

## CURRICULUM VITAE

**PATRICK GILES SULLIVAN, Ph.D.**

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**EDUCATION**

- 2000                    Ph.D. University of Kentucky  
 (Anatomy and Neurobiology)
- 1996                    B.S. University of Kentucky  
 (Biology)

**PROFESSIONAL EXPERIENCE AND ACADEMIC APPOINTMENTS**

- 2013 – present        *Professor (tenured)*; Department of Anatomy & Neurobiology and Endowed Chair in the Spinal Cord & Brain Injury Research Center, University of Kentucky Chandler Medical Center.
- 2006 – 2013          *Associate Professor (tenured)*; Department of Anatomy & Neurobiology and Endowed Chair in the Spinal Cord & Brain Injury Research Center, University of Kentucky Chandler Medical Center.
- 2006 – 2009          *Associate Director*; Spinal Cord & Brain Injury Research Center, University of Kentucky Chandler Medical Center.
- 2002 – 2006          *Assistant Professor*; Spinal Cord & Brain Injury Research Center and Department of Anatomy & Neurobiology, University of Kentucky Chandler Medical Center.
- 2000 – 2002          *Postdoctoral Fellow*; Reeve-Irvine Research Center, University of California at Irvine, in the laboratory of Dr. Oswald Steward.
- 1998 – 2000          *Research Assistant*; Department of Anatomy & Neurobiology, University of Kentucky, in the laboratory of Dr. Stephen Scheff.
- 1997 – 1998          *Teaching Assistant*; Neuroanatomy, Department of Anatomy & Neurobiology, University of Kentucky, with Dr. Harold Traurig, Dr. James Hyde, and Dr. Stephen Scheff.

1996 – 2000      *Graduate Student (Ph.D.); Department of Anatomy & Neurobiology, University of Kentucky.*

### **AWARDS AND HONORS**

2006 - 2013      Charles T. Wethington Excellence in Research Award; University of Kentucky.  
2011      Bench 2 Business Commercialization Awardee, December 15, 2011, Von Allmen Center for Entrepreneurship, University of Kentucky.  
2005      Charles T. Wethington Research Excellence Award; University of Kentucky.  
2004      Appointment to Spinal Cord and Head Injury Endowed Chair.  
2004      Charles T. Wethington Research Award Recipient; University of Kentucky.  
2001      Young Investigator Award; National Neurotrauma Society.  
2001      Selected Participant in the Techniques in Mitochondrial Physiology Course, Buck Institute on Aging and MitoKor.  
2000 – 2001      NeoTherapeutics Fellowship Recipient.  
1999      Finalist, Student Presentation; National Neurotrauma Seventeenth Annual Symposium.  
1999      Young Investigator Award; National Neurotrauma Society.  
1998      First Place Winner, Student Presentation; National Neurotrauma Sixteenth Annual Symposium.  
1997      Finalist, Student Presentation; National Neurotrauma Fifteenth Annual Symposium.

### **RESEARCH INTERESTS**

The Role of Mitochondrial Dysfunction in the Neuropathology of Acute Brain and Spinal Cord Injury.  
Mitochondrial-Targeted Neuroprotective Strategies.  
Mitochondrial Aging and the CNS.

### **GRANTS (Presently Funded)**

Title: Mitochondrial Targeted Therapeutics for Treatment of Spinal Cord Injury  
P.I. Patrick G. Sullivan, Ph.D., Alexander G. Rabchevsky, Ph.D., PI (Dual PIs)  
Agency: NIH/NINDS (R01 NS069633)  
Period: 2011-2015  
Total Direct: \$1,000,000

The goal of this project is to test the hypothesis that reducing oxidative damage and using an alternative biofuel is neuroprotective following spinal cord injury.

Role: PI

Title: Cyclophillin D as a Therapeutic Target following Traumatic Brain Injury  
P.I. Patrick G. Sullivan, Ph.D., James W. Geddes, Ph.D., PI (Dual PIs)  
Agency: NIH/NINDS (R01 NS062993)  
Period: 2009-2014  
Total Direct: \$1,104,912

The goal of this project is to test the hypothesis that altered levels of cyclophillin D reduce mitochondrial calcium buffering in synaptic mitochondria following TBI.

Role: PI

Title: Mitochondrial Targeted Therapeutics for Treatment of Spinal Cord Injury-Supplement

P.I. Patrick G. Sullivan, Ph.D., Alexander G. Rabchevsky, Ph.D., PI (Dual PIs)

Agency: NIH/NINDS (3R01NS069633-03S1)

Period: 2013-2014

Total Cost: \$74,177

The purpose of this supplement is to add T2 and DTI imaging as an outcome measure.

Role: PI

Title: Mitochondrial Bioenergetics Analysis

P.I. Patrick G. Sullivan, Ph.D., Jignesh Pandya, Ph.D., Co-I

Agency: U.S. Environmental Protection Agency (Contract #EP-12-D-000386)

Period: 2012-2014

Total Direct: \$12,000

The purpose of this contract is to determine the effect of aging on mitochondrial bioenergetics in different organs and CNS regions.

Role: PI

Title: UK Spinal Cord & Brain Injury Research Center Core Grant

P.I. Edward D. Hall., Patrick G. Sullivan, Core 4 Director, Microscopy, Image Analysis & Stereology

Agency: NIH/NINDS (P30 NS051220)

Period: 2005-2010 (Renewed thru 2015)

Total Direct: \$890,000 for Core 4

This grant will be used to purchase state of the art equipment and to staff an image analysis, microscopy and stereology facility for the Center.

Role: Director, Core 4

Title: Neurobiology of CNS Injury and Repair

P.I. Edward D. Hall, Ph.D., James W. Geddes, Ph.D. (dual PIs)

Agency: NIH/NINDS (1T32 NS077889)

Period: 2012-2017

Total Direct: \$889,640

This is a Broad-based training in modern research concepts regarding the pathophysiology of neurotrauma and potential molecular targets for discovery of pharmacological targets for therapeutic intervention.

Role: Training Faculty

### **GRANTS (Pending)**

Title: mitoNEET as a Therapeutic Target of Pioglitazone following TBI

P.I. Patrick G. Sullivan, Ph.D.

Agency: NIH/NINDS (R01 NS080969-01)

Period: 2014-2019

Total Cost: \$1,859,928

The goal of this project is to test the novel hypothesis that pioglitazone can afford neuroprotection by directly ameliorating mitochondrial dysfunction via the novel mitochondrial protein mitoNEET.

Role: PI

Title: Mitochondrial Uncoupling as a Therapeutic Target in Obesity

P.I. Patrick G. Sullivan, Ph.D., Co-I Kevin Pearson, Ph.D.

Agency: NIH/NIDDK (R41 DK097862-01)

Period: 2013-2014

Total Cost: \$163,245

The purpose of this STTR to test the hypothesis that specifically designed nano-scale devices can act as self-rectifying mitochondrial uncouplers and safely increase metabolism to induce weigh loss.

