



JOHNS HOPKINS M E D I C I N E

CURRICULUM VITAE DOUGLAS A. KERR, M.D., Ph.D.

PERSONAL DATA

Business address:

The Johns Hopkins Hospital
Department of Neurology
600 N Wolfe St., Pathology 627C
Baltimore, MD 21287-7609
Phone: 410-502-7099

EDUCATION AND TRAINING

- Undergraduate: B.A. 1988, magna cum laude, Princeton University, Princeton, New Jersey, Biology
- Graduate: M.D. 1995, summa cum laude, Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pennsylvania
- Ph.D. 1995, Biochemistry and Molecular Biology, College of Graduate Studies, Thomas Jefferson University, Philadelphia, Pennsylvania
- Board Certification: 2000, American Board of Psychiatry and Neurology

PROFESSIONAL EXPERIENCE

- 1999- Assistant Professor, Department of Neurology, Johns Hopkins School of Medicine, Baltimore, Maryland
- 1999- Assistant Professor, Department of Molecular Microbiology and Immunology, Johns Hopkins School of Public Health, Baltimore, MD
- 1999- Director, Johns Hopkins Transverse Myelopathy Center
- 1998-1999 Chief Resident, Department of Neurology, The Johns Hopkins Hospital, Baltimore, Maryland
- 1996-1998 Resident, Department of Neurology, The Johns Hopkins Hospital, Baltimore, Maryland
- 1995-1996 Resident, Department of Internal Medicine, The Graduate Hospital, Philadelphia, Pennsylvania

PROFESSIONAL ACTIVITIES

Society Memberships:

American Academy of Neurology
American Society for Microbiology
International Association for Neurovirology
Society for Neuroscience

Board Member, Transverse Myelitis Association

Board Member, Center for ALS Research, Johns Hopkins University

Director, Johns Hopkins Transverse Myelopathy Center

Affiliated Faculty, Barker Firm, Osler Medical Training Program, Johns Hopkins Hospital

Member of the Data Safety Monitoring Board, NIH sponsored hematopoietic stem cell transplantation trials network

Director, The Johns Hopkins Project RESTORE

Invited testimony, State Senate and House of Representatives for the MD Stem Cell Act 2005, Annapolis, MD

EDITORIAL ACTIVITIES

Peer Reviewer for:

Annals of Neurology
Human Molecular Genetics
FASEB
Journal of Neurovirology
Journal of Immunology
Experimental Neurology
Journal of Clinical Investigation
Journal of Neurological Sciences
Journal of Neurology, Neurosurgery and Psychiatry
Journal of Rheumatology
Neurology
Spinal Cord
Journal of Cerebral Blood Flow & Metabolism

AWARDS

Gibbon Scholarship, Thomas Jefferson University, College of Graduate Studies (1988-95)

Elected Alpha Omega Alpha (1994)

William Potter Memorial Prize for highest clinical average, Jefferson Medical College (1995)

Salutatorian, Jefferson Medical College (1995)

Howard Hughes Medical Institute Award for Clinician Scientist (1999)

National Institutes of Health, Mentored Scientist Award (1999)

Muscular Dystrophy Association, Research Development Award (1999-2001)

Parkinson's Disease Foundation, Research Grant (1999-2000)

Clinician Scientist Award, Johns Hopkins Hospital (1999)

Platform Presentation, Society for Neuroscience, "Neural Stem Cells in Motor Neuron Disease" (2000)

Agarni Foundation Award for best Scientific talk, 2nd International Congress in Neuroscience, Terni, Italy (July 2000)

Honored by the Keck Center for Collaborative Neuroscience (The Spinal Cord Injury Project) as a 'Hero of Hope' for work on spinal cord regeneration. Announced by Christopher Reeve at the Winter Garden Theatre, New York, (June 2004)

PUBLICATIONS

Neurovirology (PhD)

Rappaport J, KERR DA, Khalili K. 1995. Strategies for Studying Transcription Regulation of Neurotropic Viruses in the Central Nervous System: Lesson from JC Virus. In: Methods in Molecular Genetics, Volume 7. Academic Press, Inc. pp. 131-151.

