

Curriculum Vitae

Peter Roald Bergethon, M.D.

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Head, Laboratory for Intelligence Modeling and Neurophysics
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Education:

1977 B.A. Williams College (Biology, Honors in Neurocybernetics)
1978 Pennsylvania State University (Chemistry, post-Baccalaureate)
1983 M.D. Jefferson Medical College

Postdoctoral Training - Internship and Residencies:

1983-1984 Intern in Medicine, Boston City Hospital, Boston, MA
1984-1986 Resident in Internal Medicine, Boston City Hospital
1986-1991 Physician-Scientist Training, Boston University, Biophysical Chemistry
1991-1992 Resident in Neurology, Boston City Hospital
1992-1994 Chief Resident in Neurology, Boston City Hospital
1994-1995 Clinical Neurophysiology (EEG), Lahey Clinic-Hitchcock Medical Center

Licensure and Certification:

1984 Diplomate, National Board of Medical Examiners
1986 Massachusetts Medical License #55896
1986 Diplomate, American Board of Internal Medicine, #108040
1995 Board Eligible in EEG (ABCN)
1996 Diplomate, American Board of Psychiatry and Neurology, # 42772
2000 Pennsylvania Medical License
2006 Recertified Diplomate, ABPN # 42772 (Neurology)

Academic Positions Held:

1986-1991 Clinical Instructor in Medicine, Boston University School of Medicine
1986-1988 Research Instructor in Biochemistry, Boston University School of Medicine
1989-1997 Research Assistant Professor in Biochemistry, BU School of Medicine
1991-1994 Teaching Fellow in Neurology, BU School of Medicine
1994-1997 Assistant Professor in Neurology, BU School of Medicine
1998-2005 Adjunct Assistant Professor in Biochemistry, BU School of Medicine
2002-2005 Associate Professor in Neurology, Tufts University School of Medicine
2004-2005 Adjunct Associate Professor in Anatomy and Neurobiology, Boston University School of Medicine
2005-present Adjunct Associate Professor in Neurology, Tufts U School of Medicine
2005-present Adjunct Associate Professor in Biomedical Engineering, Tufts University

Curriculum Vitae (9/2011)

Peter Roald Bergethon

2005-2011	Associate Professor in Biochemistry, BU School of Medicine
2005-2011	Associate Professor in Anatomy and Neurobiology, BU School of Medicine
2011-present	Professor in Biochemistry, BU School of Medicine
2011-present	Professor in Anatomy and Neurobiology, BU School of Medicine

Hospital/Medical Center Appointments

1994-1997	Director, Electroencephalography and Electrophysiology Laboratory, Boston City Hospital
2001-2002	Associate in Neurology, Geisinger Medical Center, Danville, PA
2001-2002	Head of Neuroscience Research, Neurology Dept, Geisinger Medical Center
2001-2002	Director of Stroke and Brain Injury Program, Geisinger Medical Center
2002-2005	Director Clinical Neurophysiology Laboratory, Tufts-New England Medical Center, Boston, MA
2002-2005	Director of Clinical Neurology, Tufts-New England Medical Center
2004-2005	Interim Co-Chief of Pediatric Neurology, Tufts-NEMC
2005-present	Consulting Staff Neurologist, Tufts Medical Center, Boston, MA
2005-present	Director, Neuroscience Interdisciplinary Modeling and Simulation Laboratory, Boston University Medical Center
2006-2009	Consulting Neurologist, Michael Lindemann Mental Health Center
2009-present	Consulting Neurologist, Solomon Carter Fuller Mental Health Center
2009-present	Research Director, Consortium for Public Health and Medical Preparedness: Boston, Tufts, Yale, West Virginia and George Mason Universities

Awards and Honors:

1968	God and Country Award, Boy Scouts of America
1969	Eagle Scout Award, Boy Scouts of America
1969	Order of the Arrow, Ordeal Member, Boy Scouts of America
1970	Order of the Arrow, Brotherhood Member, Boy Scouts of America
1971	National Honor Society
1972	National Football Foundation Scholar-Athlete
1973	National Merit Scholar Finalist
1975	Williamstown Theatre Summer Scholarship
1977	Graduated with Honors in Biology (Theoretical Neuroscience), Williams College, Thesis: <i>Simulation of potential coding models in visual fields</i>
1982	Hobart Emory Hare Medical Honor Society, Jefferson Medical College
1983	S. MacCuen Smith Memorial Prize in Otology, Jefferson Medical College
1983	The Lange Medical Publications Prize, Jefferson Medical College
1986	Physician-Scientist Award Recipient, National Institutes of Health
1988	Whitaker Health Sciences Award
1992	Stanley Cobb Award, Boston Society of Neurology and Psychiatry
1992	Who's Who in the East
1995	Founder's Award, American Academy of Neurology
2002	Who's Who in Medicine and Healthcare
2005	Who's Who in American Education
2005	Election to the American Neurological Association
2006	Who's Who in Science and Engineering
2005-present	Listed in Best Doctors in America

Curriculum Vitae (9/2011)

Peter Roald Bergethon

2006-present Selected "Boston Magazine" Best Doctors (Neurology)

Academic and Institutional Committees:

1987-1991 Member, Advisory Board, Program in Biomedical Laboratory and Clinical Sciences, Boston University School of Medicine and Metropolitan College
1988-1991 Member, External Liaisons Committee, Department of Biochemistry, Boston University School of Medicine (BUSM)
1990-1991 Member, Library Committee, Department of Biochemistry, BUSM
1989-1990 Member, Subcommittee on Appeals of the Student Promotions Committee, BUSM
1990-1991 Member, Admissions Committee of the Engineering-Medicine Program, Boston University School of Medicine and College of Engineering
1990-1991 Member, Programs and Promotions Committee of the Engineering-Medicine Program, BU School of Medicine and College of Engineering
1991 Member, Admissions Committee for the MD-PhD Program, BUSM
1993-1994 Member, Graduate Medical Education Committee, Boston City Hospital
1995-1996 Member, Boston City Hospital Fund for Excellence Scientific Review Committee
2003 Psychiatry Chair Search Committee, Tufts University School of Medicine
2003 Pediatric Neurology Chief Search Committee, Tufts U School of Medicine
2004 Chairman, Clinical Neurosciences Strategic Planning Committee, Tufts-New England Medical Center
2005 Neurosurgery Chair Search Committee, Tufts U School of Medicine
2005-2007 Anatomy and Neurobiology Seminar Series Coordinator, BU School of Med (BUSM)
2005 Steering Committee, Division of Graduate Medical Sciences, BU School of Medicine
2006-2009 Admissions Committee, Boston University School of Medicine
2006-2009 MD-PhD Co-Advisor, Boston University School of Medicine
2006- MD-PhD Admissions Review Committee, Boston University School of Medicine
2006- MD-PhD Executive Committee, Boston University School of Medicine
2007- Promotions Committee, Department of Anatomy and Neurobiology, BUSM
2007- Qualifying Exam Committee, Department of Anatomy and Neurobiology, USM
2008- McNary Graduate Student Teaching Award Committee, Department of Anatomy and Neurobiology, BUSM
2009-2010 MD-PhD Director Search Committee, Boston University School of Medicine
2010-present MD-PhD Admissions Interviewer, Boston University School of Medicine

Consulting and Professional Activities

1985-present Medical-legal and chemical consulting
1990-1993 Test item writer for the MCAT (Medical College Admissions Test), American College Testing Service
1994- Reviewer for the journal "Amyloid"
1994-1997 Study neurologist for the SPAF III (Stroke Prevention in Atrial Fibrillation)
1995- present Reviewer for the "New England Journal of Medicine"
1996-1999 Editorial Board of the journal "Amyloid"
2002-2008 Oral Board Examiner for the American Board of Psychiatry and Neurology
2003 Reviewer for "Quarterly Review of Biology"
2006 Reviewer for "Lung Cancer"

Curriculum Vitae (9/2011)

Peter Roald Bergethon

- 2008-present Scientific Abstract Reviewer: American Neurological Assoc Annual Meeting
- 2008-present Reviewer for “BMIC 20XX” (Biomedical Informatics and Cybernetics)
- 2009-present Reviewer for “Clinical Neurophysiology”
- 2011- Reviewer for “World Medical & Health Policy Journal”

Business Activities

- 1997-present Founder and Director of Symmetry Research, Inc.
- 1998- 2001 Chairman, CEO, and Chief Science Officer, Symmetry Learning Systems, Inc.
- 2001-present President, Symmetry Learning Press, A division of Symmetry Research, Inc.