Role: PI

### **GRANTS (Completed)**

Title: Mitochondrial Uncoupling as a Therapeutic Target in TBI

P.I. Patrick G. Sullivan, Ph.D., James Pauly, Ph.D., Co-PI

Agency: NIH/NINDS (R01 NS048191)

Period: 2004-2011

Total Cost: \$1,871,797

The goal of this project is to test the hypothesis that mitochondrial uncoupling can be neuroprotective following traumatic brain injury.

Role: PI

Title: Oxidative Stress and the Ketogenic Diet

P.I. Patrick G. Sullivan, Ph.D., Jong Rho, M.D., Ph.D., Co-PI

Agency: NIH/NINDS (R21 NS046426)

Period: 2004-2006

Total Cost: \$451,000

The fundamental goal of this R21 project was to determine whether a ketogenic diet can decrease mitochondrial oxidative damage in the hippocampus of developing epileptic mice.

Role: PI

Title: Response of the Aging Nervous System to Trauma

P.I. Stephen W. Scheff, Ph.D., Patrick G. Sullivan, Ph.D., Co-PI

Agency: NIH/NIA (R01 AG021981)

Period: 2003-2008

Total Cost: \$1,875,000

The main goal of this project is to determine age-associated changes in mitochondrial bioenergetics following traumatic brain injury.

Role: Co-PI

Title: Peroxynitrite-Induced Oxidative Damage in TBI

P.I. Ed D. Hall, Ph.D., Patrick G. Sullivan, Ph.D., Co-PI

Agency: NIH/NINDS (R01 NS046566)

Period: 2004-2008

Total Cost: \$1,361,368

The goal of this project is to test the hypothesis that mitochondrial dysfunction is a consequence of TBI that leads to generation of the potent reactive oxygen species peroxynitrite.

Role: Co-PI

Title: Mitochondria, ROS, Ca<sup>2+</sup>, and Calpain in the Aging CNS

P.I. Philip Landfield, Ph.D., Project 4 Leader, James W. Geddes, Ph.D. Co-Leader, Patrick G. Sullivan, Ph.D.

Agency: NIH/NINDS (P50 AG10836)

Period: 2004-2009

Total Direct: \$890,000 for Project 4

The fundamental goal of this PPG is to determine the role of mitochondria in aging of the CNS.

Role: Co-Project Leader

Title: The Combination of Cyclosporine and Choline Optimizes Outcomes In Focal And Diffuse TBI

P.I. James Pauly, Ph.D., Patrick G. Sullivan, Ph.D., Co-I

Agency: NIH/NINDS (R01 HD061996)

Period: 2009-2012

Total Direct: \$750,000

The purpose of this grant is to test the efficacy of acute Cyclosporin combined with dietary choline supplementation on cellular and functional recovery following controlled cortical impact or fluid percussion models of experimental rat brain injury.

Role: co-investigator

Title: Therapeutic Strategies for Neurodegeneration Training Grant

P.I. Edward D. Hall, Ph.D.

Agency: National Institutes of Health-NIDA (1T32 DA022738)

Period: 2006-2011

Total Direct: \$1,200,467

This is a Broad-based training in modern research concepts regarding the pathophysiology of neurotrauma and neurodegenerative disorders and potential molecular targets for discovery of pharmacological and gene therapeutic strategies by which the devastating effects of these conditions can be ameliorated.

Role: Training Faculty

Title: Synaptic Change in Mild Cognitive Impairment

P.I. Stephen W. Scheff, Ph.D., Patrick G. Sullivan, Ph.D., Co-PI

Agency: NIH/NIA

Period: 2006-2011

Total Direct: \$1,250,000

The goal of this project is to test the hypothesis mitochondrial aging plays a critical role in the loss of synaptic plasticity in aging and Alzheimer disease.

Role: Co-PI

### **DOCTORAL DISSERTATION**

Mitochondrial Dysfunction Following Traumatic Brain Injury in Rodents. University of Kentucky, (2000).

## **PATENTS**

U.S. Patent No. 7,919,699; Issue Date: 04/05/2011

“Nanotubes as Mitochondrial Uncouplers”

Australia Deed of Letters Patent 2006244374; Issue Date: 05/03/2012

“Nanotubes as Mitochondrial Uncouplers”

European Patent Convention, 06752314.2; Allowance Date: 06/14/2012

“Nanotubes as Mitochondrial Uncouplers”

U.S. Patent No. 8,357,845; Issue Date: 01/22/2013

“Nanotubes as Mitochondrial Uncouplers”

U.S. Patent No. 8,362,343; Issue Date: 01/29/2013,

“Nanotubes as Mitochondrial Uncouplers”.

U.S. Patent No. 8,501,239; Issue Date: 08/06/2013,

“Nanotubes as Mitochondrial Uncouplers”.

## **BIBLIOGRAPHY**

**Dr. Sullivan has a calculated h-index impact factor of 37**, (Harzing, A.W. (2007) Publish or Perish v3.7, available from <http://www.harzing.com/pop.htm>, generated 6-2012).

## **PUBLICATIONS (peer reviewed):**

1. Baldwin, S.A, Gibson,T.R., Callihan, C.T., **Sullivan, P.G.**, Palmer, E., Scheff, S.W., (1997). Neuronal Cell Loss in the CA3 Subfield of the Hippocampus Following Cortical Contusion Utilizing the Optical Dissector. *Journal of Neurotrauma*, 14(6), 385-398.
2. **Sullivan, P.G.**, Keller, J.N., Mattson, M.P., Scheff, S.W., (1998). Traumatic Brain Injury Alters Synaptic Homeostasis: Implications for Impaired Mitochondrial and Transport Function. *Journal of Neurotrauma*, 15(10), 789-798.
3. **Sullivan, P.G.**, Bruce-Keller, A.J., Rabchevsky, A.G., Christakos, S., St. Clair, D.K., Mattson, M.P., Scheff, S.W., (1999). Exacerbation of Damage and Altered NFκB Activation in Mice Lacking Tumor Necrosis Factor Receptors after Traumatic Brain Injury. *Journal of Neuroscience*, 19(15), 6248-6256.

