

JULIE A. GURWELL
Work: (859) 323-1100 ext. 80843
E-mail: jagur@uky.edu

BIRTH DATE

10/8/67 Winfield, Illinois

EDUCATION

1/01-8/03 **M.S.P.A.S.** (Physician Assistant Studies)
University of Kentucky, Lexington, KY
Department of Clinical Sciences
College of Health Sciences

8/89-12/94 **Ph.D.** (Anatomy and Neurobiology)
University of Kentucky, Lexington, KY
Department of Anatomy and Neurobiology
College of Medicine
Dr. Kurt F. Hauser – mentor

8/85-5/89 **B.S.** (Biology)
Kentucky Wesleyan College, Owensboro, KY
Dr. David Oetinger – advisor

PROFESSIONAL POSITIONS

7/08-current **Assistant Professor**
Department of Neurology
College of Medicine
University of Kentucky, Lexington, KY

7/05-6/07 **Interim Program Director, Physician Assistant Studies**
Department of Clinical Sciences
College of Health Sciences
University of Kentucky, Lexington, KY

11/04-6/08 **Assistant Professor, Physician Assistant Studies**
Department of Clinical Sciences
College of Health Sciences
University of Kentucky, Lexington, KY

9/03-11/04 **Physician Assistant
Clinical Research Coordinator**
Department of Neurology
College of Medicine
University of Kentucky, Lexington, KY
Dr. Joseph R. Berger – supervising physician

7/99-1/01 **Research Associate**
Department of Anatomy and Neurobiology
College of Medicine
University of Kentucky, Lexington, KY
Dr. Kurt F. Hauser - mentor

4/97-6/99 **Research Associate**
Department of Anatomy and Neurobiology
College of Medicine
University of Kentucky, Lexington, KY
Dr. Diane M. Snow - mentor

7/94-9/96 **Postdoctoral Fellow Trainee**
Department of Pharmacology
School of Medicine
University of North Carolina, Chapel Hill, NC
Dr. Ken D. McCarthy - mentor

OTHER CLINICAL PRACTICE

11/04-6/08 Department of Neurology
College of Medicine
University of Kentucky, Lexington, KY
Dr. Joseph R. Berger – primary supervising physician
Practice 1.5 days per week. Participate in deep brain stimulator programming, multiple sclerosis and headache clinics.

OTHER PROFESSIONAL APPOINTMENTS

12/04-current **Associate Membership, Graduate Faculty**
Department of Clinical Sciences
College of Health Sciences
University of Kentucky, Lexington, KY

AWARDS

7/00 International Narcotics Research Conference (INRC) Travel Award - \$700.
Competitive award among young scientists presenting at the 31st Meeting of the International Narcotics Research Conference.

9/93 University of Kentucky Dissertation Year Fellowship Grant - \$1000. Competitive award among Dissertation Year Fellowship recipients for research expenses related to the dissertation.

8/93-5/94 University of Kentucky Dissertation Year Fellowship - \$11,500. Competitive award for outstanding dissertation proposal and academic excellence.

CERTIFICATION and LICENSES

National **National Commission on Certification of Physician Assistants**
Certificate Number: 1061394
Expiration Date: December 31, 2009

State **Kentucky Board of Medical Licensure**
Certificate Number: PA780
Expiration Date: March 31, 2010

Local **HIV/AIDS Certification**
8/01

ACLS Provider
Re-certification 4/04-4/06

Original Certification 5/02-5/04

BLS

Re-certification 4/04-4/06

Original certification 4/02-4/04

PROFESSIONAL ORGANIZATIONS

National American Academy of Physician Assistants, fellow member
1/04-current

State Kentucky Academy of Physician Assistants, fellow member
1/04-current

Local Kentucky Chapter, Society for Neuroscience, member
3/04-current

CLINICAL TRIALS

9/03 – 11/05 *NIH-NIDOCD: Spectroscopic and Microvascular Predictors of HAART Responsiveness in HIV Dementia.*
PI: Joseph R. Berger, MD
Role: Study coordinator

9/03 – 11/05 *NIH-NIMH: MRI Probes of BBB Integrity in HIV Dementia.*
PI: Malcolm Avison, PhD
Role: Study coordinator