Professional Societies: Memberships, Offices and Committee Assignments

- 1982-present American Association for the Advancement of Science, Member
- 1987-present American Chemical Society, Member
- 1989-present The Electrochemical Society, Member
- 1992 The American Academy of Neurology, Member
 - 2005 – Member of Education Committee
 - 2005 – Member of Distance Learning Subcommittee
 - 2007 – Course director and faculty member, The Scientific Basis of Neurology
 - 2007 – Chairman, Distance Learning Subcommittee
 - 2007 – Chairman, Performance In Practice Working Group
 - 2008 – Course Director and faculty member, Doctor, What’s Wrong with Me? Explaining the Neuroscience of Disease to Patients
- 1992-present Boston Society of Neurology and Psychiatry, Member
 - 2003 – Executive Committee
 - 2004-2006 – President
 - 2007 – Executive Committee
- 1994-2000 American Electroencephalographic Society, Member
- 1995-2000 International Society of Amyloidosis, Member
- 1995-2000 Roxbury Clinical Record Club, Member
- 1996 Society of Clinical Neurologists, Member,
 - 2001 - 2006 – Councilor
 - 2007 - 2009 – President-Elect
 - 2009 - 2011 – President
- 1999-2001 National Science Teachers Association, Member
- 1999-2001 Massachusetts Science Teachers Association, Member
- 1999-2001 Association for Supervision and Curriculum Development, Member
- 2001-present Biophysical Society, Member
- 2001-present Society for Neuroscience, Member
- 2004-present American Society for Biochemistry and Molecular Biology, Member
- 2005-present American Neurological Association, Active Member
- 2011-present Institute of Electrical and Electronics Engineers, Member

National and International Advisory Committees

- 2007-present Tufts Health Plan, *Neurology Policy Advisory Committee.*

Curriculum Vitae (9/2011)

Peter Roald Bergethon

- 2007 National Science Foundation Workshop, *Neuroscience and Mathematics: Identifying Gaps to Bridge*.
- 2007 World Congress of Neurology, *Education Committee for 2009 meeting*, Bangkok, Thailand
- 2007 National Institutes of Health, NIA, Co-Chair, *Workshop in Methodological Issues in Randomized Clinical Trials in the Elderly 2007*
- 2008 Research Advisory Committee on Gulf War Veteran's Illnesses, United States Departments of Veteran's Affairs, *BU Discussion Group on Gulf War Illnesses*.

Curriculum Vitae

Funded Grants:

Redox Effects in a Model of Aortic Tissue Injury, National Institutes of Health, NHLBI, Physician-Scientist Award, 1986-1991, **PI**, Total Support: \$333,840.

Development of an Immuno-Electrochemical Electrode Method for the Continuous Monitoring of Tropoelastin in Cell Culture, Whitaker Health Sciences Fund, 1988-1989, **PI**, Total Support: \$ 32,000.

Development of an Artificial Dura, Community Technology Foundation, 1990-1991, **PI**, Total Support: \$ 12,280.

Research Initiative Funds, Boston City Hospital Fund for Excellence, 1994-95, **PI**, Total Support: \$ 38,000

BSC CityLab Satellite: Biotech for Students and Teachers, National Institutes of Health, Science Education Partnership Award, 2000-2003, Consultant, Total Grant Support: \$975,270.

Piloting An Integrated Stroke Prevention-Rehabilitation Clinic Using a Cognitive Dynamics Approach, Degenstein Award, 2001-2002, **PI**, Total Support \$70,000.

Electrokinetic Effects in Atherosclerosis, Tufts-New England Medical Center Research Support Grant, 2002-2004, **PI**, Total Support \$75,000

Efficacy of Lev tiracetam for Seizure Prevention in Transplant Patients, UCB-Pharma, 2003-2004, **PI**, Total Support \$ 15,000

Psychophysiological Measurement of the Cognitive Effects of Lev tiracetam on Attention to Novel and Targeted Stimuli, UCB-Pharma, 2006-2007, **PI**, Total Support \$ 68,000

Carnegie Initiative on the Doctorate (in Neuroscience), Carnegie Foundation, Co-PI, 2003-2007.

Micronutrients, Stroke and Cognition in Aging, NIH-NIA 7R01AG021790, Co-PI, 2002-2007. Total Support \$ 4,480,000

Training Programs for Interdisciplinary Systems Research, NIH-NIDDK R13DK069541, **PI**, 2004-2008. Total support \$648,000

Curriculum Development in Biotechnology for CityLab, NIH-NIGMS, SEPA, Co-PI, 2004-2009, Total Support \$1, 640,000.

A device for imaging the neuroanatomy and transport function of peripheral nerves, CIMIT, **PI**, 2007-2008, Total Support \$70,000.

Detection and Mechanisms of Brain Injury Following Traumatic Brain Insult, Investigator, Kiwanis Pediatric Trauma Institute, 2008 – 2009, Annual support \$100,000.

Biological Mechanism of Fast Near-Infrared Signals in Peripheral Nerves R01-NS-059933 NIH-NINDS, **PI**, 2008 – 2012, Total Support \$1,608,000.

Multi-Optode Probe for Evaluation of Diabetic Neuropathy, CIMIT **PI**, 2009-2011. Total support \$140,000.

Curriculum Vitae (9/2011)
Peter Roald Bergethon

Effects of environmental mercury on brain integrity and white matter in Rhesus monkeys,
Investigator, Boston University Center for Neuroscience Seed Grant, 2008-2010 Total support
\$170,000.

CityLab promotes understanding of clinical trials, NIH-NIGMS, R25 RR 026010, **PI**, 2009-2014.
Total Support: \$1,350,000

Teaching Portfolio

Lecture Instruction

- 1986-2005 *Biophysical Chemistry*, BI 789, Department of Biochemistry, Boston University School of Medicine. (10 students/yr) (12 – 30 contact hours/yr) (60-150 preparation hours/yr)
- 1988 *Introduction to Biomedical Laboratory Sciences*, Program in Biomedical Laboratory and Clinical Sciences, Boston University School of Medicine and Metropolitan College. (40 students) (90 contact hours) (450 preparation hours)
- 1989-1991 *Biochemistry*, ME751, School of Medicine, Boston University School of Medicine. (250 students/yr) (12 contact hours/year) (60 preparation hours)
- 1989-1991 *Proteins*, ME 763, Department of Biochemistry, Boston University School of Medicine (25 students/yr) (6 contact hours/year) (30 preparation hours)
- 1989-1991 *Oral Biology of Connective and Mineralized Tissue*, Harvard School of Dental Medicine, Guest lecturer (30 students/yr) (2 contact hours) (10 preparation hours)
- 1995-1996 *Biology of Disease: Neurology*; Boston University School of Medicine, (150 students/yr) (1 contact hour) (5 preparation hours)
- 1998-2001 *SymmetryScience*, Staff Development Programs, Symmetry Learning Systems (200 students) (18 contact hours) (90 preparation hours)
- 2000-2001 *Science, A Habit of Mind*, CityLab Professional Development Program, Boston University School of Medicine (70 students/yr) (60 contact hours) (300 preparation hours)
- 2001 *Foundations of Neurobiology*, Course Co-director, Department of Anatomy and Neurobiology, Boston University School of Medicine (12 students/yr) (26 contact hours) (110 preparation hours)
- 2002-2004 *Medical Neuroscience, Clinical Case Conferences*, Department of Neuroscience, Tufts University School of Medicine (10 students/yr) (10 contact hours) (5 preparation hours)
- 2002-2004 *Medical Neuroscience, The Thalamus*, Department of Neuroscience, Tufts University School of Medicine (180 students/yr) (1 contact hour) (5 preparation hours)

Curriculum Vitae (9/2011)

Peter Roald Bergethon

- 2003-2006 *Foundations of Neuroscience*, Course director and primary lecturer, Tufts-New England Medical Center Residency Program, (20 students/yr) (24 contact hours) (75 preparation hours)
- 2004 *Fundamentals of Instruction, Rational Neurobiology and Science Education*, Vesalius Program, Boston University School of Medicine, Department of Anatomy and Neurobiology. (5 students) (2 contact hours) (6 preparation hours).
- 2005-present *CMP 230, Pathobiology, Spinal Cord Disease*, Department of Cellular and Molecular Physiology, Sackler School of Graduate Medical Sciences, Tufts University, (10 students, 2 contact hours, 6 preparation hours).
- 2005-2010 *Dental Biochemistry: Protein Structure Section*, MD512/OH751 BU School of Dental Medicine, (150 students, 10 contact hours, 30 preparation hours).
- 2005-present *Introduction to Interdisciplinary Systems Science: Dynamical Modeling* GMS AN820 (12 students, 36 contact hours, 150 hours preparation) BU School of Medicine.
- 2006-present *Teaching in the Biomedical Sciences*. GMS AN806 (12 students, 24 contact hours, 40 preparation hours) BU School of Medicine.
- 2006-2007 *Systems and Behavioral Neuroscience PS738/BI756/AN811* (20 students, 10 contact hours, 40 preparation hours) BU School of Medicine.
- 2007- *Biochemistry*, MED MS127/GMS751 Course Co-Manager, *Molecular Medicine Correlation Lectures*, (Two cycles: 131 students, 9 contact hours and 170 students, 6 contact hours: 60 preparation hours) BU School of Medicine.
- 2007-present *Methods in Neuroscience* GMS AN718 *Photons, Electrons and Neurons* (10 students, 2 contact hours, 10 preparation hours) BU School of Medicine.
- 2008-present *Biochemistry*, MED MS127/GMS751 *Molecular Medicine Correlation Lectures*, (Two cycles each year: 131 students, 9 contact hours and 170 students, 6 contact hours: 60 preparation hours) BU School of Medicine.
- 2008-2010 *Systems and Behavioral Neuroscience PS738/BI756/AN811* AN Course Co-Manager. (20 students, 60 contact hours, 3000 preparation hours) BU School of Medicine.
- 2008-present *Introduction to Neuroscience*, BN 777-779 *Clinical Electrophysiological Techniques: The Science of the Signals and their Interpretation*, (20 students, 2 contact hours, 10 prep hours) BU School of Medicine.
- 2008-present *Methods and Modeling in Molecular Biochemistry*, BI 789, Department of Biochemistry, Boston University School of Medicine. (5 students/yr) (26 contact hours/yr) (150 preparation hours/yr).
- 2008-present *Introduction to the Neurobiology of Education*, GMS AN720, Course director, (11 students, 26 contact hours, 130 preparation hours), Department of Anatomy and Neurobiology, Boston University School of Medicine

Curriculum Vitae (9/2011)
Peter Roald Bergethon

- 2010-present *Gross Anatomy*, MED AN701 *Clinical Correlation Lecture*, (180 students, 1 contact hours, 5 preparation hours) BU School of Medicine.
- 2010-present *Medical Neuroscience*, MED MS133 *Clinical Correlation Lectures*, (180 students, 3 contact hours, 15 preparation hours) BU School of Medicine.