4. Scheff, S.W., **Sullivan, P.G.**, (1999). Cyclosporin A Significantly Ameliorates Cortical Damage Following Experimental Traumatic Brain Injury in Rodents. *Journal of Neurotrauma*, 16(9), 783-792.
5. **Sullivan, P.G.**, Thompson, M.B., Scheff, S.W., (1999). Cyclosporin A Attenuates Acute Mitochondrial Dysfunction following Traumatic Brain Injury. *Experimental Neurology*, 160, 226-234.
6. **Sullivan, P.G.**, Thompson, M.B., Scheff, S.W., (2000). Continuous Infusion of Cyclosporin A Post Injury Significantly Ameliorates Cortical Damage following Traumatic Brain Injury. *Experimental Neurology*, 161, 631-637.
7. Albeni, B.C., **Sullivan, P.G.**, Thompson, M.B., Scheff, S.W., Mattson, M.P., (2000). Cyclosporin Ameliorates Traumatic Brain Injury-Induced Alterations of Hippocampal Synaptic Plasticity. *Experimental Neurology*, 162, 385-389.
8. **Sullivan, P.G.**, Geiger, J.D., Mattson, M.P., Scheff, S.W., (2000). Dietary Supplement Creatine Protects against Traumatic Brain Injury. *Annals of Neurology*, 48(5), 723-729.
9. Verbois, S.L., **Sullivan, P.G.**, Scheff, S.W., Pauly, J.R., (2000). Chronic Nicotine Treatment Attenuates the Loss of Hippocampal  $\alpha 7$  Nicotinic Cholinergic Receptors after Traumatic Brain Injury. *Journal of Neurotrauma*, 17(11), 1001-1012.
10. **Sullivan, P.G.**, Rabchevsky, A.G., Hicks, R.R., Gibson, T.R., Fletcher-Turner, A., Scheff, S.W., (2000). Dose Response Curve and Optimal Dosing Regimen of Cyclosporin A after Traumatic Brain Injury. *Neuroscience*, 101(2), 289-295.
11. Rabchevsky, A.G., Fugaccia, I., **Sullivan, P.G.**, Scheff, S.W., (2001). Cyclosporin (CsA) Treatment following Spinal Cord Injury to the Rat: Behavioral effects and Stereological Assessment of Tissue Sparing. *Journal of Neurotrauma*, 18(5), 513-522.
12. Jiang, D., **Sullivan, P.G.**, (co-first author), Sensi, S.L., Steward, O., Weiss, J.H., (2001).  $Zn^{2+}$  Induces PTP opening and Release of Pro-apoptotic Peptides from Neuronal Mitochondria. *Journal of Biological Chemistry*, December 276(50), 47524-47529.
13. McCullers, D.L., **Sullivan, P.G.**, Scheff, S.W., Herman, J.P., (2002). Mifepristone protects CA1 Hippocampal Neurons following Traumatic Brain Injury in Rat. *Neuroscience*, 109(2), 219-230.
14. Rabchevsky, A.G., Fugaccia, I., **Sullivan, P.G.**, Blades, D.A., Scheff, S.W., (2002). Efficacy of Methylprednisolone Therapy for the Injured Rat Spinal Cord. *Journal of Neuroscience Research*, 68(1), 7-18.
15. Thompson, J.S., Brown, S.A., Khurdayan, V., Zeynalzadedan, A., **Sullivan, P.G.**, Scheff, S.W., (2002). Early effects of Tribromoethanol, Ketamine/xylazine, Pentobarbital, and Isoflurane Anesthesia on Hepatic and Lymphoid Tissue in ICR Mice. *Comparative Medicine*, 52(1), 63-67.
16. McCullers, D.L., **Sullivan, P.G.**, Scheff, S.W., Herman, J.P., (2002). Traumatic Brain Injury Regulates Adrenocorticosteroid Receptor mRNA Levels in Rat Hippocampus. *Brain Research*, 947, 41-47.

17. **Sullivan, P.G.**, Keller, J.N., Bussen, W.L., Scheff, S.W., (2002). Cytochrome C Release and Caspase Activation after Traumatic Brain Injury. *Brain Research*, 949, 88-96.
18. **Sullivan, P.G.**, Dube, C., Dorenbos, K.D., Steward, O., Baram, T.Z., (2003). Mitochondrial uncoupling protein-2 protects the immature brain from excitotoxic neuronal death. *Annals of Neurology*, 53, 711-717.
19. Sensi, S.L., Ton-That, D., **Sullivan P.G.**, Jonas, E.A., Gee, K.R., Kaczmarek, L.K., Weiss J.H., (2003). Modulation of mitochondrial function by endogenous Zn<sup>2+</sup> pools. *Proceeding National Academy of Science*, 100, 6157-6162.
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21. **Sullivan, P.G.**, Rippy, N.A., Rho, J.M., (2004). The Ketogenic Diet Enhances Increases Mitochondrial Uncoupling Protein Levels And Activity In Mouse Hippocampus. *Annals of Neurology*, 55, 576-580.
22. **Sullivan, P.G.**, Rabchevsky, A.G., Keller, J.N., Lovell, M.A., Scheff, S.W., (2004). Intrinsic Differences in Isolated Brain and Spinal Cord Mitochondria: Implication for Therapeutic Interventions following Injury. *Journal of Comparative Neurology*, 474, 524-534.
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25. Brown, M.R., Geddes, J.W., **Sullivan, P.G.**, (2004). Brain region-specific, age-related, alterations in mitochondrial responses to elevated calcium. *Journal of Bioenergetics and Biomembranes*, 36, 401-406.
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27. Rho, J.M., Sarnat H.B., **Sullivan, P.G.**, Robbins, C.A., Kim, D.W., (2004). Lack Of Long-Term Histopathological Changes In Brain and Skeletal Muscle of Mice Treated with a Ketogenic Diet. *Journal of Child Neurology*, 19, 555-557.
28. **Sullivan, P.G.**, Rabchevsky, A.G., Waldmeier, P.C., Springer, J.E., (2005). Mitochondrial Permeability Transition in CNS Trauma: Cause or Effect of Neuronal Cell Death? *Journal of Neuroscience Research*, 79, 213-239.



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32. Nukala, V.N., Singh, I.N., Davis, L.M., **Sullivan, P.G.** (2006). Cryopreservation of Brain Mitochondria: A Novel Methodology for Functional Studies. *Journal of Neuroscience Methods*, 152, 48-54.
33. Brown, M.R., **Sullivan, P.G.**, Geddes, J.W. (2006). Synaptic Mitochondria are more Susceptible to Ca<sup>2+</sup> Overload than Non-synaptic Mitochondria. *Journal of Biological Chemistry*, 281, 11658-11668.
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35. **Sullivan, P.G.**, Balke, C.W., Esser, K.A., (2006). Mitochondrial Buffering of Calcium in the Heart. Potential Mechanism for Linking cyclic Energetic Cost with Energy Supply? *Circulation Research*, 99, 109-110.
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59. Pandya, J.D., Pauly, J.R., **Sullivan, P.G.**, (2009). The Optimal Dosage and Window of Opportunity to Maintain Mitochondrial Homeostasis following Traumatic Brain Injury using the Uncoupler FCCP. *Experimental Neurology*, 218(2), 381-389.
60. Head E., Nukala V.N., Fenoglio K.A., Muggenburg B.A., Cotman C.W., **Sullivan P.G.**, (2010). Effects of Age, Dietary, and Behavioral Enrichment on Brain Mitochondria in a Canine Model of Human Aging. *Experimental Neurology*, 220(1) 171-176.
61. Liu M., Choi, D.Y., Hunter R.L., Pandya J.D., Cass W.A., **Sullivan P.G.**, Kim H.C., Gash D.M., Bing G., (2010). Trichloroethylene Induces Dopaminergic Neurodegeneration in Fisher 344 Rats. *Journal of Neurochemistry*, 112(3), 773-783.

