

CURRICULUM VITAE

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Name: John Christian Fowler

Date of Birth: December 23, 1952

Address: Texas Tech University Hlth. Sci. Ctr.
Department of Physiology
Lubbock, TX 79430

Education: 1972-1975 B.S. in Biology w/distinction
University of New Mexico
Albuquerque, New Mexico

1976-1982 Ph.D. in Medical Sciences
(Neurophysiology)
University of New Mexico
Albuquerque, New Mexico

Professional Experience:

1982-1985 Postdoctoral Fellow
Department of Pharmacology & Experimental
Therapeutics
University of Maryland School of Medicine
Baltimore, Maryland 21201

1985-1987 Research Associate
Biophysics/Neurobiology Group, LS-7
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

1987-1988 Scientific Collaborator
Biophysics/Neurobiology Group, LS-1
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

1988-1990 Staff Scientist, Life Sciences Division
Physiology Group, LS-1
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

1990-1996 **Assistant Professor**
Department of Physiology
Texas Tech University Health Sciences Center
Lubbock, TX 79430

1996-present **Associate Professor**
Department of Physiology
Texas Tech University Health Sciences Center
Lubbock, TX 79430

2003-present **Associate Professor (joint appointment)**
Department of Pharmacology
Texas Tech University Health Sciences Center
Lubbock, TX 79430

Grants and Awards

Local awards

Granting agency	Grant number	Dates	Name of PI	Title	% effort	Total direct costs
<i>TTUHSC</i>	<i>Research incentive award</i>	<i>1992</i>	<i>Fowler, John</i>			<i>\$1000</i>
<i>TTUHSC</i>	<i>Research incentive award</i>	<i>1993</i>	<i>Fowler, John</i>			<i>\$1500</i>
<i>TTUHSC</i>	<i>Research incentive award</i>	<i>1995</i>	<i>Fowler, John</i>			<i>\$1500</i>
<i>Administration of Aging, TTUHSC Institute for Healthy Aging Grants Program</i>	<i>7735-78-9622</i>	<i>09/01/02 – 08/31/04</i>	<i>Fowler, John</i>	<i>Stroke and neuroprotective mechanisms</i>	<i>10%</i>	<i>\$49,965</i>

Extramural awards

Granting agency	Grant number	Dates	Name of PI	Title	% effort	Total direct costs
<i>NIH – NINDS</i>	<i>R01-NS38996-02</i>	<i>07/01/1999 – 06/30/2002</i>	<i>Fowler, John</i>	<i>Adenosine and the neuronal response to hypoxia and ischemia</i>	<i>30%</i>	<i>~\$330K</i>
<i>NIH – NINDS</i>	<i>R01-NS38996-03 Supplement for</i>	<i>07/01/2002 –</i>	<i>Fowler, John</i>	<i>Same as above</i>	<i>100%</i>	<i>\$42K</i>

	<i>underrepresented minority graduate students</i>	06/30/2002				
<i>NIH-NINDS</i>	<i>R01-NS28027</i>	<i>02/01/1990 – 01/31/1997</i>	<i>Fowler, John</i>	<i>Adenosine and neuronal activity/survival during hypoxia</i>	<i>30%</i>	<i>~380K</i>

Grants approved but not funded

Granting agency	Grant number	Reviewed	Name of PI	Title
<i>NIH – NINDS</i>	<i>F31 NS42517-01</i>	<i>2001</i>	<i>Gervitz, L.M. graduate training grant; sponsor: Fowler</i>	<i>Cerebral blood flow and neuronal activity during stroke</i>
<i>NIH – NINDS</i>	<i>2 R01 NS038996-04</i>	<i>2002</i>	<i>Fowler, J.C.</i>	<i>Adenosine and the neuronal response to hypoxia/ischemia</i>

Society Membership

- 1. Society for Neuroscience 1980 – present*
- 2. American Physiological Society 2000 - present*

