

PART I: General Information

Name: Peter McLaren Black, M.D., Ph.D.

Office Address: Department of Neurosurgery
Brigham & Women's Hospital
75 Francis Street
Boston, MA 02115

Department of Neurosurgery
The Children's Hospital
300 Longwood Avenue
Boston, MA 02115

Place of Birth: Canada

Education:

1966 A.B. Harvard College, Cambridge, MA
1970 M.D. C.M. McGill University, Montreal, Canada
1978 Ph.D. Georgetown University, Washington, DC (Philosophy)

Postdoctoral Training:*Internships and Residencies:*

1970-1971 Surgical Intern, Massachusetts General Hospital, Boston, MA
1971-1972 Assistant Resident in Surgery, Massachusetts General Hospital
1975-1980 Resident in Neurosurgery, Massachusetts General Hospital

Research Fellowships:

1974-1975 Joseph P. Kennedy Foundation, Fellow in Medicine, Law and Ethics,
Georgetown University, Washington DC
1975-1976 Fellow in neuro-oncology, Massachusetts General Hospital
1980-1981 Fellow in cerebrospinal fluid physiology, Children's Hospital

Licensure and Certification:

1971 Massachusetts License #37479
1984 American Board of Neurological Surgeons Certification

Academic Appointments:

1980-1984 Assistant Professor of Surgery, Harvard Medical School
1984-1987 Associate Professor of Surgery, Harvard Medical School
1987- Franc D. Ingraham Professor of Neurosurgery, Harvard Medical School

Hospital and Health Care Organization Responsibilities and Other Major Professional Positions and Major Visiting Appointments:

1972-1973	Lieutenant, Medical Corps, United States Naval Reserve, assigned to the Regional Naval Medical Center, Washington DC
1973-1974	Lieutenant, Medical Corps, United States Naval Reserve, assigned to the Attending Physician's Office, United States Capitol, Washington DC. Honorable Discharge as Lieutenant Commander in 1974
1980-1981	Assistant in Neurosurgery, Massachusetts General Hospital
1981-1984	Assistant Visiting Neurosurgeon, Massachusetts General Hospital
1984-1987	Associate Visiting Neurosurgeon, Massachusetts General Hospital
1986-	Consultant in Neurosurgery, Youville Hospital, Cambridge MA
1987-	Neurosurgeon-in-Chief, Brigham & Women's Hospital
1987-2004	Neurosurgeon-in-Chief, Children's Hospital:
1987-	Chair, Department of Neurosurgery, Children's Hospital
1987-	Chief of Neurosurgical Oncology, Dana-Farber Cancer Institute
1987-1992	Visiting Neurosurgeon, Massachusetts General Hospital
1992-	Consultant in Neurosurgery, Massachusetts General Hospital
1994-1998	Chairman, Department of Surgery, Children's Hospital
1998-	Senior Surgeon to the Active Staff, Brigham and Women's Hospital
2000-	Chairman, Department of Neurosurgery, Brigham and Women's Hospital

Major Committee Assignments:

International, National and Regional:

1981	Consultant to the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research
1986, 1991	Special Reviewer, National Institutes of Mental Health and National Institute of Neurological Disorder and Stroke Study Sections
1988-1991, 1998-	Neurosurgical Subcommittee, Radiation Therapy Oncology Group
1989-	Medical Advisory Board, Brain Tumor Society
1991-	Chairman of the Executive Board, Brain Tumor Center, Brigham & Women's Hospital, Children's Hospital, Dana-Farber Cancer Institute and Harvard University
1995-	Co-Director, Ninth Annual Symposium on Tumor Research and Therapy, Tokyo, Japan
1996-	Education Committee, World Federation of Neurosurgical Societies
1997	Co-Director, AACR Special Conference in Cancer Research, Cancer of the Nervous System San Diego
1997	Neuro-Oncology Committee, World Federation of Neurosurgical Societies
1997	Liaison Committee, World Federation of Neurosurgical Societies
1997	Federation News Committee, World Federation of Neurosurgical Societies
1999	Medical Advisory Board, McDonnell Foundation
2001	International Advisory Committee, American Association of Neurological Surgeons
2000-	Chair, Bylaws Committee, World Federation of Neurosurgical Societies

Harvard Medical School:

1987-	Committee of Professors
1989-1992	Subcommittee of Professors
1989-1993	Committee on Ethics
1989-1992	Governing Board, Harvard Medical Laser Center
1993-1996	Committee on Conflict of Interest, Harvard Medical School

1990-1999	Associate of Adams House, Harvard College
1994-1998	Surgical Executive Committee, Harvard Medical School
1998	Ad Hoc Committee for Chair of Neurology, Massachusetts General Hospital
2000-2001	Committee on Part-time Tracks in Clinical and Investigative Medicine, Brigham and Women's Hospital
2000	Member, Ad Hoc Committee for Professor of Pathology Search, Children's Hospital
2000	Member, Cancer Center Executive Committee, Brigham and Women's Hospital
2001	Ad Hoc Committee for Professor of Anesthesia Search, BWH
2001	Ad Hoc Committee for Professor of Surgery Search, CH

Hospital:

1985-1987	Committee on Ethics and Discipline, Massachusetts General Hospital
1987-	Operating Room Committee, Brigham and Women's Hospital
1988-1991	Ethics Committee, Children's Hospital
1989-1990	Research Executive Planning Committee, Children's Hospital
1989-1991	Development Committee, Children's Hospital
1989-1991	Executive Committee, Brigham Surgical Group
1987-	Medical Staff Executive Committee, Children's Hospital
1987-	Surgical Executive Committee, Children's Hospital
1989-1999	Ethics Committee, Brigham and Women's Hospital
1989-1997	Physical Therapy Advisory Committee, Children's Hospital
1990-1991	Physician Chairman, One for All Fund, Children's Hospital
1994-1998	Research Executive Committee, Children's Hospital
1994-	Senior Appointments Committee, Children's Hospital
1995-2000	Executive Committee, Children's Hospital Physicians' Organization
1996-1998	Executive Committee, Brigham Surgical Group
1999-	International Advisory Council, Children's Hospital
2000-	Chief's Committee, Brigham and Women's Hospital
2000-	Council of Chiefs, Children's Hospital
2000-	Executive Committee, BWPO
2000-	Physicians Leadership Council, Children's Hospital
2000-	Board of Directors, BWPO

Memberships, Offices, and Committee Assignments in Professional Societies

1965-1966	Harvard Undergraduate Council, Harvard College
1965-1966	President, Harvard Glee Club, Harvard College
1983	Chairman, Host Committee, Annual Meeting Committee, Congress of Neurological Surgeons
1985	Chairman, Special Interest Workshops Committee, Annual Meeting Committee, Congress of Neurological Surgeons
1986	Chairman, Open Scientific Session, Annual Meeting Committee, Congress of Neurological Surgeons
1986-1991	Chairman, Committee on Ethics and Human Values in Medicine, American Association of Neurological Surgeons
1987-1989	Publications Committee, Congress of Neurological Surgeons
1987-1991	Membership Committee Chairman, Joint Section on Tumors, American Association of Neurological Surgeons and Congress of Neurological Surgeons

1987-1993	Chairman, Subcommittee on Self-Assessment and Sponsorship, Joint Committee on Education, American Association of Neurological Surgeons and the Congress of Neurological Surgeons
1993-	Vice-Chairman, Joint Committee on Education, American Association of Neurological Surgeons and Congress of Neurological Surgeons
1993-2003	Board of Trustees, Episcopal Divinity School
1988-1991	Executive Committee, New England Neurosurgical Society
1988-	Executive Committee, Boston Society of Neurology and Psychiatry
1988-1992	Executive Committee, Congress of Neurological Surgeons
1988-1992	Membership Committee, Society of University Neurosurgeons
1989	Chairman, Scientific Session I, Congress of Neurological Surgeons
1989	Meeting Organizer, Radiosurgery Symposium, Brigham & Women's Hospital
1989-1990	Chairman, Annual Meeting, Research Society of Neurosurgeons, Boston, MA
1989-1991	Long Range Planning Committee, American Neurological Association
1989-	Committee on Ethics and Medical-Legal Affairs, World Federation of Neurosurgical Societies
1990	Co-Director, International Symposium for MRI-Guided Laser Therapy, Boston
1990-1991	Scientific Advisory Council of the Decade of the Brain
1992-	Congress of Neurological Surgeons' Alternate Delegate to World Federation of Neurological Societies
1991-1993	Secretary-Treasurer, Joint Section on Tumors, American Association of Neurological Surgeons and the Congress of Neurological Surgeons
1991-	Chairman, Evaluation Committee of Scientific Program Committee, 10th International Congress of Neurological Surgeons, World Federation of Neurological Surgeons
1991-	President, Boston Society of Neurology and Psychiatry
1991-	Membership Committee Chairman, Society of University Neurosurgeons
1992-1993	Vice-President, Society of University Neurosurgeons
1992-	Neuro-oncology Committee, World Federation of Neurosurgical Societies
1993-1996	Chairman, Joint Section on Tumors, American Association of Neurological Surgeons and the Congress of Neurological Surgeons
1993-1996	Vice Chairman, Committee on Education, American Association of Neurological Surgeons and the Congress of Neurological Surgeons
1993	Director, International Workshop, "Growth Control in Human Brain Tumors"
1993-1996	Nominating Committee, Congress of Neurological Surgeons
1993-	Member, Board of Trustees, Episcopal Divinity School
1994-	Education Committee, World Federation of Neurosurgical Societies
1994-1996	Chairman, Medical Advisory Board, Brain Tumor Society
1994-1995	President, Society of University Neurosurgeons
1995	Annual Meeting Committee, Society of Neurological Surgeons
1995-	Delegate, Congress of Neurological Surgeons, to the World Federation of Neurosurgical Societies
1996-1998	Congress of Neurological Surgeons, Professional Conduct Committee
1996	Annual Meeting Chairman, American Academy of Neurological Surgery
1996	Awards Committee Chairman, Joint Section on Tumors, American Association of Neurological Surgeons and the Congress of Neurological Surgeons
1996-1999	Member, Medical Advisory Board, Hydrocephalus Association
1997	Member, WHO Working Group on Neurosurgery
1997	Member, Scientific Committee, International Foundation for Mental Health and Neuroscience
1997	Advisory Board Member, National Comprehensive Cancer Network, Inc.

1998 Member, BWH Pediatric Subspecialty Credentialing Committee
 1998 Annual Meeting Chairman, Society of Neurological Surgeons
 1998 Delegate to the World Federation Neurosurgical Societies
 1998 Member, Advisory Board, Southeastern Brain Tumor Foundation
 2000 Member, Fellowship Accreditation Committee, Society of Neurological Surgeons
 2001 Advisory Board Member, South Florida Brain Tumor Association
 2003- Advisory Board Member, Tuberous Sclerosis Alliance

Professional Societies:

1979- American Medical Association
 1979- Massachusetts Medical Society
 1980- Society for Health and Human Values
 1982-1992 American Association for the Advancement of Science
 1982- Research Society of Neurological Surgeons
 1982- Society for Neuroscience
 1982- Congress of Neurological Surgeons
 1982- Boston Society of Neurology and Psychiatry
 1982- New England Neurosurgical Society
 1983- International Association for the Study of Pain
 1983-1993 New York Academy of Sciences
 1984- American Association of Neurological Surgeons
 1985- Society for Biological Psychiatry
 1985- American Neurological Association
 1985- Joint Section on Tumors, American Association of Neurological Surgeons and Congress of Neurological Surgeons
 1987- Society of University Neurosurgeons
 1987- National Hydrocephalus Foundation
 1988- American Academy of Neurological Surgery
 1988- Societe de Neurochirurgie de la Langue Francaise
 1988- American College of Surgeons
 1989- International Society of Pituitary Surgeons
 1989- American Epilepsy Society
 1989- American Society for Laser Medicine and Surgery
 1989- Society for Research into Hydrocephalus and Spina Bifida
 1989- Pediatric Section, American Association of Neurological Surgeons
 1989- International Society for Pediatric Neurosurgery
 1990- North American Skull Base Society
 1990- American Society for Stereotactic and Functional Neurosurgery
 1990- World Society for Stereotactic and Functional Neurosurgery
 1990- Joint Section on Functional and Stereotactic Neurosurgery, American Association of Neurological Surgeons and Congress of Neurological Surgeons
 1990- Society of Neurological Surgeons

Editorial Boards:

1987-1990 Editor-in-Chief, *Clinical Neurosurgery*
 1987- Ad Hoc Reviewer, *The New England Journal of Medicine*
 1993- Editorial Board, *Critical Reviews of Neurosurgery*
 1993- Associate Editor, *Journal of Neuro-Oncology*
 1994- Chairman, Editorial Board, *Neurosurgery*
 1994- Editorial Board, *Techniques in Neurosurgery*
 1994-1998 Editorial Committee, *Journal of Neurology, Neurosurgery, and Psychiatry*
 1994-1998 Editorial Board, *Child's Nervous System*

1997-	International Advisory Board, <i>Brain Tumor Pathology</i> , Japan
April 1998	Topic Editor, <i>Neurosurgical Focus</i>
1999-	Ad Hoc Reviewer, <i>Annals of Neurology</i>
1999-	Editorial Board, <i>Journal of Clinical Neuroscience</i>
2000-	Ad Hoc Reviewer, <i>Cancer</i>
2000-	Ad Hoc Reviewer, <i>Journal of Gene Medicine</i>
2001	Editorial Board, <i>Türk Nöroşirürji Dergisi</i>

Awards and Honors:

1960	Associate of the Royal Conservatory of Toronto, Solo Performer, Piano
1964-1966	University Scholarship, Harvard College
1968-1970	University Scholarship, McGill University
1970	J. Francis Williams Prize in Medicine, McGill University
1973-1978	Teacher-Investigator Award, NINDS
1988	Fellowship of the American College of Surgeons
1993-	Best Doctors in America
1995-	Distinguished Service Award, Joint Section on Tumors, American Association of Neurological Surgeons and Congress of Neurological Surgeons
1998	Dennis Thomson Compassionate Care Scholar, Brigham and Women's Hospital
1999	Honorary Membership in Federation of Latin American Neurosurgical Societies
2002	Honorary Member, Turkish Neurosurgical Society
2004	Honored Guest, Internayion Hands-On Workshop, Naples, Italy
2004	Pioneer Award, Children's Brain Tumor Foundation
2004	Honored Guest, Spanish Society of Skull Base Surgery
2004	Honored Guest, S. African 18 th Biennial Congress of Neurosurgery

PART II: Laboratory and Clinical Investigator Ladders

Report of Research:

Major Research Interests:

1. Brain tumors
2. Brain localization and structure-function correlation
3. Cerebrospinal fluid physiology and hydrocephalus
4. Pituitary tumors
5. Medical ethics

Narrative Description of Research

There are two major areas for my research: understanding and controlling brain tumors and using imaging and cortical mapping techniques for improved brain tumor surgery. I direct a molecular biology brain tumor laboratory (the Neurosurgical Oncology Laboratory) that has 6-10 members and attempts to use anti-angiogenic therapy, blockade of receptor mechanisms and better understanding of the cell cycle to stop tumor growth. It is committed to using human brain tumor tissue to try to find new treatments for brain and pituitary tumors. The operating room is my other laboratory: through improved imaging, 3D- reconstruction, intraoperative MRI, and cortical mapping I try to understand brain function better and do less invasive surgery.

Research Funding Information: Past and Present

1982-1987	Teacher Investigator Award, NINDS (PI)
1986-1991	R01- Neuropeptides in Cerebrospinal Fluid, NINDS (PI)
1990-1993	P01- Studies in Human Brain Tumors, NINDS (PI)
8/01/93-10/31/96	Clinical Evaluation of Codman-Medos Programmable Valve for Hydrocephalus, <i>Johnson & Johnson</i> , \$11,331.50 (PI)
4/01/95-9/30/96	Photon Radiosurgery System and Brain Metastases, Photoelectron Company, \$57,513 (PI)
9/30/95-9/29/98	MR Guided Therapy, NIH, \$337,841
7/1/96-6/30/98	Human Brain Tumor Cell Culture and Tumor Bank Facility, The Brigham Surgical Group, \$30,000 (PI)
7/1/97-6/30/98	The Role of Steroid Hormone Receptors in Human Brain Tumors, The Boston Neurosurgical Foundation, \$50,000 (PI)
9/1/97-8/31/98	GM3 as a Novel Apoptosis Inducing Agent for Human Gliomas, The Neal P. Levitan Chair of Research, The Brain Tumor Society, \$49,000 (PI)
6/25/98-6/24/00	The Hypopituitary Control and Complications Study, Eli Lilly, \$32,750 (PI)
1/28/99-2/27/00	Phase II Trial of Surgery with Gliadel Wafer (BCNU) and Radiation in Operable CNS Metastasis, Rhone-Poulenc Rorer Pharmaceuticals Inc, \$40,433.75 (PI)
4/1/99-3/31/01	Angiogenesis in Brain Cancer, Maggiore Hospital, Milan and the Italian Health Ministry, 65.000.000 Italian liras (USA PI)
4/1/04-3/31/09	Harvard Pediatric Brain Tumor Center, HIH/NCI, \$88,219 (Investigator)
9/1/99-8/31/00	Upgrade of a Magnetic Resonance Imaging Instrument for Biomedical Research, NSF, \$654,306 (PI)
1/1/00-12/31/00	Shared Instrument Instrumentation, NIH, \$330,000 (PI)
8/1/00-6/30/05	Tissue Characterization with Slab Scan Diffusion MRI, NIH \$175,000 (Investigator)
8/1/00-7/30/04	Brain Tumor Repository and Cell Culture Facility, The Dana Foundation, \$37,500 (sub-contract)

2/1/00-2/1/01	Continuous Endostatin Release Using Alginate/polylysine Polymers Encapsulated Producer Cell in vitro and in vivo, CIMIT, \$20,000 (PI)
8/15/01-8/14/05	Human Neural Stem Cells Target Gene Therapy to Brain Tumors, NIH, \$288,124 (PI)
9/1/98-7/30/08	PR1-Neuroimaging Analysis Center, NIH/ NCRR, Functional MRI Informatics \$17,699,254, (Core 3-PI)
9/30/03-9/29/06	RO1-Improved Tumor Resection in Image-Guided Neurosurgery, \$225,000 (CoI)
12/29/03-	Dr. Black's Neurological Oncology Research Fund \$8,068.00 (PI)
09/01/01-8/30/06	Training Grant in Surgical Oncology, NIH, \$432,996 (Investigator)
10/1/04-9/30/08	Research in Brain Tumor Pathophysiology, Brain Science Foundation, \$1,500,000 (PI)
5/1/05-4/30/10	Signal Transduction Pathways in Glioblastoma, NIH, \$337,027 (Co-I)

Principal Clinical and Hospital Service Responsibilities:

1980-1987	Neurosurgical attending for the ward service, Massachusetts General Hospital
1987-	Director, Brain Tumor Clinic, Brigham & Women's Hospital
1987-	Neurosurgeon-In-Chief, Brigham & Women's Hospital
1987-	Neurosurgeon-In-Chief, Children's Hospital
1987-	Chief of Neurosurgical Oncology, Dana-Farber Cancer Institute
1994-1998	Chairman, Dept. of Surgery, Children's Hospital

Major Administrative Responsibilities:

1987-	Chairman, Neurosurgical Services, Brigham & Women's Hospital and Children's Hospital
1987-2002	Director, Residency Program in Neurosurgery, Children's Hospital and Brigham & Women's Hospital
1991-	Co-Director Annual Harvard Post-Graduate Course, "Tumors of the Central Nervous System"
1992-1995	Co-Director, Annual International Symposium, "Growth Control in Central Nervous System Tumor"
1992-1998	Chairman, Executive Board, Brain Tumor Center, Dana-Farber Cancer Institute, Children's Hospital, Brigham & Women's Hospital, Joint Center for Radiation Therapy.
1994-1998	Chairman, Dept. of Surgery, Children's Hospital

Part III: Self Report of Teaching

From 1987 to 2002, my primary teaching responsibility was to direct the neurosurgical residency program at Brigham & Women's and Children's Hospitals. I planned the program, supervised resident schedules, assured staff participation, evaluated residents, evaluated attendings and taught a weekly course on ethical and social issues in neurosurgery for residents and students. I teach 2-4 post-doctoral neurosurgical fellows a year in clinical brain tumor work, image-guided surgery, or brain tumor research. With Dr. Mark Proctor's help, I am responsible for the medical student program including the student course at Brigham & Women's and Children's Hospitals and give a month long course called Neurosurgery as Neuroscience to Harvard Medical School fourth year students. Finally, I teach in a number of courses for fully trained neurosurgeons. With Dr. Jay Loeffler I direct an annual post-graduate course in brain tumors. I participate in most annual neurosurgical meetings and am invited to many international meetings. I am part of the education committee of the World Federation of Neurosurgical Society, teaching neurosurgery in developing countries.

Local Contributions:

Course Director for HMS Post-graduate Course, "Tumors of the Central Nervous System" (1991- present)
 Course Director for HMS Course, "Neurosurgery as Neuroscience" (1993-present)
 Course Director for HMS Course, "Neurosurgical Clinical Elective" (1987-present)

Visiting Professorships / Named Lectureships:

1989	Columbia University, New York Neurosurgical Institute, New York
1989	First Inaugural Holliman Visiting Professorship, University of Mississippi
1989	University of Toronto, Keith Lectureship
1989	Wayne State University, Gurdjian Lectureship
1990	University of Indiana, Indianapolis, Indiana
1990	University of Avicenna, Rabat, Morocco
1990	University of Maryland, Baltimore, Maryland
1991	University of Alabama, Galbraith Lectureship
1991	First Herbert Lourie Memorial Symposium, Syracuse
1991	Royal Melbourne Hospital, Melbourne, Australia
1992	Cleveland Clinic, Cleveland, Ohio
1992	First ASEAN Lecturer, Fifth ASEAN Congress, Singapore
1993	University of Southern California, Los Angeles, California
1994	Special Guest, Royal Melbourne Hospital Clinical Neuroscience Center Seminar, Melbourne, Australia
1994	Invited Speaker, XXVI Congreso Latino Americano de Neurocirugia, Cartagena, Colombia
1994	Visiting Professor, State University of New York, College of Medicine, Syracuse, NY
1994	State University of New York, Syracuse, New York
1995	Official Visiting Expert, Singapore General Hospital Brain Centre, Singapore
1995	University of Chicago, Chicago, Illinois
1995	Penfield Lecturer, Canadian Congress of Neurological Sciences, Victoria, British Columbia
1995	University of Massachusetts, Worcester, Massachusetts
1995	Schwartz Memorial Lecture, Washington University, St. Louis, MO
1995	Colombian Neurosurgical Society, Bogotá, Columbia
1996	University of Washington, Seattle, Washington
1996	University of Pittsburgh, Pittsburgh, Pennsylvania
1996	China-Japan Friendship Hospital, Beijing, China
1996	Keynote Speaker, German Neurosurgical Society Annual Meeting
1998	Mayfield Lectureship, University of Cincinnati

