



**CURRICULUM VITAE  
HENRY BREM, M.D.**

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**CURRICULUM VITAE  
HENRY BREM, M.D.**

\_\_\_\_\_  
Signature

**DEMOGRAPHIC INFORMATION**

\_\_\_\_\_  
Date

Current Appointments:

Harvey Cushing Professor  
Director, Department of Neurosurgery  
Professor of Neurosurgery, Ophthalmology, Oncology and Biomedical Engineering  
Neurosurgeon-in-Chief, Johns Hopkins Medical Institutions  
Director, Hunterian Neurosurgical Research Center  
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Medical Licensure:

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Washington, DC: MD041896 Exp. 12/31/2020  
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NPI: 1710944269  
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DEA Controlled Substance: AB8953110 Exp. 7/31/2022

Education and Training:

**THESES:** "Mechanism of selected carcinogen-DNA interactions"  
Biology Honor Thesis, New York University, June 1973.  
"Control of neovascularization"  
Honor Thesis, Harvard Medical School, 1978.

A.B. 1970 - 1973 New York University, (Cum Laude)  
1973 - 1974 Harvard University, Graduate School of Arts and Sciences

Updated 12/10/20

M.D.	1974 - 1978	Department of Biological Chemistry, Harvard Medical School (Cum Laude)
	1978 - 1979	Peter Bent Brigham Hospital, General Surgery Resident
	1979 - 1980	Johns Hopkins Hospital, Neurosurgery and Ophthalmology, Fellow
	1979 - 1984	Neurological Institute of New York, Columbia College of Physicians and Surgeons, Neurosurgery Residency
	1999, Feb.	Harvard School of Public Health: Program for Chiefs of Clinical Service

### Professional Experience:

Research Assistant (Cardiopulmonary Lab), New York University Medical School	1967 - 1970
Pre-Doctoral Fellow, Microbiology Department, Columbia College of Physician and Surgeons	1971 - 1972
Pre-Doctoral Fellow, Surgery Department, Children's Hospital Medical Center, Boston, MA.	1972 - 1978
Consultant, Wilmer Institute, Johns Hopkins Hospital	1975 - 1979
Fellow (Clinical Surgery), Harvard University	1978 - 1979
Fellow (Neurosurgery & Ophthalmology), Johns Hopkins University	1979 - 1980
Staff Associate (Neurosurgery), Columbia University	1983 - 1984
Assistant Professor of Neurosurgery, Johns Hopkins University	1984 - 1988
Assistant Professor of Oncology, Johns Hopkins University	1984 - 1989
Director, Neurosurgical Oncology, Johns Hopkins Hospital	1984 - 2000
Joint Appointment in Ophthalmology, Johns Hopkins University	1984 -
Associate Professor of Neurosurgery, Johns Hopkins University.	1988 - 1993
Associate Professor of Oncology, Johns Hopkins University	1989 - 1993
Director, Hunterian Neurosurgical Research Center	1991 -
Professor, Neurosurgery and Oncology, Johns Hopkins University	1993 -
Vice Chairman, Dept of Neurosurgery, Johns Hopkins University	1995 - 2000
Harvey Cushing Professor	2000 -
Director, Department of Neurosurgery, Johns Hopkins University	2000 -
Co-Functional Unit Director, Clinical Neurosciences, Johns Hopkins Hospital	2000 -
Neurosurgeon-in-Chief, Johns Hopkins Medical Institutions	2000 -
Professor, Biomedical Engineering, Johns Hopkins University	2010 -
Director, Neurosurgery Pain Institute at Johns Hopkins	2011- 2013
Henry Brem Professor	2014 -

