

## Curriculum Vitae

**Candace Lorraine Floyd, Ph.D**

- Appointment:** Assistant Professor  
Department of Physical Medicine and Rehabilitation  
Center for Glial Biology in Medicine  
Department of Neurobiology (Secondary Appointment)
- Office Address:** 547 Spain Rehabilitation Center  
Department of Physical Medicine and Rehabilitation  
Birmingham, AL 35249-7330  
Office phone: (205) 996-6892  
Laboratory phone: (205) 996-6891
- Education:** B.A. (History/Secondary Education), 1991  
James Madison University  
Harrisonburg, VA
- M.S. (Biological Psychology), May 1998  
Medical College of Virginia/Virginia Commonwealth University  
Richmond, VA
- Ph.D. (Pharmacology), December 2000  
Medical College of Virginia/Virginia Commonwealth University  
Richmond, VA
- Research Experience:**
- Summer 1994                      Research Assistant, Department of Psychology. Supervisor: Joseph H. Porter. Conducted drug discrimination studies involving anti-psychotic drugs in rats.
- Spring 1995- Fall 1996              Research Assistant, Department of Psychology. Supervisor: Dr. Robert J. Hamm. Assessed behavioral and cognitive deficits following traumatic brain injury in rats.
- Fall 1995- Fall 1998              Research Assistant, Department of Pharmacology & Toxicology. Supervisor: Dr. Patrick M. Beardsley. Conducted numerous studies involving tolerance and dependence to drugs of abuse in rats.
- Fall 1996 - Fall 1998              Pre-Doctoral Fellow (NIH T32 NS07288-11), Division of Neurological Surgery. Advisor: Dr. Bruce G. Lyeth. Investigated

role of metabotropic glutamate receptors in traumatic brain injury.

Fall 1998- Fall 2000

Pre-Doctoral Fellow (NIH T32 NS07288-11), Department of Pharmacology and Toxicology. Advisor: Earl F. Ellis. Investigated the effects of mechanical injury on inositol (1,4,5)-trisphosphate-mediated signaling in astrocytes.

Jan 2001- July 2004

Post-Doctoral Fellow (NIH T32 MH019989 and NIH F32 NS403085), Department of Neurosurgery, Center for Neuroscience, University of California, Davis. Advisors: Drs. Bruce G. Lyeth and Robert F. Berman. Investigated the effect of injury on intercellular calcium signaling and ionic changes in astrocytes and neurons, developing protective strategies for traumatic brain and spinal cord injury.

July 2002- July 2003

Trainer for W.M. Keck Foundation Center for Cellular and Molecular Neuroscience Imaging Multi-Photon/Confocal Imaging Facility, Center for Neuroscience, University of California, Davis. Managed a multi-user multi-photon/confocal imaging facility including design and implementation of training program and supervision of imaging projects ranging from fixed tissue to in vitro multi-photon imaging.

July 2004- September 2006

Assistant Professor (In Residence), Department of Neurosurgery, University of California, Davis. Understanding basic pathophysiology of and investigating potential therapeutic interventions for traumatic injury to the brain and spinal cord.

October 2006- present

Assistant Professor, Department of Physical Medicine and Rehabilitation, Center for Glial Biology in Medicine, Department of Neurobiology (secondary appointment), University of Alabama at Birmingham. Developing novel strategies for protection in traumatic brain and spinal cord injury with a focus on glial-neuronal interactions.

### **Recent and Current Research Funding:**

June 2001-June 2002 University of California Neurotrauma Research Initiative grant entitled "The effect of mechanical injury on intracellular pH and calcium regulation in astrocytes and neurons" \$49,000

July 2002- July 2004 Individual National Research Service Award entitled "Does Brain Injury alter intercellular calcium waves" F32 NS43085 \$82,532

Jan 2003-June 2004 Roman Reed Research Initiative grant entitled "Transplantation of olfactory ensheathing cells modified by non-viral gene therapy to secrete

NT-3 following spinal cord injury” \$68,676

Jan 2005-Dec 2005 Roman Reed Research Initiative grant entitled “Is 17b-estradiol protective after spinal cord injury in rats?” \$44,100