1998 Visiting Professor, University of Wisconsin
 1998 Invited Speaker, New York University Medical Center, New York City, NY
 1998 Visiting Professor, University of Texas-Southwestern Medical Center,
 Dallas, Texas
 1998 Visiting Professor, Johns Hopkins University, Baltimore, Maryland
 1999 Visiting Professor, Austrian Broadcasting Corporation, Vienna, Austria
 1999 Visiting Professor, University of California Los Angeles, Los Angeles, CA
 1999 Invited Speaker, 2nd Congress of the Black Sea, Thessaloniki, Greece
 1999 Invited Speaker, 4th International Congress of Minimally Invasive
 Neurosurgery, Barcelona, Spain
 1999 Invited Speaker, 5th International Conference of Functional Mapping of the
 Human Brain, Duesseldorf, Germany
 1999 Invited Speaker, 3rd Congress of International Society for Neurosurgical
 Technology and Instrument Invention, Las Vegas, Nevada
 1999 Avman Lecturer, Ankara University, Medical School, Ankara, Turkey
 1999 Invited Speaker, Mayo Clinic, Neuro-Oncology Symposium, Naples, FL
 1999 Visiting Professor, Cedars-Sinai Medical Center, Los Angeles, California
 1999 Visiting Professor, Yale University, New Haven, Connecticut
 1999 Invited Speaker, 11th European Congress of Neurosurgery, Copenhagen,
 Denmark
 1999 Invited Speaker and Keynote Speaker, National Brain Tumor Foundation
 1999 Midwest Regional Brain Tumor Conference, Covington, KY
 1999 Invited Lecturer, 1998-99 Dean's Council Lecture, Harvard Medical School
 1999 Harry A. Kaplan Endowed Lectureship in Neurosurgery, University of
 Medicine and Dentistry of New Jersey University Hospital
 1999 Harry Botterell Visiting Professor, Toronto Western Hospital, Canada
 2000 Invited Speaker, Yale University School of Medicine, New Haven, CT
 2000 Invited Speaker, Stanford University Medical Center, Stanford, CA
 2000 Invited Speaker, MRI: 2000 Clinical Update and Advanced Applications.
 Maui, HA
 2000 Invited Speaker, McGill 2000 – 100 Years of Neurosurgery. Montreal, Quebec
 2000 Invited Speaker, 9th International Symposium on Pediatric Neuro-Oncology. San
 Francisco, CA
 2000 Invited Speaker, World Congress on Medicine and Health. Hanover, Germany
 2000 Invited Speaker, The National Neuroscience Institute of Singapore Official
 Opening.
 2000 Invited Speaker, 51st Annual Meeting of the German Neurosurgical Society.
 Lubeck, Germany
 2000 Invited Speaker, Italian Congress of Neurosurgical Society. Milan, Italy.
 2001 Invited Speaker, South Florida Brain Tumor Association. Fort Lauderdale, FL
 2001 Invited Speaker, Neurosurgical Oncology: The Decade Ahead. Univ. of Texas,
 Houston, TX
 2001 Invited Speaker, George Washington University Med. Ctr. Washington, DC
 2001 W. Bethune Visiting Professor, Dalhousie University, Halifax, Nova Scotia
 2001 Invited Lecturer, 5th International Symposium on Hydrocephalus, Kos, Greece
 2001 Invited Lecturer, Moroccan Private Neurosurgical Society Meeting, Rabat,
 Morocco
 2001 Invited Speaker, World Federation of Neurological Surgeons, Sydney,
 Australia
 2001 Invited Speaker, World Federation of Neuro-Oncology, Geneva, Switzerland
 2001 Invited Speaker, University of Calgary, Alberta, Canada
 2001 Invited Speaker, Turkish Neurosurgical Society Convention, Istanbul, Turkey
 2002 Invited Speaker, American Academy of Neurological Surgery, Palm Beach, FL
 2002 Invited Speaker, Cleveland Clinic 2002, Naples, FL
 2002 Invited Speaker, Florida Brain Tumor Society, Tampa, FL
 2002 Invited Speaker, European Association of Neurological Surgeons, Rome, Italy

2002 Lloyd C. Megason Speaker, Louisiana State University School of Medicine, Shreveport, LA

2002 Invited Speaker, International Neurosurgical Conference, Shanghai, China

2002 Invited Speaker, Massachusetts Medical Society, Boston, MA

2002 Invited Speaker, Turkish Neurosurgical Society, Istanbul, Turkey

2003 Invited Speaker, Molecular Neurooncology Seminar, Bonn, Germany

2003 John Greene Visiting Professor, Barrows Institute, Phoenix, AZ

2003 Japan American Neurological Friendship Lecture – San Diego, CA

2003 Invited Speaker, American Society of Neuroradiology, Washington, D.C.

2003 Grand Rounds, Georgetown University, Washington, D.C.

2003 Keynote Speaker, 3rd International Symposium of Brain Tumor Pathology, Tokyo, Japan

2003 Invited Speaker, American Brain Tumor Association, Chicago, IL

2003 Invited Speaker, Harvard Medical Alumni Association, Boston, MA

2003 Invited Speaker, Cleveland Clinic International Symposium, Cleveland, OH

2003 Invited Speaker, German Society for Computer & Robotic Assisted Surgery, Nerumberg, Germany

2004 Invited Speaker, Tuberous Sclerosis Alliance, Boston, MA

2004 Invited Speaker, Tuberous Sclerosis Allianace, New York, NY

2004 Visiting Professor, NINDS/NIH, Washington, D.C.

2004 Visiting Professor, Illinois Neurological Institute, Peoria, IL

2004 Invited Lecturer, 4th International Hands-On Workshop, Naples, Italy

2004 Invited Lecturer, World Federation of Neurological Surgeons, Shanghai, China

2004 Invited Lecturer, Oncology/Neuroscience Conference, Istanbul, Turkey

2004 Surgical Grand Rounds, Boston, MA

2004 Neurosurgery Grand Rounds, Children’s Hospital, Boston, MA

2004 Invited Speaker, Rehab Services, Brigham & Women’s Hospital, Boston, MA

2004 Invited Speaker, 6th Spanish Skull Base Society, Malaga, Spain

2004 Invited Speaker, 18th Biennial S. African Congress of Neurosurgery, Sun City, Africa

2004 Grand Rounds, Department of Rehabilitation, Boston, MA

2004 Invited Speaker, 1st Annual Neurooncology Symposium, Hackensack Medical Center, Hackensack, NJ

2004 Invited Lecturer, Royal Academy of Medicine, Best Doctors, Madrid, Spain

2004 Keynote Speaker, RUNN Course, Woods Hole, MS

2004 Invited Speaker, Mt. Sinai Medical Center, New York, NY

2004 Invited Speaker, WFNS Tumor Section, Jaipur, India

2004 Invited Speaker, Brain Tumor Society Symposium, Boston, MA

2004 Grand Rounds, Emerson Hospital, Concord, MA

2005 Invited Speaker, Florida Brain Tumor Association, Ft. Lauderdale, FL

2005 Grand Rounds, MetroWest Medical Center, Framingham, MA.

2005 Grand Rounds, Newton Wellesley Hospital, Newton, MA.

2005 Visiting Professor, UAMS, Little Rock, AR

2005 Rodenstock Lecturer, Nuremberg, Germany.

Teaching Experience:

1976-1980 Premedical tutor, Adams House, Harvard College

1977 Assistant in General Education, Harvard College

1977 Developed and taught course at Adams House, Harvard College, "Ethical Problems in Medicine"

1981-1987 Participated in teaching Harvard Medical students on neurosurgical rotation, Massachusetts General Hospital

1981-1987	Organized weekly grand rounds for the Neurosurgical Service, Massachusetts General Hospital
1987-2002	Director of neurosurgical residency program, Children's Hospital, Brigham and Women's Hospital
1987-2002	Director of medical student elective program, Children's Hospital, Brigham and Women's Hospital
1991-	Course Director for HMS Post-graduate Course, "Tumors of the Central Nervous System"
1993, 1994	Instructor, "Introduction to Clinical Medicine," Harvard Medical School
1993, 1995	Co-Director, Neurobiology Course, Harvard Medical School
1998-	Course Director, Neurosurgery as Neuroscience, Harvard Medical School
2001	Guest discussor in MBB-95, "Problem Solving in Neuroscience," Harvard College
2004	Guest Discussor, Problem Solving in Neuroscience: ICON, Harvard Medical School
2005	Case Review Conference, Royal Melbourne Hospital, Melbourne, Australia

Research Mentorship:

1982	Guided research work of Dr. Toshiaki Abe, postdoctoral fellow from Tokyo, in intracranial pressure physiology
1982	Guided research work of Dr. E. Scott Conner, Massachusetts General Hospital neurosurgical resident, in cerebrospinal fluid physiology in hydrocephalus
1982-1984	Guided research work of Dr. Argyris Tzouras, postdoctoral fellow from Greece, in neuropeptide effects in cerebrospinal fluid
1983-1984	Guided research work of Dr. Allan Hamilton, fellow in neurosurgery, on beta-endorphin and corticotropin-releasing factor release in endotoxic shock in dogs
1983-1985	Guided research work of Dr. Eben Alexander, III, postdoctoral fellow from Duke University, on neuropeptides and CSF changes after subarachnoid hemorrhage in a canine model
1983-1985	Dissertation mentor for Carlos Hakim, Massachusetts Institute of Technology doctoral candidate, in pressure changes across the cerebral mantle in hydrocephalus
1984	Guided research work of Dr. Eric Zager, Massachusetts General Hospital neurosurgical resident, in diurnal patterns of arginine vasopressin release in free-ranging rabbits
1984-1985	Guided research work of Dr. Joseph Madsen, Massachusetts General Hospital neurosurgical resident, in mechanisms of normal-pressure hydrocephalus
1984-1985	Guided research work of Dr. Robert Griebel, postdoctoral fellow from Canada, in accessory drainage pathways in hydrocephalus
1985-1988	Guided research work of Dr. Marius Maxwell, postdoctoral fellow from England, in cellular mechanisms of neoplasia
1987-1988	Guided research work of Dr. Enrique Jimenez Hakim, postdoctoral fellow from Colombia, in growth factors in human brain tumors and meningiomas
1987-1988	Guided research work of Dr. Robert Peterson, Children's Hospital neurosurgical resident, in angiogenesis in human brain tumors
1987-1989	Guided research work of Dr. Kanaris Panagopoulos, postdoctoral fellow from Greece, in growth factors in pituitary tumors
1987-1990	Guided research work of Dr. Mustapha El-Azouzi, postdoctoral fellow from Morocco, in brain tumor pathogenesis
1988-1989	Guided research work of Dr. Enrique Osorio, postdoctoral fellow from Colombia, in cryopreservation of cells for adrenal medullary transplantation for Parkinson's disease

1989-1991 Guided research work of Dr. Min Shu Zhan, visiting neurosurgeon from China, in cell culture of brain tumors

1990-1992 Guided research work of Dr. Ab Guha, postdoctoral fellow from Toronto, in oncogenesis in brain tumors

1990-1992 Guided research work of Dr. Mitsunori Matsumae, postdoctoral fellow from Japan, in hydrocephalus imaging

1991-1992 Guided research work of Dr. Abdessamad El-Ouahabi, postdoctoral fellow from Morocco, in mechanisms of pseudotumor cerebri

1991-1993 Guided research work of Dr. Ihsan Shanti, postdoctoral fellow from Morocco, in cellular mechanisms of neoplasia

1991-1993 Guided research work of Dr. Steven Leon, Harvard Medical School student in mechanisms of neoplasia in meningiomas and pituitary tumors

1991-1995 Guided postdoctoral work of Dr. Jiguang Zhu in chromosomal abnormalities of meningiomas

1993-1999 Guided postdoctoral work of Dr. Rodolfo Hakim in clinical pediatric neurosurgery, hydrocephalus, radiosurgery, meningiomas, and epilepsy surgery

1993-1994 Guided research work of Dr. Chris Uchiyama, Harvard Medical School student, in deletion sequences in astrocytomas

1994-1996 Guided research work of Dr. Taka Maruyama, Japan in brain tumor angiogenesis

1994-1997 Guided research work of Dr. Tomas Santarius, Czechoslovakia in deletion sequences in brain tumors

1994-1997 Guided research work of Dr. Matthias Kirsch, Germany in brain tumor angiogenesis

1994 Guided thesis work of Alan Villavicenzio, HMS IV, in stereotactic radiosurgery for brain tumors; he is presently a neurosurgical resident at Duke University

1995 Guided research work of Harvard college students Klio Chantziaris and Benjamin Chauncy in apoptosis in human brain tumors

1995 Guided research work of Dr. Steven Kalkanis, Harvard Medical Student, in steroid factors in brain tumor growth

1995 Guided research work of Dr. Rafael Allende, Harvard Medical Student, in anti-angiogenesis in human brain tumors.

1996 Guided research work of Dr. Jaime Imitola, Bogotá Columbia in brain tumor treatment

1996- Guided research work of Dimitrios Nikas, Athens, Greece, in growth factors in brain tumor

1996- Guided research work of Jon Strasser, Harvard Medical Student, in biopolymer release of anti-angiogenic agents

1996 Guided research work of Jules Lin, Harvard Medical Student in deletion sequences in brain tumors

1997 Guided research work of Cetin Evliyaoglu, neurosurgeon from Turkey working on calcium homeostasis and the parathyroid hormone related protein

1997 Guided research work of Conor McDonough, undergraduate at Bowdoin College developing novel murine brain tumor models

1997 Guided research work of John Wilson, undergraduate from Princeton University working on p27/Kipl in pituitary adenomas

1997 Guided research work of Turker Kilic, neurosurgeon from Turkey working on novel small molecule inhibitors of PDGR-R

1997 Guided Dr. Ab Guha as tumor fellow in molecular biology and neurosurgery for brain tumors

1998 Guided research work of Lorenzo Bello, neurosurgeon from Milan working on the role of integrins in tumor growth and invasion