Small Group Instruction

- 1994-1997 *Clinical Neurophysiology and Electroencephalography*, Department of Neurology, Boston City Hospital (40 students/4 yr) (26 contact hours/year) (26 preparation hours)
- 1996-1997 *Quantum Biochemistry*, Department of Biochemistry, Boston University School of Medicine (5 students/yr) (32 contact hours) (160 preparation hours)
- 2000 *The Intelligence Syndrome*, Teachers As Scholars Program, Harvard University Graduate School of Education (25 students/yr) (12 contact hours) (60 preparation hours)
- 2001-present *The Evolution of the Mind*, Teachers As Scholars Program, Harvard University Graduate School of Education (18 students/session: 2 sessions/yr) (20 contact hours/session) (40 preparation hours)
- 2002-2007 *Managing Status Epilepticus*, Neurology Residency Emergency Lecture Series, Tufts University Residency Program in Neurology.
- 2003-2006 *The Neurological Exam*, Department of Medicine Resident Seminars, Tufts-New England Medical Center Residency Program.
- 2006-2007 MED MS132A1 *Integrated Problems*, (6 MD-PhD candidates in the first year of medical school), (50 contact hours/year), (100 preparation hours)
- 2007 *Shattered Minds*, Teachers As Scholars Program, (18 students/session: 2 sessions/yr) (18 contact hours/session) (40 preparation hours)
- 2008-2010 *The Neurological Exam*, MD-PhD Re-entry Training, Boston University School of Medicine (4 students, 3 contact hours, 3 hours prep time).

Clinical Bedside Teaching and Laboratory Instruction

- 1975-1977 *Comparative Anatomy and Physiology*, Laboratory Teaching Assistant, Dept. of Biology, Williams College.
- 1976-1977 *Neurophysiology*, Laboratory Teaching Assistant, Dept. of Biology, Williams College.
- 1985-1986 Teaching Resident, Boston City Hospital, Boston University School of Medicine.

Curriculum Vitae (9/2011)

Peter Roald Bergethon

- 1986-1988 *Physical Diagnosis*, Boston City Hospital, Boston University School of Medicine.
- 1994-1997 Teaching Attending in Neurology, Boston City Hospital, Boston, MA
- 2001-2002 Teaching Attending in Neurology, Geisinger Medical Center, Danville, PA
- 2002-present Teaching Attending in Neurology, Tufts-New England Medical Center, Boston, MA

MAJOR MENTORING ACTIVITIES

Master's Degree (M.S.)

- 1989-1991 Guy Zimbardi, M.S. M.D., Masters in Medical Sciences thesis, dural prosthesis, now private medical practice
- 1989-1991 Joseph Dulac, M.S. M.D., Masters in Medical Sciences thesis, cardiovascular disease and reactive oxygen species, now private medical practice
- 2005-2007 Sushma Devi Agam, M.S., Anatomy and Neurobiology thesis, psychophysical effects of levetiracetam, now teaching staff and laboratory manager at Boston University
- 2007-2009 Aaron Ochoa, M.S., Masters in Medical Sciences thesis, biochemical responses to traumatic brain injury, now medical student at University of Texas
- 2008-2010 Louis Yu, M.S., Anatomy and Neurobiology thesis, tissue culture of primate astrocytes and effects of methyl-mercury on glutathione , now medical student at Boston University
- 2006-2011 Jonathan Scabitch, B.S., Masters in Medical Sciences thesis, EEG coherence in auditory-cortical stimulus, now completing thesis
- 2010-2011 Mitchell Wice, B.S., Masters in Anatomy and Neurobiology thesis, cognitive dynamics of expert learning, now medical student at Boston University
- 2010-2012 Lee Pfaff, B.S., Masters in Anatomy and Neurobiology thesis, electrophysiological basis of electrokinetic effect on endothelial cell membrane potential, now completing thesis

Doctor of Philosophy (Ph.D.)

- 2006- Darshan Trivedi, MD-PhD candidate, Anatomy and Neurobiology, vascular electrokinetic effects on endothelium, now completing PhD thesis
- 2007- Kelley Erb, PhD candidate, Anatomy and Neurobiology, near-infrared measurement in nervous system, now completing PhD thesis
- 2008- Edward Randles, PhD candidate, Biochemistry, nanophotonics for drug delivery, now completing PhD thesis
- 2010- Danielle Farrar, MD-PhD candidate, Anatomy and Neurobiology, intelligence modeling of executive function, now completing PhD thesis
- 2010- Lev Vaisman, MD-PhD candidate, Anatomy and Neurobiology, computational neurology of proprioception, now completing PhD thesis

Neurology Resident Training (ABPN diplomate)

- 1992-1995 Yuval Zabar, MD, Neurology Residency, now Assistant Prof at Tufts University

Curriculum Vitae (9/2011)

Peter Roald Bergethon

1992-1995 Kinan Hreib, MD, Neurology Residency, now Assistant Prof at Tufts University,
1993-1996 Tim Counihan, MD, Neurology Residency, Assistant Prof at University of Rochester,
now medical practice in Ireland
1994-1997 Valerie Reed, MD, Neurology Residency, now medical practice in Ireland
1994-1997 Anna Felix, MD, Neurology Residency, Assistant Prof at University of North Carolina
2001-2004 Matthew Tilem, MD, Neurology Residency, now Assistant Prof at Tufts University
2002-2005 Graham Glass, MD, Neurology Residency, now Assistant Prof at UCSF
2003-2006 James Stankiewicz, MD, Neurology Residency, now Instructor at Harvard University
2004-2007 Lena Zaslavsky, MD, Neurology Residency, now Assistant Prof at Tufts University
2004-2007 Bryan Ho, MD, Neurology Residency, now Assistant Prof at Tufts University
2005-2008 Amy Hessler, MD, Neurology Residency, now Assistant Prof at University of Kentucky

Post-doctoral training

2008-2010 Kevin Hallock, PhD, T32 post-doctoral fellowship, computational modeling of white
matter aging, now Instructor in Anatomy and Neurobiology at Boston University

Faculty mentoring

2010-present Sharon Sagiv, PhD, BU junior faculty mentoring program, epidemiology of toxicants in
neurodevelopment, now Assistant Prof at Boston University

Curriculum Vitae

Bibliography

1. **Bergethon PR**, Factitious V-tach, a high tech caution, *Annals of Internal Medicine*, **107**: 593-594, 1987.
2. Franzblau C, Mogayzel PJ, Faris B, Barone LM and **Bergethon PR**, "Regulation of elastin biosynthesis by vitamins and hormones", in *Elastin and Elastases*, L. Robert and W. Hornbeck, Ed., CRC Press, Boca Raton, 1989.
3. **Bergethon PR**, Mogayzel PJ and Franzblau C, Effect of the reducing environment on the accumulation of elastin and collagen in cultured smooth muscle cells, *Biochemical Journal*, **258**: 279-284, 1989.
4. **Bergethon PR**, Trinkaus-Randall V and Franzblau C, Modified hydroxyethylmethacrylate hydrogels as a modeling tool for the study of cell-substrate interactions, *Journal of Cell Science*, **92**: 111-121, 1989.
5. **Bergethon PR**, Chromatographic identification of pyrroloquinoline quinone by electrochemical detection, *Analytical Biochemistry*, **186**:324-327, 1990.
6. Kindler DD and **Bergethon PR**, Non-toxic and durable salt bridges using hydroxyethylmethacrylate hydrogels, *Journal of Applied Physiology*, **69**:373-375, 1990.
7. **Bergethon PR** and Simons ER, *Biophysical Chemistry, Molecules to Membranes*, Springer-Verlag, New York. 1990.
8. **Bergethon PR**, Altered Electrophysiologic and Pharmacologic Response of Smooth Muscle Cells on Exposure to Electrical Fields Generated by Blood Flow, *Biophysical Journal*, **60**:588-595, 1991.
9. **Bergethon PR**, contributed to: "Metabolism and the Transfer of Energy, Chapter 8: Section on thermodynamics and energetics" in *Life: An Introduction to Biology*, Beck WS et al., Harper and Row Publishers, New York, (1991).
10. Shah MA, **Bergethon PR**, Boak AM, Gallop PM and Kagan HM, Oxidation of peptidyl lysine by copper complexes of pyrroloquinoline quinone and other quinones: A model for oxidative pathochemistry, *Biochimica Biophysica Acta*, **1159**:311-318, 1992.
11. Sabin TD and **Bergethon PR**, Thrombolytic therapy and the urgent treatment of stroke, *Internal Medicine Alert*, **14**: 126-127, 1992.
12. **Bergethon PR** and Sabin TD, Lupus cerebritis: A single entity or an ensemble?, *Internal Medicine Alert*, **14**: 164-165, 1992.
13. **Bergethon PR** and Sabin TD, Improving outcome in acute spinal cord injury, *Internal Medicine Alert*, **14**: 171-173, 1992.
14. **Bergethon PR**, Grand rounds: A Cambodian Woman with an ileo-cecal lesion and meningitis, *Neurology Chronicle*, **2** (3):11-15, 1992.
15. **Bergethon PR** and Sabin TD, Does environmental aluminum contribute to Alzheimer's?, *Internal Medicine Alert*, **15**: 1-2, 1993.
16. Fluckiger R, Paz MA, **Bergethon PR**, Henson E and Gallop PM, Glycine-dependent redox cycling and other methods for PQQ and quinoprotein detection, in *Principles and Applications of Quinoproteins*, Davidson VL, editor. Marcel Dekker, Inc., New York, 1993.