62. Blalock, E.M., Grondin, R., Chen, K., Thibault, O., Thibault, V. Pandya, J.D., Dowling, A., Zhang, Z., **Sullivan, P.G.**, Porter, N.M, Landfield, P.W., (2010). Aging-Related Gene Expression in Hippocampus Proper Compared with Denate Gyrus is Selectively Associated with Metabolic Syndrome Variables in Rhesus Monkeys. *Journal of Neuroscience*, 30(17), 6058-6071.
63. Patel S.P., **Sullivan P.G.**, Lyttle T.S., Rabchevsky A.G., (2010). Acetyl-L-carnitine Ameliorates Mitochondrial Dysfunction Following Contusion Spinal Cord Injury. *Journal of Neurochemistry*, 114(1), 291-301.
64. Readnower R.D., Chavko M., Adeeb S., Conroy M.D., Pauly J.R., McCarron, R.M., **Sullivan P.G.**, (2010). Increase in Blood-Brain barrier Permeability, Oxidative Stress, and activated Microglia in a Rat Model of Blast-induced Traumatic Brain Injury. *Journal of Neuroscience Research*, 88(16), 3530-3539.
65. Sauerbeck A.D., Gao J., Readnower R.D., Liu M., Pauly J.R., Bing G., **Sullivan P.G.**, (2011). Pioglitazone Attenuates Mitochondrial Dysfunction, Cognitive Impairment, Cortical Tissue Loss, and Inflammation following Traumatic Brain Injury. *Experimental Neurology*, 227(1), 128-135. \* Selected as "Hot Topic" article
66. Yin, Y., Zhang, C., Goldstein, G.A., **Sullivan, P.G.**, Smith, G.M., (2011). Directing Dopaminergic Fiber Growth along a Preformed Molecular Pathway from Embryonic Ventral Mesencephalon Transplants in Rat Brain. *Journal of Neuroscience Research*, 89(5), 619-627.
67. Sauerbeck A.D., Pandya J.D., Singh I.N., Bittman, K., Readnower, R., Bing, G., **Sullivan P.G.**, (2011). Analysis of Regional Brain Mitochondrial Bioenergetics and Susceptibility to Mitochondrial Inhibition utilizing a Microplate Based System. *Journal of Neuroscience Methods*, 198(1), 36-43.
68. **Sullivan, P.G.**, Sebastian, A.H., Hall, E.D., (2011). Therapeutic Window Analysis of the Neuroprotective Effects of Cyclosporine A after Traumatic Brain Injury. *Journal of Neurotrauma*, 28(2), 311-318.
69. Pandya J. D., **Sullivan P. G.**, Pettigrew L. C, (2011). Focal Cerebral Ischemia and Mitochondrial Dysfunction in the TNF-a Transgenic rat. *Brain Research*, 1384, 151-160.
70. Akundi R. S., Huang Z., Eason J., Pandya J. D., Cass, W.A., **Sullivan P. G.**, Büeler H., (2011). Increased Mitochondrial Calcium Sensitivity and Abnormal Expression of Immunity Genes precede Dopaminergic Defects in PINK1-Deficient Mice. *PLOS ONE*, 6(1), e16038.
71. Readnower R.D., Pandya J.D., McEwen M.L., Pauly J.R., Springer J.E., **Sullivan P.G.**, (2011). Post-injury Administration of the Mitochondrial Permeability Transition Pore Inhibitor, NIM811, is Neuroprotective and Improves Cognition after Traumatic Brain Injury in Rats. *Journal of Neurotrauma*, 28(9), 1845-1853.
72. Sauerbeck A.D., Hunter, R.L., Bing, G., **Sullivan P.G.**, (2012). Traumatic Brain Injury and Trichloroethylene Exposure Interact and Produce Functional, Histological, and Mitochondrial Deficits. *Experimental Neurology*, 234(1), 85-94.

73. Avery M.A., Rooney T.M., Wishart T.M., Pandya J.D., Gillingwater T.H., Geddes J.W., **Sullivan P.G.**, and Freeman M.R., (2012). WldS prevents Axon Degeneration through increased Mitochondrial Flux and Enhanced Mitochondrial Ca<sup>2+</sup> Buffering. *Current Biology*, 22(7), 596-600.
74. Patel, S.M., **Sullivan P.G.**, Lyttle T.S., Magnuson, D.S.K., Rabchevsky A.G., (2012). Acetyl-L-Carnitine Treatment Following Spinal Cord Injury Improves Mitochondrial Function Correlated with Remarkable Tissue Sparing and Functional Recovery. *Neuroscience*, 17(210), 296-307.
75. Akundi R.S., Zhi, L., **Sullivan P.G.**, Büeler H., (2013). Shared and Cell type-specific Mitochondrial Defects and Metabolic Adaptations in Primary Cells from PINK1-deficient Mice. *Neurodegenerative Disease*, 12(3), 136-149, PMID:23295771.
76. Visavadihya, N.P., McEwen, M.L., Pandya, J.D., **Sullivan, P.G.**, Gwag, B.J., Springer, J.E., (2013). Antioxidant Properties of Neu2000 on Mitochondrial Free Radicals and Oxidative Damage. *Toxicology In Vitro*, 27(2), 788-97, PMID:23268106.
77. Pandya J.D., Nukala, V.N., **Sullivan, P.G.**, (2013). Concentration Dependent Effect of Calcium on Brain Mitochondrial Bioenergetics and Oxidative Stress Parameters. *Frontiers in Neuroscience, Neuroenergetics*, (In Press).