Ahmed S, Rappaport J, Tada H, KERR D and Khalili K. 1990. A nuclear protein derived from brain cells stimulates transcription of the human neurotropic virus promoter, JCV_E, in vitro. J. Biol. Chem; 265 (23): 13899-13905.

KERR D and Khalili K. 1991. A recombinant cDNA derived from human brain encodes a DNA binding protein that stimulates transcription of the human neurotropic virus JCV. J. Biol. Chem; 266 (24): 15876-15881.

KERR DA, Chang CF, Gordon J, Bjornsti MA and Khalili K. 1993. Inhibition of human neurotropic virus (JCV) DNA replication in glial cells by camptothecin. Virology; 196 (2): 612-618.

KERR D, Chang CF, Chen NN, Gallia GL, Raj G, Schwartz B and Khalili K. 1994. Transcription of a human neurotropic virus promoter in glial cells: effect of YB-1 on expression of the JC virus late gene. J. Virol; 68 (11): 7637-7643.

Chen NN, Chang CF, Gallia GL, KERR DA, Johnson EM, Krachmarov CP, Barr SM, Frisque RJ, Bollag B, and Khalili K. 1995. Cooperative action of cellular proteins YB-1 and Pur-alpha with the tumor antigen of the human JC polyomavirus determines their interaction with the viral lytic control element. Proc. Natl. Acad. Sci. USA; 92 (4): 1087-91.

Chang CF, Otte J, KERR DA, Valkkila M, Calkins CE and Khalili K. 1996. Evidence that the soluble factors secreted by activated immune cells suppress replication of human neurotropic JC virus DNA in glial cells. Virology; 221 (1): 226-31.

Chen NN, KERR D, Chang CF, Honjo T and Khalili K. 1997. Evidence for regulation of transcription and replication of the human neurotropic virus JCV genome by the human S(mu)bp-2 protein in glial cells. Gene; 185 (1): 55-62.

Clinical Neurology (Residency)

Perry JD, Girkin CA, Miller NR and KERR DA. 1998. Herpes simplex encephalitis and bilateral acute retinal necrosis syndrome after craniotomy. Am. J. Ophthalmol; 126 (3): 456-60.

Kaplan PW, KERR DA and Olivi P. 1999. Ictus exceptoratus: A sign of complex partial seizures of temporal lobe origin. Seizure; 8 (8): 480-484.

Kaplan PW, KERR DA and Conwit RA. 2000. Weak and numb feet in a man with knobby hands. Arch. Neurol. Feb; 57(2): 271.

Cervical Spondylosis

Scott E and KERR DA*. 2005. Cervical spondylosis. Current Therapy in Neurologic Disease. Eds: Richard T. Johnson, John W. Griffin and Justin C. McArthur. In press.

Transverse Myelitis

KERR DA. 2001. Therapeutic approaches to Transverse Myelitis. Current Therapy in Neurologic Disease. Eds: Richard T. Johnson and John W. Griffin.

Irani DN and KERR DA. 2000. 14-3-3 protein in the cerebrospinal fluid of patients with acute transverse myelitis. Lancet; 355 (9207): 901.

KERR DA* and Ayetey H. 2002. Immunopathogenesis of transverse myelitis. Current Opinion in Neurology; 15(3): 339-347.

KERR DA*, Barnes G, Benjamin S, Bowen JD, Cutter N, de Lateur BJ, Dietrich WD, Dowling MM, Griffin JW, Hummers L, Irani, D, Jorens PG, Kaplin AI, Katz JD, Krishnan C, Levy CE, Lucchinetti C, et al. 2002. Proposed diagnostic criteria and nosology of acute transverse myelitis. Neurology; 59: 499-505.

KERR DA*. 2003. Proposed diagnostic criteria and nosology of acute transverse myelitis. Correspondence. Neurology; 60: 730-731.

Krishnan C, Malik JM and KERR DA*. 2004. Venous Hypertensive Myelopathy as a Potential Mimic of Transverse Myelitis. Spinal Cord; 42: 261-264.