17. **Bergethon PR**, "Generalist's Guide to Neurologic Bedside Evaluation" in Primary Care and General Medicine, Noble J, ed., Mosby-Year Book, Inc., St. Louis (1995).
18. **Bergethon PR**, "Generalist's Guide to Neurodiagnostic Testing" in Primary Care and General Medicine, Noble J, ed., Mosby-Year Book, Inc., St. Louis (1995).
19. McCrone EL, Venna N and **Bergethon PR**, "Infections Involving the Nervous System " in Primary Care and General Medicine, Noble J, ed., Mosby-Year Book, Inc., St. Louis (1995).
20. **Bergethon PR** with Stroke Prevention in Atrial Fibrillation Investigators, Risk factors for thromboembolism during aspirin therapy in patients with atrial fibrillation: The Stroke Prevention in Atrial Fibrillation study, *J Stroke Cerebrovasc Dis*, **5**:147-157, 1995.
21. Bhatia S, **Bergethon PR**, Blease S, Kemper T, Rosiello A, Zimbardi G, Franzblau C and Spatz E , A dural prosthesis using hydroxyethylmethacrylate hydrogels, *J Neurosurg.*, **83**:897-902, 1995.
22. **Bergethon PR** and Sabin TD, The P300 and Vascular Dementia: Not yet ready for prime time, *J Amer Geriatric Soc*, **43**:1311-1313, 1995.
23. **Bergethon PR** with Stroke Prevention in Atrial Fibrillation Investigators, Adjusted-dose warfarin versus low-intensity, fixed-dose warfarin plus aspirin for high-risk patients with atrial fibrillation: The Stroke Prevention in Atrial Fibrillation III randomised clinical trial, *Lancet*, **348**:633-638, 1996.
24. Comenzo RL, Vosburgh E, Simms RW, **Bergethon PR** et al, Dose-intensive Melphalan with blood stem cell support for the treatment of AL amyloidosis: One year follow-up in five patients, *Blood*, **88**:2801-2806, 1996.
25. **Bergethon PR**, Sabin TD, Lewis D, Simms RW, Cohen AS and Skinner M, Improvement in the polyneuropathy associated with familial amyloid polyneuropathy after liver transplantation, *Neurology*, **47**:944-951, 1996.
26. **Bergethon PR** and Sabin TD, The P300 and vascular dementia, *J Amer Geriatric Soc*, **44**:2, 1996.
27. Dubrey S, Davidoff R, Skinner M, **Bergethon PR**, Lewis DL and Falk RH, Progression of ventricular wall thickening following liver transplantation for familial amyloidosis, *Transplantation*, **64**: 74-80 1997.
28. **Bergethon PR**, Review of the *SciProtein* molecular modeling program, *J Chem Inf Comput Sci* , **37**:1196-1197, 1997.
29. **Bergethon PR**, The Physical Basis of Biochemistry: Foundations of Molecular Biophysics, Springer-Verlag, New York, 1998 (1st Printing).
30. **Bergethon PR** with Stroke Prevention in Atrial Fibrillation Investigators, Patients with non-valvular atrial fibrillation at low risk of stroke during treatment with aspirin: The Stroke Prevention in Atrial Fibrillation III Study, *JAMA*, **279**:1273-1277, 1998.
31. Pomfret EA, Lewis WD, Jenkins RL, **Bergethon PR**, Dubrey SW, Resinger J, Falk RH and Skinner M, Effect of orthotopic liver transplantation on the progression of familial amyloidotic polyneuropathy, *Transplantation*, **65**, 918-25, 1998.
32. **Bergethon PR**, Review of "The Molecular and Genetic Basis of Neurological Disease" *Amyloid*, **5**:147-148, 1998.

33. Sabin TD and **Bergethon PR**, "Motor Weakness" in Consultative Hospital Neurology, Samuels M and Feske S, eds, Butterworthe-Heineman, 1999.
34. **Bergethon PR**, Learning the Language of Patterns: The Overview, Symmetry Learning Systems, 1999.
35. **Bergethon PR**, Learning the Language of Patterns: A Teacher's Guided Tour, Symmetry Learning Systems, 1999.
36. **Bergethon PR**, How Can I Discover My World, Let's Learn With Science Series, Symmetry Learning Systems, 1999.
37. **Bergethon PR**, How Can I Describe My World?, Student Journal, Let's Learn With Science Series, Symmetry Learning Systems, 1999.
38. **Bergethon PR**, How Can I Describe My World?, Teacher's Guide, Let's Learn With Science Series, Symmetry Learning Systems, 1999.
39. **Bergethon PR**, The Electric World, Student Science Journal, Symmetry Learning Systems, 1999.
40. **Bergethon PR**, The Electric World, Teacher Guide, Symmetry Learning Systems, 1999.
41. **Bergethon PR**, The World of Gravity, Student Science Journal, Symmetry Learning Systems, 1999.
42. **Bergethon PR**, The World of Gravity, Teacher Guide, Symmetry Learning Systems, 1999.
43. **Bergethon PR**, Sparks to Circuits, Student Science Journal, Symmetry Learning Systems, 1999.
44. **Bergethon PR**, Sparks to Circuits, Teacher Guide, Symmetry Learning Systems, 1999.
45. **Bergethon PR**, The Mystery of the Electric Lemon, Student Science Journal, Symmetry Learning Systems, 1999.
46. **Bergethon PR**, The Mystery of the Electric Lemon, Teacher Guide, Symmetry Learning Systems, 1999.
47. **Bergethon PR**, The Journey Begins, Symmetry Learning Systems, 1999.
48. **Bergethon PR**, Marty's Miraculous Monday, Symmetry Learning Systems, 1999.
49. **Bergethon PR**, Learning the Language of Patterns: Teacher Implementation Manual, Symmetry Learning Systems, 1999.
50. **Bergethon PR**, Learning the Language of Patterns: A Student's Guide, Symmetry Learning Systems, 1999.
51. **Bergethon PR**, Exploring My World, Student Science Journal, Let's Learn With Science Series, Symmetry Learning Systems, 1999.
52. **Bergethon PR**, Magnets and Magnetism, Student Science Journal, Symmetry Learning Systems, 1999.
53. **Bergethon PR**, Magnets and Magnetism, Teacher Guide, Symmetry Learning Systems, 1999.

54. **Bergethon PR**, The Physical Basis of Biochemistry: Foundations of Molecular Biophysics, Springer-Verlag, New York, 2000, Corrected 2nd Printing.
55. **Bergethon PR**, The Atmosphere, An Ocean of Air, Student Science Journal, Symmetry Learning Systems, 2000.
56. **Bergethon PR**, The Atmosphere, An Ocean of Air, Teacher Guide, Symmetry Learning Systems, 2000.
57. **Bergethon PR**, The Microscope: Lenses, Light and Technology, Student Science Journal, Symmetry Learning Systems, 2000.
58. **Bergethon PR**, The Microscope: Lenses, Light and Technology, Teacher Guide, Symmetry Learning Systems, 2000.
59. **Bergethon PR**, Discovering My World, Student Journal, Let's Learn With Science Series, Symmetry Learning Systems, 2000.
60. **Bergethon PR**, Discovering My World, Teacher Guide, Symmetry Learning Systems, 2000.
61. **Bergethon PR**, Atoms and Elements: Part I, An Introduction to Chemistry, Student Science Journal, Symmetry Learning Systems, 2000.
62. **Bergethon PR**, Atoms and Elements: Part I, An Introduction to Chemistry, Teacher Guide, Symmetry Learning Systems, 2000.
63. **Bergethon PR**, Atoms and Elements: Part II, Exploring the Particulate Model of Matter, Student Science Journal, Symmetry Learning Systems, 2000.
64. **Bergethon PR**, Atoms and Elements: Part II, Exploring the Particulate Model of Matter, Teacher Guide, Symmetry Learning Systems, 2000.
65. **Bergethon PR**, The Patterns of Heredity, Student Science Journal, Let's Learn With Science Series, Symmetry Learning Systems, 2000.
66. **Bergethon PR**, The Patterns of Heredity, Teacher Guide, Let's Learn With Science Series, Symmetry Learning Systems, 2000.
67. **Bergethon PR**, Exploring with Science: Slime, Spots and Models, Student Science Journal, Let's Learn With Science Series, Symmetry Learning Systems, 2000.
68. **Bergethon PR**, Exploring with Science: Slime, Spots, and Models, Teacher Guide, Let's Learn With Science Series, Symmetry Learning Systems, 2000.
69. **Bergethon PR**, The Patterns of Motion, Student Science Journal, Let's Learn With Science Series, Symmetry Learning Systems, 2001.
70. **Bergethon PR**, The Patterns of Motion, Teacher Guide, Symmetry Learning Systems, 2001.
71. **Bergethon PR** and Carlson B, Patterns in the Sky, Student Science Journal, Let's Learn With Science Series, Symmetry Learning Systems, 2001.
72. **Bergethon PR** and Carlson B, Patterns in the Sky, Teacher Guide, Let's Learn With Science Series, Symmetry Learning Systems, 2001.
73. **Bergethon PR**, The Patterns of Weather, Student Science Journal, Let's Learn With Science Series, Symmetry Learning Systems, 2001.