### **INVITED REVIEWS AND BOOK CHAPTERS**

1. Hall, E.D., **Sullivan, P.G.**, (2004). Preserving Function in Acute Nervous System Injury. In: *Neuroscience, Molecular Medicine and the Therapeutic Transformation of Neurology*, S.G Waxman (eds.), Elsevier/Academic Press.
2. **Sullivan, P.G.**, Springer, J.E., Hall, E.D., Scheff, S.W., (2004). Mitochondrial Uncoupling as a Therapeutic Target Following Neuronal Injury. Invited Review. *Journal of Bioenergetics and Biomembranes*, 36, 353-356.
3. Lifshitz, J., **Sullivan, P.G.**, Hovda, D.A., McIntosh, T.K., (2005). Mitochondrial Damage and Dysfunction in Traumatic Brain Injury. Invited Review. *Mitochondrion*, 4, 705-713.
4. **Sullivan, P.G.**, Brown, M.R., (2005). Mitochondrial Aging and Dysfunction in Alzheimer's Disease. Invited Review, *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 27, 407-410.
5. Rho, J.M. and **Sullivan, P.G.**, (2006). How does the Ketogenic Diet Work? A Look into Mechanisms of Action. *Epilepsy Research*, 68, 153-160.
6. Mattiasson, G. and **Sullivan, P.G.**, (2006). The Emerging Roles of UCP2 in Health and Disease. Invited Review. *Antioxidants and Redox Signaling*, 8, 1-38.
7. Davis, L.M. and **Sullivan P.G.**, (2010). Mitochondrial Damage in Traumatic CNS Injury. In: *Acute Neuronal Injury: The Role of Excitotoxic Programmed Cell Death*, D. G. Fujikawa (eds.), Springer Press, 157-168.

8. Readnower R.D. and **Sullivan P.G.**, (2010). Neuroprotective Strategies Using Antiepileptic Drugs. In: *Epilepsy: Mechanisms, Models, and Translational Perspectives*, CRC Press, 11, 173-180.
9. McEwen, M.L., **Sullivan, P.G.**, Rabchevsky, A.G., Springer, J.E., (2011). Targeting Mitochondrial Function for the Treatment of Acute Spinal Cord Injury. Invited Review, *Neurotherapeutics*, 8(2), 168-179.
10. Readnower, R.D., Sauerbeck, A.D., **Sullivan, P.G.**, (2011). Mitochondria, Amyloid  $\beta$ , and Alzheimer's Disease. Invited Review, *International Journal of Alzheimer's Disease*, 2011: 104545.
11. **Sullivan, P.G.**, (2011). Mitochondrial Dysfunction following TBI; Potential of Creatine as a Neuroprotective Strategy. In: *Nutrition and Traumatic Brain Injury: Improving Acute and Subacute Health Outcomes in Military Personnel*. Washington, DC: The National Academies Press, C124-C130.
12. Yonutas, H.M., **Sullivan, P.G.**, (2013). Mechanism of Action of PPAR Agonists in CNS Injury. Invited Review. Invited Review, *Current Drug Targets*, 14(7):733-42.

## **TEACHING EXPERIENCE**

2012, 2014	<i>Course Lecturer</i> ; Course was CHE 580-002, Elements of Neurochemistry, Department of Chemistry, University of Kentucky.
2003 – Present	<i>Course Lecturer</i> ; Physical Therapy Neuroanatomy, ANA 802, Department of Anatomy & Neurobiology, University of Kentucky.
2007 – 2009	<i>Course Director</i> ; Physical Therapy Neuroanatomy, ANA 802, Department of Anatomy & Neurobiology, University of Kentucky.
2005 – 2006	<i>Course Lecturer</i> ; Seminar in Anatomy, ANA 600, Department of Anatomy & Neurobiology, University of Kentucky.
2005 – 2007	<i>Course Lecturer</i> ; Neurobiology of CNS Injury and Repair, ANA 605, Department of Anatomy & Neurobiology, University of Kentucky.
2004 – 2007	<i>Course Lecturer</i> ; Advanced Pharmacotherapy, PHR 958-959, College of Pharmacy, University of Kentucky.
2003 – 2008	<i>Course Lecturer</i> ; Anatomy of the Nervous System, ANA 516, Department of Anatomy & Neurobiology, University of Kentucky.
2002 – 2004	<i>Course Lecturer</i> ; Diseases Processes II, PHR 962, College of Pharmacy, University of Kentucky.
2002 – 2003	<i>Course Director</i> ; Seminar in Anatomy, ANA 600, Department of Anatomy & Neurobiology, University of Kentucky.
2001	<i>Course Lecturer</i> ; Spinal Cord Injury Techniques Course, Reeve-Irvine Research Center, University of California at Irvine.
1998	<i>Teaching Assistant</i> ; Physical Therapy Neuroanatomy ANA 802, Department of Anatomy & Neurobiology, University of Kentucky.
1997	<i>Teaching Assistant</i> ; Medical Neuroanatomy MD 817, Department of Anatomy & Neurobiology, University of Kentucky.

**MENTORING***Doctoral Thesis Advisor:*

Kara Drescher, Physiology graduate student, University of Kentucky, July 2013 – Present, Co-Mentor/Advisor

Heather Yonutas, Anatomy and Neurobiology graduate student, University of Kentucky, July 2011 - Present, Mentor/Advisor.

Ryan Readnow, Anatomy and Neurobiology graduate student, University of Kentucky, July 2007 – June 2011, Mentor/Advisor.

Andrew Sauerbeck, Anatomy and Neurobiology graduate student, University of Kentucky, July 2006 – December 2010, Mentor/Advisor.

Laurie Davis, Anatomy and Neurobiology graduate student, University of Kentucky, 2004 – October 2008, Mentor/Advisor.

Vidya Nag Nukala, Department of Anatomy and Neurobiology, University of Kentucky, 2003 – May 2007, Mentor/Advisor.

Maile Brown, Gerontology graduate student, University of Kentucky, January 2003 – May 2005, Co-Mentor.

*Postdoctoral Fellows:*

Jignesh Pandya, Postdoctoral Fellow, University of Kentucky, 2005 – 2007, Mentor.

Evelyn Perez, Postdoctoral Fellow, University of Kentucky, 2006 – 2007, Mentor.

Natasa Dragicevic, Postdoctoral Fellow, University of Kentucky, 2002 – 2004, Mentor.

*Graduate Students:*

Michael Maniskas, IBS student, University of Kentucky, IBS Rotation, October 2012 – December 2012, Mentor/Advisor

Kara Drescher, IBS student, University of Kentucky, IBS Rotation, October 2012 – December 2012, Mentor/Advisor

Heather Yonutas, Anatomy and Neurobiology graduate student, University of Kentucky, IBS Rotation, January 2011 – April 2011, Mentor/Advisor.

Ryan Readnow, Anatomy and Neurobiology graduate student, University of Kentucky, IBS Rotation, June 2006 – September 2006, Mentor/Advisor.

Andrew Sauerbeck, Anatomy and Neurobiology graduate student, University of Kentucky, IBS Rotation, June 2006 – December 2010, Mentor/Advisor.

Rachel Ahmed, IBS graduate student, University of Kentucky, IBS Rotation, 2006, Mentor.

Laurie Davis, Anatomy and Neurobiology graduate student, University of Kentucky, June 2004 – 2008, Mentor/Advisor.

Heather Davis, IBS graduate student, University of Kentucky, IBS Rotation, 2004, Mentor.

Sara Yount, IBS graduate student, University of Kentucky IBS Rotation, 2004, Mentor.

Laurie Davis, IBS graduate student, University of Kentucky, IBS Rotation, 2003 – 2004, Mentor.