9/03 – 11/05 *Neurogesx, Protocol C107. A Randomized, Double-Blind, Controlled Dose Finding Study of NGX-4010 for the Treatment of Painful HIV-Associated Distal Symmetrical Polyneuropathy.*
PI: Joseph Berger, MD
Role: Sub-investigator/Study coordinator

9/03 – 2/05 *Savient, Protocol C0603: A Randomized, Double-Blind, Placebo-Controlled, Multicenter, Dose Ranging Study to Evaluate the Efficacy and Safety of Prosaptide over 6 Weeks of Treatment for the Relief of Neuropathic Pain Associated with HIV-1.*
PI: Joseph Berger, MD
Role: Study coordinator

12/03 – 11/05 *Biogen Idec, Cleveland Clinic Foundation, Protocol C865: A Multicenter Randomized Blinded Parallel-Group Study of AVONEX compared w/AVONEX in Combination Oral Methotrexate, Intravenous Methylprednisolone, or Both in Subjects with Relapsing-Remitting Multiple Sclerosis who Have Breakthrough Disease on Avonex Monotherapy.*
PI: Joseph Berger, MD
Role: Study coordinator

3/04 – 11/05 *Berlex, Protocol 306440: BEYOND= Betaferon/Betaseron Efficacy Yielding Outcomes of a New Dose.*
PI: Joseph Berger, MD
Role: Sub-investigator/Study coordinator

PRESENTATIONS

3/5/09 Invited speaker, “The Importance of Compliance with Disease Modifying Drugs”, National Multiple Sclerosis Kentucky-Southeast Indiana Chapter telecare series.

- 2/17/09 Invited speaker, "Parkinson's Patient Event: Introduction to Activa", Lexington, KY, sponsored by the University of Kentucky and Medtronic.
- 5/03 Seminar, Master's project, "Screening for Dementia in HIV-Seropositive Patients", University of Kentucky Physician Assistant Studies Program.
- 3/02 Invited speaker, "Presentation and Treatment of HIV Infection", International HIV/AIDS Day Workshop, Frankfort, KY, sponsored by the Cooperative Extension Program at Kentucky State University and Delta Sigma Sorority, Inc.
- 8/94 Seminar, Dissertation, "Astrocytes as Mediators of Opioid-Dependent Growth", University of Kentucky Department of Anatomy and Neurobiology.
- 3/94 Invited speaker, "Astrocytes as Mediators of Opioid-Dependent Growth", Kentucky Wesleyan College.
- 4/93 Neurosciences Seminar, "Opioids and Astrocyte Development", University of Kentucky Department of Anatomy and Neurobiology.
- 11/92 Oral presentation, "Opiates Do Not Affect Astrocyte Death in Developing Mixed-Glial Cultures", Graduate Research Forum, University of Kentucky College of Medicine. Received award for best presentation by an Anatomy and Neurobiology graduate student.
- 4/92 Neurosciences Seminar, "Role of Opioids and Astrocyte Development", University of Kentucky Department of Anatomy and Neurobiology.
- 5/91 Neurosciences Seminar, "Past and Future Assessment of Opiate Action on Neural Development", University of Kentucky Department of Anatomy and Neurobiology.
- 11/90 Poster presentation, "Morphine Alters Mouse Astrocyte Growth in Culture", Graduate Research Forum, University of Kentucky College of Medicine.

PUBLICATIONS

Farzam, F., **Gurwell J.A.** 2009. Childhood demyelinating disorders, *in preparation*.

Gurwell J.A. 2008. Case of the Month. *JAAPA*, 21:74.

El-Hage N., **Gurwell J.A.**, Singh, I.N., Knapp P.E., Nath A., Hauser K.F. 2005. Synergistic increases in intracellular Ca²⁺, and the release of MCP-1, RANTES, and IL-6 by astrocytes treated with opiates and HIV-1 Tat. *Glia*, 50:91-106.

Snow D.M., Smith J.D., and **Gurwell J.A.** 2002. Binding characteristics of chondroitin sulfate proteoglycans and laminin-1, and correlative neurite outgrowth behaviors in a standard tissue culture choice assay. *Journal of Neurobiology*, 51:285-301.

Stiene-Martin A., Knapp P.E., Martin K., **Gurwell J.A.**, Ryan S., Thornton S.R., Smith F.L., and Hauser K.F. 2001. Opioid system diversity in developing neurons, astroglia, and oligodendroglia in the subventricular zone and striatum: Impact on gliogenesis *in vivo*. *Glia*, 36:78-88.