### **RESEARCH ACTIVITIES**

#### Peer-Reviewed Articles:

1. **Brem H**, Coward JE, Rosenkranz HS. 1,2-dibromoethane--effect on the metabolism and ultrastructure of Escherichia coli. Biochem.Pharmacol. 1974; 23(16): 2345-2347. PMID 4605455.
2. **Brem H**, Stein AB, Rosenkranz HS. The mutagenicity and DNA-modifying effect of haloalkanes. Cancer Res. 1974; 34(10): 2576-2579. PMID 4607208.
3. **Brem H** and Folkman J. Inhibition of tumor angiogenesis mediated by cartilage. J.Exp.Med. 1975; 141(2): 427-439. PMID 1113064. PMC2190537.
4. Langer R, **Brem H**, Falterman K, Klein M, Folkman J. Isolations of a cartilage factor that inhibits tumor neovascularization. Science. 1976; 193(4247): 70-72. PMID 935859.
5. Brem S, **Brem H**, Folkman J, Finkelstein D, Patz A. Prolonged tumor dormancy by prevention of neovascularization in the vitreous. Cancer Res. 1976; 36(8): 2807-2812. PMID 1277191.
6. Preis I, Langer R, **Brem H**, Folkman J. Inhibition of neovascularization by an extract derived from vitreous. Am.J.Ophthalmol. 1977; 84(3): 323-328. PMID 900228.
7. **Brem H**, Thompson D, Long D, Patz A. Human brain tumors: Differences in ability to stimulate angiogenesis. Surgical Forum, 1980; 31, 471-473.

8. Langer R, **Brem H**, Tapper D. Biocompatibility of polymeric delivery systems for macromolecules. J.Biomed.Mater.Res. 1981; 15(2): 267-277. PMID 7348718.
9. Friedman JH, **Brem H**, Mayeux R. Global aphasia in multiple sclerosis. Ann.Neurol. 1983; 13(2): 222-223. PMID 6830195.
10. **Brem H**, Patz J, and Tapper D. Detection of human central nervous system tumors: Use of migration stimulating activity of the cerebrospinal fluid. Surgical Forum. 1983; 34:532-534.
11. **Brem H** and Stein BMS. Posterior surgical approach to the third ventricle and pineal region. Contemporary Neurosurgery. 1985; 7:1-6.
12. Zinreich SJ, Wang H, Epstein JI, Kim WS, **Brem H**, Anderson JH, Ahn HS, Rosenbaum AE. Carotid bifurcation imaging model for more accurately comparing imaging techniques. Acta Radiol.Suppl. 1986; 36924-28. PMID 2980462.
13. Robey SS, Olson JL, **Brem H**, Epstein JI. Posterior fossa neuroblastoma occurring in an elderly man. Hum.Pathol. 1988; 19(3): 365-367. PMID 3346012.
14. Steen RG, Tamargo RJ, McGovern KA, Rajan SS, **Brem H**, Wehrle JP, Glickson JD. In vivo 31P nuclear magnetic resonance spectroscopy of subcutaneous 9L gliosarcoma: effects of tumor growth and treatment with 1,3-bis(2-chloroethyl)-1-nitrosourea on tumor bioenergetics and histology. Cancer Res. 1988; 48(3): 676-681. PMID 3335030.
15. Tamargo RJ, Epstein JI, **Brem H**. Heterotransplantation of malignant human gliomas in neonatal rats. J.Neurosurg. 1988; 69(6): 928-933. PMID 3193198.