Maile Brown, Gerontology graduate student, University of Kentucky,

January 2003 – May 2005, Co-Mentor.

Vidya Nag Nukala, Anatomy and Neurobiology graduate student, University of Kentucky,  
November 2002 – May 2007, Mentor/Advisor.

April Richardson IBS graduate student, University of Kentucky,  
IBS Rotation, 2002, Mentor.

Kristina Dorenbos, Molecular Neurobiology graduate student, University of California at Irvine,  
2001 – 2002, Mentor.

Undergraduates:

Ashley Lee, Biology undergraduate student (BIO 395), University of Kentucky, June 2012 – June 2013,  
Mentor.

Maggi McNutt, Psychology undergraduate student (PSY 395), University of Kentucky, January 2012 –  
May 2012, Mentor.

Drew Ritzel, Biology undergraduate student (BIO 395), University of Kentucky, June 2011 – December  
2012, Mentor.

Leigha Arbic, Biology undergraduate student (BIO 395), University of Kentucky, June 2011 –  
December 2012, Mentor.

Chris Johnson, Honors biology program, Bluegrass United Academic Center, January 2006 – December  
2006, Mentor.

Kyle Freugh, Biology undergraduate student, University of Kentucky, 2005 – 2006, Mentor.

Olga Del Rio, Biology undergraduate student, University of California at Irvine,  
2001 – 2002, Mentor.

Kathleen Cardosa, SURF student, Loyola Marymount University,  
May – August 2001, Mentor.

Ph.D. Dissertation Committees:

Jenna Vanrooyen, Department of Physiology, University of Kentucky, 2013 – Present.

Carolyn Crowdus, Department of Anatomy and Neurobiology, University of Kentucky,  
2011 – Present.

Mallory Stenslik, Department of Anatomy and Neurobiology, University of Kentucky,  
2011 – Present.

John Cebak, Department of Anatomy and Neurobiology, University of Kentucky,  
2011 – Present.

Leslie Gilmer, Department of Anatomy and Neurobiology, University of Kentucky,  
2006 – 2009.

Tom Woodcock, Department of Pharmaceutical Sciences, University of Kentucky,  
2005 – 2009.

Yiqin Xiong, Department of Anatomy and Neurobiology, University of Kentucky,  
2004 – August 2008.

Lamin Han Mbye, Department of Anatomy and Neurobiology, University of Kentucky,  
2004 – August 2008.

Ying Deng, Department of Anatomy and Neurobiology, University of Kentucky,  
2004 – December 2007.

Wycliffe Omondi Opii, Department of Chemistry, University of Kentucky,  
2003 – December 2006.

Michael Smith, Department of Anatomy and Neurobiology, University of Kentucky,  
2003 – January 2006.

Maile Brown, Department of Gerontology, Sanders-Brown Center on Aging, University of Kentucky,



2003 – May 2005.

Outside Reviewer/Examiner for Ph.D. Dissertation Committees:

Vasudevan Bakthavatchalu, Department of Toxicology, 2012

Nicole Rae Zieber, Department of Psychology, University of Kentucky, 2012

Tristano Pancino, Department of Molecular and Cellular Pharmacology, University of Kentucky, 2010

Anantharaman Muthuswamy, Department of Toxicology, University of Kentucky, 2008

Training Of Visiting Scientists:

2005 Dr. Timothy Simone, Barrow Neurological Institute, Phoenix, AZ

2004 Dr. Zane Andrews, Yale College of Medicine, Yale University, New Haven, CT

2004 Dr. Keseng Zhou, Cornell University, White Plains, NY

2004 Dr. Robert Colvin, Department of Biological Sciences, Ohio University, OH

**ADMINISTRATIVE DUTIES AND SERVICE**

Departmental:

2012-Present Director of Spinal Cord and Brain Injury Research Center Seminar Series  
2009 Organizing Committee Member for the 2010 Kentucky Spinal Cord and Brain Injury Research Trust Fund Symposium.  
2006 - 2009 Associate Director; Spinal Cord and Brain Injury Research Center.  
2007- 2008 Organizing Committee Chairman for the 2008 14<sup>th</sup> Annual Kentucky Spinal Cord and Brain Injury Research Trust Fund Symposium.  
2005 – Present Director; Stereology and Imaging Center, Spinal Cord and Brain Injury Research Center.  
2005 Organizing Committee Member for the 2006 Kentucky Spinal Cord and Brain Injury Research Trust Fund Symposium.  
2005 Co-Chair of the Organizing Committee for Anatomy & Neurobiology NIA-sponsored Aging Symposium; The Mitochondrial Perspective of Life and Death.  
2004 Holsinger Teaching Award Committee Member  
2003 – 2004 Organizing Committee Member for the 2004 Kentucky Spinal Cord and Brain Injury Research Trust Fund Symposium.  
2002 – 2006 Co-Director of Anatomy and Neurobiology Seminar Series.

College of Medicine:

2012 SCoBIRC Director Search Committee Member.  
2008 IBS Director Search Committee Member.  
2008 – Present Interviewer, MD-Ph.D. Program.  
2005 – 2007 Early Mobility Task Force Committee Member.  
2002 – Present Interviewer, IBS Graduate Student Program.

University:

2013 – Present CCTS Pilot Funding Program Committee Member.  
2011 cGLP Readiness RFP Review Committee Member.  
2006 – Present Full Member of Graduate Faculty Council.  
2004 – 2006 External Review Committee Member for College of Health Sciences Department of Rehabilitation Sciences.  
2003 Judge for student presentations, Spring Neuroscience Day.

2002 – 2006 Associate Member of Graduate Faculty Council.

Outreach:

2007 – 2010 Executive Board Member, Brain Injury Association of Kentucky, Louisville, KY  
 2005 Speaker at KY Brain Injury Association, Brain Injury Summit, Cardinal Hill Rehabilitation Hospital, Lexington, KY.  
 2004 Guest Speaker for Careers in Science Program at Lindsey Wilson College, Columbia, KY  
 2003 – Present Judge, Kentucky-American Water Company Science Fair, Lexington, KY.  
 2001 Participated in the Ask a Scientist Program, Tustin High School, Tustin, CA.  
 1999 Presenter, Lexington Children's Museum, Brain Awareness Week, Lexington, KY.

