Mona, K. Stepanovic, and **K. P. Doyle**. *Glial Scars are permeable to neurodegenerative factors present in areas of liquefactive necrosis following stroke*. Neuroinflammation: Concepts, Characteristics, Consequences. Keystone Symposia Conference, Keystone, Colorado, 2017

M.J. Bartlett, A.J. Flores, H.K. Dollish, **K.P. Doyle**, A. Pottinger, **H.L. Morrison**, S.J. Sherman, T. Falk. *Neuroplastic effects contribute to the suppression of L-DOPA-induced dyskinesia by sub-anesthetic ketamine*. Neurobiology, Aging, Dementias and Movement Disorders Division Meeting, Scottsdale, Arizona 2017.

J. C. Zbesko, T. V. Nguyen, T. Yang, J. Beischel Frye, O. Hussain, M. Hayes, A. Chung, W.A. Day, K. Stepanovic, M. Krumberger, J. Mona, F. M. Longo, and **K. P. Doyle**. *Glial scars are permeable to the neurotoxic environment of chronic stroke infarcts*. American Society for Neurochemistry, Riverside, California, 2018

A. Chung, J. Beischel Frye, J.C. Zbesko, E. Constantopoulos, M. Hayes, A.G. Figueroa, W.A. Day, J.P. Konhilas, B.S. McKay, T.V. Nguyen, **K.P. Doyle**. *Liquefaction of the brain following stroke shares a similar molecular and morphological profile with atherosclerosis and mediates secondary neurodegeneration in an osteopontin dependent mechanism*. New Frontiers in Neuroinflammation: What Happens when CNS and Periphery Meet? Keystone Symposia Conference, Keystone, Colorado, 2018

A. Chung, J. Beischel Frye, J.C. Zbesko, E. Constantopoulos, M. Hayes, A.G. Figueroa, W.A. Day, J.P. Konhilas, B.S. McKay, T.V. Nguyen, **K.P. Doyle**. *Liquefaction of the brain following stroke shares characteristics with atherosclerosis*. Society for Neuroscience Conference, San Diego, California, 2018

T.V. Nguyen, M. Hayes, J.B. Frye, J.C. Zbesko, N.P. Belichenko, F. M. Longo, **K.P. Doyle**. *Alzheimer's disease pathology is a chronic sequela of ischemic stroke in two mouse models of mixed dementia*. Society for Neuroscience Conference, San Diego, California, 2018

J.C. Zbesko, J.B. Frye, D.A. Bechtel, T.V. Nguyen, **K. P. Doyle**. *The role of B-lymphocytes in post-stroke cognitive decline*. Neural Environment in Disease: Glial Responses and Neuroinflammation. Keystone Symposia, Keystone, Colorado, 2019

J.C. Zbesko, J.B. Frye, D.A. Bechtel, T.V. Nguyen, **K. P. Doyle**. *The role of B-lymphocytes in post-stroke cognitive decline*. Neurodegenerative Diseases: New Insights and Therapeutic Opportunities. Keystone Symposia, Keystone, Colorado, 2019

D.A. Bechtel, J.C. Zbesko, J.B. Frye, A. Chung, K. Calderon, T.V. Nguyen, **K. P. Doyle**. *Cyclodextrin treatment substantially attenuates the chronic inflammatory response to ischemic stroke in mice*. Neural Environment in Disease: Glial Responses and Neuroinflammation. Keystone Symposia, Keystone, Colorado, 2019

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D.A. Bechtel, J.C. Zbesko, J.B. Frye, A. Chung, K. Calderon, T.V. Nguyen, **K. P. Doyle**. *Targeting foam cells to attenuate the chronic inflammatory response to ischemic stroke*. Brain & Brain PET, Glasgow, United Kingdom, 2022

S. Loppi, M. Tavera-Garcia, D. Bechtel, B. Maiyo, K. Johnson, R. Schnellmann, **K.P. Doyle**. *Brain metabolism is altered for at least 12 weeks following stroke*. Brain & Brain PET, Glasgow, United Kingdom, 2022

S. Loppi, M. Tavera-Garcia, D. Bechtel, B. Maiyo, K. Johnson, R. Schnellmann, **K.P. Doyle**. *Increased fatty acid metabolism and decreased glycolysis are hallmarks of metabolic reprogramming in myeloid cells in the brain during recovery from experimental stroke*. International Conference on Brain Energy Metabolism, Santa Fe, New Mexico, 2022