16. Tamargo RJ, Epstein JI, Reinhard CS, Chasin M, **Brem H**. Brain biocompatibility of a biodegradable, controlled-release polymer in rats. J.Biomed.Mater.Res. 1989; 23(2): 253-266. PMID 2708412.
17. **Brem H**, Kader A, Epstein JI, Tamargo RJ, Domb A, Langer R, Leong KW. Biocompatibility of a biodegradable, controlled-release polymer in the rabbit brain. Sel.Cancer Ther. 1989; 5(2): 55-65. PMID 2772427.
18. Yang MB, Tamargo RJ, **Brem H**. Controlled delivery of 1,3-bis(2-chloroethyl)-1-nitrosourea from ethylene-vinyl acetate copolymer. Cancer Res. 1989; 49(18): 5103-5107. PMID 2766281.
19. Salibi SS, Nauta HJ, **Brem H**, Epstein JI, Cho KR. Lipomeningioma: report of three cases and review of the literature. Neurosurgery. 1989; 25(1): 122-126. PMID 2666878.
20. Langer R, **Brem H**, Langer LF. New directions in CNS drug delivery. Neurobiol.Aging. 1989; 10(5): 642-4; discussion 648-50. PMID 2812246.
21. Steen RG, Tamargo RJ, **Brem H**, Glickson JD, Wehrle JP. In vivo 31P nuclear magnetic resonance spectroscopy of rat 9L gliosarcoma treated with BCNU: dose response of spectral changes. Magn.Reson.Med. 1989; 11(2): 258-266. PMID 2779416.
22. Levy AP, Tamargo R, **Brem H**, Nathans D. An endothelial cell growth factor from the mouse neuroblastoma cell line NB41. Growth Factors. 1989; 2(1): 9-19. PMID 2483948.
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24. **Brem H**. Modern treatment of brain tumors. Md.Med.J. 1990; 39(4): 351-354. PMID 2333021.
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26. Tamargo RJ, Leong KW, **Brem H**. Growth inhibition of the 9L glioma using polymers to release heparin and cortisone acetate. J.Neurooncol. 1990; 9(2): 131-138. PMID 1702149.
27. Guerin C, Latterra J, Hruban RH, **Brem H**, Drewes LR, Goldstein GW. The glucose transporter and blood-brain barrier of human brain tumors. Ann.Neurol. 1990; 28(6): 758-765. PMID 2178329.
28. Sills AK, Tamargo RJ, **Brem H**. Reduction in peritumoral brain edema by an intracranial polymer implant. Surgical Forum. 1990; 41:516-518.
29. **Brem H**. Polymers to treat brain tumors. Biomaterials. 1990; 11(9): 699-701. PMID 2090306.
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31. Langer LF, **Brem H**, and Langer R. New technologies for fighting brain disease. Technology Review. 1991; Feb/Mar:63-71.
32. Tamargo RJ, Bok RA, **Brem H**. Angiogenesis inhibition by minocycline. Cancer Res. 1991; 51(2): 672-675. PMID 1702361.
33. Dugan JD,Jr, Lawton MT, Glaser B, **Brem H**. A new technique for explantation and in vitro cultivation of chicken embryos. Anat.Rec. 1991; 229(1): 125-128. PMID 1996778.