Teaching

Lecture, small groups, labs

Course title	Dates
Medical School Courses	
<i>Medical Physiology 5803 Lectures</i>	<i>1990 - continuous</i>
<i>Med Phys 5803 small groups (includes cardiovascular and renal small group conferences)</i>	<i>1990 - continuous</i>
<i>Integrated Neuroscience 5910</i>	<i>1993 - continuous</i>
<i>Integrated Neuroscience 5910 Labs</i>	<i>1993 - continuous</i>
Graduate School Teaching	
<i>General (Human) Physiology, GPHY 5402, 5302</i>	<i>1990 - continuous</i>
<i>Advanced Neurophysiology GPHY 6300</i>	<i>1993 - 1996</i>
<i>Cellular and Molecular Physiology, GPHY 6311</i>	<i>1999 - continuous</i>
<i>Laboratory Methods in Physiology, GPHY 5350</i>	<i>2000 – continuous</i>
<i>Neuropsychopharmacology, GPHM 5337</i>	<i>Spring 2003</i>
Other TTUHSC teaching	
<i>Nursing, HSN 3410</i>	<i>1996</i>
<i>Nursing, HSN 3200</i>	<i>1995</i>

TTU teaching	
<i>BIOL 4301</i>	<i>1998</i>

Undergraduate students, high school students and other individuals

Name	Date	Position
<i>Mo Zakhireh</i>	<i>1992</i>	<i>Summer medical student research</i>
<i>Mikey Betancourt</i>	<i>1994</i>	<i>NIH minority summer high school student research apprenticeships</i>
<i>Jill Aleman</i>	<i>1995</i>	<i>NIH minority summer high school student research apprenticeships</i>
<i>Ryan Marshall</i>	<i>1997</i>	<i>HHMI Undergraduate Biological Sciences Research Fellow</i>
<i>Nelson Rolong</i>	<i>1997</i>	<i>Summer NIH-sponsored Research Program</i>

Graduate students

Name	Activity	Degree	Field of Study	Department	Institution	Date of degree
<i>Michael Thomas</i>	<i>Outside Reader, PhD Dissertation Committee</i>	<i>PhD</i>	<i>Biomedical Science</i>	<i>Neuroscience</i>	<i>University of New Mexico</i>	<i>2003</i>
<i><u>Kamran Omdivar</u></i>	<i>Tentative chair</i>	<i>MSc</i>	<i>neurophysiology</i>	<i>Physiology</i>	<i>GSBS, TTUHSC</i>	<i>Projected 2004</i>
<i>Sowmini Oomman</i>	<i>Member, PhD Dissertation Committee</i>	<i>PhD</i>	<i>Medical sciences, neurophysiology</i>	<i>Physiology, Chair: J. Strahlendorf</i>	<i>GSBS, TTUHSC</i>	<i>Projected 2004</i>
<i><u>Rebin Titus</u></i>	<i>Chair, Master's Thesis Committee</i>	<i>MSc</i>	<i>Medical sciences, neurophysiology</i>	<i>Physiology</i>	<i>GSBS, TTUHSC, currently in lab</i>	<i>Projected 2003</i>
<i><u>Leon M. Gervitz</u></i>	<i>Chair, PhD Dissertation Committee</i>	<i>PhD</i>	<i>Medical sciences, neurophysiology</i>	<i>Physiology</i>	<i>GSBS, TTUHSC, currently a post-doc at TTUHSC</i>	<i>2002</i>
<i>Amanda Purdon</i>	<i>Member, Master's Thesis Committee</i>	<i>MSc</i>	<i>Medical sciences, neurophysiology</i>	<i>Physiology, Chair: Lutherer</i>	<i>GSBS, TTUHSC, currently science writer</i>	<i>2002</i>
<i>Paul Barenberg</i>	<i>Member, Master's Thesis Committee</i>	<i>MSc</i>	<i>Medical sciences, neurophysiology</i>	<i>Physiology, Chair: J. Strahlendorf</i>	<i>GSBS, TTUHSC</i>	<i>1998</i>
<i>Jin Li</i>	<i>Member, PhD Dissertation Committee</i>	<i>PhD</i>	<i>Medical sciences, neurophysiology</i>	<i>Physiology, Chair: Nathan</i>	<i>GSBS, TTUHSC</i>	<i>1996</i>
<i>Peter Phan</i>	<i>Member, MSc</i>	<i>MSc</i>	<i>Muscle physiology</i>	<i>Interdisciplinary studies, Chair: Alex Stewart</i>	<i>TTUHSC-TTU Interdisciplinary studies</i>	<i>1996</i>
<i>Zheng Xie</i>	<i>Outside examiner,</i>	<i>PhD</i>	<i>Pharmacology and</i>	<i>Department of Pharmacology</i>	<i>University of British Columbia</i>	<i>1994</i>