Gurwell J.A., Nath A., Sun Q., Zhang J., Martin K.M., Chen Y., and Hauser K.F. 2001. Synergistic neurotoxicity of opioids and human immunodeficiency virus-1 Tat protein in striatal neurons *in vitro*. *Neuroscience*, 102:555-563.

Gurwell J.A., Duncan M.J., Maderspach K., Stiene-Martin A., Elde R.P., and Hauser K.F. 1996. Kappa-opioid receptor expression defines a phenotypically distinct subpopulation of astroglia:

relationship to Ca²⁺ mobilization, development and the antiproliferative effect of opioids. *Brain Research*, 737:175-187.

Hauser K.F., **Gurwell J.A.**, and Turbek C.S. **1994**. Morphine inhibits purkinje cell survival and dendritic differentiation in organotypic cultures of the mouse cerebellum. *Experimental Neurology*, 130:95-105.

Hauser K.F., **Gurwell J.A.**, and Bhat, N.R. **1993**. Endogenous opioid systems and the growth of oligodendrocyte progenitors: paradoxical increases in oligodendrogenesis as an indirect mechanism of opioid action. *Glia*, 9:157-162.

Gurwell J.A. and Hauser K.F. **1993**. Morphine does not affect astrocyte survival in developing primary mixed-glial cultures. *Developmental Brain Research*, 76: 293-298.

Stiene - Martin A., **Gurwell J.A.**, and Hauser K.F. **1991**. Morphine alters astrocyte growth in primary cultures of mouse glial cells: evidence for a direct effect of opiates on neural maturation. *Developmental Brain Research*, 60: 1-7.

ABSTRACTS AND MEETINGS

El-Hage N., Khurdayan V.K., **Gurwell J.A.**, Singh I.N., Turchan J., Nath A., Hauser, K.F. **2004**. Morphine and HIV-1 Tat induce synergistic destabilization of Ca²⁺ homeostasis, and elevated release of RANTES and MCP-1 by astrocytes. 10th Society on Neuroimmune Pharmacology Conference, Santa Fe, NM.

Goebel S.M., **Gurwell J.A.**, Goody R.J., Martin K.M., Turchan J., Nath A., and Hauser K.F. **2002**. Dysfunction and toxicity of striatal astroglia *In Vitro* following HIV-1 Tat and morphine exposure. American Society of Virology Meetings, Lexington, KY.

Goebel S.M., **Gurwell J.A.**, Goody R.J., Martin K.M., Turchan J., Nath A., and Hauser K.F. **2002**. HIV-1 Tat and morphine synergistically disrupt striatal astroglial function *In Vitro*. 10th International Symposium on Neurovirology/ 4th Conference on the Neuroscience of HIV Infection, Düsseldorf, Germany.

Hauser K.F., **Gurwell J.A.**, Turchan J., Goody R.J., Galey D., and Nath A. **2001**. Neurochemical modulation of the CNS response to HIV. Neurochemistry Winter Conference, Sölden (Ötztal), Austria.

Hauser K.F., **Gurwell J.A.**, Goody R.J., Turchan J., Nath A. **2001**. Morphine exacerbates HIV Tat toxicity in striatal neurons and astroglia. Society for Neuroscience Meeting, San Diego, CA.

Gurwell J.A., Nath A., Goody R.J., Martin K.M., Chen Y., and Hauser K.F. **2000**. Synergism of morphine and HIV-1 Tat protein promote toxicity in murine striatal neurons. 31st Meeting of the International Narcotics Research Conference (INRC), Seattle, WA

Stiene-Martin, A., **Gurwell J.A.**, and Hauser K.F. **2000**. Opioid receptor expression in developing astroglia and oligodendroglia in vivo. 31st Annual Meeting, International Narcotics Research Conference (INRC), Seattle, WA.

Gurwell J.A., Nath A., Martin K.M., Chen Y., and Hauser K.F. **2000**. Synergistic toxicity between opiates and HIV-1 Tat protein in striatal neurons.. Neuroscience of HIV Infection, Edinburgh, Scotland.

Hauser K.F., **Gurwell J.A.**, Chen Y., Martin K., Nath A., and Stiene-Martin A. **2000**. Opiates as biological response modifiers in neural development, injury, and disease. Neurochemistry Winter Conference, Sölden (Ötztal), Austria.