Hummers LK, Krishnan C, Casiola-Rosen L, Rosen A, Morris S, Mahoney JA, KERR DA, and Wigley FM. 2004. Recurrent Transverse Myelitis Associates with Anti-Ro (SSA) Autoantibodies. Neurology; 62: 147-149.

Chitra Krishnan, Adam I. Kaplin, Deepa M. Deshpande, Carlos A. Pardo and Douglas A. KERR. 2004. Transverse Myelitis: Pathogenesis, Diagnosis and Treatment. Frontiers in Bioscience; 9:1483-1499.

Douglas A. KERR*, Chitra Krishnan, Adam I. Kaplin, Deepa M. Deshpande, and Carlos A. Pardo. 2004. Transverse Myelitis: Clinical Manifestations, Pathogenesis, Management. Inflammatory Disorders of the Nervous System: Pathogenesis, Immunology and Clinical Management. Eds: A. Minagar and J.S. Alexander. Humana Press. (Book chapter)

Namath S. Hussain BS, Jeffrey Rumbaugh MD PhD, Douglas Kerr MD PhD, Avindra Nath MD, Argye E. Hillis MD. 2005. Effects of Prednisone and Plasma Exchange on Cognitive Impairment in Hashimoto Encephalopathy. Neurology; 64(1):165-6.

Adam I. Kaplin, Chitra Krishnan, Deepa M. Deshpande, Carlos A. Pardo and Douglas A. KERR. 2005. Diagnosis and Management of Acute Myelopathies. Neurologist; 11:2-18.

KERR DA, Krishnan, C and Pidcock, F. Acute Transverse Myelitis. In: Treatment of Pediatric Neurological Disorders; chapter 64 pp 445- 451. Eds: Singer H, Kossoff E, Hartman A and Crawford T. Taylor and Francis Group, Boca Raton, FL (Book chapter).

Krishnan C, Kaplin AI, Graber JS, Darman JS, and KERR DA. 2005. Recurrent transverse myelitis following neurobrucellosis: Immunologic features and beneficial response to immunosuppression. Journal of Neurovirology; 11 (2): 225-231.

KERR DA*, Calabresi PA, Deshpande DM, Darman JS et al. 2005. Conference Report - 2004 Pathogenesis of Rare Neuroimmunologic Disorders Hyatt Regency Inner Harbor, Baltimore, MD, August 19th 2004–August 20th 2004. Journal of Neuroimmunology; 159: 3-11.

Adam Kaplin, Julie Farace, Chitra Krishnan, Sanjay Keswani and Douglas KERR. Transverse Myelitis. AAN Continuum Life Long Learning in Neurology - Spinal Disorders Course. In press.

Chitra Krishnan and KERR DA*. Idiopathic Transverse Myelitis. Archives of Neurology: Seminal Citations. In press.

Krishnan C, Kaplin AI, Pardo C, KERR DA and Keswani SC. Demyelinating Disorders - Update on Transverse Myelitis. Current Neurology and Neuroscience Reports. In press.

Deshpande DM, Krishnan C, and Kerr DA*. Transverse Myelitis after Lumbar Steroid Injection in a Patient with Behcet's disease. Spinal Cord. In press.

AI Kaplin, C. Krishnan, DM Deshpande, JS Darman, CA Pardo, DA KERR*. Transverse Myelitis Associates with Elevated Spinal Fluid Interleukin-6 Levels. Neurology. In Review.

Adam I. Kaplin, Deepa M. Deshpande, Erick Scott, Chitra Krishnan, Jessica S. Darman, Irina Shats, Tara Martinez, Jennifer Drummond, Sonny Dike, Mikhail Pletnikov, Sanjay C. Keswani, Timothy H. Moran, Carlos A. Pardo, Peter A. Calabresi, Douglas A. Kerr. Interleukin-6 induces regionally selective spinal cord injury in patients with the neuroinflammatory disorder Transverse Myelitis. Journal of Clinical Investigation. In review.

David Irani, Caroline Anderson, Rebekah Gundry, Robert Cotter, Stacy Moore, Douglas KERR, Peter Calabresi, Avindra Nath. Cleavage of Cystatin C in CSF is a biomarker of Multiple Sclerosis. Neurology. In review.