	<i>PhD Dissertation Committee</i>		<i>Therapeutics</i>	<i>and Therapeutics, Chair: McIntosh</i>		
<i>David Doolette</i>	<i>Outside examiner, PhD Dissertation Committee</i>	<i>PhD</i>	<i>Physiology</i>	<i>Research and Graduate Studies Branch</i>	<i>University of Adelaide</i>	<i>1995</i>
<i>Mark Rhodes</i>	<i>Member, Master's Thesis Committee</i>	<i>MSc</i>	<i>Physiology</i>	<i>Physiology</i>	<i>TTUHSC</i>	<i>1994</i>
<i>Whasook Seo Chang (Sue Chang)</i>	<i>Member, PhD Dissertation Committee</i>	<i>PhD</i>	<i>Physiology</i>	<i>Pharmacology, Chair: H. Strahlendorf</i>	<i>GSBS, TTUHSC</i>	<i>1993</i>

Graduate Student Awards

Name	Award	Date
<i>Rebin Titus</i>	<i>1st place, Research poster competition, Fifteenth Annual Student Research Week, TTUHSC, Graduate M.S. Division</i>	<i>2003</i>
<i>Leon Gervitz</i>	<i>Soc. For Neurosci. Travel Award</i>	<i>2001</i>
<i>Leon Gervitz</i>	<i>3rd place, Research poster competition, 12th Annual Student Research Week, TTUHSC, Graduate PhD Division</i>	<i>2000</i>
<i>Leon Gervitz</i>	<i>Invited slide presentation, cerebral ischemia section, FASEB Meetings</i>	<i>2000</i>

Postdoctoral fellows, research associates, residents, and fellows

Name	Date/Activity	Degree	Field of Study	Department	Institution	Current
<i>Leon Gervitz</i>	<i>2002 – present, post-doctoral student</i>	<i>Post-doctoral fellow</i>	<i>Neurophysiology</i>	<i>Physiology</i>	<i>TTUHSC</i>	<i>In my lab Physiology</i>
<i>Margaret Hamilton</i>	<i>1999 – 2001</i>	<i>Research Associate</i>	<i>Neurophysiology</i>	<i>Physiology</i>	<i>TTUHSC</i>	<i>Pharmacology, TTUHSC</i>
<i>Zhongwu Liu</i>	<i>1995 – 1996</i>	<i>Research Associate</i>	<i>Neurophysiology</i>	<i>Physiology</i>	<i>TTUHSC</i>	<i>unknown</i>

Education administration

Year	Course	Position
<i>1997 - continuous</i>	<i>Integrated Neurophysiology</i>	<i>Member, Course Coordinating Committee</i>

<i>1996</i>	<i>Human Physiology, GPHY 5402</i>	<i>Course director</i>
<i>1998</i>	<i>Medical Physiology, 5803</i>	<i>Assistant course director</i>
<i>1997, 2000</i>	<i>Medical Physiology, 5803</i>	<i>Cardiovascular section director</i>

Academic Service

Departmental

Dates	Committee	Activity
<i>2002, appointed</i>	<i>Physiology Department graduate committee</i>	<i>ad hoc member</i>
<i>1992 – 1999, appointed</i>	<i>Physiology Department graduate committee</i>	<i>member</i>
<i>1993 – 1996, elected</i>	<i>Physiology Department graduate committee</i>	<i>Departmental Graduate Advisor</i>
<i>1991 – 1992, appointed</i>	<i>Departmental Seminar</i>	<i>coordinator</i>

Institutional (School of Medicine and TTUHSC)