Gurwell J.A., Carlson S., and Snow D.M. **1999**. Chondroitin sulfate proteoglycan inhibition does not correlate with laminin domain availability. The Society for Neuroscience Meeting, Miami Beach, FL.

Hauser K.F., **Gurwell J.A.**, Martin K.M., and Nath A. **1999**. Opiate drug and HIV protein interactions in striatal neurons. Neuroimmune Circuits and Infectious Disease, Bethesda, MD.

Hauser K.F., Stiene-Martin A., **Gurwell J.A.**, Maxson W., Turbek C.S., and Knapp P.E.. **1996**. Opioids intrinsically affect the development of neurons, astrocytes, and oligodendrocytes: multiplicity of opioid actions, receptor types and cell targets. 27th Annual Meeting, International Narcotics Research Conference (INRC) Abstracts, Long Beach, CA.

Hauser K.F., **Gurwell J.A.**, Ryan S.E., and Turbek C.S. **1994**. Critical periods of opioid sensitivity in a pharmacologically distinct subpopulation of astroglia during development. The American Society for Cell Biology Meeting.

Gurwell J.A., Duncan M.J., Stiene-Martin A., Maderspach K., Turbek C.S., and Hauser K.F. **1993**. Role of kappa opioid receptors in type 1 astrocyte growth. Society for Neuroscience Meeting, Washington, DC.

Gurwell J.A., Hauser K.F., Stiene-Martin A., and Bhat N.R. **1992**. Cells of a specific glial fate mediate opiate-dependent neural growth: role of type 1 astrocytes. 54th Annual Meeting of the Committee on Problems of Drug Dependency (CPDD), Keystone, CO.

Gurwell J.A. and Hauser K.F. **1992**. Opiates do not affect astrocyte death in developing mixed-glial cultures. Society for Neuroscience Meeting, Anaheim, CA.

Stiene-Martin A., **Gurwell J.A.** and Hauser K.F. **1991**. Morphine regulates the growth of cultured mouse astrocytes. American Society for Neurochemistry Meeting, Charleston, SC.

Gurwell J.A., Stiene-Martin A. and Hauser K.F. **1991**. Morphine alters mouse astrocyte growth in culture. FASEB Meeting, Atlanta, GA.

GRANTS

Grant/Title	PI (Gurwell % Effort)	Dates	Total
1. PAEA Research Institute Evidence-based medicine resource usage and practice among physician community-based faculty members and physician assistant students during clerkships.	Gurwell, 5%	(10/07-10/08)	\$4516.00

CONTINUING MEDICAL EDUCATION

11/7/08-11/8/08	University of Kentucky 1 st Biennial Central Kentucky/Southern Ohio Parkinson's Disease Symposium: Facets of Parkinsonism, Lexington, KY
7/11/08-7/12/08	Medtronic Focus on Referring and Practice Management for Activa Therapy (Intermediate Level), San Francisco, CA
7/1/08-12/31/08	University of Kentucky Neurology Grand Rounds (16 hours), Lexington, KY
2/23/08	University of Kentucky 1 st Annual Multiple Sclerosis Symposium, Lexington KY
11/2/2007	Kentucky Academy of Physician Assistants, Lexington, KY
7/1/07-6/30/08	University of Kentucky Neurology Grand Rounds (4 hours), Lexington, KY
5/26/07-5/30/07	American Academy of Physician Assistants, Philadelphia, PA
7/1/06-6/30/07 5/27/06-5/29/06	University of Kentucky Neurology Grand Rounds (9 hours), Lexington, KY American Academy of Physician Assistants, San Francisco, CA
11/11/05-11/12/05	Kentucky Academy of Physician Assistants, Lexington, KY

- 7/1/05-6/30/06 University of Kentucky Neurology Grand Rounds (10 hours), Lexington, KY
- 5/28/05-5/30/05 American Academy of Physician Assistants, Orlando, FL
- 7/1/04-6/30/05 University of Kentucky Neurology Grand Rounds (12 hours), Lexington, KY

PROFESSIONAL DEVELOPMENT

- 10/24/07-10/28/07 Physician Assistant Education Association 2007 Annual Education Forum, Tucson, Arizona
- 10/25/06-10/29/06 Physician Assistant Education Association 2006 Annual Education Forum, Quebec City, Canada
- 3/25/06-3/27/06 Implementing an EBM Curriculum into PA training, Salt Lake City, Utah
- 11/1/05-11/6/05 Association of Physician Assistant Programs 2005 Annual Education Forum, Las Corabas, Puerto Rico
Included 2-day PA Program Director Workshop.