Krishnan C., Kaplin AI, Harper JM, and KERR DA*. Recurrent Transverse Myelitis with Elevated CSF IL-6 Treated with Plasma Exchange and Mycophenolate. Journal of Neurology. In Review.

Multiple Sclerosis

Wilken JA, Kane R, Quig ME, KERR DA et al. 2001. Neuropsychological assessment of multiple sclerosis patients: A validation study of an automated, computerized battery. Ann Neurol; 50 (3): S57-S58 Suppl.

Wilken JA, Kane R, Sullivan CL, Wallin M, Usiskin JB, Quig ME, Simsarian J, Saunders C, Crayton H, Mandler R, KERR D, Reeves D, Fuchs K, Manning C and Keller M. 2003. The utility of computerized neuropsychological assessment of cognitive dysfunction in patients with Relapsing-Remitting Multiple Sclerosis. Multiple Sclerosis; 9 (2): 119-127.

Apoptosis/Motoneuron degeneration

- Chau BN, Cheng EH, KERR DA and Hardwick JM. 2000. Aven, a novel inhibitor of caspase activation, binds BCL-XL and Apaf-1. Mol. Cell; 6 (1): 31-40.
- KERR DA, Nery JP, Traystman RJ, Chau BN and Hardwick JM. 2000. Survival motor neuron protein modulates neuron-specific apoptosis. Proc Natl Acad Sci U S A; 97(24):
- Fannjiang Y, Kim CH, Hagan RL, Zou S, Lindsten T, Thompson CB, Mito T, Traystman RJ, Larsen T, Griffin DE, Mandir AS, Dawson TM, Dike S, Sappington AL, KERR DA, Jonas EA, Kaczmarek LK, Hardwick JM 2003. BAK alters neuronal excitability and can switch from anti- to pro-death function during postnatal development. Development Cell; 4(4): 575-585.
- KERR DA*, Larsen T, Cook SH, Fannjiang YR, Choi E, Griffin DE, Hardwick JM, Irani DN. 2002. BCL-2 and BAX protect adult mice from lethal *Sindbis* Virus infection but do not protect spinal cord motor neurons or prevent paralysis. Journal of Virology; 76(20): 10393-10400.
- Darman JS, Backovic S, Dike S, Maragakis NJ, Krishnan C, Rothstein JD, Irani, DN and KERR DA*. 2004. Viral induced spinal motoneuron death is non-cell autonomous and involves glutamate excitotoxicity. Journal of Neuroscience; 24 (34): 7566-75.
- KERR DA*, Fannjiang YR, Irani DN and Hardwick JM. Modulation of motor neuron injury in vivo and in vitro by overexpression of SMN protein. Manuscript in preparation.

Stem Cells in Motoneuron Disease

- KERR DA*, Llado J, Shamblott MJ, Maragakis NJ, Irani DN, Crawford TO, Krishnan C, Dike S, Sappington A, Gearhart JD and Rothstein JD. 2003. Human embryonic germ cell derivatives facilitate motor recovery of rats with diffuse motor neuron injury. Journal of Neuroscience; 23(12):5131-5140.
- James A. Harper, Chitra Krishnan, Jessica S. Darman, Deepa M. Deshpande, Schonze Peck, Irina Shats, Stephanie Backovic, Jeffrey Rothstein, DA KERR*. 2004. Axonal Growth of Embryonic Stem Cell-Derived Motoneurons *in vitro* and in motoneuron-injured Adult Rats. Proceedings of the National Academy of Science; 101(18): 7123-7128.
- Maragakis NJ, Rao MS, Llado J, Wong V, Xue H, Pardo A, Herring J, KERR DA, Coccia C and Rothstein JD. 2005. Glial restricted precursors protect against chronic glutamate neurotoxicity of motor neurons in vitro. Glia; 50 (2): 145-159.

PRESENTATIONS

Invited symposium speaker

- Spinal Muscular Atrophy International Meeting, 1999, 2000, 2001, 2002, 2003, 2004- Invited speaker and roundtable discussant.
- Lead presenter and program co-director, California Transverse Myelitis Conference, hosted by the Cody Unser First Step Foundation and Reeve-Irvine Research Center, 2002. University of California, Irvine.

