

CURRICULUM VITAE

Deborah Whittaker Vaughan, Ph.D.

DATE and CITY OF BIRTH: November 30, 1943; Concord, New Hampshire

HOME ADDRESS: 68 Gun Club Lane, Weston 02493

EDUCATION

- 1966 B.A. University of Vermont (Biology)
- 1971 Ph.D. Boston University (Biology)
- 1972 Postdoctoral Boston University School of Medicine (Neuroanatomy)

PROFESSIONAL EXPERIENCE

- 1971-72 Postdoctoral Fellow with Dr. Alan Peters, Department of Anatomy, BUSM
- 1972-79 Assistant Research Professor of Anatomy, BUSM
- 1979-87 Assistant Professor of Anatomy, BUSM
- 1987-2003 Associate Professor of Anatomy and Neurobiology, BUSM
- 2003— Professor of Anatomy and Neurobiology, BUSM

MAJOR RESEARCH INTEREST

Cellular morphology of the central nervous system, and the effects of aging; peripheral nerve regeneration.

Description of Research

Recent research has been concerned with characterizing the effects of advancing age on the central nervous system's ability to respond to a substantial metabolic challenge. Studies focus on the facial nucleus of rats, and the response of the facial neuromuscular system to axon injury in animals of advancing age. Light and electron microscope techniques are used in conjunction with techniques of pre- and post-embedding immunocytochemistry, enzyme cytochemistry, microscopic and ultramicroscopic morphometry, and serial reconstruction.

TEACHING

- 1979— one of principal faculty for *Microscopic Anatomy* courses (BUSM, BU Dental School, MMEDIC, and BUSM Summer Histology) and *Neurosciences* course; faculty participant in Department *Special Topics* courses; co-director of the Department Journal Club.
- 1985-88; 1992— Course Director, BUSM Microscopic Anatomy (GMS AN 705, 706)
- 1987-99 Director for Histology in Pre-entrance Enrichment Program (PEP) for Minority Students
- 1995— Course Director, Summer Microscopic Anatomy (GMS AN 700S)
- 1998-01 Course Director, MMEDIC Histology (GMS AN 500)
- 2002— Course Director, Histology for Graduate Students (GMS AN 710)

Teaching Awards

- 1996: Thomas Robitscher Faculty Award in recognition of excellence in teaching the preclinical sciences
1997: Semi-finalist in competition for the Metcalf Awards for Excellence in Teaching, Boston University
1998: Golden Apple Award from the American Medical Student Association in recognition of excellence in teaching
1999: Stanley L. Robbins Award for Excellence in Teaching, Boston University School of Medicine
2000: Thomas Robitscher Faculty Award in recognition of excellence in teaching the preclinical sciences
2001: Educator of the Year in the Pre-Clinical Medical Sciences, Boston University School of Medicine
2002: Thomas Robitscher Faculty Award in recognition of excellence in teaching the preclinical sciences

SERVICE

Medical School Appointments

- Assistant Dean for Admissions, since 2003
Academy of Advisors, since 2003

COMMITTEES, BUSM

- 1979-92 Faculty Grants Committee (BRSG), BUSM
1979-85 Advisory Committee for Basic Sciences in Clinical Medicine Seminars
1982-96 Admissions Committee: Seven-year Medical Program and MMEDIC Programs
1984-89, 1992— First Year Promotions Committee, BUSM
1990-91 Anatomy Department Seminar Coordinator
1990-91 Faculty Search Committee: Department of Anatomy and Neurobiology
1990-92 Faculty Advisor to BUSM Student Groups
1990-92 Promotions Appeals Committee, BUSM
1992— Promotions Appeals Committee: 7-year and MMEDIC Programs
1992-95 ad hoc Committees on BUSM Faculty Promotions (several)
1993-95 ad hoc Committee on Students Promotions Policy
1996: ad hoc Committee Examining Policy for Recording Lectures
1996-99 Curriculum Committee, BUSM
1996— Admissions Committee, Boston University School of Medicine
1996— Graduate Program Committee, Department of Anatomy and Neurobiology
1997: ad hoc Search Committee for Chairman, Department of Anatomy & Neurobiology
1998: Faculty Search Committee: Department of Anatomy and Neurobiology
1998-99 ad hoc Committee to Examine the BUSM Admissions Process
1999-00 ad hoc Committee to Define Student Status Scenarios at BUSM
2000-01 ad hoc Committee on Promotions Policies; co-chair as of 2001