74. **Bergethon PR**, The Patterns of Weather, Teacher Guide, Let's Learn With Science Series, Symmetry Learning Systems, 2001.
75. **Bergethon PR** and Carlson B, Light, Heat, and Shadows, Student Science Journal, Let's Learn With Science Series, Symmetry Learning Systems, 2001.
76. **Bergethon PR** and Carlson B, Light, Heat, and Shadows, Teacher Guide, Let's Learn With Science Series, Symmetry Learning Systems, 2001.
77. **Bergethon PR**, Review of " Mononeuropathies: Examination, Diagnosis, and Treatment" *Amyloid*, **8**:225-226, 2001.
78. **Bergethon PR**, "The mission of science education: It's not just teaching science, it's using science to teach", *Appraisal: Science Books for Young People*, 34:1, 2001.
79. **Bergethon PR**, Review of " Biophysics: An Introduction", *Quarterly Reviews of Biology*, 2004.
80. **Bergethon PR**, The Physical Basis of Biochemistry: Foundations of Molecular Biophysics, Springer-Verlag, Tokyo, 2005, (Japanese Edition *in Japanese*).
81. **Bergethon PR**, Review of "The Third Man of the Double Helix", *Amyloid*, **13**:50-51, 2006.
82. **Bergethon PR**, The CID at home and abroad, Newsletter of the Department of Anatomy and Neurobiology, **2**:1, 2005.
83. **Bergethon PR**, Peripheral neuropathy following bariatric surgery, *Journal Watch Neurology*, May 26, 2005.
84. Tong Y, Rooney EJ, **Bergethon PR**, Martin JM, Sassaroli A, Ehrenberg BL, Vo Van Toi, Aggarwal Ambady PN, and Fantini S, Studying brain function with near-infrared spectroscopy concurrently with electroencephalography, *Proc SPIE* **5693**, 444-449 2005.
85. **Bergethon PR**, Learn to speak the language of interdisciplinary research: dynamical modeling, Newsletter of the Department of Anatomy and Neurobiology, **2**:2, 2005.
86. Glass GA, Glass, Stankiewicz J, Freeman R, Mithoefer A, **Bergethon PR**, Levetiracetam for seizures after transplantation, *Neurology*, **64**:1084-85, 2005.
87. **Bergethon PR**. US Patent # 7024238, Detecting Ischemia, Issued April 4, 2006.
88. **Bergethon PR** US Provisional Patent, Optical Method for Detecting Peripheral Nerve Function, 2006.
89. Scott TM, Peter I, Tucker KL, Arsenault L, **Bergethon P**, Bhadelia RA, Buell, J, Collins L, Dashe J, Griffith J, Hibberd P, Folstein M. The Nutrition, Aging, and Memory in Elders (NAME) Study: Design and Methods for a Study of Micronutrients and Cognitive Function in a Homebound Elderly Population. *International Journal of Geriatric Psychiatry*, **6**:519-528, 2006.
90. Allen JA, Adlakha A, **Bergethon PR**, "Reversible posterior leukoencephalopathy syndrome after bevacizumab/ FOLFIRI regimen for metastatic colon cancer", *Arch Neurol*. **63**:1475-1478, 2006.
91. Tong Y, Martin JM, Sassaroli A, Clervil PR, **Bergethon PR** and Fantini S, "Fast optical signals in the peripheral nervous system", *Journal of Biomedical Optics*, **11**: 044014, 2006.

92. Qiu WQ, Sun X, Selkoe DJ, D. Mwamburi M, Huang T, Bhadela R, **Bergethon PR**, Scott TM, Summergrad P, Wang L, Rosenberg I, and Folstein M, Depression is associated with low plasma $\alpha\beta$ -42 independently of cardiovascular disease in the homebound elderly, *Int J Geriatr Psychiatry*, **22**:536-42, 2007.
93. Chen DK, Tong Y, Sassaroli A, **Bergethon PR**, and S. Fantini S, "Fast Optical Response to Electrical Activation in Peripheral Nerves," in Azar FS, ed. *SPIE*, **643104**, 2007.
94. **Bergethon PR**, "Systems Neuroscience, Old Hat or New Tricks?", The Scientific Basis of Neurology, American Academy of Neurology Annual Meeting, published syllabus, 2007.
95. **Bergethon PR**, Annual Meeting Webcast, "Systems Neuroscience, Old Hat or New Tricks?", The Scientific Basis of Neurology, American Academy of Neurology Annual Meeting, 2007.
96. **Bergethon PR**, "Towards the USS Enterprise Sickbay: Will we still check Babinskis?", The Scientific Basis of Neurology, American Academy of Neurology Annual Meeting, published syllabus, 2007.
97. **Bergethon PR**, Annual Meeting Webcast, "Towards the USS Enterprise Sickbay: Will we still check Babinskis?", The Scientific Basis of Neurology, American Academy of Neurology Annual Meeting, 2007.
98. **Bergethon PR**, Test Your Knowledge: Epidural spinal compression due to metastatic disease, AAN Website (www.aan.org), 4/19/2007.
99. **Bergethon PR**, Practice Issues in Neurology: *Neurogenetics, Continuum Lifelong Learning Neurol*, **14**(2):158-168, 2008.
100. **Bergethon, PR** for the *Performance in Practice Work Group of the Education Committee of the American Academy of Neurology*, Report on Research and Recommendations for Performance in Practice, AAN Education Committee, 2008.
101. **Bergethon PR**, "Landscapes of Change: Science, Science Fiction and Advances in Biology", in Hassler, DM and Wilcox C (eds), *Political Science Fiction II*, University of South Carolina Press, 2008.
102. **Bergethon PR**, "Doctor, What is Wrong With Me? Clinical Confusion and Scientific Explanation", American Academy of Neurology Annual Meeting, 2PC.004:1-17, 2008.
103. **Bergethon PR**, "Doctor, Isn't There a Way to Treat This Without Chemicals?", American Academy of Neurology Annual Meeting, 2PC.004:77-167, 2008.
104. Thomas K, Hallock K and **Bergethon, PR** "The Need for Cross Discipline Awareness and Interoperability in the First Responder and Emergency Management Communities", Proceedings of Cornwallis XIII: Analysis in Support of Policy, The Pearson Peacekeeping Center, Ottawa, CA. Editors A. E. R. Woodcock and David Davis, pp. 222-233, 2009.
105. Fantini S, Chen DK, Martin JM, Sassaroli A, and **Bergethon PR**, "Near-infrared signals associated with electrical stimulation of peripheral nerves," in Tromberg BJ, Yodh AG, Tamura M, Sevick-Muraca EM and Alfano EE, eds. *SPIE*, 71741C, 1-7 2009.