**PROFESSIONAL SERVICE**

NIH Study Sections:

2013 – Present ZRG1 ETTN-A Ad-Hoc Panel Member  
 2013 BDCN N58 Mail reviewer  
 2008 – 2009 ZAT1 DB29 Special Emphasis Panel member  
 2006 ZRG1 MDCN Special Emphasis Panel member  
 2005 – 2006 ZRG1 NOMN Study Section Regular Panel member  
 2004 MDCN-E; Special Emphasis Panel member  
 2004 NDBG; Special Emphasis Panel member

Grant Reviewer (non-NIH)

2008 – Present Member American Federation for Aging Research (AFAR) National Scientific Advisory Council  
 2011 – 2012 Center for Integration of Medicine & Innovative Technology, Harvard University  
 2009 – Present The Wellcome Trust  
 2008 – Present The Barrow Neurological Foundation  
 2007, 2012 Department of Defense PTSD/TBI Research Program  
 2007 South Carolina Spinal Injury Foundation  
 2006 VA Neurobiology C Merit Review committee  
 2005 Kristie Foundation, New Zealand  
 2005 MIPS Foundation, Maryland

Journal Reviewer > 40/year:

*Experimental Neurology*  
*Brain Research*  
*Neuroscience*  
*Journal of Comparative Neurology*  
*Journal of Neurochemistry*  
*Journal of Neuroscience*  
*Journal of Neurotrauma*  
*Glia*  
*Neurobiology of Disease*  
*Annals of Neurology*  
*Journal of Neuroscience Research*

*FASEB Journal*  
*Journal of Neuroscience Methods*  
*Epilepsia*  
*Neuropsychopharmacology*  
*Journal of Cerebral Blood Flow & Metabolism*  
*Journal of Gerontology: Biological Sciences*  
*Journal of Neuropathology and Experimental Neurology*  
*Spinal Cord*  
*Brain Research Bulletin*  
*Neurological Research*  
*Neuropharmacology*  
*Journal of Biomedicine and Biotechnology*  
*Experimental Gerontology*  
*Molecular Therapy*  
*Cell Death and Disease*  
*Naunyn-Schmiedeberg Archives of Pharmacology*  
*Progress in Neurobiology*  
*British Journal of Pharmacology*  
*Proceedings of the National Academy of Science*  
*Nature Neuroscience Reviews*  
*Nature*  
*Science*

*Other Service (National):*

Session Chair for the 29<sup>th</sup> National Neurotrauma Society Symposium (2011).  
Session Chair for the 26<sup>th</sup> National Neurotrauma Society Symposium (2008).  
Annual Abstract and program committee member for the 24<sup>th</sup> Annual National Neurotrauma Society Symposium (2006).  
Session Chair for the 23<sup>rd</sup> Annual National Neurotrauma Society Symposium (2005).  
Member of Organizing Committee for the 23<sup>rd</sup> Annual National Neurotrauma Society Symposium (2004-2005).  
Session Co-Chair, National Neurotrauma Seventeenth Annual Symposium, October 1999.

**PROFESSIONAL AFFILIATIONS**

Society for Neuroscience (1996-present).  
National Neurotrauma Society (1997-present).  
International Society for Cerebral Blood Flow and Metabolism (2011-2013)  
American Epilepsy Society (2004-2008)

**INVITED PRESENTATIONS**

2013 Eastern Kentucky University, Department of Chemistry, Richmond, KY, (Invited Seminar Speaker).  
2011 29th Annual National Neurotrauma Society Symposium, Ft. Lauderdale, FL, (Symposium Speaker).  
2010 National Academy of Science, Institute of Medicine, Washington, DC, (Invited Seminar Speaker).

- 2008 University of Kentucky, Clinical and Translational Workshop, Lexington, KY (Symposium Speaker).
- 2008 University of Kentucky, Department of Neurosurgery, Lexington, KY (Grand Rounds Research Seminar).
- 2008 University of Louisville, Department of Neurosurgery, Louisville, KY, (Grand Rounds Research Seminar).
- 2008 41<sup>st</sup> annual Winter Conference on Brain Research, Salt Lake City, UT, (Symposium Speaker).
- 2008 University of Washington, Department of Anesthesiology, Seattle, WA, (Grand Rounds Research Seminar).
- 2008 International Symposium on Dietary Therapies for Epilepsy and Other Neurological Disorders, Phoenix, AZ (Research Symposium Speaker).
- 2007 Brainstorming III Congress, Stroke and Traumatic Brain Injury, University of Hannover, Hannover, Germany, (Congress Speaker).
- 2007 Karolinska Institute, Department of Pediatric Metabolism, Stockholm, Sweden (Research Symposium Speaker).
- 2007 Naval Medical Research Center, Department of Combat Casualty Care, Walter Reed Medical Institute, Washington, D.C (Research Seminar).
- 2006 University of Cincinnati Career Day Symposium, University of Cincinnati, Cincinnati, Ohio (Symposium Speaker).
- 2006 4th Annual Safar Symposium, University of Pittsburgh School of Medicine, Pittsburgh, PA, (Symposium Speaker).
- 2006 Barrow Neurological Institute and St. Joseph's Hospital & Medical Center, Phoenix, AZ, (Grand Rounds Speaker, CME course).
- 2005 Burke Medical Research Institute, Cornell University, White Plains, NY, (Research Symposium).
- 2005 Robarts Neurological Institute, London, Ontario (Research Seminar).
- 2005 23<sup>rd</sup> Annual National Neurotrauma Society Symposium, Washington, DC, (Symposium Speaker).
- 2005 Barrow Neurological Institute and St. Joseph's Hospital & Medical Center, Phoenix, AZ, (Neuroscience Conference Speaker).
- 2005 University of Kentucky, Anatomy & Neurobiology NIA-sponsored Aging Symposium; The Mitochondrial Perspective of Life and Death (Symposium Speaker).
- 2005 Brain Injury Association of Kentucky, Brain Injury Summit, Cardinal Hill Rehabilitation Center, Lexington, KY, (Symposium Speaker).
- 2004 58<sup>th</sup> Annual American Epilepsy Meeting, New Orleans, LA, (Faculty Member/Speaker, CME).
- 2004 NIA, Gerontology Research Center, Baltimore, MD, (Research Seminar).
- 2004 Tenth Annual Kentucky Spinal Cord & Head Injury Symposium, Lexington, KY, (Symposium Speaker).
- 2004: Center on Aging Research, University G. d'Annunzio Chieti, Chieti Scalo, Italy, (Research Seminar).
- 2004: Tenth Annual Canine Cognition and Aging Conference, Toronto, Canada, (Symposium Speaker).
- 2004: Sixth International Meeting for Brain Metabolism, Heraklion, Crete, Greece, (Symposium Speaker).
- 2004 University of Kentucky, Department of Physiology, Lexington, KY, (Research Seminar).