- 2001-02 ad hoc Committee to Review Policies and Practices Regarding Professional Qualifications, Performance and Behavior of BUSM Students
- 2002— EMSSP Admissions Committee, Boston University School of Medicine
- 2002: ad hoc Committee on Newer Educational Technologies
- 2002: Advisory Committee to Evaluate the Effects of the Different Educational Pathways on Preclinical Education and Student Experiences
- 2002: ad hoc Committee on Faculty Development, Department of Anatomy and Neurobiology
- 2003: ad hoc Committee to Examine Restructuring of the Curriculum
- 2003— Student Services Committee
- 2003— Preclinical Subcommittee of BUSM Course Managers
- 2003— Carnegie Initiative on the Doctorate: Chair, Teaching Subcommittee
- 2004— Faculty Development and Promotions Committee, Department of Anatomy and Neurobiology

COMMITTEES, Division of Graduate Medical Sciences

- 1982-90, 1998-2003 Steering Committee of Graduate School: Division of Medical Sciences
- 1982-94 Major Advisor for Anatomy Department MA Students: M. Sarkar, R. Hooshmand, R. Patel
- 1996— Major Thesis Advisor for students in the Masters of Medical Sciences program.
- 1985— Ph.D. Research Committee Member for M.J. Sagatias, L. Porter, D. Marcello, S. Lomber, Frank Daley, Cyrus Torchinsky, Antoinette Freeman, Kirsten Nielsen, Jennifer Katz, Beth Whitney, Natalie Zhar
- 1982-86: Principal Advisor for Doctoral Student: J.J. Gundrum
- 1987-91: Principal Advisor for Doctoral Student: K.K. White
- 1996— Admissions Committee: Division of Graduate Medical Sciences
- 1996— Russek Student Achievement Award Committee
- 1999-2000: Advisory Committee on Graduate Degree Programs

COMMITTEES, All-University

- 1988-92; 2002— Faculty Council and University Council
- 1989-93 University Committee on Research Activities, Libraries and Services
- 2000: Evaluation Panel, Boston University Instructional Technology Grant Program

COMMITTEES, other

- 1989-93 Chair of Fellowship Committee; Church Council member for Congregational Church of Weston
- 1994-95 Chair, Ministerial Search Committee for Congregational Church of Weston
- 1996-99 Treasurer, Congregational Church of Weston
- 2002: American Association of Anatomists, Symposium (co-chair): “How Do We Locate, Cultivate, and Admit Ideal Medical Students” 4/21/02
- 2004— member of Board of Directors, International Association of Medical Science Educators (IAMSE)

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Ad hoc Reviewer

Journal of Comparative Neurology

Journal of Gerontology: Biological Sciences

The Anatomical Record

National Science Foundation: grant proposal review

NSF: 2001 Grants Review Panel

DOCTORAL GRADUATE STUDENTS

Principal Advisor

1991 WHITE, K.K. "The effects of Age on Denervation, Reinnervation and Recovery of Function of the rat nasolabialis Muscle." published *Anat. Rec.* 229:149-158; *Anat Rec.* 219-237.

1986 GUNDRUM, J.J. "An Ultrastructural Study of Cultured Neonatal Rat Aortic Smooth Muscle and its Response to Elastase"

Co-Advisor The following students worked on Interdepartmental Research Projects for which Dr. Vaughan served as the Anatomy Department Advisor.

1982 FOUNDAS, S. (with Dr. J. Albright, B.U. Department of Biology) "The effects of partial deafferentation on the auditory cortex of young adult rat" (M.A. Thesis) published *J. Neurocytol.* 11 :29-51

1980 MAZURKOWITZ, J. (with Dr. C. Franzblau, Dept. of Biochemistry, BUSM) "A morphometric study of vascular smooth muscle cells in culture" (Ph.D. Thesis) published *in vitro* 16:337-34S.

1980 CLARK, J. (with Dr. H. Kagan, Dept. of Biochemistry, BUSM) "The ultrastructural localization of T-boc-L-ananyl-p-nitrothiophenyl esterase in human neutrophils" (Ph.D. Thesis) published *J. Histochem. Cytochem.* 28:90-99; *J. Cell Biol.* (1980) 84: 102- 120.