1997-1999	Guided research work of Alexandra Chabrierie working on 3-D reconstruction aided surgical planning
1997-1998	Guided research work of Fatma Ozlen, neurosurgeon from Turkey, working on 3-D reconstruction aided surgical planning
1999	Guided research work of Emmanoul Chatzidakis, neurosurgeon from Greece working on 3-D reconstruction aided surgical planning
1998	Guided Dr. Andrew Danks as neurosurgeon in image-guided neurosurgery
1998	Guided research work of Edith Coakley, undergraduate from Oxford University working on 3-D reconstruction-aided surgical planning
1998-1999	Guided research work of Arya Nabavi, neurosurgeon from Germany, working on 3-D reconstruction aided surgical planning and the intraoperative MRI
1999-2000	Guided Vivek Mehta, post-doctoral student from Nova Scotia in neurosurgery, especially outcome analysis
1999-2001	Guided research work of Alireza Gharabaghi, neurosurgeon from Germany, working on 3-D reconstruction aided surgical planning and the intraoperative MRI
1999-2000	Guided research work of Jason Williams, student from Harvard Medical School, working on developmental biology of glial neoplasm
1999-2000	Guided research work of Ian Dunn, student from Harvard Medical School, working on meningioma pathogenesis
2000-2001	Guided Dr. Kate Drummond from Melbourne, Australia, in image-guided neurosurgery
2001-2002	Guided research of Dr. Ion-Florin Talos, postdoctoral researcher from Germany, working on Image guided surgery
2001-2003	Guided Dr. Nils Schmidt, neurosurgical resident from Hamburg, Germany, in stem cell neurobiology
2001-2002	Guided Dr. Nicholas Foroglou, neurosurgeon from Greece, in brain tumor mechanisms
2001-2002	Guided neurosurgical resident, Dr. Kadir Erkmen, in neurosurgical oncology
2002-2003	Guided Juha Jaaskelainen, neurosurgeon from Finland, in image-guided surgery
2002-2003	Guided Mika Niemela, neurosurgeon from Finland, in image-guided surgery
2003-2003	Guided Elizabeth Claus, epidemiologist from Yale, in image-guided surgery
2003-2004	Guided Dr. Dennis Oh, neurosurgeon from the Philippines, in image-guided surgery
2004-2005	Guided Juan Ortega, neurosurgeon from

Part IV: Bibliography

Original Articles

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4. Zarren HS, Black PM. Unilateral gynecomastia and impotence during low-dose spironolactone administration in men. *Milit Med* 1975; 140:417-9.
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8. Black PM. Chief complaints in a free walk-in clinic: a study of 3,009 consecutive patient visits. *Public Health Reports* 1977; 92:150-3.
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30. MRI Assessment of Endostatin Anti-angiogenesis Treatment of Human Brain Tumors in Nude Mice. Y. Sun, R. Carroll, N. Seyfried, M. Machluf, N. O. Schmidt, R. V. Mulkern, J. Munasinghe, P. Black, M. Albert. International Society for Magnetic Resonance in Medicine, tenth Scientific Meeting and Exhibition.
31. Using MRI to Monitor Endostatin Treatment of Mouse Brain Tumors Yanping Sun, R. Carroll, N. Seyfried, M. Machluf, N. O. Schmidt, R. V. Mulkern, S. Mochizuki, J. Munasinghe, P. Black, M. Albert. The 41st Annual Conference of Japanese Society for Medical and Biological Engineering, 9-11 May 2002, Kyoto, Japan.
32. Differential expression of glutamate receptor subunits in human cortical tubers. Talos DM, Black PM, Jensen FE. TSC/LAM Research Symposium 2005. Cincinnati, OH
33. Commentary, *Surg Neurol* 63(1): 61, 2005.
34. Rossetti AO, Mortati KA, Black PM, Bromfield EB. Simple Partial Seizures with Hemisensory Phenomena and Dysgeusia: An Insular Pattern. *Epilepsia*, 46(4):590-1, 2005.

Lectures:

1. Medulloblastomas. Medical Grand Rounds, The Children's Hospital, January 6, 1988.
2. Brain tumors. Rehabilitation Grand Rounds, Brigham and Women's Hospital, January 12, 1988.
3. Brain tumors. Surgical Grand Rounds, Brigham and Women's Hospital, January 13, 1988.
4. Pathophysiology and management of hydrocephalus. Neurosurgical Grand Rounds, The Hospital for Sick Children, Toronto, Canada, February 3, 1988.
5. Metastatic diseases of the spine and brain. Annual Community Day, Dana Farber Cancer Institute, March 9, 1988.
6. Pathophysiology of brain tumors. Anesthesia Grand Rounds, Brigham and Women's Hospital, March 23, 1988.
7. Trans-sphenoidal management of large pituitary adenomas. Annual Meeting of the Neurosurgical Society of America, Hot Springs, VA, April 6, 1988.
8. Research and treatment of amyotrophic lateral sclerosis (with Dr. Lois Lampson). Center for Neurologic Diseases Seminar, Brigham and Women's Hospital, April 10, 1988.

9. Pituitary tumors producing FSH and LH. Obstetrics and Gynecology Grand Rounds, Brigham and Women's Hospital, April 20, 1988.
10. Intracranial masses. Bermuda Exchange Teaching Program Lecturer, King Edward VII Memorial Hospital, Paget, Bermuda, May 11, 1988.
11. Pressure gradients and accessory absorption pathways in hydrocephalus. Alfred Benzon Symposium 27, Copenhagen, Denmark, June 6, 1988.
12. Navigating safely through the brain. Surgical Grand Rounds, The Children's Hospital, June 15, 1988.
13. Brain tumors. ICU surgical in-service training, Brigham and Women's Hospital, June 19, 1988.
14. Head trauma. Grand Rounds, New England Deaconess Hospital, August 17, 1988.
15. Silent pituitary adenomas. Endocrine Grand Rounds, Brigham and Women's Hospital, October 26, 1988.
16. Brachytherapy for malignant brain tumors (with Dr. Jay Loeffler). Neurosurgical Postgraduate Course, Massachusetts General Hospital, November 16, 1988.
17. Neurosurgical aspects of pediatric epilepsy management. Neurosurgical Postgraduate Course, Massachusetts General Hospital, November 17, 1988.
18. Tumors of the third ventricle. Neurosurgical Postgraduate Course, Massachusetts General Hospital, November 18, 1988.
19. "Nonfunctioning" pituitary adenomas. Neurosurgical Postgraduate Course, Massachusetts General Hospital, November 18, 1988.
20. Brain tumors. Distinguished Lecturer Series, Spaulding Rehabilitation Hospital, Boston, November 18, 1988.
21. Developements recentes aux adenomas pituitaires. Avicena University, Rabat, Morocco, December 1989.
22. Radiation interstitielle: Societe de neurochirurgiens de la langue Francais, Paris, France, December 1989.
23. Introduction to brain tumors. OR Continuing Education Program, Brigham and Women's Hospital, January 4, 1989.
24. Brain tumors. Rehabilitation Medicine Rounds, Brigham and Women's Hospital, January 12, 1989.
25. Managing "benign" brain tumors. Neurology/Neurosurgery Grand Rounds, Brigham and Women's Hospital, January 25, 1989.
26. Stereotactic radiosurgery (with Dr. Eben Alexander, III). Nursing Rounds, Brigham and Women's Hospital, February 1, 1989.
27. Stereotactic technology in neurosurgery (with Eric Cosman and Dr. Matthew Moore), Neurology/Neurosurgery Grand Rounds, Brigham and Women's Hospital, February 22, 1989.

28. Techniques of resecting intracranial tumors. Surgical Research Conference, Brigham and Women's Hospital, March 15, 1989.
29. Oncogenes and growth factors in human brain tumors. Visiting Professor at the Neurological Institute, Columbia University, New York NY, March 16, 1989.
30. Brain death. Anesthesia Grand Rounds, Brigham and Women's Hospital, March 29, 1989.
31. Allocation of medical resources: problems faced by the practicing physician. First Herbert Lourie Medical Symposium on Health Policy, Syracuse NY, April 12, 1989.
32. Risks of contemporary neurosurgical practice. Society of University Neurosurgeons Annual Meeting, Toronto, May 6, 1989.
33. HMS Laser Course -- MRI-guided laser destruction of intracranial targets. March 13, 1989.
34. Contemporary management of pediatric brain tumors. Pediatric Grand Rounds as the First Holliman Visiting Professor, University of Mississippi Medical Center/Children's Hospital, Jackson, Mississippi, March 31, 1989.
35. Genes and growth factors in tumor pathogenesis. Neurology/Neurosurgery Grand Rounds as the First Holliman Visiting Professor, University of Mississippi Medical Center/Children's Hospital, Jackson, Mississippi, March 31, 1989.
36. The expression of platelet-derived growth factor genes in primary human astrocytomas (with Dr. Marius Maxwell), Research Society of Neurological Surgeons Annual Meeting, Windsor, England, June 14, 1989.
37. Unusual lesions around the sella turcica. Neurosurgery Postgraduate Course, Massachusetts General Hospital, September 18, 1989.
38. Growth factors and oncogenes in neural tumors. Neurosurgery Postgraduate Course, Massachusetts General Hospital, September 19, 1989.
39. Supratentorial tumors in children. Neurosurgery Postgraduate Course, Massachusetts General Hospital, September 20, 1989.
40. New horizons in neurosurgery. Brigham and Women's Hospital Alumni Symposium, Brigham and Women's Hospital, September 23, 1989.
41. Autocrine growth in astrocytomas: the role of PDGF. American Academy of Neurological Surgeons Annual Meeting, Tucson, Arizona, September 28, 1989.
42. Recurrent gliomas. Ninth International Congress of Neurological Surgery, New Delhi, India, October 9, 1989.
43. Surgery for pituitary adenomas (with Drs. Edward Laws and S Mingrino). Ninth International Congress of Neurological Surgeons, New Delhi, India, October 11, 1989.
44. Stereotactic accelerator irradiation for parasellar lesions. International Society of Pituitary Surgeons Annual Meeting, Agra, India, October 14, 1989.
45. Malignant tumors of the sellar and parasellar regions. International Society of Pituitary Surgeons Annual Meeting, Agra, India, October 14, 1989.

46. Surgery for epilepsy. Child Neurology Course, Departments of Neurology at Massachusetts General Hospital and The Children's Hospital, Cambridge MA, October 25, 1989.
47. Management of low-grade gliomas. Symposium on Neuro-oncology and stereotactics: current approaches to primary CNS neoplasia. Scottsdale, Arizona, November 3, 1989.
48. Interstitial brachytherapy. Symposium on Neuro-oncology and stereotactics: current approaches to primary CNS neoplasia. Scottsdale, Arizona, November 3, 1989.
49. Surgery for epilepsy. Neurophysiology/Epilepsy Group Talk, November 17, 1989.
50. Research and treatment of brain tumors (with Dr. Lois Lampson). Center for Neurologic Diseases Seminar, Brigham and Women's Hospital, November 19, 1989.
51. Epilepsy surgery. Medical Grand Rounds, Dana Farber Cancer Institute, November 29, 1989.
52. Ethical Issues In The Management Of Brain Tumors. Harvard Post-Graduate Course, Neurology In The 1990's, Harvard Medical School, March 22, 1990.
53. Problems In Management Of Functional Pituitary Adenomas. American Association of Neurological Surgeons, Breakfast Seminar, April 1991.
54. New Developments In Surgery For Brain Tumors. Brain Tumor Society, Annual Meeting, May 1991.
55. Ethical Dimensions in the Neural Sciences. Harvard Alumni Association, Ethics in the Decade of the Brain, June 1991.
56. Neurology in the 1990's: Intensive Clinical and Basic Neuroscience Update. Harvard Medical School, March 18-23, 1991.
57. Neurosurgery for Brain Tumors. Brain Tumor Society, Annual Meeting, May 1991.
58. Ethics in the decade of the brain. Harvard Alumni Association, June 1991.
59. Neurosurgical evaluation and management of pituitary tumors. World Federation of Neurological Societies Course, Rabat, Morocco, October 1991.
60. Neurosurgery for pediatric epilepsy. World Federation of Neurological Societies Course, Rabat, Morocco, October 1991.
61. Brain Tumors. Harvard Medical School, Intensive Review of Neurology, October 1991.
62. The Biology and Management of Meningiomas. Galbraith Lecture, University of Alabama at Birmingham, November 8, 1991.
63. Declaring Death and Harvesting Organs: A Neurosurgical Perspective. Galbraith Lecture, University of Alabama at Birmingham, November 9, 1991.
64. Seizures Associated with Astroglial Neoplasms in Children. American Association of Neurological Surgeons, Pediatric Section, December 1991.
65. MRI Guided Laser Destruction Of Neurosurgical Targets. Harvard Post-Graduate Course, April 1992.