COMMITTEES

- 10/08-12/08 Member, KNI Electronic Medical Records Champions Committee, University of Kentucky Department of Neurology
- 7/07-6/08 Member, Academic Affairs Committee, University of Kentucky College of Health Sciences
- 7/07-6/08 Member, Parking Violations Appeals Committee, University of Kentucky
- 7/07-6/08 Chair, Didactic Curriculum Committee, University of Kentucky Physician Assistant Studies Program.
- 3/07-5/07 Member, Common Research Methods Course Task Force, University of Kentucky College of Health Sciences.
- 3/07-6/08 Member, Safety Committee, University of Kentucky College of Health Sciences.
- 4/06-6/06 Member, Senior Clinical Coordinator Search Committee, University of Kentucky Physician Assistant Studies Program.
- 1/06-10/06 Chair, Administration Sub-committee, Continuing Accreditation, University of Kentucky Physician Assistant Studies Program.
- 1/06-12/06 Chair, Steering Committee, Continuing Accreditation, University of Kentucky Physician Assistant Studies Program.
- 12/05-11/06 Member, Division/Program Director Search Committee, University of Kentucky Physician Assistant Studies Program.
- 10/05-2/06 Member, Response Team, Accreditation, University of Kentucky Physician Assistant Studies Program.
- 7/05-6/07 *Ex officio* member, Alumni, Admissions, Clinical Curriculum, Didactic Curriculum, and Standards Committees, University of Kentucky Physician Assistant Studies Program.
- 4/05-7/05 Member, Division/Program Director Search Committee, University of Kentucky Physician Assistant Studies Program.

- 12/04-6/05 Chair, Continuing Accreditation Committee, University of Kentucky Physician Assistant Studies Program.
- 8/03 Admissions Committee, University of Kentucky Physician Assistant Studies Program.
- 12/02-3/03 Member, Self Study Clinical Education Committee, University of Kentucky Physician Assistant Studies Program.
- 1991 Chair, Graduate Research Forum Committee, University of Kentucky College of Medicine.
- 1990 Member, Graduate Research Forum Committee, University of Kentucky College of Medicine.
- 1/90-12/91 Graduate student representative for the Department of Anatomy and Neurobiology on the University of Kentucky College of Medicine Graduate Committee.

PUBLIC SERVICE

- 7/07-current Member, Clinical Advisory Committee, Kentucky-Southeast Indiana Chapter of the National Multiple Sclerosis Society

STUDENT ADVISING

Master's Projects

Sarah Click, University of Kentucky Physician Assistant Studies, Class of 2007
 Kevin Schuer, University of Kentucky Physician Assistant Studies, Class of 2007
 Samantha Howell, University of Kentucky Physician Assistant Studies, Class of 2008
 Marsee Huffman, University of Kentucky Physician Assistant Studies, Class of 2008
 Ashley Killinder, University of Kentucky Physician Assistant Studies, Class of 2008
 David Atkins, University of Kentucky Physician Assistant Studies, Class of 2009
 Kendra Bailey, University of Kentucky Physician Assistant Studies, Class of 2009
 Rebecca Cupp, University of Kentucky Physician Assistant Studies, Class of 2009
 Terry New, University of Kentucky Physician Assistant Studies, Class of 2009