106. Bhadelia RA, Price LL, Tedesco KL, Scott T, Qiu WQ, Patz S, Folstein M, Rosenberg I, Caplan LR and **Bergethon PR**. Diffusion tensor imaging, white matter lesions, the corpus callosum, and gait in the elderly, *Stroke*, **40**:3816-3820, 2009.
107. **Bergethon PR**, "The Neurophysical Chemistry of Autism: Postulates From Intelligence Modeling" in Blatt, G, (ed), *The Neurochemical Basis of Autism: Molecules to Minicolumns*, New York/Heidelberg, Springer-Verlag, pp. 217-244, 2009.
108. Buell JS, Dawson-Hughes B, Scott TM, Weiner DE, Dallal GE, Qui WQ, **Bergethon PR**, Rosenberg IH, Folstein MF, Patz S, Bhadelia RA and Tucker KL, 25-Hydroxyvitamin D, dementia and cerebrovascular pathology in elders receiving home services, *Neurology*, **74**: 18-26, 2010.
109. **Bergethon PR**, *The Physical Basis of Biochemistry: Foundations of Molecular Biophysics*, 2nd Edition, Springer-Verlag, New York, 2010.
110. Thomas K, Bergethon PR, and Reimer Mathew "Interoperability for First Responders and Emergency Management: Definition, Need, and the Path Forward," *World Medical & Health Policy*: Vol. 2: Iss. 3, Article 15, DOI: 10.2202/1948-4682.1070, <http://www.psocommons.org/wmhp/vol2/iss3/art15>, 2010.
111. **Bergethon PR** and Hallock K, Solutions Manual for The Physical Basis of Biochemistry: Foundations of Molecular Biophysics, 2nd Edition, New York/Heidelberg:Springer-Verlag, 2010.
112. Estevez ME, Lindgren KA, **Bergethon PR**, "A Novel Three-Dimensional Tool for Teaching Medical Neuroanatomy", DOI 10.1002/ase.186, *Anat Sci Educ*, **3**:309-317, 2010.
113. Chen DK, Erb MK, Tong Y, Sassaroli A, **Bergethon PR** and Fantini S, "Spectral and spatial feature of diffuse optical signal in response to peripheral nerve stimulation", *Biomedical Optics Express*, **1**:923-942, 2010.
114. Erb MK, Chen DK, Sassaroli A, Fantini S and **Bergethon PR**, "Diffuse optical signals in response to peripheral nerve stimulation reflect skeletal muscle kinematics", *Biomedical Optics Express*, **1**:943-954, 2010.
115. Sun X, Bhadelia R, Liebson E, **Bergethon P**, Folstein M, Zhu, J-J, Mwamburi DM, Patz S, and Qiu WQ, "The Relationship between Plasma Amyloid- β Peptides and the Medial Temporal Lobe in the Homebound Elderly", DOI: 10.1002/gps.2568, *Int J Geriatr Psychiatry*, **26**:593-601, 2011.
116. Tong Y, **Bergethon PR** and Frederick B, [Mapping cerebrovascular reactivity using concurrent fMRI and near infrared spectroscopy](#), *Proc. SPIE* 7896, 789605, [DOI:10.1117/12.875028], 2011.
117. **Bergethon PR**, "Learning: Lessons from neuroscience and cognitive psychology, American Academy of Neurology Annual Meeting Educational Colloquium, 3EC.001:1-23, 2011.
118. Erb MK, Chen DK, Sassaroli A, Fantini S and **Bergethon PR**, "Electrical stimulation of peripheral nerves induces optical responses via skeletal muscle kinematics", *Proc. SPIE* 7896, 789609, DOI:10.1117/12.875145, 2011.
119. Angelo Sassaroli A, Zheng F, Pierro M, **Bergethon PR** and Fantini S, "Phase difference between low-frequency oscillations of cerebral deoxy- and oxy-hemoglobin

- concentrations during a mental task”, *J. Innov Health Sci.*, 4:151-158, DOI:[10.1142/S1793545811001332](https://doi.org/10.1142/S1793545811001332), <http://dx.doi.org/10.1142/S1793545811001332>, 2011.
120. Tong Y, **Bergethon PR** and Frederick B, “An improved method for cerebrovascular reactivity mapping using concurrent fMRI and near infrared spectroscopy”, *Neuroimage*, **56**:2047-57, 2011. PMID: 21459147.
 121. Koo B-B, **Bergethon PR**, Qiu WQ, Scott T, Hussain M, Rosenberg I, Caplan LR and Bhadelia RA, “Clinical Prediction of Fall Risk and White Matter Abnormalities: A Diffusion Tensor Imaging Study”, *Arch.Neurol.*, *in press*.
 122. **Bergethon PR**, Learning the Language of Patterns: A User’s Manual, Second Edition, Symmetry Learning Systems, *in press*.
 123. Sassaroli A, Pierro M, **Bergethon PR**, and Fantini S, “Near Infrared Spectroscopy for investigations of cerebral hemodynamics based on low frequency spontaneous oscillations: a review”, *IEEE J*, *in press*.
 124. **Bergethon PR**, Kindler DD, Hallock K, Toselli P and Blease S, “The electrokinetic vascular streaming potential alters elastin accumulation in vascular smooth muscle cells”, (submitted to *Circulation Research*), 2011.
 125. Trivedi DP, Hallock KJ and **Bergethon PR**, “The electrokinetic vascular streaming potential modulates electrophysiological state and nitric oxide release in vascular endothelial cells”, (submitted to *Circulation Research*).
 126. Randles EG, Hallock KJ and **Bergethon PR**, “Chemical systems yielding high power photon upconversion from near-infrared to ultraviolet wavelengths”, (submitted to *JACS*), 2011.
 127. Hallock K, Rosene D, Oblak AL, Moss M, White R, McClean M and **Bergethon PR**, “Methylmercury and aging: baseline studies in a model of non-human primates”, (*in preparation*).
 128. Hallock K, Rosene D, Moss M, Sandell J, Peters A and **Bergethon PR**, “A computational model of neural response to prefrontal cortex white matter degradation in aging”, (*in preparation*).
 129. Ochoa A, Hallock K and **Bergethon PR**, “Both β -tubulin and actin are valid loading controls in traumatic brain injury models”, (*in preparation*).
 130. **Bergethon PR**, Hunter-Merrill R, Hessler A and Hallock SA, “ Psychophysiological measurement of the cognitive effects of Levetiracetam on attention to novel and targeted stimuli”, (*in preparation*).

Published Abstracts

131. **Bergethon PR** and Franzblau C, A model of electrokinetic phenomena in aortic smooth muscle cells, *J. Cell Biol.*, **105**: 325a, 1987.
132. **Bergethon PR**, Trinkaus-Randall V and Franzblau C, Role of the extracellular matrix electrical double layer on cell function, *J. Cell Biol.*, **105**: 219a, 1987.

133. **Bergethon PR**, Mogayzel PJ and Franzblau C, Effect of the reducing environment on the accumulation of elastin and collagen in cultured smooth muscle cells, *J. Cell Biol.*, **107**: 603a, 1988.
134. Fluckiger R, Paz MA, **Bergethon PR**, Greenspan SL, Goodman S, Henson E and Gallop PM, The first isolation of methoxatin (PQQ) from skim-milk and other mammalian sources, *FASEB J.*, **5**:A1510, 1991.
135. Skinner M, Anderson J, **Bergethon PR**, Sabin TD, Falk R, Jones LA, Simms R and Lewis WD, Follow-up on patients treated with liver transplantation for FAP in the United States, Conference on Liver Transplantation , Sweden, 1993.
136. **Bergethon PR**, Sabin TD, Skinner M, Lewis D and Cohen AS, Arrest and reversal of the polyneuropathy associated with familial amyloid polyneuropathy after liver transplantation, Founder's Award Presentation, *Neurology*, **45**:A232, 1995.
137. **Bergethon PR**, Sabin TD, Skinner M, Lewis D and Cohen AS, Improvement of familial amyloid neuropathy following liver transplantation, *Neuromuscular Disorders*, **51**:S84, 1996.
138. **Bergethon PR**, Skinner M, Simms RW, and Comenzo RL, Reversal of the neuropathy in primary (AL) amyloidosis following treatment with high-dose melphalan and stem cell rescue, *Neurology*, **46**:A449, 1996.
139. Hosey J, Campbell P, and **Bergethon PR**, "Improving Clinical Practice Using a Systems Dynamics Process", *Neurology*, **58**:A184, 2002.
140. **Bergethon PR**, "The Vascular Streaming Potential: An Unrecognized Factor in Atherogenesis?" *Neurology*, **58**: A235, 2002.
141. **Bergethon, PR**, Flexner's Legacy: A Genealogy of the Boston City Hospital Neurological Unit, *Neurology*, **62**: A271, 2004.
142. Glass GA, Glass, Stankiewicz J, Freeman R, Mithoefer A, **Bergethon PR**, Levetiracetam in Orthotopic Liver Transplantation: Demonstrating Anti-Seizure Efficacy and Reduced Dose of Anti-Rejection Medications in a Complex Patient Population, *Neurology*, **62**: A119, 2004.
143. **Bergethon PR**, Experimental Validation of a Dynamical Systems Model of Neural Behavior, *Annals of Neurology*, **56**: S66, 2004.
144. Sassaroli A, Tong Y, Frederick B, Renshaw PF, Martin JM, Vo T, Ehrenberg BL, Lowenthal W, Aggarwal P, Ambady N, **Bergethon PR** and Santini, S, "Studying brain function with near-infrared spectroscopy (NIRS) concurrently with fMRI and EEG", NIH Optical Imaging Workshop, 2004.
145. **Bergethon PR** and Sabin TD, "A Cognitive Dynamics and Cybernetic Analysis of Entropy Related to Multiple Hand-Offs of Patient Care Under "Sleep-rules", *Neurology*, **64**:A32, 2005.
146. **Bergethon PR**, Rational Tools for Interdisciplinary Research Inspired by Neurobiology: The Cybernetic Cycle, The Cycle of Pedagogy and the Progression of Inquiry, Program No. 20.16. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2005. Online.
147. **Bergethon PR**, Estevez M, Hoagland T, Sandell JH, and Moss MB, Carnegie Initiative for the Doctorate: Stewardship of our discipline at Boston University School