July 2005-July 2007 University of California, Davis Health Systems Award grant entitled “Therapeutic potential of Estrogen Following Spinal Cord Injury” \$150,000

March 2007-current National Institutes of Health, National Center for Neurological Disease and Stroke R21 grant entitled “Neuroprotective effects of selective activation of the estrogen receptor beta in SCI” NS052559 \$190,313

July 2007-current UAB Faculty Development Grant entitled “Chronic nicotine and allodynia after spinal cord injury in rats” \$10,000

April 2007-current Veterans Administration Individual grant entitled “Autophagic stress and neuron death in traumatic brain injury” \$30,000

**Teaching Experience:**

Summer 1997 Lab instructor for Psychology 317: Experimental Methods.  
Virginia Commonwealth University

Fall 1998 Invited Guest Lecturer: Neuronal Models of Learning and Memory in Psychology 432: Learning and Cognition.  
Virginia Commonwealth University

Spring 2001 Lecturer: CNS Pharmacology- Serotonin  
Pharm/Tox: 203: Principles of Pharmacology and Toxicology  
University of California, Davis

Winter 2001 Lecturer: Resident’s Neuroscience Lecture Series  
Department of Neurological Surgery  
University of California, Davis

Spring 2002 Lecturer: CNS Pharmacology-Serotonin, GABA  
Pharm/Tox: 203 Principles of Pharmacology and Toxicology  
University of California, Davis

Winter 2003 Lecturer: Resident’s Neuroscience Lecture Series  
Neurological Surgery  
University of California, Davis

Spring 2003 Lecturer: CNS Pharmacology-Serotonin, GABA  
Pharm/Tox: 203 Principles of Pharmacology and Toxicology  
University of California, Davis

- Winter 2005 Course Director: Freshman Seminar (FRS001) “Spinal Cord Injury: From the patient’s perspective to the promise of research”  
University of California, Davis
- Spring 2005 Lecturer: CNS Pharmacology-Serotonin, GABA  
Pharm/Tox: 203 Principles of Pharmacology and Toxicology  
University of California, Davis
- Summer 2005 Lecturer: Resident’s Neuroscience Lecture Series  
Neurological Surgery  
University of California, Davis
- Fall 2006 Course Director: Freshman Seminar (FRS001) “Spinal Cord Injury: From the patient’s perspective to the promise of research”  
University of California, Davis
- Spring 2007 Lecturer: Cellular and Molecular Biology 5, Upper and lower motor neurons  
University of Alabama, Birmingham
- Spring 2007 Faculty Preceptor: Diseases of the Nervous System, Brain Injury  
University of Alabama, Birmingham
- Spring 2007 Lecturer: Medical Neuroscience, Spinal Cord Injury: Examples of translational research  
University of Alabama, Birmingham

**Membership in Professional Organizations:**

National Neurotrauma Society  
International Neurotrauma Society  
Society for Neuroscience  
American Academy for the Advancement of Science

**Awards:**

- 1997 Honorary Oral Presentation at 15<sup>th</sup> Annual Meeting of National Neurotrauma Society. Abstract selected from over 200 for presentation from speakers platform.
- 1998 Honorary Oral Presentation at 16<sup>th</sup> Annual Meeting of National Neurotrauma Society. Abstract selected from over 200 for presentation from speakers platform.
- 1999 Outstanding (1<sup>st</sup> place) paper and oral presentation in 27<sup>th</sup> Annual J. C. Forbes Graduate Student Honors Colloquium. Competition included students from Schools of Medicine, Pharmacy, Nursing, and Humanities and Sciences.

- 1999 First Place in Medical Sciences Division of Student Competition at 77<sup>th</sup> Annual Virginia Academy of Science Meeting. Abstract and oral presentation selected from 25 entries representing Virginia colleges and universities.
- 1999 First Place in grant proposal competition which occurred at the First Annual Route 28 Summit in Neurobiology, sponsored by NIH, Salk Institute, Paralyzed Veterans Administration, and others.
- 1999 Finalist in student poster competition at the 17<sup>th</sup> Annual Meeting of National Neurotrauma Society.
- 2000 Lauren A. Woods Award for Excellence Among Doctoral Students, Medical College of Virginia/Virginia Commonwealth University: Department of Pharmacology/Toxicology.
- 2002 Selected as attendee and poster presenter at the 2002 Spring Gordon Conference on Glial Biology.
- 2005 Selected as attendee and poster presenter at the 2005 Spring Gordon Conference on Glia Biology.
- 2005 Selected as “Emerging Topic” presenter at 11<sup>th</sup> International Symposium of Neuronal Regeneration