Academic Advising

Johna Bott, University of Kentucky Physician Assistant Studies, Class of 2007
 Lisa Greenwell, University of Kentucky Physician Assistant Studies, Class of 2007
 Candace Martens, University of Kentucky Physician Assistant Studies, Class of 2007
 Jennie Plocica, University of Kentucky Physician Assistant Studies, Class of 2007
 Danielle Slupski, University of Kentucky Physician Assistant Studies, Class of 2007
 Shelley Warder, University of Kentucky Physician Assistant Studies, Class of 2007
 Kimberly Arias, University of Kentucky Physician Assistant Studies, Class of 2008
 Ashley Killinder, University of Kentucky Physician Assistant Studies, Class of 2008
 Kristina Pavel, University of Kentucky Physician Assistant Studies, Class of 2008
 Dina Palmer, University of Kentucky Physician Assistant Studies, Class of 2008
 Jamie Wimsatt, University of Kentucky Physician Assistant Studies, Class of 2008
 Michelle Bacon, University of Kentucky Physician Assistant Studies, Class of 2009
 Micah Crotts, University of Kentucky Physician Assistant Studies, Class of 2009
 Michael Hamilton, University of Kentucky Physician Assistant Studies, Class of 2009
 Hillary McCord, University of Kentucky Physician Assistant Studies, Class of 2009
 Courtney Stringer, University of Kentucky Physician Assistant Studies, Class of 2009
 Rachel Bullock, University of Kentucky Physician Assistant Studies, Class of 2010
 Mary Crabtree, University of Kentucky Physician Assistant Studies, Class of 2010
 Kai Gould, University of Kentucky Physician Assistant Studies, Class of 2010
 Laura Martin, University of Kentucky Physician Assistant Studies, Class of 2010
 Kimberly Pilkenton, University of Kentucky Physician Assistant Studies, Class of 2010
 Holly Short, University of Kentucky Physician Assistant Studies, Class of 2010

Kristen Van Bockel, University of Kentucky Physician Assistant Studies, Class of 2010

TEACHING EXPERIENCE

- 1/08-4/08 ANA 611 Regional Human Anatomy, University of Kentucky Physician Assistant Studies Program, Course Director, 5 credit hours, 120 contact hours.
- 11/14/07 PAS 850 Clinical Methods (*Neurological Exam*), University of Kentucky Physician Assistant Studies Program, 1 contact hour
- 9/25/07, 10/2/07 PAS 654 Clinical Lecture Series I (*Peripheral Neuropathy; Headache and Facial Pain; CNS Tumors, Multiple Sclerosis, Myasthenia Gravis*), University of Kentucky Physician Assistant Studies Program, 3 contact hours.
- 6/07-8/07 PAS 610 Research Methods and Epidemiology in PA Studies, University of Kentucky Physician Assistant Studies Program, Course Director, 3 credit hours, 36 contact hours.
- 1/07-5/07 ANA 611 Regional Human Anatomy, University of Kentucky Physician Assistant Studies Program, Course Director, 5 credit hours, 60 contact hours.
- 11/16/06 PAS 850 Clinical Methods (*Neurological Exam*), University of Kentucky Physician Assistant Studies Program, 1 contact hour
- 6/06-8/06 PAS 610 Research Methods and Epidemiology in PA Studies, University of Kentucky Physician Assistant Studies Program, Course Director, 3 credit hours, 32 contact hours.
- 1/06-5/06 ANA 611 Regional Human Anatomy, University of Kentucky Physician Assistant Studies Program, Course Director, 5 credit hours, 34 contact hours.
- 9/29/05, 11/17/05 PAS 850 Clinical Methods (*Cranial Nerve Exam; Neurological Exam*), University of Kentucky Physician Assistant Studies Program, 2 contact hours.
- 9/27/05, 10/4/05 PAS 654 Clinical Lecture Series I (*Peripheral Neuropathy; Miscellaneous Neurological Disorders: CNS Tumors, Multiple Sclerosis, Myasthenia Gravis*), University of Kentucky Physician Assistant Studies Program, 2 contact hours.
- 6/9/05-8/4/05 PAS 610 Research Methods and Epidemiology in PA Studies, University of Kentucky Physician Assistant Studies Program, Course Director, 3 credit hours, 33 contact hours.
- 2/16/05 PAS 658 Clinical Lecture Series II (*Primary Care Treatment of Neurological Disorders: Headaches, Cerebral Palsy, Multiple Sclerosis, Vertigo Syndromes*), University of Kentucky Physician Assistant Studies Program, 2 contact hours.
- 1/05-5/05 ANA 611 Regional Human Anatomy, University of Kentucky Physician Assistant Studies Program, 60 contact hours.
- 11/30/04 PAS 654 Clinical Lecture Series I (*Peripheral Neuropathy*), University of Kentucky Physician Assistant Studies Program, 1 contact hour.
- 8/91-12/91 Medical Histology, University of Kentucky College of Medicine.
- 1/91-5/91 Human Neuroanatomy, University of Kentucky College of Medicine.
- 8/90-12/90 Human Gross Anatomy, University of Kentucky College of Medicine.

REFERENCES

Available upon request.

Updated 4/10/09