- of Medicine Program No. 23.9. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2005. Online.
148. **Bergethon PR**, Mane P, Rooney E, Fantini Ramenofsky SM, and Gilchrist BF, Cerebral oxygenation changes following severe brain trauma could be indicative of neurovascular uncoupling in a model of lateral fluid percussion brain injury using juvenile and adult pigs, *J Neurotrauma* **22**(10), 1207-1207, 2005.
 149. Mane P, Gilchrist B, Fantini S, Tong Y, and **Bergethon PR**, Near Infrared Spectroscopy Shows Altered Patterns of Tissue Oxygenation in Severe vs Mild Brain Trauma, Program No. 471.6. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2005. Online.
 150. Tong Y, Martin JM, Sassaroli A, Rooney EJ, **Bergethon PR**, and Fantini S Cerebral response to auditory oddball task using multi-distance near-infrared spectroscopy, *Optical Society of America*, 2006.
 151. Martin J, Tong Y, Sassaroli A, Chen D, Clervil, **Bergethon PR** and Fantini S, Non-invasive optical response to electrical stimulation in peripheral nerves, *Optical Society of America*, 2006.
 152. **Bergethon PR**, Fantini S, Martin J, Sassaroli A, Tong Y, Clervil P, Chen D, Optical Imaging of Peripheral Nervous Activity on a Millisecond Time Scale Using Near-Infrared Spectrophotometry, *Neurology*, **66**: A71, 2006.
 153. **Bergethon PR**, Hoagland T, Sandell J, Vaughan D, DeRosa D, Romney C and Moss M Teaching the teachers: The Vesalius Program and Teaching Biomedical Sciences, *J McCahan Education Day*, BU Medical School, 2006.
 154. Agam SD, Hessler A, Scott B, and **Bergethon PR**, Levetiracetam Does Not Interfere with Attention to Novel and Targeted Stimuli: A Psychophysiological Study, *Neurology*, 2007.
 155. Chen DK, Ton Y, Sassaroli A, **Bergethon PR**, Fantini S, Spatial Correlation of Optical and Electrical Signals in Response to Electrical Stimulation in Peripheral Nerves, *BMES*, 2007.
 156. Bhadelia R, Tedesco K, Scott T, Qiu W, Patz S, **Bergethon PR**, Association between Fractional Anisotropy in Corpus Callosum and Quantitative Measures of Gait and Balance in Elderly Individuals, *American Society of Neuroradiology*, 2007.
 157. **Bergethon PR**, A Cognitive Dynamics Computational Model of Autistic Behaviors, Program C.13.1. Society for Neuroscience, Online, 2007
 158. Chen DK, Martin JM, Sassaroli A, **Bergethon PR** and Fantini S, Study of the biological origin of the optical response to electrical stimulation in peripheral nerves, *BMES*, 2008.
 159. Martin J, Tong Y, Chen D, Sassaroli A, Sergio Fantini S, and **Bergethon PR**, The near-infrared optical signal shows temporal delay and altered morphology in diabetic neuropathy, *Ann Neurol*, **64**:S31, 2008.
 160. Estevez ME, Dominick KC Hoagland TM, Moss M and **Bergethon PR**, Revisiting the Carnegie Initiative on the Doctorate: trials, successes and failures, ”, Society for Neuroscience Program No. 225.24/UU73. 2008 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2008. Online.

Curriculum Vitae (9/2011)

Peter Roald Bergethon

161. **Bergethon PR**, Hoagland TM, Estevez ME, Moss M, Teaching the teachers: The Vesalius Program and teaching biomedical sciences, ”, Society for Neuroscience Program No. 225.26/UU75. 2008 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2008. Online.
162. Erb MK and **Bergethon PR**, “In vivo optical spectroscopy detects dynamic properties of skeletal muscle”, Society for Neuroscience Program No. 590.5/EEE3. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online.
163. Randles EG, Hallock K and **Bergethon PR**, “Progress towards a focal stroke model: photo-induced release of encapsulated ADP Program No. 256.17/S12. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online.
164. Hallock K, Rosene D and **Bergethon PR**, “Methylmercury and aging: baseline studies for in a model of non-human primates”, Program No. 349.5/J9. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online.
165. Trivedi D and **Bergethon PR**, “The effect of the electrovascular streaming potential on endothelium”, Society for Neuroscience Program No. 152.19/K12. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online.
166. **Bergethon PR**, “The membrane potential can electrochemically modify membrane localized redox switches: a mechanism for molecular learning”, Society for Neuroscience Program No. 47.7/I6. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online.

Invited Lectures

- 1985 Grand Rounds to the Neurological Unit, Boston City Hospital, "**Intelligence Modeling: An Engineering Approach to Neurological Study**"
- 1985 Therapeutics Conference, Department of Medicine, Boston City Hospital, "**The Man-Machine Interface, Choosing a Computer for Clinical Practice**"
- 1985 Senior Resident Lecture Series, Department of Medicine, Boston City Hospital, "**The Machined-Man Interface: An Update on Bionics, 1985**"
- 1987 Research Conference, Department of Gastroenterology, Boston University School of Medicine, "**The Electrochemistry of Mucin**"
- 1988 Research Seminar, Department of Biochemistry, Boston University School of Medicine, "**Electrochemistry at Biological Membranes**"
- 1990 Gordon Conference on Quinoproteins and Pyrroloquinoline Quinone, "**Electrochemical Detection of Pyrroloquinoline Quinone**"
- 1990 Seminar Series, Department of Chemistry, Clark University, "**The Frankenstein Fantasy: Electrification in Biochemical Systems**"
- 1992 Gordon Conference on Quinoproteins and Redox Cofactors, "**Towards an Understanding of Wilson's Hepatolenticular Degeneration: Are Quinones the Missing Link?**"
- 1992 Seminar Series, Neurological Unit, Boston City Hospital, "**Radical Neurology: An Update on the Clinical Implications of Free Radical Chemistry**"
- 1992 Chief Resident's Club, Neurological Unit, Boston City Hospital, "**Wernicke's Encephalopathy: Bioelectrochemical Insights into an Age-old Disease**"
- 1993 Neurology Clinic Conference Series, Neurological Unit, Boston City Hospital, "**Valproic Acid Liver Toxicity: Chemical and Clinical Insights**"
- 1994 Stanley Cobb Assembly, Boston Society of Psychiatry and Neurology, "**Arrest and Reversal of the Polyneuropathy Associated with Familial Amyloid Polyneuropathy After Liver Transplantation**"
- 1995 Therapeutics Conference, Department of Medicine, Boston City Hospital: "**Electrokinetics and Cerebrovascular Disease**"
- 1995 American Academy of Neurology Annual Meeting, Peripheral Nerve Session, "**Improvement in the Polyneuropathy Associated with Familial Amyloidosis After Liver Transplantation**"
- 1995 Society of Clinical Neurologists Annual Meeting, Banff, Canada "**Treatment of Neuropathy in Familial and Primary Amyloidosis**"
- 1995 Fourth International Symposium in Transthyretin and Related Disease and Third International Symposium in Liver Transplantation for Familial Amyloidotic Polyneuropathy, Lisbon, Portugal

Curriculum Vitae (9/2011)
Peter Roald Bergethon

- "Improvement in the Polyneuropathy Associated with Familial Amyloidosis After Liver Transplantation"**
- 1996 Society of Clinical Neurologists Annual Meeting, Branson, MO **"Progress in the Treatment of AL Amyloidosis by High Dose Melphalan with Stem Cell Rescue."**
- 1996 Grand Rounds to the Department of Neurology, Medical College of Georgia, **"Amyloid Neuropathy: Chemical and Clinical Practice, Reflections on the Tripod Model of Medicine."**
- 1996 Department of Biochemistry Seminar Series, Boston University School of Medicine, **"Neurological Amyloid: From bedside to bench"**
- 1997 Society of Clinical Neurologists Annual Meeting, Sundance, Utah **"An Analysis of the Rise and Fall of the Boston City Hospital Neurological Unit: Application of the Butterfly Catastrophe Model"**
- 1998 Society of Clinical Neurologists Annual Meeting, New Hampshire **"Towards a Unified Model of the Brain to Mind."**
- 1999 National Science Teachers Association Annual Meeting, Boston, MA **"From Brain to Mind to Understanding: Brain Development and Teaching Science."**
- 1999 National Science Teachers Association Annual Meeting, Boston, MA **"The Journey Begins: Introducing Symmetry Science."**
- 1999 Learning and the Brain Conference at MIT and Harvard, Cambridge, MA **"Neuroscience and School Assessment: A Model for the Future."**
- 1999 The Biology Roundtable, **"Science Education and Reform, How Did We Get Here?"**
- 1999 Houston Independent School District, Building Schools of Excellence, **"The Neurology of Science Phobia and Misconception"**
- 1999 Massachusetts Association of Science Teachers, **"From Brain to Mind and Understanding: Neurology and Science Education"**
- 2000 Department of Anatomy and Neurobiology, Boston University School of Medicine, **"In Search of the "Aha!": The Neurobiology of Science Education"**
- 2000 Neuroscience Grand Rounds, Tufts University School of Medicine, **"From Planck to Piaget: A Unified Theory of the Mind"**
- 2000 Massachusetts Association of Science Teachers, **"The Progression of Inquiry: Modeling in the Mind, Laboratory and Classroom"**
- 2000 Morton Hospital Medical Grand Rounds, Taunton, MA. **"Case Presentation: Progressive Multifocal Leukoencephalopathy as the Presenting Diagnosis in HIV"**
- 2001 Fourth Annual Biotechnology Symposium, Boston Museum of Science, **"CityLab USA, K-12 Curriculum Expansion"**