- Transverse Myelitis Association International Symposium, August, 1999 and August 2001 - Keynote speaker and roundtable discussant.
- Project ALS Symposium, Speaker and Roundtable Discussant, 2000, 2001, 2002.
- Neurological Information Day for Health Care Professionals, MS Society of Ireland, Speaker, July 2002, Galway, Ireland.
- Society for Neuroscience, Platform Presentation, November 2000, New Orleans LA.
- Society for Neuroscience, Poster Presentation, November 2001, San Diego, CA.
- Society for Neuroscience, Poster Presentation, November 2002, Orlando, FL.
- NINDS/ANA Career Development Symposium, Poster presentation, October 2002, New York.
- Neurogenesis in the adult mammalian spinal cord. Packard ALS Center Symposium, Platform presentation, October 2002, Baltimore, MD.
- Multiple sclerosis: new criteria and when to start treatment. Speaker, Symposium for Primary Care Physicians, December 2002, Baltimore, MD.
- Keynote address: Vincent DuVigneaud Research Symposium, Cornell University, May 2003, New York.
- Fight SMA International Conference: Stem cells and motoneuron disease. June 2003. Baltimore, MD.
- Participant and Speaker: In vitro and in vivo application of embryonic stem cells derived motor neurons. Workshop on International Networking for Stem Cell Research Targeting Neural Repair and Development. Sponsored by the NIH and Arvid Carlsson Foundation, September 2003. Gothenburg, Sweden.
- Chair of session on "The impact of neurological diseases and the aging process on HIV-associated CNS disease," 5th International Symposium for Neurovirology, September 4, 2003, Baltimore, MD.
- Participant, Banbury Center Conference on Spinal Muscular Atrophy: What is the Molecular Basis of Neuron Loss? March 2004, Cold Spring Harbor Laboratory, NY.
- Speaker. Axonal growth of embryonic stem cell-derived motoneurons in the adult mammalian nervous system. Robert Packard Center for ALS Research. March 2004. Baltimore, MD.
- Director of course, "Diagnosis and Management of Acute Myelopathies," American Academy of Neurologists, April 2004, San Francisco, CA
- Distinguished lecturer in the Annual Spinal Cord Research techniques Course, Reeve-Irvine Research center, July 2004, Irvine, CA.
- Spinal Muscular Atrophy International Meeting. Embryonic Stem cell derived motoneurons from SMA mice. June 2004, Shaumburg, IL.
- Fight SMA International Conference: Stem cells and motoneuron disease. June 2004. Washington DC.
- Speaker. IL-6 mediated neural injury in transverse myelitis. Rare Neuroimmunologic Disorders Symposium. August 2004. Baltimore, MD
- Speaker. Transverse Myelitis. Rare Neuroimmunologic Disorders Symposium. August 2004. Baltimore, MD
- Speaker. Stem cells and neurogenesis. Rare Neuroimmunologic Disorders Symposium. August 2004. Baltimore, MD
- Keynote speaker. Embryonic Stem Cell Derived Motoneurons. David Bodian Symposium, September 26, 2004, Baltimore, MD
- Participant. Paralysis Task Force Workshop jointly sponsored by the CDC and the Christopher Reeve Paralysis Foundation. September 27, 2004. Washington, DC.
- Speaker. Stem cell research and Multiple Sclerosis. National Multiple Sclerosis Society – MD chapter Annual Research Symposium. October 23, 2004 Baltimore, MD
- Speaker. Neural Transplantation in Motor Neuron Diseases. 7th International Congress-Cell

Transplant Society. Boston. November 2004.