66. Intensive Care Medicine, The Art and Science of Critical Care, Neurosurgical Emergencies. Harvard Medical School.
67. Craniopharyngioma. Current Concepts in Non-secreting pituitary tumors.
68. Techniques in pituitary tumor surgery. Australasian Workshop On Pituitary Tumors. Adelaide, Australia.
69. New Horizons in Image-Coupled Laser Resection. Harvard Medical School, Hands-on Workshop for Neurosurgery, March 1992.
70. Solitary Brain Mets: When to Radiate, When to Resect, When to Perform Radiosurgery. Harvard Medical School, Multimodality Therapy of Chest Malignancies - Update 1992, April 1992.
71. Ethical Issues and High Technology In Neurosurgery (Moderator). American Association of Neurological Surgeons, San Francisco, April 1992.
72. Funding of Research Activities: Research and Clinical. Society Of Neurological Surgeons, May 17, 1992.
73. Three-Dimensional MRI-reconstruction in the analysis and approach to skull base tumors. Neurosurgical Society Of America, Banff, Alberta, Canada, June 1992.
74. Epilepsy Surgery Today. Cleveland Clinic, September 25, 1992.
75. Biology and Management of Meningioma. University of Massachusetts Medical Center, 1992.
76. Pediatric Gliomas.
Management of Epilepsy in Children
Management of Pituitary Adenomas.
Management of Skull Base Lesions.
World Federation of Neurological Societies Course, Recife, Brazil, October 1992.
77. Molecular Biology: Concepts, Technics, Opportunities (Moderator). American Academy of Neurological Surgery, October 1992.
78. Surgical and Radiotherapeutic Approaches to Primary Brain Tumor. Brigham & Women's Hospital, Neurology/Neurosurgery Grand Rounds, October 20, 1992.
79. PVS, Current Policy Issues of Futility and Withdrawing Therapy. Ethical Health Care Decision Making, Brigham & Women's Hospital, February 4, 1993.
80. New Approaches to Brain Tumors. North Shore University Hospital, Manhasset, NY, February 5, 1993.
81. Biology and Treatment of Meningiomas: How to Grow and Kill Meningiomas. University Children's Medical Group, Children's Hospital, Los Angeles, CA, February, 1993.
82. Getting It All Together: Image Directed Neurosurgery. Didactic Lectures and Clinical/Anesthesia Conferences, Brigham & Women's Hospital, February 24, 1993.
83. Biology and Treatment of Meningiomas: How to Grow and Kill Meningiomas. Grand Rounds Series, Brigham & Women's Hospital, February 24, 1993.

84. A Comprehensive Approach to Skull Base Meningiomas. Neurosurgical Society Of America, Annual Meeting, March 1993.
85. Surgical Lessons from the Current Management of Brain Tumor. St. Luke's Hospital, North Dartmouth, MA, March 27, 1993.
86. CSF Diversion: Techniques And Complications (Panelist)
Seizures in Children With Supratentorial Astroglial
Surgical Management Of Childhood And Adolescent Epilepsy (Moderator)
American Association Of Neurological Surgeons, Boston, April 1993.
87. Brain Death Determination Criteria & Complications. The Inn at Children's. Boston, May 11, 1993.
88. The Neurosurgical Perspective of Brain Tumors. New England Rehabilitation Hospital, Cancer Conference, Woburn, MA, May 4, 1993.
89. Present and Future Applications of Laser in Neurosurgery. First Keio/Harvard Joint Meeting, Tokyo, Japan, June 21, 1993.
90. Brain Tumors Today. Cape Cod Conference, September 18, 1993.
91. Management of Hydrocephalus in Adults.
The Biology and Natural History of Meningiomas: Molecular biology of meningiomas and therapeutic implications.
The Biology and Natural History of Meningiomas: What it takes to beat the natural history of meningiomas with surgery.
Comment on PNET.
World Federation of Neurological Societies, Acapulco, Mexico, October 1993.
92. FTF04 - Medulloblastoma. Scit. Cong. Int. Ped. Skull Base, Acapulco, Mexico, October 22, 1993.
93. The Role of Surgery for Rhabdomyosarcoma of the Head and Neck in Children. First Scientific Congress of the International Society for Pediatric Skull Base, Acapulco, Mexico, October 22, 1993.
94. Stereotactic Radiosurgery and Stereotactic Radiosurgery for Pituitary Tumors. Taxco, Mexico, October 23-24, 1993.
95. Virtual Reality for Localizing Central Nervous Systems Masses (with Langham Gleason, M.D.) American Academy of Neurological Surgery, Wigwam, Arizona, October 28, 1993.
96. Molecular Neurosurgery: Dream or Reality? American Academy of Neurological Surgery, Wigwam, Arizona, October 30, 1993.
97. The Early Detection of Brain Tumors. Northeast Rehabilitation Center, Salem, NH, November 2, 1993.
98. Structural and Functional Brain Mapping. Medical Exchange Club, Boston, MA, November 3, 1993.
99. Brain tumors in the 1990's. The Society of Clinical Surgery, Boston, MA, November 6, 1993.

100. Anatomic and Functional Mapping of Brain Tumor Resection. Tumors of the Central Nervous System, Boston, MA, November 12, 1993.
101. Surgical Treatment of Brain Tumors. Intensive Review of Neurology, Boston, MA, November 18, 1993.
102. Multimodality Management of Skull Base Lesions in Adults and Children. Three-Dimensional Brain Reconstruction and Physiological Mapping in Tumor Surgery: Techniques and Results. University of Pennsylvania, Visiting Professor, December 2-3, 1993.
103. American Association of Neurological Surgeons. Section on Pediatric Neurological Surgery, San Antonio, TX, December 7-10, 1993.
104. Virtual Reality and Brain Mapping in Tumor Surgery. Thomas Jefferson University, Visiting Professor, Philadelphia, PA, December 17, 1993.
105. Radiosurgery for AVMs. Overview of Tumors - Incidence. Glioma Management: Surgery, Radiotherapy, Chemo Rx. Principles and treatment of Epilepsy. World Federation of Neurological Societies, Antalya, Turkey, February, 1994.
106. Clinical Aspects and Advances in Pituitary Tumors. New Treatments For Brain Tumors. Royal Melbourne Hospital Seminar, Victoria, Australia, March 17-19, 1994.
107. Stereotactic Radiosurgery in the Overall Management of Brain Tumors. Stereotactic Craniotomy for Brain Tumors: The Brigham & Women's Hospital Experience. Use of Depth Electrodes in Pediatric Epilepsy: Techniques, Indications, and Results. The National Stereotactic Workshop, St. Vincent's Hospital, Sidney, Australia, March 25-27, 1994.
108. Stereotactic Radiotherapy in the Management of Adult and Pediatric Brain Tumors. Management of the Recurrent or Unresectable Meningioma. American Association of Neurological Surgeons, San Diego, CA, April 1994.
109. Advances in the Surgical Management of Brain Tumors. Harvard Longwood Oncology Group, Joint Center for Radiation Therapy, Brigham & Women's Hospital, April 20, 1994.
110. The Society of Neurological Surgeons, Charlottesville, VA, April 24-27, 1994.
111. Molecular Biology of Meningiomas: Progesterone, Androgen, Estrogen, Prolactin and Dopamine Receptor Expression in Human Meningiomas. German Society of Neurosurgery, Annual Meeting, Nurnberg, Germany, May 1994.
112. Image Fusion / Three-Dimensional Surgical Planning. 1994 Mayfield-Aring Neuroscience Symposium, Cincinnati, Ohio, June 1994.
113. Radiosurgery for Pulmonary Metastases. International Congress for Lung Cancer, Athens, Greece, June 1994.
114. Referral Pattern of Meningiomas to an Academic Neurosurgeon. Society of University Neurosurgeons, Lyon France, June 1994.

115. The Biology and Management of Meningiomas.
Stereotactic Techniques in Adult and Pediatric Brain Tumor Surgery.
Epilepsy Surgery in Children.
Management of Pituitary Adenomas by Trans-sphenoidal Surgery.
XXVI Congreso Latino Americano de Neurocirugia SantaFe de Bogota, DC, Colombia,
October 1994.
116. Epilepsy Surgery. Michael J. Bresnan Child Neurology Course, Boston, MA, October
1994..
117. Virtual Reality, Radiosurgery, & Sex Hormones: The New World of Meningiomas.
Visiting Professor, University of Chicago, Chicago, IL, March 4, 1995.
118. The Use of Critical Pathways & Outcomes Studies. Boston Surgical Society, Boston, MA,
April 10, 1995.
119. Anaplastic Astrocytoma/GBM. Brain Tumor Working Group, Boston, MA, April 19, 1995.
120. Unresectable Meningioma.
Managed Care/Competition: Ethical Issues for the Neurosurgeon.
Technical Progress in Stereotaxy & Operative Imaging.
American Association of Neurological Surgeons Meeting, Orlando, FL, April 22-27, 1995.
121. The Management of Lesions that cannot be Operated On. Von Hippel Lindau Family
Alliance Conference, Lahey Clinic, Burlington, MA, April 29, 1995.
122. New Aspects of the Treatment of Gliomas including Gene Therapy. European Congress of
Neurosurgery, Berlin, Germany, May 9, 1995.
123. Scientific & Theological Definitions of Death. Boston, MA, May 17, 1995.
124. Welcome Address: Growth Control in the Central Nervous System Tumors. Boston, MA,
June 3, 1995.
125. Brain Tumor Surgery Using Three-Dimensional Reconstruction & Virtual Reality
Projection. Virtual Reality in Medicine Developer's Expo, Cambridge, MA, June 4, 1995
126. Radiosurgery for Meningiomas. Neurosurgical Society of America, Sea Island, GA, June
8, 1995.
127. Meningiomas in the Elderly.
Virtue & Virtuosity in Neurosurgery.
Society of University Neurosurgeons, Philadelphia, PA, June 7-12, 1995.
128. Benign Tumors.
Linear Accelerator Radiosurgery in the Treatment of Skull Base Meningiomas.
International Stereotactic Radiosurgery Society, Boston, MA, June 16, 1995.
129. Three-Dimensional Reconstruction Techniques in Brain Tumor Surgery. Joint International
Congress on Minimally Invasive Techniques in Neurosurgery & Otolaryngology,
Pittsburgh, PA, June 18, 1995.
130. Penfield Lecturer: Virtual Reality, Sex Hormones, & Radiosurgery: New Aspects of
Meningioma Management.
Surgical Management of NPH.

- Symposium on the Withdrawal of Care.
Canadian Congress of Neurological Sciences, Victoria, BC, Canada, June 20-25, 1995.
131. World Federation of Neurosurgical Societies' Tumor Course, Lima, Peru, July 2-5, 1995.
 132. Biology & Management of Meningiomas. Visiting Professor, University of Massachusetts Medical Center, Worcester, MA, July 11, 1995.
 133. Epilepsy Surgery for Children. In-Service, Children's Hospital, 9 North Staff, Boston, MA, July 19, 1995.
 134. Stereotactic Craniotomy using the CRW System.
3-D Reconstruction for Visual Guidance in the O.R. and its Use with Interventional MR. Image Directed Surgery for Brain Tumors, WFNS, Greece, August 27 - 29, 1995.
 135. Advances in Surgery for Brain tumors. Intensive Review of Neurology, Boston, MA, September 13, 1995.
 136. Scientific Aspects of Neurosurgery. Schwartz Lecturer, Washington Univ., St. Louis, September 22, 1995.
 137. Congress of Neurological Surgeons, San Francisco, CA, October 14 - 19, 1995.
 138. Surgical Neuroanatomy. Human Nervous System and Behavior Course, Boston, MA, October 31, 1995.
 139. Angiogenesis as a Prognostic Indicator in Astroglial Tumors. International Conference on Brain Tumor Research and Therapy, Napa, CA, October 31 - November 3, 1995.
 140. On Being the Academic Neurosurgeon-in-Chief. Children's Hospital Medical Staff Association, Boston, MA, November 11, 1995.
 141. What's New in Neurosurgery? Brain Tumor Society, Patient Information Day, Boston, MA, November 6, 1995.
 142. Sellar Lesions: Approaches
Advances in Tumor Surgery
Round Table: Surgery vs. Stereotactic Radiosurgery in Cranial Base Tumors. Colombian Neurosurgical Association, Bogotá, Colombia, November 11-13, 1995.
 143. Meningiomas, Pituitary Adenomas, and Schwannomas. Tumors of the Central Nervous System: Brain Tumor Management Course, Boston, MA, November 14-15, 1995.
 144. The Transplantation of Pig Cells into the Human Brain: Ethical Considerations. Lahey Clinic Section of Medical Ethics Lecture Series, Burlington, MA, January 3, 1996.
 145. Isolated Brain Metastasis with Thoracic Cancers. Brigham and Women's Hospital Thoracic Surgery Grand Rounds, Boston, MA, January 12, 1996.
 146. Image-Guided Neurosurgery for Brain Tumors. Visiting Professor, Henry Ford Hospital, Detroit, MI, February 2-3, 1996.
 147. Surgery for Brain Tumors in Eloquent Areas. Foundation for Promotion of Cancer Research, Tokyo, Japan, March 12-13, 1996.