#### **Publications:**

##### Book Chapter:

Hamm, R.J. Temple, M.D., Buck, D.L., DeFord, S.M, **Floyd, C.L.** (1998) Cognitive recovery from traumatic brain injury: Results of post-traumatic experimental interventions. In H.S. Levin and J. Grafman (eds.) Neuroplasticity and Reorganization of Function After Brain Injury. Oxford University Press.

**Floyd C.L.** and Lyeth B.G. (in press) Astroglia: Moderators of CNS Injury. In J.T. Weber and A.M. Maas (eds.) Brain Injury. Elviser Press.

##### Articles:

Rice, A.C., **Floyd, C.L.**, Lyeth, B.G., Hamm, R.J., and DeLorenzo, R.J. (1998) Chronic behavioral changes and cognitive deficits following pilocarpine induced status epilepticus (SE) occur early and are prevented by NMDA receptor inhibition during SE. Epilepsia 39 (11): 1148-1157.

**Floyd, C.L.**, Rzigalinski, B.A., Sitterding, H.A., Willoughby, K.A., and Ellis, E.F. (2001) Traumatic Injury of cultured astrocytes alters inositol (1,4,5)-trisphosphate-mediated signaling. Glia, 33 (1):12-23.

**Floyd, C.L.**, Golden, K.M., Black, R.T., Hamm, R.J., and Lyeth, B.G. (2002). Craniectomy position affects Morris water maze performance and hippocampal cell loss following parasagittal fluid percussion. Journal of Neurotrauma, 19 (3): 303-316.

Rismanchi N, **Floyd C.L.**, Berman, R.F., Lyeth, B.G. (2003). Cell death and long-term

maintenance of neuron-like state after differentiation of rat bone marrow stromal cells: a comparison of protocols. Brain Research 991 (1-2): 46-55.

- Floyd, C.L.**, Rzigalinski, B.A., Sitterding, H.A., Wiloughby, K.A., and Ellis, E.F. (2004) Antagonism of group I metabotropic glutamate receptors and PLC attenuates increases in inositol trisphosphate and reduces reactive gliosis in strain-injured astrocytes. Journal of Neurotrauma 21(2): 205-216.
- Hallam, T.M., **Floyd, C.L.**, Folkerts, M.M., Lee, L., Lyeth, B.G., Berman, R.F. (2004) Comparison of behavioral deficits and acute neuronal degeneration in rat lateral fluid percussion and weight drop brain injury models. Journal of Neurotrauma: 21(5):521-539.
- Floyd C.L.**, Gorin F.A., Lyeth B.G. (2005) Traumatic injury to astrocytes increases intracellular sodium and reverses Na<sup>+</sup>/Ca<sup>2+</sup> exchange in vitro and in vivo. Glia: 51:35-46.
- Chaovipoch P, Jelks K.A., Gerhold L.M., West, E.J., Chongthammakun S., **Floyd, C.L.** (2006) 17β-Estradiol Is Protective in Spinal Cord Injury in Post- and Pre-Menopausal Rats. Journal of Neurotrauma 23(6):830-52.
- Lapanantasin S., Chongthammakun S., **Floyd C.L.**, Berman, R.F. (2006) Effects of 17beta-estradiol on intracellular calcium changes and neuronal survival after mechanical strain injury in neuronal-glia cultures. Synapse 60 (5):406-410.
- Jelks K.B., Wylie R., **Floyd C.L.**, McAllister A.K., Wise P.E. (2007) Estradiol targets synaptic proteins to induced glutamatergic synapse formation in cultured hippocampal neurons: critical role of estrogen receptor-alpha. Journal of Neuroscience 27(26):6903-13.
- Floyd, C.L.**, Lyeth, B.G. (2007) Astroglia: Important mediators of traumatic brain injury. Progress in Brain Research 161:61-79.