Curriculum Vitae (9/2011)
Peter Roald Bergethon

- 2001 Systemwide Professional Development Day, Wayland Public School District, Keynote Address. **"Thinking about Thinking"**
- 2001 Craigville 2001, The Educational Cooperative (TEC) Superintendent's Retreat Conference, **"Biomedical Ethics: A New Golden Age of Biomedical Discovery and Debate"**
- 2001 Craigville 2001, The Educational Cooperative (TEC) Superintendent's Retreat Conference, **"Biomedical Ethics: A New Golden Age of Biomedical Discovery and Debate"**
- 2001 Neuroscience Grand Rounds, Geisinger Medical Center **"The Tangled Web We Weave: The Neurological Amyloidoses"**
- 2001 Society of Clinical Neurologists, Annual Meeting-Carmel, California, **"Where's the Lesion: A Chemo-Anatomical Approach to Wilson's Hepatolenticular Degeneration"**
- 2002 Neuroscience Grand Rounds, Geisinger Medical Center, **"Update on Stroke 2002"**
- 2002 Medical Grand Rounds, Geisinger Medical Center, **"The Tangled Web We Weave: Amyloidosis, From Bedside to Bench and Back"**
- 2002 1st Annual Stroke Conference, Geisinger Health System, **"The Pathogenesis of Atherosclerosis"**
- 2002 Family Medicine Practice Conference, Geisinger Medical System, **"Towards a Comprehensive Stroke Program"**
- 2002 Internal Medicine Practice Conference, Geisinger Medical System, **"A Comprehensive Rural Stroke Program"**
- 2002 Emergency Department Medical Conference, Geisinger Medical Center, **"The Approach to TIA in the Emergency Room"**
- 2002 Cardiovascular Disease Conference, Geisinger Health System, **"Preventing the Next Stroke"**
- 2002 CME with the Lions, Geisinger Department of Continuing Medical Education, **"Stroke Prevention and Treatment, 2002"**
- 2002 American Academy of Neurology Annual Meeting, Cerebrovascular Disease: Basic Science Session **"The Vascular Streaming Potential: An Unrecognized Factor in the Pathogenesis of Atherosclerosis?"**
- 2002 The Clinician-Scholar, CME Program, Geisinger Health System, **"The Role of Grants: Conceptual and Strategic Approaches to Grant Writing"**.
- 2002 The Clinician-Scholar, CME Program, Geisinger Health System, **"Grant Writing Workshop"**,
- 2002 Symposium on Perceived Threat and the Public Health Response to Bioterrorism , , George Mason University School of Public Policy, **"Perceived Threat, Fear, and Survival: The Neurobiology of Bio-Terrorism"**.

Curriculum Vitae (9/2011)

Peter Roald Bergethon

- 2002 Chairman, Session on Systemic Responses to Bio-terrorism at *Symposium on Perceived Threat and the Public Health Response to Bioterrorism*, George Mason University School of Public Policy.
- 2002 Society of Clinical Neurologists, Annual Meeting, South Carolina, “**The Vascular Streaming Potential: An Unrecognized Factor in the Pathogenesis of Atherosclerosis?**”
- 2003 Neuroscience Grand Rounds, Tufts-New England Medical Center, “**The Frankenstein Fantasy: Bioelectrochemistry in Neurological Disease.**”
- 2003 Neuroscience Grand Rounds, Tufts-New England Medical Center, “**The Tangled Web We Weave: Amyloidosis, From Bedside to Bench and Back.**”
- 2003 Neuroscience Grand Rounds, Tufts-New England Medical Center, “**Principia Neurologica: The Mechanics of the Mind.**”
- 2003 Neurology Systems-Practice Rounds, Tufts-New England Medical Center, “**Grantsmanship 101.**”
- 2003 Society of Clinical Neurologists, Annual Meeting, Tanque Verde, NM, “**Towards the USS Enterprise Sickbay: The NeuroEKG and Near-Infrared Spectroscopy in Neurological Practice**”
- 2004 Department of Neuroscience Research Seminar, Department of Neuroscience, Tufts University School of Medicine, “**New Applications of Bioelectrochemistry to Neurological Problems**”.
- 2004 Graduate Research Seminar, Department of Biomedical Engineering, Tufts University, “**Principia Neurologica: Towards a Mechanics of the Mind**”.
- 2004 American Academy of Neurology Annual Meeting, San Francisco, History of Neurology Section, “**Flexner’s Legacy: A Genealogy of the Boston City Hospital Neurological Unit**”.
- 2005 Program in Neurosciences Seminar, University of Illinois, “**Principia Neurologica: Progress Towards a Mechanics of the Mind**”.
- 2005 Brown Bag Seminar, Carnegie Foundation for the Advancement of Education, Stanford, CA, “**The Cycle of Pedagogy: Mapping Knowledge into Minds**”.
- 2005 American Education Research Association Annual Conference, Montreal, Quebec, Presidential Invited Session: “**Comparative Pedagogies of Research - Prospects for the Research Doctorate in Education**”
- 2005 American Academy of Neurology Annual Meeting, Miami, Florida, **Neurobowl VII.**
- 2005 Boston University SIGN group, “**The Mind of the Medical Student: Cognitive Neurobiology, Medical Education and Practice**
- 2005 Pediatric Neurology Grand Rounds, “**Neurobiological Basis of Interdisciplinary Research,**” Boston Medical Center, Boston, MA.

Curriculum Vitae (9/2011)

Peter Roald Bergethon

- 2006 Grand Rounds, **“Principia Neurologica 2006: Progress on a Mechanics of the Mind.”**
Department of Psychiatry, Tufts-New England Medical Center, Boston, MA.
- 2006 American Academy of Neurology Annual Meeting, San Diego, California, **Neurobowl VIII** (All Star Team)
- 2006 American Academy of Neurology Annual Meeting, San Diego, California, **“Optical Imaging of Peripheral Nervous Activity on a Millisecond Time Scale Using Near-Infrared Spectrophotometry”**.
- 2006 Department of Biophysics and Physiology, **“Tripping the Light Fantastic: Measuring the Mind with Near-Infrared Spectroscopy”**, Boston University School of Medicine, Boston, MA.
- 2006 Student Interest Group in Neurology, **“Applications of Systems Neuroscience to Neurology”**, Boston University School of Medicine.
- 2007 Program in Neuroscience, **“Neurophysics: Computational Theories and Measurement of the Mind”** Williams College, Williamstown, MA.
- 2007 American Academy of Neurology Annual Meeting, Boston, MA, **Neurobowl IX**, (Past-Pointers All Star Team).
- 2007 Society of Clinical Neurologists, Annual Meeting, Cambria, CA **“Imaging the Nervous System with Near Infrared Light”**.
- 2007 Student Interest Group in Neurology, **“Applications of Bioelectrochemistry in Neuroscience**, Boston University School of Medicine.
- 2008 TEC (The Education Cooperative) Annual Meeting, **“Neuroscience implications of aging, exercise, diet and school policy: What should we do now??”**, Brewster, MA.
- 2008 Department of Biomedical Engineering Seminar Series, Tufts University School of Engineering, **“The Frankenstein Fantasy: Physical Electrochemistry in Biological Contexts”**.
- 2008 Class Speaker, Jefferson Medical College, 25th Reunion, **“Neurophotronics: Measuring and Manipulating the Nervous System with Light”**.
- 2008 Society of Clinical Neurologists, Annual Meeting, Skytop, PA **“Q Meets the Ministry of Silly Walks: Measures of White Matter Using Diffusion Tensor Imaging”**.
- 2008 Lincoln-Sudbury School District Professional Development Symposium, **“In Search of the AHA!! The Neurobiology of Education”**.
- 2009 Boston University Clinical Neuroscience Society, **“The Neurophysics of Autism: Views From Intelligence Modeling”**.
- 2009 Department of Chemistry, Williams College, Charles Compton Lecture: **“The Faraday-Galvani Circus: Bioelectrochemistry in Neurological Disease”**.
- 2009 Center for Neuroscience , 2nd Annual Retreat, Boston University, **“Mercury, Monkeys and Monolayers: An Update”**.

Curriculum Vitae (9/2011)
Peter Roald Bergethon

2009 Tufts Medical Center Neuroscience Grand Rounds, “**Neurophotronics: Measuring and Manipulating the Nervous System with Light**”.

2009 Society of Clinical Neurologists Annual Meeting, Migis Lodge, ME. “**The Neurophysics of Autism: Views from Intelligence Modeling**”.

2009 Autism Research Consortium Annual “Think Tank”, Cambridge, MA. “**The Neurophysics of Autism: Views from Intelligence Modeling**”.

2010 Neurology Grand Rounds, Weill Cornell Medical College, NYC, “**The Neurophysics of Autism: Views from Intelligence Modeling**”.

2010 Clinical Neuroscience Society, Boston University School of Medicine, “**The Neurobiology of Magic**”.

2010 Society of Clinical Neurologists Annual Meeting, Death Valley, CA. “**Postcards from the Fringe: Excitons, Polaritons, Solitons and Neurons**”.

2011 Neuroscience Research Unit, Pfizer Corporation, Groton, CT. “**The Electrokinetic Vascular Streaming Potential: Why We Need to Rethink Cardio- and Cerebrovascular Disease**”.

2011 IEEE-EMBC International Conference, Boston, MA. The Innovator’s Opportunity, The Field of Neurotechnology, “**Neurophotronics: Measuring and Manipulating the Nervous System with Light**”.