Abstracts and poster presentations

- Maragakis NJ, Teng YD, KERR DA, et al. 2000. Stem cell transplantation: In vitro and in vivo models of motor neuron disease - Approaches for treating amyotrophic lateral sclerosis. Ann Neurol; 48 (3): 197.
- Hummers LK, Krishnan C, Casciola-Rosen L, Rosen A, Morris S, Mahoney JA, KERR DA, and Wigley FM. 2002. Recurrent transverse myelitis associates with anti-Ro (SSA) autoantibodies. Arthritis Rheum; 46 (12): SY20.
- Irani D, KERR DA*. 2003. Inhibition of host immune responses prevents paralysis and death in a murine model of alphavirus encephalitis. FASEB J; 17 (7): C23-C24.
- Krishnan C, Kaplin AI, Calabresi PA, KERR DA. 2004. Clinical characteristics and prognostic factors in 170 patients with idiopathic transverse myelitis. Neurology; 62 (Suppl 5):A231. Abstract.
- 56th American Academy of Neurology Annual Meeting. Poster Presentation. Krishnan C, Kaplin AI, Calabresi PA, KERR DA. Clinical Characteristics and Prognostic Factors in 170 Patients with Idiopathic Transverse Myelitis. April 2004. San Francisco, CA
- 56th American Academy of Neurology Annual Meeting. Poster Presentation. Kaplin AI, Krishnan C, KERR DA. Immune-mediated Depression and Cognitive Impairment in Transverse Myelitis (TM) and Multiple Sclerosis (MS). April 2004. San Francisco, CA
- 56th American Academy of Neurology Annual Meeting. Poster Presentation. Deshpande DM, Kaplin AI, Krishnan C, Darman JS, Harper JM, Shats I, Calabresi PA and KERR DA. Immunopathogenesis of Interleukin-6 Mediated Spinal Cord Cellular Injury in Models of Transverse Myelitis. April 2004. San Francisco, CA
- 56th American Academy of Neurology Annual Meeting. Poster Presentation. Kaplin AI, Krishnan C, KERR DA. Spinal Fluid Interleukin-6 Levels in Transverse Myelitis: Correlation with Nitric Oxide Generation and Clinical Disability. April 2004. San Francisco, CA
- Rare Neuroimmunologic Disorders Symposium. Poster Presentation. Thomas K, Krishnan C, Calabresi PA and KERR DA. Treatment in Transverse Myelitis: A retrospective study comparing intravenous steroids, plasma exchange and cyclophosphamide. August 2004. Baltimore, MD

Grand Rounds and lecture presentations

- Neuro-degeneration and neuro-regeneration of the spinal cord. Grand Rounds, June 2001, University of Kentucky, KY.
- Acute myelopathies. Grand Rounds, June 2001, Johns Hopkins Department of Anesthesiology and Critical Care Medicine, Baltimore, MD.
- Mechanisms of motor neuron loss in spinal cord. Grand Rounds, June 2001, Temple University, Philadelphia, PA.
- Neuro-degeneration and neuro-regeneration of the spinal cord. Grand Rounds, July 2001, Johns Hopkins Department of Neurosurgery, Baltimore, MD.
- Cerebrovascular emergencies. Lecture on Spinal vascular malformations, September 2002, Johns Hopkins University School of Medicine, Baltimore, MD.
- Stem cells in neurologic disease. Lecture, Sunderland Society, October 2002, Baltimore, MD.
- Neurodegeneration and neuroregeneration of the spinal cord. Grand Rounds, Feb 14, 2003, Vanderbilt University, TN.
- Acute Transverse Myelitis. Grand Rounds, October 2003. Good Samaritan Hospital, Baltimore, MD
- Stem cells in neurologic disease. Grand Rounds, February 2004. Johns Hopkins Department of Psychiatry, Baltimore, MD.

- Stem cells in neurologic disease. Grand Rounds, April 2003 and 2004, Union Memorial Hospital, Baltimore, MD.
- Causes and clinical management of acute myelopathies. Lecture, Meet the Professor Sessions, 49th Annual Topics in Clinical Medicine, May 2004, Johns Hopkins University, Baltimore, MD.
- Neurodegeneration and regeneration in the spinal cord. Grand rounds, June 2004 Emory University, Atlanta, GA.
- Neurodegeneration and regeneration in the spinal cord. Grand rounds, September 2004 University of Pennsylvania, Philadelphia, PA.
- Approach to Acute Myelopathy. Neurology Grand Rounds, January 2005, University of Maryland School of Medicine, Baltimore, MD
- Neurodegeneration and regeneration in the spinal cord. Neurosurgery Grand rounds, March 2005, Johns Hopkins University School of Medicine, Baltimore, MD
- Inflammatory neurodegeneration of the spinal cord. Neurosurgery and Rehabilitation Medicine Grand Rounds. April 2005, Shriners Hospital for Children, Philadelphia, PA.