Dates	Organization	Activity
Service committees		
<i>1991 – 1992 2003 - present</i>	<i>TTUHSC SOM Admissions Committee</i>	<i>member</i>
<i>1992 - 1996</i>	<i>GSBS graduate council</i>	<i>departmental representative</i>
<i>1993 – 1994</i>	<i>Educational Policy Committee</i>	<i>member</i>
<i>2002 - present</i>	<i>Faculty development committee</i>	<i>member</i>
<i>2002 - present</i>	<i>Grading and Promotion Committee</i>	<i>member</i>
<i>1993 – 1996, 1999 - present</i>	<i>ACUC</i>	<i>member</i>
<i>2002 - 2003</i>	<i>ACUC violations subcommittee</i>	<i>member</i>
<i>2000, 2001, 2002</i>	<i>ACUC inspections subcommittee</i>	<i>group leader</i>
<i>2003-2004</i>	<i>ACUC training and information subcommittee</i>	<i>member</i>
<i>1993-1996, 1999</i>	<i>GSBS graduate committee</i>	<i>representative</i>
Search committees		
<i>2001</i>	<i>Surgery, TTUHSC</i>	<i>ad hoc interviewer for job candidate</i>
<i>2001</i>	<i>Communications Disorder, TTUHSC</i>	<i>ad hoc interviewer for job candidate</i>
<i>2000</i>	<i>Microbiology Chairman Search Committee</i>	<i>member</i>
<i>July, 22, 2002</i>	<i>Pharmacology, TTUHSC</i>	<i>ad hoc interviewer for job candidate</i>
Retreats		
<i>June, 2000</i>	<i>Strategic Plan/LCME Retreat, Odessa</i>	<i>participant</i>
TTUHSC – judge/reviewer		
<i>1997, 1999, 2001, 2002, 2003</i>	<i>TTUHSC, Graduate School, Student Research Day</i>	<i>poster judge</i>
<i>2001</i>	<i>Student Association of the Institute of Environmental and Human Health</i>	<i>Judge for 2001 Toxicology Research Expose</i>
<i>2002</i>	<i>TTUHSC SOM Seed Grant</i>	<i>reviewer</i>
TTUHSC – research committees		
<i>September 24, 2002</i>	<i>TTUHSC Alzheimer’s Disease Coordinating Center</i>	<i>presenter</i>
TTU		
<i>2000 - present</i>	<i>TTU – IRB (Institutional Research Board)</i>	<i>HSC representative</i>

Community service

Date	Organization	Activity
<i>1999, voluntary</i>	<i>TTUHSC, CAST</i>	<i>lecturer</i>
<i>1998, voluntary</i>	<i>APS-sponsored, Frontiers in Physiology, LISD and Region 17 Education Service</i>	<i>Instructors for Neural and Networks module</i>
<i>1997, voluntary</i>	<i>Roscoe Wilson Elementary School</i>	<i>Science judge</i>
<i>2001 – 1999, voluntary</i>	<i>Lubbock High Band flag volunteer</i>	<i>This is the major fund raiser for the LHS Band and consists of placing U.S. flags in homes and businesses about 6 time a year</i>

Editorial

Ad hoc journal Reviewer:

- 1. Neuroscience Letters*
- 2. Comparative Biochemistry and Physiology*
- 3. Neuroscience*
- 4. Journal of Neuroscience*
- 5. Brain Research*
- 6. British Journal of Pharmacology, 2003*
- 7. Hippocampus*
- 8. Epilepsia, 2003*

Member of research grant study sections (e.g. NIH, AHA Western Review Consortium)

Date	Activity	Organization
<i>1990</i>	<i>Outside Grant Reviewer</i>	<i>VAMC Research Service Albuquerque, NM Ms. Lola Hettick, Program Assistant</i>
<i>1991- 1995</i>	<i>Ad hoc Reviewer Administrator</i>	<i>Neurology A Study Section NINDS, Neurology Dr. Joe Marwah, Scientific Review Administrator</i>
<i>1993</i>	<i>Ad hoc Reviewer</i>	<i>Neurology B Study Section NINDS, Neurology, Dr. Joe Marwah SRA</i>
<i>1993</i>	<i>Mail Reviewer</i>	<i>National Science Foundation, Neuronal and Glial Mechanisms, Dr. Felix Strumwasser, Program Director</i>
<i>1994</i>	<i>Ad hoc Reviewer</i>	<i>NLS-1 Special Section, NINDS, Drs. Joe Marwah and Herman Teitelbaum, SRA</i>
<i>1994</i>	<i>Texas Seed Grant Program</i>	<i>TTUHSC</i>
<i>1995</i>	<i>External Reviewer</i>	<i>Department of Veterans Affairs, Merit Review, Livermore, CA, Dr. Werner T. Schlapfer, Office of External Reviews</i>
<i>1995 – 1998</i>	<i>Permanent member</i>	<i>Neurology A Study section, NINDS, Dr. Joe Marwah,</i>