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35. Capito PR, Wang H, **Brem H**, Ahn HS, Bryan RN. Magnetic resonance imaging diagnosis of an intracranial metastasis of adenocarcinoma of the prostate: case report. Md.Med.J. 1991; 40(2): 113-115. PMID 1997794.
36. Olivi A, Donehower RC, Mann RB, **Brem H**. Solitary, isolated metastasis from Ewing's sarcoma to the brain: case report. Surg.Neurol. 1991; 35(3): 239-243. PMID 1996454.
37. Tamargo RJ, Sills AK,Jr, Reinhard CS, Pinn ML, Long DM, **Brem H**. Interstitial delivery of dexamethasone in the brain for the reduction of peritumoral edema. J.Neurosurg. 1991; 74(6): 956-961. PMID 2033457.
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44. Guerin C, Wolff JE, Lathera J, Drewes LR, **Brem H**, Goldstein GW. Vascular differentiation and glucose transporter expression in rat gliomas: effects of steroids. Ann.Neurol. 1992; 31(5): 481-487. PMID 1596083.
45. **Brem H**, Domb A, Lenartz D, Dureza C, Olivi A, Epstein JI. Brain biocompatibility of a biodegradable controlled release polymer consisting of anhydride copolymer of fatty acid dimer and sebacic acid. J of Controlled Release. 1992; 19:325-330.
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52. Tamargo RJ, **Brem H**. Drug delivery to the central nervous system: A review. Neurosurgery Quarterly. 1992; 2(4):259-279.
53. Weingart J and **Brem H**. Biology and therapy of glial tumors. Curr.Opin.Neurol.Neurosurg. 1992; 5(6): 808-812. PMID 1467571.
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58. Wolff JE, Guerin C, Lattera J, Bressler J, Indurtti RR, **Brem H**, Goldstein GW. Dexamethasone reduces vascular density and plasminogen activator activity in 9L rat brain tumors. Brain Res. 1993; 604(1-2): 79-85. PMID 7681348.
59. Zinreich SJ, Tebo SA, Long DM, **Brem H**, Mattox DE, Loury ME, vander Kolk CA, Koch WM, Kennedy DW, Bryan RN. Frameless stereotaxic integration of CT imaging data: accuracy and initial applications. Radiology. 1993; 188(3): 735-742. PMID 8351341.
60. Olivi A, Kim KD, Benedetti L, Epstein JI, Pinn, ML, Callegaro L, and **Brem H**. Ocular and brain biocompatibility of polymeric delivery materials prepared from ester derivatives of hyaluronic acid. J of Clinical Materials. 1993; 13:163-168.
61. **Brem H**, Tamargo RJ, Olivi A, Pinn M, Weingart JD, Wharam M, Epstein JI. Biodegradable polymers for controlled delivery of chemotherapy with and without radiation therapy in the monkey brain. J.Neurosurg. 1994; 80(2): 283-290. PMID 8283268.
62. Phillips PC, Levow C, Catterall M, Colvin OM, Pastan I, **Brem H**. Transforming growth factor-alpha-Pseudomonas exotoxin fusion protein (TGF-alpha-PE38) treatment of subcutaneous and intracranial human glioma and medulloblastoma xenografts in athymic mice. Cancer Res. 1994; 54(4): 1008-1015. PMID 8313355.
63. Wu MP, Tamada JA, **Brem H**, Langer R. In vivo versus in vitro degradation of controlled release polymers for intracranial surgical therapy. J.Biomed.Mater.Res. 1994; 28(3): 387-395. PMID 8077254.
64. Cahan MA, Walter KA, Colvin OM, **Brem H**. Cytotoxicity of taxol in vitro against human and rat malignant brain tumors. Cancer Chemother.Pharmacol. 1994; 33(5): 441-444. PMID 7905792.
65. Walter KA, Cahan MA, Gur A, Tyler B, Hilton J, Colvin OM, Burger PC, Domb A, **Brem H**. Interstitial taxol delivered from a biodegradable polymer implant against experimental malignant glioma. Cancer Res. 1994; 54(8): 2207-2212. PMID 7909720.
66. Arosarena O, Guerin C, **Brem H**, Lattera J. Endothelial differentiation in intracerebral and subcutaneous experimental gliomas. Brain Res. 1994; 640(1-2): 98-104. PMID 8004469.
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68. Tapper D, Cahan MA, **Brem H**. Detection of biological activity in the cerebrospinal fluid of patients with central nervous system tumors. J.Neurooncol. 1994; 19(1): 17-23. PMID 7815101.
69. Sipos EP, Tamargo RJ, Weingart JD, **Brem H**. Inhibition of tumor angiogenesis. Ann.N.Y.Acad.Sci. 1994; 732263-272. PMID 7526758.
70. Griffin CA, Hruban RH, Long PP, Miller N, Volz P, Carson B, **Brem H**. Chromosome abnormalities in meningeal neoplasms: do they correlate with histology? Cancer Genet.Cytogenet. 1994; 78(1): 46-52. PMID 7987805.
71. Judy KD, Olivi A, Buahin KG, Domb A, Epstein JI, Colvin OM, **Brem H**. Effectiveness of controlled release of a cyclophosphamide derivative with polymers against rat gliomas. J.Neurosurg. 1995; 82(3): 481-486. PMID 7861228.
72. Weingart JD, Sipos EP, **Brem H**. The role of minocycline in the treatment of intracranial 9L glioma. J.Neurosurg. 1995; 82(4): 635-640. PMID 7897527.
73. **Brem H**, Piantadosi S, Burger PC, Walker M, Selker R, Vick NA, Black K, Sisti M, Brem S, Mohr G. Placebo-controlled trial of safety and efficacy of intraoperative controlled delivery by biodegradable polymers of chemotherapy for recurrent gliomas. The Polymer-brain Tumor Treatment Group. Lancet. 1995; 345(8956): 1008-1012. PMID 7723496.
74. Pressman EK, Zeidman SM, Reddy UM, Epstein JI, **Brem H**. Differentiating lymphocytic adenohypophysitis from pituitary adenoma in the peripartum patient. J.Reprod.Med. 1995; 40(4): 251-259. PMID 7623353.
75. Weingart JD, Thompson RC, Tyler B, Colvin OM, **Brem H**. Local delivery of the topoisomerase I inhibitor camptothecin sodium prolongs survival in the rat intracranial 9L gliosarcoma model. Int.J.Cancer. 1995; 62(5): 605-609. PMID 7665233.