148. Chemotherapy and New Therapies for Tumors
Endocrinology and Pituitary Tumors
Meningiomas
Surgery for Epilepsy.
Surgical Treatment of Pituitary Tumors. World Federation of Neurosurgical Societies Course, Sao Paulo, Brazil, April 1 - 4, 1996.
149. Advances in the Treatment of Brain Tumors. Harvard University Health Services, Cambridge, MA, April 10, 1996.
150. Sex Hormones, Virtual Reality, and Radiosurgery: The New World of Meningiomas. Visiting Professor, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 17 - 18, 1996.
151. Early American Schools of Neurosurgery.
Managed Care/Competition: Ethical Issues for the Neurosurgeon
The Radium Bomb: Harvey Cushing and the Interstitial Irradiation of Gliomas. American Association of Neurological Surgeons, Minneapolis, MN, April 27 - May 2, 1996.
152. Keynote Address: Ethics, Surgery and the Law.
Withdrawing Treatment.
Hormones and their Receptors in Brain Tumor Pathophysiology.
Aggressive Local Surgical and Non-surgical Treatments for Glioma.
Astroglial Neoplasms in Children.
New Developments in Image-Guided Surgery.
Surgery and Radiosurgery in Metastatic Tumors
Management of Non-functional Pituitary Adenomas.
Radiosurgery in and Stereotactic Radiotherapy for Pituitary Adenomas.
Management of the Non-functional Pituitary Adenoma.
Royal Australasian College of Surgeons, Melbourne, Australia, May 5 - 15, 1996.
153. New Navigational Techniques in Brain Tumor Surgery. Surgical Grand Rounds, Boston, MA, May 15, 1996.
154. Local Therapy for Malignant Brain Tumors. Society of Neurological Surgeons, Chicago, IL, May 14, 1996.
155. Growth Control of Childhood Tumors
New Directions for Biologic Studies. International Symposium on Pediatric Neuro-Oncology, Washington D.C., May 15 - 18, 1996.
156. Meningiomas and Molecular Aspects of Neuro-oncology including Gene Therapy. World Federation of Neurological Societies Course, Argentina, May 21 - 24, 1996.
157. The Management of Gliomas: Diagnosis and Treatment.
Meningiomas: Diagnosis and Treatment.
Epilepsy.
Endocrinology of Pituitary Tumors.
Neoplasms and Functional Neurosurgery. World Federation of Neurological Societies Course, Romania, June 3 - 4, 1996.
158. Image Guided Surgery. Harvard Medical School, Boston, MA, June 6, 1996.
159. Indications & Limitation of Surgical Therapy for Malignant Glioma. German Society, Hamburg, Germany, June 17 - 20, 1996.

160. Posterior Fossa Meningiomas. World Federation of Neurological Societies Posterior Fossa Tumors Course, Bali, Indonesia, June 24, 1996.
161. Image Guided Neurosurgery - A New Vision. Yonsei University College of Medicine, Seoul, Korea, June 25, 1996.
162. Image Guided Neurosurgery - A New Vision. Seoul National University, Seoul, Korea, June 26, 1996.
163. 3-D Reconstruction with Cortical Mapping. Stereotactic Target Localization Techniques, Cambridge, MA, July 20-21, 1996.
164. Meningiomas. Skull Base Biology Meeting, Boston, MA, July 25, 1996.
165. 3-D Reconstruction with Cortical Mapping
Intraoperative MRI in Neurosurgery
Extratemporal Resections in Children. Cortical Mapping/Epilepsy Workshop, Seattle, Washington, August 15, 1996.
166. Sex hormones, Virtual Reality, and Radiosurgery: The New World of Meningioma Management. University of Washington, Visiting Professor, August 16, 1996.
167. Epilepsy
Neoplasms: Gliomas, Meningiomas, Diagnosis and Treatment.
Discussion: Pituitary
Radiosurgical Treatment of AVM's. World Federation of Neurological Societies Course, Beijing, China, August 28 - 30, 1996.
168. Surgery in the MRI. Scientific Program at the American Academy of Neurological Surgeon Meeting, Greenbrier, WV, September 18-22, 1996.
169. Intraoperative MR Imaging During Neurosurgery
Innovations in Technology and Techniques in Neurosurgery
Moderator: Epidemiology and Prognosis
Career in Neurosurgery/What's New in Neurosurgery. Congress of Neurological Surgeons Tumor Satellite Conference, Montreal, Canada, September 28-October 3, 1996.
170. Skull Base Surgery in Posterior Fossa in Children
Gliomas, High and Low Grade
Brain Stem Tumors. XXVII Congress FLANC-CLAN Meeting, San Pedro Sula City, Honduras, October 18, 1996.
171. The X knife Radiosurgery System - Its Clinical Experience and Future Prospects. Stereotactic Guided Techniques in Neurosurgery Symposium and Workshop, Mainz, Germany, October 18, 1996.
172. Meningiomas.
Role of Radiosurgery in Benign Tumors.
Image Directed Surgery for Brain Tumors. Third International Kakirkoy Days, Istanbul, Turkey, November 6 - 8, 1996.
173. NCCN Panelist: Development Cancer Treatment Guidelines, Santa Fe, NM, November 10-12, 1996.
174. Molecular Biology of Brain Tumors
Management of Meningiomas and Pituitary Tumors. Tumors of the Central Nervous

System Brain Tumor Management, Boston, MA, November 25-26, 1996.

175. The Boston Experience
Panelist: Future Perspectives. Intraoperative MR in Neurosurgery, Heidelberg, Germany, December 13-14, 1996.
176. Treatment of Brain Metastases Lung Cancer. Thoracic Surgery, Grand Rounds, Boston, MA, February 14, 1997.
177. Surgery in the Open Magnet: Impact on Minimally Invasive Therapy of the Brain. UCLA, Los Angeles, CA, March 15, 1997.
178. Colloquium I Current Concepts on Meningiomas
Growth Factors and Steroid Receptors of Meningiomas
Radiosurgery for Recurrent Meningiomas. North American Skull Base Society, Little Rock, Arkansas, March 22-23, 1997.
179. Treatment of CNS Malignancies. Clinical Practice Improvement Seminar, Dana Farber Cancer Institute, Boston, MA, March 24, 1997.
180. Intraoperative MRI: A Radical New Tool for Neurosurgery. Joint Meeting of British Society of Neurological Surgeons and the Neurosurgical Society of America, Cambridge, England, April 2-5, 1997.
181. Decade of the Brain Symposium-Tumor: Molecular Biology and Genetics in the Comprehension and Control of Neoplastic Invasion and Heterogeneity.
Molecular Biological Therapy of CNS Neoplasm.
Contemporary Definitions and Ethical Issues of Brain Death. American Association of Neurological Surgeons Annual Meeting, Denver, CO, April 12 - 17, 1997.
182. Boston Neurological History Revisited.
Clinical Effectiveness Practice in an HMO. The 49th American Academy of Neurology Annual Meeting. Boston, MA, April 14-18, 1997.
183. Molecular Biology and Brain Tumor Surgery. Neurosurgical Grand Rounds, Boston, MA, April 23, 1997.
184. Pulse-Gated Evaluation of CSF Flow
Programmable Valves for the Treatment of Hydrocephalus. Complex Hydrocephalus and Hydrocephalus Complications Conference, Assisi, Italy, April 27-30, 1997.
185. The "Resident-Proof" Residency. Society of Neurological Surgeons, Pittsburgh, PA, May 19-21, 1997.
186. Craniotomy Under Local Anesthesia and Monitored Conscious Sedation for the Resection of Tumors Involving Eloquent Cortex. Society of University Neurosurgeons, Ann Arbor, MI, May 28-31, 1997.
187. Surgery for Brain Tumors: Triumphs and Challenges. American Association for Cancer Research / American Association of Neurological Surgeons, San Diego, CA, June 7-11, 1997.
188. Endogenous Growth Inhibition of Glioma.
Chromosomal Deletions Rather than Microsatellite Instability are Important in the Pathogenesis of Oligodendrogliomas.
Craniotomy under Local Anesthesia and Monitored Conscious Sedation for the Resection

- of Tumors Involving Eloquent Cortex.
Anti-Angiogenic Therapy of Gliomas. 11th International Congress of Neurological Society, Amsterdam, Netherlands, July 6-11, 1997.
189. Latest Concepts in the Molecular Biology of Pituitary Tumors. International Society of Pituitary Surgeons Meeting/Non-Secreting Pituitary Adenoma Workshop III, Malmo, Sweden, July 11-14, 1997.
190. Molecular Biology and Implications for Brain Tumors.
Present State of the Histopathological Diagnosis.
Advances in the Imaging Study of the Brain Tumors.
Present State of the Surgical Treatment of Brain Tumors.
Brain Tumors Treatment with Radiotherapy, Chemotherapy and Neurobiological Therapies.
Advances in Neurosurgery, WFNS, Santiago, Chile, August 26-29, 1997.
191. Remembrance of Dr. Martins. Hayes-Kempe-Martins Symposium, Walter Reed Army Medical Center, Washington, D.C., September 5-7, 1997.
192. Molecular Genetics of Brain Tumors. 12th International Conference on Brain Tumor Research and Therapy, Keble College, Oxford, UK, September 20-23, 1997.
193. MR Imaging. Annual Meeting, Congress of Neurological Surgeons, New Orleans, Louisiana, September 27-October 2, 1997.
194. Novel Therapeutic Approaches to Primary Central Nervous System Malignancy.
Department of Medicine, Grand Rounds, Brigham & Women's Hospital, Boston, MA, October 3, 1997.
195. Glioma Surgery in Eloquent Areas. Controversies in the Surgical Management of Gliomas, Madrid, Spain, October 16-17, 1997.
196. New Diagnostics and Treatments Against Malignant Gliomas Based on Molecular Biological Knowledge.
Image-guided Surgery.
Diagnosis for Neurofunctional Localization.
Intraoperative MRI: A Radical New Tool for Neurosurgery.
Problems around Neurosurgery at Present and for the Future. Annual Meeting, Conference of Japanese Neurological Association, Tokyo, Japan, October 22, 1997.
197. The Latest Treatments in Adult Care.
Adult Benign and Low Grade Tumors and their Management. New Frontiers 1997, Brain Tumor Society, Boston, MA, November 1, 1997.
198. Indications and Techniques of the Surgical Approach in Childhood Epilepsy. Epilepsy Surgery in Drug Resistant Epilepsy, Sienna, Italy, November 7-10, 1997.
199. Biology and Management of Low Grade Gliomas. Grand Rounds Neurology, Massachusetts General Hospital, Boston, MA, November 20, 1997.
200. Development of an Intraoperative MRI for Brain Tumors Surgery. French Speaking Society of Neurosurgery, Paris, France, December 1-3, 1997.
201. Three Dimensional Reconstruction and Led. Based Navigation to Identify Focal Lesions in Pediatric Patients Under-going Epilepsy Surgery. Annual Meeting, American Epilepsy Society, Boston, MA, December 5-10, 1997.

202. Virtue and Virtuosity in Neurosurgery. Neurosurgery Grand Rounds, Carnegie Conference Room, Dana Farber Cancer Institute, Boston, MA. December 10, 1997.
203. Current Trends in Neurosurgery. Rehabilitation Grand Rounds, Bornstein Theater. December 17, 1997.
204. X Knife as a treatment option for brain tumors. Radionics /Brain Tumor Conference, San Francisco, CA. March 1998.
205. Developmental Antigenic Expression for gliomas. SUNS Meeting, Memphis, TN. March 28, 1998.
206. Open MRI: the Boston experience. Functional Imaging and Image-Guided Surgery, EANS, Seeheim, Germany. April 1998.
207. Development of Intraoperative MRI; Grand Rounds
Biology and Treatment of Low Grade Gliomas; Moertel Lecture
Mayo Clinic, Rochester, MN. April 17-18, 1998.
208. Low Grade Gliomas.
Stereotactic Functional Neurosurgery: Frame based and frameless system and clinical application.
Interdisciplinary Skull Base Surgery and Alternative Therapy: Round Table Discussion with Short Presentations: Neurosurgery Section.
WFNS Course, Iran. April 17-25, 1998.
209. Predictive Value of Temporary External Drainage in Normal Pressure Hydrocephalus (NPH).
Development and Impact of a Craniotomy for Tumor Critical Pathway.
Results of Linear Accelerator-Based Radiosurgery for Intracranial Meningiomas.
Craniotomy for Tumor in a MRI Unit.
Aggressive Surgery and Focal Radiation in the Management of Meningiomas of the Skull Base: Preservation of function with maintenance of local control.
Transsphenoidal Surgery in the Intraoperative MRI.
Expression of Vascular Endothelial Growth Factor and its Receptors in Astrocytic Neoplasms: Relation to vascularity and histopathological Grade.
6th Annual AANS Meeting, Philadelphia, PA. April 25-30, 1998.
210. 3D Planning and Surgical Navigation in the Resection of Primary Intra-Axial Brain Tumors.
Transsphenoidal Resection of Pituitary Adenomas in the Intraoperative MRI.
AANS/CNS Section on Tumors Satellite Symposium, Philadelphia, PA. May 1, 1998.
211. Operating with MRI Vision.
Grand Rounds, Bornstein Amphitheatre
Brigham and Women's Hospital, Boston, MA. May 6, 1998.
212. Cortical Astrocytomas.
8th International Symposium on Pediatric Neuro-Oncology, Rome. May 7-9, 1998.
213. Advances in Imaging, Surgery & Radiotherapy.
Canadian Neuro-Oncology Meeting, Ontario, Canada. May 7-9, 1998.
214. Development and Impact of a Critical Pathway for Craniotomy for Tumor.
Neurological Society of America, Quebec, Canada. May 15, 1998.