		SRA
1998 – 1999	Permanent member	ZRGI BDCN-1, Center for Scientific Review Special Emphasis Panel, NIH
2000	External Reviewer	Welcome Trust, Dr. A.D. Owen, Scientific Programme Officer
2000	External Reviewer	Department of Veterans Affairs, Office of External Reviews, Livermore, CA, Dr. Werner Schlapfer, Chief
2002	External Reviewer	Department of Veterans Affairs, Office of External Reviews, Livermore, CA, Dr. LeRoy Frey, Chief

Publications

Published articles:

Fowler, J. C., R. Greene, and D. Weinreich. Two calcium-sensitive spike after-hyperpolarizations in visceral sensory neurones of the rabbit. *J. Physiol.* 365: 59-75, 1985.

Fowler, J. C., W. F. Wonderlin, and D. Weinreich. Prostaglandins block a Ca²⁺-dependent slow spike afterhyperpolarization independent of effects of Ca²⁺ influx in visceral afferent neurons. *Brain Res.* 345: 345-349, 1985.

Fowler, J. C. Modulation of neuronal excitability by endogenous adenosine in the absence of synaptic transmission. *Brain Res.* 463: 368-373, 1988.

Fowler, J. C., and J. M. O'Donnell. Antagonism of the responses to isoproterenol in the rat hippocampal slice with subtype-selective antagonists. *Eur. J. Pharmacol.* 153: 105-110, 1988.

Greene, R., **J. C. Fowler**, J. MacGlashin, D., and D. Weinreich. IgE-challenged human lung mast cells excite vagal sensory neurons *in vitro*. *J. Appl. Physiol.* 64: 2249-2253, 1988.

Fowler, J. C. Adenosine antagonists delay hypoxia-induced depression of neuronal activity in hippocampal brain slice. *Brain Res.* 490: 378-384, 1989.

Fowler, J. C. Adenosine antagonists alter the synaptic response to *in vitro* ischemia in the rat hippocampus. *Brain Res.* 509: 331-334, 1990.

Fowler, J. C. Escape from inhibition of synaptic transmission during *in vitro* hypoxia and hypoglycemia in the hippocampus. *Brain Res.* 573: 169-172, 1992.

Fowler, J. C. Glucose deprivation results in lactate preventable increase in adenosine and depression of synaptic transmission in rat hippocampal slices. *J. Neurochem.* 60: 572-576, 1993.

Fowler, J. C. Changes in extracellular adenosine levels and population spike amplitude during graded hypoxia in the rat hippocampal slice. *Naunyn-Schmiedeberg's Arch. Pharmacol.* 347: 73-78, 1993.

Fowler, J. C. Purine release and inhibition of synaptic transmission during hypoxia and hypoglycemia in rat hippocampal slices. *Neurosci. Lett.* 157: 83-86, 1993.

Fowler, J. C. Phorbol ester alters the electrophysiological responses to hypoxia and ischemic-like conditions in the rat hippocampal slice. *Mol. Chem. Neuropath.* 26: 31-42, 1995.

Fowler, J. C. Choline substitution for sodium triggers glutamate and adenosine release from rat hippocampal slices. *Neurosci. Lett.* 197: 97-100, 1995.

Liu, Z. W., and **J. C. Fowler.** Phorbol ester alters rat hippocampal neuron's responses to hypoxia. *NeuroReport* 6: 2069-2072, 1995.

Fowler, J. C. Hydrogen peroxide opposes the hypoxic depression of evoked synaptic transmission in rat hippocampal slices. *Brain Res.* 766: 255-258, 1997.