76. Sipos EP and **Brem H**. New delivery systems for brain tumor therapy. Neurol.Clin. 1995; 13(4): 813-825. PMID 8583998.
77. Walter KA, Tamargo RJ, Olivi A, Burger PC, **Brem H**. Intratumoral chemotherapy. Neurosurgery. 1995; 37(6): 1128-1145. PMID 8584154.
78. Buahin KG and **Brem H**. Interstitial chemotherapy of experimental brain tumors: comparison of intratumoral injection versus polymeric controlled release. J.Neurooncol. 1995; 26(2): 103-110. PMID 8787852.
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80. **Brem H** and Langer R. Polymer-based drug delivery to the brain. Scientific American: Science & Medicine. 1996; Vol 3:52-61.
81. Fung LK, Shin M, Tyler B, **Brem H**, Saltzman WM. Chemotherapeutic drugs released from polymers: distribution of 1,3-bis(2-chloroethyl)-1-nitrosourea in the rat brain. Pharm.Res. 1996; 13(5): 671-682. PMID 8860421.
82. Dang W, Daviau T, **Brem H**. Morphological characterization of polyanhydride biodegradable implant Gliadel<sup>®</sup> during in vitro and in vivo erosion using scanning electron microscopy. Pharmaceutical Research 1996; 13(5):683-691. PMID 8860422.
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85. Ewend MG, Anderson R, Tabassi K, Tyler BM, Babel KM, Williams JA, **Brem H**. Local delivery of BCNU from biodegradable polymer is superior to radiation therapy in treating intracranial melanoma metastases. Surgical Forum. 1996; 47: 564-566.
86. Ewend MG, Carey LA, **Brem H**. Treatment of melanoma metastases in the brain. Semin.Surg.Oncol. 1996; 12(6): 429-435. PMID 8914207.
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89. Thompson RC, Pardoll DM, Jaffee EM, Ewend MG, Thomas MC, Tyler BM, **Brem H**. Systemic and local paracrine cytokine therapies using transduced tumor cells are synergistic in treating intracranial tumors. J.Immunother.Emphasis.Tumor.Immunol. 1996; 19(6): 405-413. PMID 9041459.
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93. Sampath P, Holliday MJ, **Brem H**, Niparko JK, Long DM. Facial nerve injury in acoustic neuroma (vestibular schwannoma) surgery: etiology and prevention. J.Neurosurg. 1997; 87(1): 60-66. PMID 9202266.
94. Kleinberg L, Slick T, Enger C, Grossman S, **Brem H**, Wharam MD,Jr. Short course radiotherapy is an appropriate option for most malignant glioma patients. Int.J.Radiat.Oncol.Biol.Phys. 1997; 38(1): 31-36. PMID 9212001.
95. Perry JR, DeAngelis LM, Schold SC,Jr, Burger PC, **Brem H**, Brown MT, Curran WJ, Scott CB, Prados MD, Kaplan R, Cairncross JG. Challenges in the design and conduct of phase III brain tumor therapy trials. Neurology. 1997; 49(4): 912-917. PMID 9339667.