215. The Biology and management of Low Grade Gliomas. Using the Intraoperative MRI Scanner for Tumor Surgery. Is the Academic Neurosurgeon Extinct? Mayfield Lecturer, Cincinnati, Ohio. June 5-6, 1998.
216. Anecdotes about Dr. Harvey Cushing. Board of Trustees Dinner, Wellesley College Club, Boston, MA. June 10, 1998.
217. The Intraoperative MRI: a radical new tool for Neurosurgery. Biology and management of low-grade gliomas. 49th Annual Meeting of the German Society of Neurosurgery, Hanover, Germany. June 12-14, 1998.
218. Molecular Analysis of Brain Tumors. Research Retreat, Boston, MA. June 17, 1998.
219. Biology and Management of Low Grade Gliomas. Operating with MRI Vision. University of Wisconsin, Madison WI. September 11-12, 1998.
220. Intra-operative Image Guided Surgery. Tumors of the Central Nervous System. Boston, MA. September 28-19, 1998.
221. Epilepsy Surgery. Epilepsy Conference, Boston, MA. September 24, 1998.
222. From Gliogenesis to Glioma: Antigenic Analysis of Gliomas using Cell Type-Specific Developmental Antigens. Cellular and Molecular Treatments of Neurological Diseases Cambridge, MA. October 9-10, 1998.
223. Cortical Mapping and Surgery for Epilepsy.
224. Surgical Approaches to Neoplasms of the Third Ventricles.
225. Surgery for Low Grade Gliomas.
226. Publishing Scientific Articles in *Neurosurgery*.
227. Congress of Neurological Surgeons, Seattle, WA. October 3-8, 1998.
228. The Interventional Magnet.
229. Novel Approaches to Treatment of Malignant Gliomas.
230. American Academy of Neurological Surgery, Santa Barbara, CA. November 4-8, 1998.
231. Interactive MRI. A Systems Approach to the Management of Glial Neoplasms.
232. New York University Medical Center, New York, NY. November 13, 1998.
233. Biology and Management of Low Grade Gliomas. Grand Rounds Johns Hopkins School of Medicine, Baltimore, MD. November 18, 1998.
234. Achievements in the Surgery of Brain Tumors. Medical Grand Rounds, Newton Wellesley Hospital, MA. December 2, 1998.
235. The Use of Intraoperative MRI for Tumor Surgery. The Biology and Management of Low Grade Gliomas. Academic Day, University of Texas – Southwestern Medical Center, Dallas, TX. December 3-4, 1998.

236. Brain Tumor Surgery in the Next Millennium. "Entering the Mind Zone: A Comprehensive Neuroscience program," Brigham and Women's Hospital, Boston, MA. January 13, 1999.
237. The Brain: The Final Frontier "The Future of Scientific Research," Austrian Broadcasting Corporation, Vienna, Austria. January 20-21, 1999.
238. Neurosurgery in the MRI Scanner. UCI Medical Center, Los Angeles, CA. February 3, 1999.
239. Intra-OP MRI. Clinical Neuroscience Lecture, Cedars Sinai Medical Center, Los Angeles, CA. February 3, 1999.
240. Intraoperative MRI; Meningiomas: Neuro-Oncology Symposium: Current Concepts 1999, Mayo Clinic, Naples, Florida. February 14-17, 1999.
241. Assessing Cognitive Function during Neurosurgery. Behavioral Neurosciences Seminar, Brigham and Women's Hospital. February 18, 1999.
242. Biology and Treatment of Meningiomas. Biology and Treatment of Low Grade Gliomas. Dr. Avman Lecture, Ankara University, Ankara, Turkey. February 27, 1999.
243. Advances in Neurosurgical Intraoperative Localization. UCLA Medical School, Los Angeles, CA. March 6, 1999.
244. History of Neurosurgery at Children's Hospital. Anesthesia Grand Rounds, Children's Hospital. Boston, MA. March 10, 1999.
245. Intraoperative Imaging. Advances in Imaging Technology, Neurosurgical Society of America, Scottsdale, AZ. March 27-31, 1999.
246. New Frontiers in Brain Tumor Surgery.
247. Hinton-Wright Biomedical Research Society, Harvard Medical School, Boston, MA. April 6, 1999.
248. The Surgical Treatment of Low Grade Gliomas in the Intraoperative MRI; Intraoperative MRI in Brain Tumor Surgery; The Farber Lecture; Intraoperative Imaging: What Do We Really Need? The American Association of Neurological Surgeons, New Orleans, LA. April 24-29, 1999.
249. MRI Guided Neurosurgery. International Society for Neurosurgical Technology and Instrument Invention, Las Vegas, NV. May 1, 1999.
250. How I Do It: ICP Monitoring; Gliomas: Diagnosis and Management Principle: Parasagittal and Convexity Meningiomas; Management of Cerebellar Tumors; Stereotaxy. World Federation of Neurosurgical Societies, Victoria Falls, Zimbabwe. May 15-17, 1999.
251. Technological Frontiers in Neurosurgery. Clinical Focus Session, Center for Innovative Minimally Invasive Therapy, MGH, Boston, MA. May 25, 1999.
252. Current Trends in Treatment Modalities in Treating Brain Tumors. Saint Anne's Hospital, Fall River, MA. May 26, 1999.
253. The Biology and Management of Meningiomas; The Cerebral Cortex – The New Frontier for Neurosurgery: Brain Mapping & Image Guided Surgery for Brain Tumors. 2nd Black Sea Neurosurgical Congress, Thessaloniki, Greece. June 9-11, 1999.

254. New Perspectives in Computer Assisted Neurosurgery: Intraoperative Neuroimaging. 4th International Congress of Minimally Invasive Neurosurgery, Barcelona, Spain. June 17-20, 1999.
255. Pre- and Intraoperative MRI. 5th International Conference on Functional Mapping of the Human Brain, Duesseldorf, German. June 23-26, 1999.
256. Brain Tumors. Gene Therapy Workshop, Children's Hospital, Boston, MA. June 30, 1999.
257. Image-guided Surgery including the Intraoperative MRI. SMIT/CIMIT 11th Annual Scientific Meeting, Boston, MA. September 16-18, 1999.
258. New Data on Surgery for Low Grade Gliomas in Adults. 11th European Congress of Neurosurgery, Copenhagen, Denmark. September 19-24, 1999.
259. Management of Patients with Hereditary Brain Tumors; Future Directions of Biological Therapies. Midwest Regional Brain Tumor Conference, Covington, KY. October 1-2, 1999.
260. The Brain, the Soul and the Neurosurgeon. Dean's Council Lecture, Harvard Medical School, Boston, MA. October 4, 1999.
261. Neurobiology of Glioma Classification and Management. 29th Annual Meeting, Society for Neuroscience, Miami Beach, FL. October 23, 1999.
262. Intraoperative Structural and Functional Visualization of the Brain: Management of Low Grade Gliomas. University of Medicine and Dentistry of New Jersey University Hospital, Newark, NJ. October 26-27, 1999.
263. The Boston Concept for iMRI; Surgery of Cerebral Glioma Past, Present & Future, Clinical Studies; The Role of the Institutional Ethics Committee; Neurosurgical Technology in the 21st Century. Congress of Neurological Surgeons Annual Meeting, Boston, MA. October 30-November 4, 1999.
264. Adult Benign and Low Grade Tumors and Their Management. Frontiers of Hope Symposium. The Brain Tumor Society Annual Meeting, Providence, RI. November 13-14, 1999.
265. Image-Guided Neurosurgery in the Next Millennium. E. Harry Botterell Visiting Professor. Toronto Western Hospital. November 22, 1999.
266. Intraoperative MRI. Neurosurgery Grand Rounds. Yale University School of Medicine, New Haven, CT. December 1, 1999.
267. The Present and Future of Cerebral Tumor Surgery in Children. World Conference of Pediatric Neurosurgery. Martinique. December 3, 1999.
268. Minimally Invasive Image-Guided Neurosurgery. Brigham and Women's Hospital Department of Surgery Grand Rounds. December 15, 1999.
269. Angiogenesis in Malignant Gliomas. Dana-Farber/Partners CancerCare Grand Rounds. January 4, 2000.
270. Image Guided Neurosurgery in the Next Millennium. Stanford University Medical Center Neurosurgery/Neuroscience Grand Rounds, Stanford, CA. January 14, 2000.

271. Image-guided neurosurgery: The Surgeon's Perspective. Current Status & Future Perspectives of Image-Guided Neurosurgery. MRI Guided Surgery of Glioma. MRI 2000: Clinical Update and Advanced Applications. Maui, Hawaii. February 21-27, 2000.
272. Reoperation for Glioblastoma Multiforme. Intraoperative imaging. American Association of Neurological Surgeons Annual Meeting. San Francisco, CA. April 8-13, 2000.
273. How to Build a Brain Tumor Center. AANS/CNS Section on Tumors 4th Biennial Satellite Meeting. San Francisco, CA. April 13-14, 2000.
274. Mapping the Brain. Children's Hospital Surgical Grand Rounds. Boston, MA. April 18, 2000.
275. Brain Tumors. Current Approaches to Understanding Neurodegenerative Disease. Harvard Medical School, Boston, MA. May 6, 2000.
276. Intraoperative Brain Imaging. McGill 2000 – 100 Years of Neurosurgery. Montreal, Quebec, Canada. May 18, 2000.
277. Neurosurgical Emergencies in Tumors and Hydrocephalus. Entering the Mind Zone: Neuro Emergencies. Boston, MA. May 25, 2000.
278. Normal Pressure Hydrocephalus. Cambridge Hospital Medical Grand Rounds. Cambridge, MA. May 31, 2000.
279. Biological and Technical Perspectives in the Treatment of Pediatric Brain Tumors. 9th International Symposium on Pediatric Neuro-Oncology. San Francisco, CA, June 11-14, 2000.
280. Intraoperative MRI in Brain Surgery. World Congress on Medicine and Health: Medicine Meets Millennium. Hannover, Germany. July 23, 2000.
281. Developmental Biology of Cerebral Gliomas; New Surgical Techniques for Glioma Resection; Normal Pressure Hydrocephalus & the Medos Programmable Shunt; Symposium on Cerebral Gliomas. The National Neuroscience Institute of Singapore Official Opening. Singapore. July 25-26, 2000.
282. New biological therapies for brain tumors. 51st Annual Meeting of the German Neurosurgical Society. Lubeck, Germany. Sept 12-16, 2000.
283. Common Problems in Manuscript Design and Preparation for CNS Seminar *Publishing Scientific Articles in Neurosurgery*. Congress of Neurological Surgeons Annual Meeting. San Antonio, TX. Sept 25, 2000.
284. Intraoperative MRI System. Italian congress of Neurosurgical Society. Milan, Italy. October 19, 2000.
285. Intraoperative MRI. HMS at the Millennium: What's New and What's Happening In and Around the Quadrangle. Boston, MA. October 21, 2000.
286. The Operating Room as Laboratory. Surgery Grand Rounds, Brigham and Women's Hospital. Boston, MA. November 1, 2000.
287. Angiogenesis and Invasion in Brain Tumors, Dana Farber/Partners Cancer Center Grand Rounds, Boston, MA. November 7, 2000.
288. Meningiomas: A Neglected Tumor of Women. Women's Health Grand Rounds, Brigham and Women's Hospital, Boston, MA. December 6, 2000.
289. Latest Surgical Treatments in Adult Care. South Florida Brain Tumor Association, Fort Lauderdale, FL. January 21, 2001.