Fowler, J. C., and Y. Li. Contributions of Na⁺ flux and the anoxic depolarization to adenosine 5'-triphosphate levels in hypoxic/hypoglycemic rat hippocampal slices. *Neurosci.* 83: 717-722, 1998.

Fowler, J. C., L. D. Partridge, and L. Gervitz. Hydroxylamine blocks adenosine A₁ receptor-mediated inhibition of synaptic transmission in rat hippocampus. *Brain Res.* 815: 414-418, 1999.

Fowler, J. C., L. M. Gervitz, and L. D. Partridge. Hydroxylamine blocks pre- but not postsynaptic adenosine A₁ receptor-mediated actions in rat hippocampus. *Brain Res.* 837: 309-313, 1999.

Gervitz, L. M., L. O. Lutherer, D. G. Davies, J. H. Pirch, and **J. C. Fowler.** Adenosine induces initial hypoxic-ischemic depression of synaptic transmission in the rat hippocampus in vivo. [*Am. J. Physiol. Regulatory Integrative Comp. Physiol.* 280: R639-R645., 2001.](#)

Gervitz, L. M., L. O. Lutherer, M. E. Hamilton, and **J. C. Fowler.** Lack of central effects of peripherally administered A₁ agonists on synaptic transmission in the rat hippocampus. [*Brain Res.* 951: 141-145, 2002.](#)

Gervitz, L. M., D. Nalbant, S. C. Williams, and **J. C. Fowler.** Adenosine-mediated activation of Akt/protein kinase B in

the rat hippocampus in vitro and in vivo. [Neurosci. Lett. 328: 175-179, 2002.](#)

Gervitz, L. M., D. G. Davies, K. Omidvar, and **J. C. Fowler**. The effect of acute hypoxemia and hypotension on adenosine-mediated depression of evoked hippocampal synaptic transmission. [Exp. Neurol. 182\(2\):507-17, 2003.](#)

Fowler, J. C., Gervitz, L.M., Hamilton, M.E., and Walker, J.A. Systemic hypoxia and the depression of synaptic transmission in rat hippocampus after carotid artery occlusion. [J. Physiol. 550\(pt. 3\):961-72, 2003.](#)

Abstracts

Fowler, J. C. Hypoglycemia or inhibition of glucose uptake results in a lactate preventable increase in adenosine and depression of synaptic transmission in rat hippocampal slices. Soc. Neurosci. Abstr. 18: 523.1, 1992.

Fowler, J. C. Ca⁺⁺ or NMDA antagonism does not alter the efflux of adenosine from rat hippocampal slices during *in vitro* ischemia. Soc. Neurosci. Abstr. 19: 1661, 1993.

Fowler, J. C. Na⁺ substitution triggers adenosine efflux from rat hippocampal slice. Soc. Neurosci. Abstr. 20: 104.2, 1994.

Fowler, J. C., L.D. Partridge, and L.M. Gervitz. Hydroxylamine antagonizes adenosine A₁ receptor in the rat hippocampal slice. Soc. Neurosci. Abstr. 21: 821.5, 1995.

Fowler, J. C. and Y. Li. ATP levels and adenosine efflux from rat hippocampal slices during hypoxia/hypoglycemia. Soc. Neurosci. Abstr. 22: 563.9, 1996.

Fowler, J. C. Hydrogen peroxide counters hypoxic depression of synaptic transmission in the rat hippocampal slice. Soc. Neurosci. Abstr. 23: 104.5, 1997.

Fowler, J. C. The inhibitory effect of adenosine on synaptic transmission in the rat hippocampus is sensitive to hydroxylamine. 6th International Symposium on Adenosine and Adenine Nucleotides, 1998.

Fowler, J. C., L. D. Partridge and L.M. Gervitz. Hydroxylamine antagonizes adenosine A₁ receptor in the rat hippocampus. Soc. Neurosci. Abstr. 24: 821.5, 1998

Fowler, J. C. Selective hypoxic depression of synaptic transmission in hippocampus. *Soc. Neurosci. Abstr.* 25: 842.9, 1999.