PUBLICATIONS

1. Vaughan, D.W. and A. Peters (1973) A three dimensional study of layer I of the rat parietal cortex. *J. Comp. Neurol.* 149: 355-370.
2. Vaughan, D.W. and A. Peters (1974) Neuroglial cells in the cerebral cortex of rats from young adulthood to old age: an electron microscope study. *J. Neurocytol.* 3:405-429.
3. Vaughan, D.W. (1976) Membranous bodies in the cerebral cortex of aging rats. *J. Neuropath. Exp. Neurol.* 35:152-166.
4. Vaughan, D.W. (1977) Age-related deterioration of pyramidal cell basal dendrites in rat auditory cortex. *J. Comp. Neurol.* 171:501-515.
5. Feldman, M.L. and **D.W.Vaughan** (1979) Changes in the auditory pathway with age. In: Special Senses in Aging. eds., S.S. Han and D.H. Coons, Institute of Gerontology, University of Michigan, Ann Arbor.
6. Vaughan, D.W. and J. Vincent (1979) Ultrastructure of neurons in the auditory cortex of aging rats: A morphometric study. *J. Neurocytol.* 8:215-228.
7. Angulo-Colmenares, A.G., **D.W.Vaughan** and J.W. Hinds (1979) Rehabilitation following early malnutrition in the rat: Body weight, brain size and cerebral cortex development. *Brain Res.* 169:121-138.
8. Mazurkowitz, J., **D.W.Vaughan** and C. Franzblau (1980) A morphometric study of vascular smooth muscle cells in culture. *In Vitro* 16:337-345.
9. Clark, J.M., **D.W.Vaughan** and H. Kagan (1980) Elastase-like enzymes in human neutrophils localized by ultrastructural cytochemistry. *J. Cell Biol.* 84:102-120.
10. Peters, A. and **D.W.Vaughan** (1981) Central Nervous System. In: Aging and Cell Structure Vol. I. ed, J.E. Johnson, Jr., Plenum Publishing Corporation, pp. 1-34.
11. Vaughan, D.W. and A. Peters (1981) The structure of neuritic plaques in the cerebral cortex of aged rats. *J. Neuropath. Exp. Neurol.* 40:472-487.
12. Vaughan, D.W. and S. Foundas (1982) Synaptic proliferation in the auditory cortex of the young adult rat following callosal lesions. *J. Neurocytol.* 11 :29-51.

13. Waeber, B.H., I. Gavras, P. Chao and **D.W. Vaughan**, et al. (1982) Evidence for a sodium induced activation of central neurogenic mechanisms in one-kidney, one clip renal hypertensive rats. *J. Pharmacol. Exp. Ther.* 223: 510-515.
14. Vaughan, D.W. (1982) Effects of long-term callosal lesions in the neocortex of aging rats. *Gerontologist*, 22: 233.
15. Berkowitz, E., A.C. Sanborn and **D.W. Vaughan** (1983) Chromatin structure in neuronal and neuroglial cell nuclei as a function of age. *J. Neurochem.* 41:516-523.
16. Vaughan, D.W. (1983) Thalamic and callosal connections of the Rat Auditory cortex. *Brain Res.* 260: 181 - 190.
17. Vaughan, D.W. and C.D. West (1983) Deteriorative changes in the neocortex of aging rats on restricted diets. *Anat. Rec.* 205:206.
18. Peters, A., M.L. Feldman and **D.W. Vaughan** (1983) The effect of aging on the neuronal population within area 17 of adult rat cerebral cortex. *Neurobiol. Aging* 4: 273-282.
19. West, C.W., L. Volicer and **D.W. Vaughan** (1984) Aging in the Food Restricted Rat: Body Temperature, Receptor Function, and Morphologic Changes in the Brain..In: Nutritional Intervention in the Aging Process, eds. H.J. Armbrrecht, J.M. Pendergast, R.M. Coe. Springer-Verlag, New York, pp. 111 - 137.
20. Vaughan, D.W. (1984) Morphology of Neuroglial Cells. In: *Cerebral Cortex*, Vol. 2, eds. E.G. Jones and A. Peters. Plenum Press, New York, pp. 285-329.
21. Vaughan, D.W. and C. Cahill (1984) Long term effects of callosal lesions in the auditory cortex of rats of different ages. *Neurobiol. Aging*, 5: 175-182.
22. Vaughan, D.W. and A. Peters (1985) Proliferation of thalamic afferents in cerebral cortex altered by callosal deafferentation. *J. Neurocytol.* 14: 705-716.
23. Vaughan, D.W. and Ketti K. White (1987) The effects of age on the response of a facial motor system to injury. *Anat. Rec.* 223:118
24. Vaughan, D.W. (1990) Effects of Advancing age on the central response of rat facial neurons to axotomy: light microscope morphometry. *Anat. Rec.* 228:211-219
25. Vaughan, D.W. (1990) The effects of age on enzyme activities in the rat facial nucleus following axotomy: acetylcholinesterase and cytochrome oxidase. *Exp. Neurol.* 109:224-236
26. White, K.K., and **D.W. Vaughan** (1991) The effects of age on atrophy and recovery in denervated fiber types of the rat nasolabialis muscle. *Anat. Rec.* 229: 149-158
27. White, K.K., and **D.W. Vaughan** (1991) Age effects on cytochrome oxidase activities during denervation and recovery of three types of muscle fiber types. *Anat. Rec.* 230:460-467
28. Vaughan, D.W. (1992) Effects of advancing age on peripheral nerve regeneration. *J. Comp. Neurol.* 323:219-237
29. Vaughan, D.W. (1994) The effects of peripheral axotomy on presynaptic axon terminals with GABA-like immunoreactivity. *Anat. Rec.* 238:248-262.
30. Vaughan, D.W. (2002) A Learning System in Histology: A CD-ROM and Guide. Oxford University Press, New York