290. Angiogenesis in Brain Tumors. Children's Hospital Surgical Grand Rounds, Boston, MA. January 24, 2001.
291. Meningioma: Finding a Cure. Neurosurgical Oncology: The Decade Ahead Conference at The University of Texas. M.D. Anderson Cancer Center, Houston, TX. January 27, 2001.
292. Questions in Adult Normal Pressure Hydrocephalus Treatment. NPH Meeting, San Diego, CA. February 2, 2001.
293. Advances in Intraoperative Imaging. Changing Perceptions in Low Grade Gliomas. The George Washington University Medical Center, Washington, DC. February 27, 2001.
294. Low Grade Gliomas. Diagnosis and Management of Principle Meningiomas. Biology and Neurosurgical Management. Seizure Surgery and Adult Hydrocephalus. World Federation of Neurological Surgery Education Course. Cordoba, Argentina. April 2-4, 2001.
295. Current Management and Future Horizons in the Treatment of Intracranial Neoplasms. Neurology Grand Rounds. Beverly Hospital, Beverly, MA. April 9, 2001.
296. Image-guided Neurosurgery. The Neurosciences: The Brain Across the Life Span. BWH Women's Health Leadership Forum, Brigham and Women's Hospital, Boston, MA. April 18, 2001.
297. Image-guided Surgery for Malignant Tumors in Seminar "Malignant Brain Tumors: State-of-the-Art Treatment." Novel Biologic Therapies for Gliomas in Section on Tumors Symposium. New Frontiers in Imaging and Ablation in Special Course "Advances in Neurosurgical Imaging." Discussant of paper, "CSF Drainage in Alzheimer's Disease: Results of a Phase I Clinical Trial." American Association of Neurological Surgeons annual meeting. Toronto, Canada. April 21-26, 2001.
298. New developments in image-guided Neurosurgery. Department of Surgery Research Day. Dalhousie University Department of Surgery. Halifax, Nova Scotia, Canada. May 16, 2001.
299. Normal Pressure Hydrocephalus: Diagnosis and Management. 3rd International Hydrocephalus Workshop. Kos, Greece. May 18, 2001.
300. Biotechnology and Brain Surgery. Brigham and Women's Hospital. Boston, MA. May 24, 2001.
301. Ethics in Neurosurgery. Moroccan Private Neurosurgical Society Annual Meeting. Rabat, Morocco. May 25-27, 2001.
302. Biology and Classification of Pituitary Adenomas including Molecular Biology. Moroccan Private Neurosurgical Society Annual Meeting. Rabat, Morocco. May 25-27, 2001.
303. Diagnosis and Therapy of ACTH Producing Adenomas. Moroccan Private Neurosurgical Society Annual Meeting. Rabat, Morocco. May 25-27, 2001.
304. Diagnosis and Therapy of TCH Secreting Adenomas. Moroccan Private Neurosurgical Society Annual Meeting. Rabat, Morocco. May 25-27, 2001.
305. Therapeutic Perspectives. Moroccan Private Neurosurgical Society Annual Meeting. Rabat, Morocco. May 25-27, 2001.
306. Global Trends in the Treatment of Brain Tumors. Entering the Mind Zone Annual Meeting. Boston, MA. June 7, 2001.

307. Neuro-Oncology. Jubilee Meeting of the New England Neurosurgical Society. Boston, MA. June 8, 2001.
308. Brain Tumors. Distinguished Lecture Series, Spaulding Rehabilitation Hospital. Boston, MA. June 22, 2001.
309. Epicentric Therapies for Glioblastoma. Cleveland Clinic Foundation. Cleveland, OH. June 23-24, 2001.
310. Brain, Kidney, and Lung Involvement in TS. 2nd National Conference of the Tuberous Sclerosis Alliance. San Diego, CA. July 7, 2001.
311. Beyond Anticonvulsants: Epilepsy Surgery, VNS and the Ketogenic. 2nd National Conference of the Tuberous Sclerosis Alliance. San Diego, CA. July 7, 2001.
312. A Variable Pressure Valve for Hydrocephalus Treatment. Codman Programmable Valve Course. Boston, MA. August 29, 2001.
313. Minimalist Approach to Functional Mapping. Congress of Neurological Surgeons. San Diego, CA. September 30, 2001.
314. Case Management: Strategies for Removal of Intracranial Meningiomas. Congress of Neurological Surgeons. San Diego, CA. October 2, 2001.
315. New Frontiers in Neurosurgery. Clinical Neurosurgery Grand Rounds, University of Alberta. November 9, 2001.
316. Intra-operative MRI: Indications and Utilities. American Academy of Neurological Surgery, Washington, DC. November 15, 2001.
317. Philosophy of Neurosurgery. Turkish Neurosurgical Society, Istanbul, Turkey, November 17, 2002
318. Low Grade Gliomas. Tumors of the Central Nervous System. Harvard Medical School, Boston, MA December 3, 2001.
319. The New World of Brain Tumor Surgery, Florida Brain Tumor Association, Tampa, FL. January 27, 2002
320. Cytoreduction for Low Grade Gliomas, Cleveland Clinic 2002: Current Concepts, Naples, FL., February 3, 2002.
321. Tumor Antiangiogenesis. Cleveland Clinic 2002: Current Concepts, Naples, FL., February 3, 2002.
322. Cerebral gliomas in adults and children. European Association of Neurological Surgeons, February 9, 2002.
323. The Neurosurgical operating room of the future. International Neurosurgical Conference, Shanghai, China, March 29, 2002.
324. Length of Survival in Patients with a Supra-tentorial Glioma is Related to the MRI and Protein S₁₀₀β Spectroscopy (H-MRSI)—Defined Spatial Location of Their Tumor. American Association of Neurological Surgeons, Chicago, IL, April 10, 2002.

325. Session on Management of Low Grade Gliomas: Does Extent of Resection Affect Outcome? American Association of Neurological Surgeons, Chicago, IL. April 12, 2002.
326. New Frontiers in Brain Surgery. Caritas Good Samaritan Medical Center, Brockton, MA. April 17, 2002.
327. From Neurosurgeon to Cyborg: The Implications of Intraoperative Neuroimaging. Massachusetts Medical Society, June 1, 2002.
328. Current Concepts in the Treatment of Meningiomas. Turkish Neurosurgical Society Convention, Istanbul, Turkey, June 5, 2002.
329. The Renaissance of Neurosurgery. VI Detroit Neurosurgery Symposium, Detroit, MI, September 2002.
330. New developments in neuro-oncological surgery. Bonn, Germany, June 15, 2002.
331. Training Women as Neurosurgeons for the New Millennium. 4th Asian Conference of Neurological Surgeons, Hong Kong, November 2002.
332. IV Advanced Techniques in Image Guided Brain & Spine Surgery. Mt. Sinai School of Medicine, New York, NY, December 2002.
333. Image Guided Neurosurgery. MIT-Harvard Medical School Conference of Neuroscience, Cambridge, Massachusetts, March 2003.
334. From Neurosurgeon to Cyborg: The promise of neurosurgery in the 21st century. The Barrow Neurological Institute, Green Lecturer, Phoenix, Arizona, March 2003.
335. Image-guided & intraoperative MRI; State-of-the-art treatments for low-grade gliomas. AANS, San Diego, CA, April 2003.
336. Practical Issues in Image Guided Surgery.” ASNR, April 2003, Washington, D.C.,
337. Challenges for the Neuropathologist in Image Guided Surgery. 3rd International Symposium on Brain Tumor Pathology – Tokyo, Japan, May 2003
338. New Developments in Brain Tumor Surgery, Grand Rounds, Georgetown University, May 2003.
339. Meningioma Research. Brain Science Foundation Advisory Committee
340. Surgery for Malignant Brain Tumors, American Brain Tumor Association -Chicago, IL, July 2003.
341. Cleveland Clinic Cure for Glioblastoma Symposium-New Surgical Techniques for Glioblastoma, Chicago, IL, July 2003.
342. CNS-Luncheon Seminar-Intraoperative Imaging: Current Applications, Denver, CO, October 2003.
343. New Opportunities in Brain Tumor Research-Translational Research in Brain Tumors, Newark, NJ, September 2003.
344. CURAC-“Requirements of a surgeon for a computer scientist concerning visualization”, Nuremberg, Germany, November 2003.

345. Tuberos Sclerosis Alliance-Treatment for TSC, Boston, MA, March 2004.
346. Tuberos Sclerosis Alliance, Neurosurgery for epilepsy and SEGAS, New York, NY April, 2004
347. Intraoperative MRI in the Treatment of Low-Grade Gliomas; The Aid of Intraoperative MRI in the Treatment of Intracranial Tumors, Oncology/Neuroscience Meeting, Istanbul, Turkey, April 2004.
348. Rethinking Gliomas and Meningiomas; New World of Image-Guided Surgery, University of Illinois, Peoria, IL, April 2004.
349. Image-Guided Pituitary Surgery, 4th International Hands-On Workshop on Endoscopic Pituitary Surgery, Naples, Italy, May 2004.
350. Management of Non-Skull Base Meningiomas; Epilepsy Surgery: Selection of Patients and Therapeutical Modalities; Normal Pressure Hydrocephalus, World Federation of Neurological Surgeons, Shanghai, China, May 2004.
351. Discussant: Safety of Convection Enhanced Drug Delivery in Functional Human Tissue: Experience From Phase I Studies; Have We Made Any Progress in the Treatment of GBM: The Brigham Experience 1987-2001; Shunting for NPH Using a Programmable Valve: The BWH Experience; Discussant: White matter tract identification by diffusion tensor imaging in glioma surgery; American Association of Neurological Surgeons, Orlando, FL, May 2004.
352. Rethinking Low Grade Gliomas; Pituitary Adenomas; Image-Guided Neurosurgery; Futile Care-Neurosurgeon's Perspective. 18th Biennial South African Congress of Neurosurgery, Sun City, Africa, August 2004.
353. Recent Development in Image-Guided Minimally Invasive Neurosurgery; The Fate of the Academic Neurosurgeon Viewpoints from the USA & Germany. American Academy of Neurological Surgery, Berlin/Dresden, Germany, October 2004.
354. Intraoperative Imaging: Current Application. Congress of Neurological Surgeons, San Francisco, CA, October 2004.
355. Surgery for Recurrent Malignant Gliomas-When, Why, How?; Intraoperative Imaging Techniques and Physiological Monitoring with the GE Signa System; Techniques and Results in Surgical Management of Gliomas; Challenges and Triumphs in Surgery for Low-Grade Gliomas; Brain Stem & Thalamic Gliomas-When and How to Operate; Neurooncology Fellowships as Translational Neuroscience Training. WFNS Tumor Section Meeting, Jaipur, India, October 2004.
356. Management of meningiomas, Brain Tumor Society, Boston, MA, October 2004.
357. Neuronavigation in the Treatment of Brain Tumors, Best Doctors, Royal Academy of Medicine, Madrid, Spain, November 2004.
358. The Neurosurgeon as a Translational Neuroscientist, RUNN Course, Woods Hole, MA, November 2004.
359. New Frontiers in Neurosurgery, 1st Annual Neurooncology Symposium, Hackensack, NJ, November 2004.

360. SEGA/Eye Manifestations and Epilepsy Surgery, TSC Conference, Boston, MA, November 2004.
361. Pre-operative Brain Mapping, Advanced Techniques & Technology in Brain & Spine Surgery, Mt. Sinai Medical Center, NY, December 2004.
362. GBM: Strategies in the Battle for a Cure; The Role of Surgery in Brain Tumor Management. 7th Biennial Florida Brain Tumor Association, Fort Lauderdale, FL, January 2005.
363. New Directions in Brain Surgery. Dr. Benjamin Matzilevich Memorial Lecture, MetroWest Medical Center, Framingham, MA, February 2005.
364. Brain Tumors. Grand Rounds, Newton Wellesley Hospital, Newton, MA, February 2005.
365. Stem Cell Therapy for Gliomas; Molecular Biology of Low-Grade Gliomas. Glioma 2005, Sydney, Australia, March 2005.
366. Systemic Cancer, 2nd Quadrennial World Federation of Neuro-Oncology, Edinburgh, UK, May 2005.
367. Navigating the Brain, Rodenstock Lecture, Nuremberg, Germany, May 2005.
368. Intraoperative MRI; Discussant: Multicentric phase III study on fluorescence-guided resection of malignant gliomas w/5-ALA: Preliminary results on interim analysis of 270 patients; Panelist: State of the Art Treatments for Low-Grade Gliomas. AANS. New Orleans, LA, April 2005.
369. New Technologies in Brain Surgery. 6th BWH Neuroscience Conference, Boston, MA. June 2005.