Gervitz, L. M., L. O. Lutherer, D. G. Davies, J. H. Pirsch, and **J. C. Fowler**. The role of adenosine in the early synaptic response to hypoxia in the rat hippocampus *in vivo*. *Soc. Neurosci. Abstr.* 26: 768, 2000.

Hamilton, M. E., and **J. C. Fowler**. Hippocampal electrophysiological activity *in vivo* is altered by intracerebral adenosine administration in urethane anesthetized rats. *Soc. Neurosci. Abstr.* 26: 768, 2000.

Gervitz, L.M., L.O. Lutherer, D.G. Davies, and **J. C. Fowler**. The use of an *in vivo* rat model to study the effects of moderate hypoxia on hippocampal electrophysiology. FASEB 461.4, 2000.

Gervitz, L.M., G.T. Barnett, D.G. Davies and **J. C. Fowler**. Normoxic hypotension mimics the effects of hypoxia on synaptic transmission in the rat hippocampus *in vivo*. FASEB 391.9, 2001.

Fowler, J. C. and Gervitz, L.M. Panel presentation, Adenosine and hypoxia, 35th Winter Conference on Brain research, January 26 0 February 2, 2002.

Gervitz, L. M., and **J. C. Fowler**. Local blood flow changes associated with the depression of synaptic transmission in the rat hippocampus *in vivo*. *Soc. Neurosci. Abstr.* 27: 717, 2002.

Hamilton, M. E., and **J. C. Fowler**. Local tissue oxygen levels associated with adenosine-mediated reductions in hippocampal evoked fEPSPs *in vivo* during hypoxia. *Soc. Neurosci. Abstr.* 27: 712, 2001.

Gervitz, L.M., D. Nalbant, J.A. Walker, S.C. Williams, and **J. C. Fowler**. Akt/Protein kinase B is activated through adenosine A₁ receptor in the rat hippocampus *in vitro* and *in vivo*. *Soc. Neurosci. Abstr.* 28: 142.1, 2002.

Fowler, J.C., R.K. Titus, K. Omidvar, and J.P. Downing. Hypoxic activation of protein kinase B in aged rat hippocampal slice. *Soc. Neurosci. Abstr.* Program #565.12, 2004.

Titus, R.T., G.M. Martinez, K. Omidvar, and **J.C. Fowler**. The transient return of synaptic transmission and neuronal injury during ischemia in the rat hippocampal slice. *Soc. Neurosci. Abstr.* Program No. 158.6, 2005.

Student Presentations/Abstracts

- Zakhireh, M., Y. Li, and **J. C. Fowler**. Accumulation of adenosine from rat hippocampal slices in response to in vitro "ischemia" and pharmacological "ischemia". Texas Medical Association, 125th Annual Session, San Antonio, 1992.
- Zakhireh, M., Y. Li, and **J. C. Fowler**. Adenosine efflux from rat hippocampal slices in response to in vitro "ischemia" and pharmacological "ischemia". Fourth Annual Student Research Day, TTUHSC, 1992.
- L. M. Gervitz, L.O. Lutherer, D.G. Davies, J.H. Pirch, **J. C. Fowler**. The use of an in vivo rat model to study the effects of moderate hypoxia on hippocampal electrophysiology. Eleventh Annual Student research day, TTUHSC, 1999
- L. M. Gervitz, L.O. Lutherer, D.G. Davies, J.H. Pirch, **J. C. Fowler**. The role of adenosine in the early synaptic response to hypoxia in the rat hippocampus *in vivo*. Twelfth Annual Student Research Day, TTUHSC, 2000.
- L.M. Gervitz, G.T. Barnett, D.G. Davies, **J. C. Fowler**. Normoxic hypotension mimics the effects of hypoxia on synaptic transmission in the rat hippocampus *in vivo*. Thirteenth Annual Research Day, TTUHSC, 2001.
- L.M. Gervitz, **J. C. Fowler**. Local blood flow changes associated with the depression of synaptic transmission in the rat hippocampus *in vivo*. Fourteenth Annual Research Day, TTUHSC, 2002.
- R.T. Titus, L.M. Gervitz, **J. C. Fowler**. Ischemic changes in Akt/protein kinase B activation in young and old rat hippocampus. Fifteenth Annual Research Day, TTUHSC, 2003.