- 2004 Mitochondria and Neuroprotection Symposium, Ft. Lauderdale, FL, (Symposium Speaker).
- 2004 Hot Topics in Epilepsy NIH Symposium, University of California at Irvine Epilepsy Research Center (EpiCenter) Irvine, CA, (Symposium Speaker).
- 2003: Fourth Annual International Zinc Signals Meeting, Cayman Islands, (Symposium Speaker).
- 2003 Ninth Annual Canine Cognition and Aging Conference, Laguna Beach, CA, (Symposium Speaker).
- 2003: University of Maryland, Center on Neuroprotection, Baltimore, MA, (Research Seminar).
- 2002: University of Kentucky, Department of Biology, Lexington, KY, (Research Seminar).
- 2002: Sixth International Neurotrauma Symposium, Orlando, FL, (Symposium Speaker).
- 2002: 35<sup>th</sup> annual Winter Conference on Brain Research, Aspen, CO, (Symposium Speaker).
- 2002: University of Kentucky, Department of Anatomy and Neurobiology, Lexington, KY, (Research Seminar).
- 2001: University of Washington, Department of Neurosurgery, Seattle, WA, (Research Seminar).
- 2001: Buck Institute on Aging, Novato California, San Francisco, CA, (Research Seminar).
- 2001: Invited Speaker; National Neurotrauma Eighteenth Annual Symposium, New Orleans, LA, (Symposium Speaker).
- 2001: University of California at Irvine, Dept of Pediatrics, Irvine, CA, (Research Seminar).
- 2000: University of Florida, Florida Brain Institute, Gainesville, FL, (Research Seminar).
- 2000: University of California at Irvine, Reeve-Irvine Spinal Cord Research Center, Irvine, CA, (Research Seminar).
- 2000: University of California at Irvine, Department of Neurobiology of Learning and Memory, Irvine, CA, (Research Seminar).

### **OTHER SCIENTIFIC PRESENTATIONS**

- 2005 National Neurotrauma Twenty Third Annual Symposium, Washington, DC.
- 2005 Society for Neuroscience Annual Meeting, Washington, DC.
- 2004 American Epilepsy Society International Meeting, New Orleans, LA.
- 2004 National Neurotrauma Twenty Second Annual Symposium, San Diego, CA.
- 2004 Society for Neuroscience Annual Meeting, San Diego, CA.
- 2003 National Neurotrauma Twenty First Annual Symposium, Biloxi, MS.
- 2003 Society for Neuroscience Annual Meeting, New Orleans, LA.
- 2003 American Epilepsy Society International Meeting, Boston, MA.
- 2002 35<sup>th</sup> Annual Winter Conference on Brain Research, Aspen, CO.
- 2002 American Epilepsy Society International Meeting, Seattle, WA.
- 2002 Sixth International Neurotrauma Symposium, Orlando, FL.
- 2002 Society for Neuroscience Annual Meeting, Orlando, FL.
- 2001 National Neurotrauma Nineteenth Annual Symposium, San Diego, CA.
- 2001 Society for Neuroscience Annual Meeting, San Diego, CA.
- 2000 National Neurotrauma Eighteenth Annual Symposium, New Orleans, LA.
- 2000 Society for Neuroscience Annual Meeting, New Orleans, LA.
- 1999 National Neurotrauma Seventeenth Annual Symposium, Miami Beach, FL.
- 1999 Society for Neuroscience Annual Meeting, Miami Beach, FL.
- 1998 National Neurotrauma Sixteenth Annual Symposium, Los Angeles, CA.
- 1998 Society for Neuroscience Annual Meeting, Los Angeles, CA.
- 1997 National Neurotrauma Fifteenth Annual Symposium, New Orleans, LA.
- 1997 Society for Neuroscience Annual Meeting, New Orleans, LA.

**PROFESSIONAL SYMPOSIA AND WORKSHOPS ATTENDED**

- 2013 Society for Neuroscience Annual Meeting, San Diego, CA
- 2013 Thirty First National Neurotrauma Society Symposium, Nashville, TN.
- 2012 Society for Neuroscience Annual Meeting, New Orleans, LA
- 2012 Eighteenth Kentucky Spinal Cord and Head Injury Research Symposium, University of Kentucky, Lexington, KY.
- 2011 29th Annual National Neurotrauma Society Symposium, Ft. Lauderdale, FL.
- 2011 Twenty fifth International Symposium on Cerebral Blood Flow, Metabolism, and Function, Barcelona, Spain.
- 2010 Sixteenth Kentucky Spinal Cord and Head Injury Research Symposium, University of Kentucky, Lexington, KY.
- 2008 Fourteenth Kentucky Spinal Cord and Head Injury Research Symposium, University of Kentucky, Lexington, KY.
- 2008 NIH/NINDS Workshop on Combination Therapies, Panel Member Mechanisms and Targets for Neuroprotection for TBI, Rockville, MD.
- 2007 Thirteenth Kentucky Spinal Cord and Head Injury Research Symposium, University of Louisville, Louisville, KY.
- 2006 Twelve Kentucky Spinal Cord and Head Injury Research Symposium, University of Kentucky, Lexington, KY.
- 2005 Eleventh Kentucky Spinal Cord and Head Injury Research Symposium, University of Louisville, Louisville, KY.
- 2004 Tenth Annual Kentucky Spinal Cord and Head Injury Research Symposium, University of Kentucky, Lexington, KY.
- 2004 Tenth Annual Canine Cognition and Aging Conference, Toronto, Canada.
- 2004 Sixth International Meeting for Brain Metabolism, Heraklion, Crete, Greece.
- 2004 Mitochondria and Neuroprotection Symposium, Ft. Lauderdale, FL.
- 2004 Hot Topics in Epilepsy NIH Symposium, University of California at Irvine Epilepsy Research Center (EpiCenter) Irvine, CA.
- 2003 Ninth Annual Canine Cognition and Aging Conference, Laguna Beach, CA.
- 2003 Ninth Annual Kentucky Spinal Cord and Head Injury Research Symposium, University of Louisville, Louisville, KY.
- 2001 Advanced Course on Techniques in Mitochondrial Physiology, Buck Institute on Aging, San Francisco, CA.
- 2001 Neurobiology of Learning and Memory Symposium, University of California at Irvine, Irvine, CA.
- 2001 Roman Reed Foundation Symposium on Advances in Spinal Cord Injury Research, University of California at Irvine, Irvine, CA.
- 2000 Sixth Annual Kentucky Spinal Cord and Head Injury Research Symposium, University of Kentucky, Lexington, KY.
- 1999 Fifth Annual Kentucky Spinal Cord and Head Injury Research Symposium, University of Louisville, Louisville, KY.
- 1998 Fourth Annual Kentucky Spinal Cord and Head Injury Research Symposium, University of Kentucky, Lexington, KY.
- 1997 Messengers of Life and Death: Protective and Toxic Neuron Signaling Pathways Workshop and Symposium, University of Kentucky, Lexington, KY.
- 1997 Third Annual Kentucky Spinal Cord and Head Injury Research Symposium, University of Louisville, Louisville, KY.
- 1996 Second Annual Kentucky Spinal Cord and Head Injury Trust Symposium, University of Kentucky, Lexington, KY.
- 1996 University of Kentucky Symposium on the Biology of Aging, University of Kentucky, Lexington, KY.