Course Director

- First International Transverse Myelitis Association Symposium, Seattle WA 1999
- Second International Transverse Myelitis Association Symposium, Baltimore MD 2001
- Children's Transverse Myelitis Workshop, Columbus OH 2003
- Neurology for the Primary Care Practitioner, CME, Baltimore MD 2003
- Rare Neuroimmunologic Disorders, Baltimore MD 2004
- Neurology for the Primary Care Practitioner, CME course, Baltimore, MD 2004

TEACHING/EDUCATION

Classroom instruction

Stem Cells: Biology and Application

Lecturer – March 2005 (Two hour lecture on the biology of stem cells and its application to an advanced graduate class in the School of Medicine, Johns Hopkins University).

Advanced Virology (260.624)

Instructor – 1999-2003 (Two hour lecture on *papovaviruses* to second year graduate students)
Course Director – 2004 – present

Introduction to Biomedical Sciences (260.600)

Instructor since 1999 (One hour lecture and one hour lab session to entering graduate students on localization in Neurology/Neuroscience)

Neurology

Faculty - 1999 to present (Two hour lecture on Neuropathology, with 30 hours of small group lab sessions. Focus on neurologic localization, and clinical problem solving with pathologic correlation)

Neurology Clerkship

Faculty - 1999 to present

Advanced Neurology Clerkship (E1)

One hour lecture on transverse myelitis and acute myelopathies to rotating third year medical students (4 times per year).

Laboratory research

For undergraduate students - Laboratory research on transverse myelitis (academic year September – May). Study of biological mechanisms and development of a model of transverse myelitis in rodents.

Clinical instruction

Neurology residents: Annual lectures on multiple sclerosis, differential diagnosis of demyelinating diseases and transverse myelitis (3 hours). Additionally, as ward/consult attending, didactic and problem based session for medical students and on-service residents (one hour, five times per week, for four weeks).

Non-neurology residents: Half day per week teaching Psychiatry and Physical Medicine and Rehabilitation residents who elect to rotate with me in the outpatient setting (approximately 35-40 weeks/year).

Mentoring

Academic advising:

Pre-doctoral trainees

Name	Training Period	Title of Research Project	Current Position
Eunkyung Choi	2000-2002	Truncated SMN forms cause neuronal apoptosis	PhD student – Cornell University
Harold Ayetey	2001-2002	Immunopathogenesis of Transverse Myelitis and Animal Models of Transverse Myelitis	MB/PhD at Cambridge University
Jocelyn Nery	1999-2001	Role of SMN in Cell Cycle Progression	Researcher at Genentech
James Harper	2002-2004	Embryonic Stem Cell-Derived Motoneuron transplantation in adult mammalian systems	MD/PhD student at University of Washington, St. Louis
Stephanie Backovic	2002-2003	Myelin-axon signaling	PhD student at Cornell University
Tara Martinez	2003-	Embryonic Stem Cell-Derived Motoneurons as a model system of Spinal Muscular Atrophy	Current
Erick Scott	2003-	Inflammatory Neurodegeneration in the spinal cord	Current
Jessica Darman	2002-	Glial-Mediated Excitotoxicity of Neurons	Current

Post-doctoral trainees

Name	Training Period	Title of Research Project	Current Position
Deepa Deshpande	2003-	Development of Motoneuron culture models	Current
Hong Li	2004	Transplantation of ES cell-derived motoneurons into paralyzed rats	Post-doctoral fellow, Johns Hopkins Hospital, Department of Pathology
Yun Sook Kim	2005-	Cell culture models of SOD1	Current

Thesis committees: Ting-Ting Sheu (2000-2002); Patty Zhang (2002-present, alternate); Yih Ru Fannjiang (2002-present); Jessica Darman (2001-present; thesis advisor); Rebecca Burdenick-Kerr (2004-present).

CME: Teach average of 30 hours of CME credit per year to primary practitioners.