96. Bohan E, **Brem H**. Treatment of brain tumors by local delivery of chemotherapy via biodegradable polymers. Hospital Pharmacist Report. 1997; 12:12-18.
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98. Cardinale RM, Dillehay LE, Williams JA, Tabassi K, **Brem H**, Lee DJ. Effect of interstitial and/or systemic delivery of tirapazamine on the radiosensitivity of human glioblastoma multiforme in nude mice. Radiat.Oncol.Investig. 1998; 6(2): 63-70. PMID 9572682.
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100. Sampath P and **Brem H**. Implantable Slow-Release Chemotherapeutic Polymers for the Treatment of Malignant Brain Tumors. Cancer Control. 1998; 5(2): 130-137. PMID 10761024.
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### **Editorials, Reviews:**

"Hurting Care, and Lives." Henry Brem and Benjamin S. Carson Sr.

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### **Book Chapters, Monographs:**

1. Brem H, Arensman R, and Folkman J. "Inhibition of tumor angiogenesis by a diffusible factor from cartilage." *In* Extracellular Matrix Influences on Gene Expression, H. Slavkin, Editor, (Academic Press, New York), 1975, pp. 767-772.
2. Brem H. "Inhibition of neovascularization by an extract from cartilage." *In* New Research in Diabetic Retinopathy, A. Patz, Editor, (Juvenile Diabetes Foundation, N.Y.), 1978, pp. 67-88.
3. Brem H. "Control of neovascularization." *In* Diabetic Renal- Retinal Syndrome, E.A. Friedman and F.A. L'Esperance, Editors, (Grune & Stratton, N.Y.), 1980, pp. 291-294.
4. Brem H. "The Angiogenesis factor in ocular neovascularization." *In* Diabetic Renal-Retinal Syndrome, Vol. II, Prevention and Management. E.A. Friedman and F.A. L'Esperance, Editors, (Grune and Stratton, N.Y.), 1982, pp. 151-154.
5. Brem H "Supratentorial astrocytoma." *In* Current Therapy in Neurological Surgery, D.M. Long, Editor, (B.C. Decker, Publishers Inc., Toronto-Philadelphia) 1986, pp. 27-29.
6. Brem H. "Glioma." *In* Current Therapy in Internal Medicine, T.M. Bayless, M.C. Brain, R.M. Cherniack, Editors, (B.C. Decker, Inc., Philadelphia), 1987, pp 1302-1304.
7. Brem H. "Glioma." *In* Current Therapy in Neurologic Disease-2, R.T. Johnson, Editor, (B.C. Decker, Inc., Toronto), 1987, pp. 202-204.
8. Brem H, Tamargo R, Guerin C, Brem S, and Brem H. "Brain tumor angiogenesis." *In* Advances in Neuro-

- oncology, P.L. Kornblith, Editor, (Futura Publishing Company, Inc., Mount Kisco, NY), 1988, pp. 89-101.
9. Hanley DF, Brem H, Moses H III, Rogers MC. "Elevated intracranial pressure." *In* Principles and Practice of Medicine, Harvey et al, Editors, (Appleton & Lange, Norwalk, CT.), XXII Edition, 1988, pp 253-258.
  10. Brem H, Grossman S, and Hanley DF. "Intracranial masses." *In* Principles and Practice of Medicine, Harvey et al, Editors, (Appleton & Lange, Norwalk, CT.), XXII Edition, 1988, pp. 1052-1057.
  11. Brem H. "Malignant glioma." *In* Current Therapy in Neurological Surgery-2. D.M. Long, Editor, (B.C. Decker, Inc., Philadelphia-Toronto), 1989, pp. 43-45.
  12. Chasin M, Domb A, Ron E, Mathiowitz E, Leong K, Laurencin C, Brem H, Grossman S, and Langer R. "Polyanhydrides as drug delivery systems." *In* Biodegradable Polymers as Drug Delivery Systems, Mark Chasin and Robert Langer, Editors, (Marcel Dekker, Inc., New York), 1990, pp. 43-70.
  13. Brem H. "Controlled delivery to the brain." *In* Targeting of Drugs: Optimization Strategies, G. Gregoriadis, Editor, (Plenum Press, N.Y.), 1990, pp. 155-163.
  14. Olivi A, Domb A, Lenartz D, Tamargo R, Brem H. "Interstitial chemotherapy with drug impregnated polymer implants to treat brain tumors: Pre-clinical and clinical studies." *In* Neuro-Oncology, P. Paoletti, K. Takakura, M.D. Walker, G. Butti, S. Pezzotta, Editors, (Kluwer Academic Publishers, Dordrecht, The Netherlands), 1991, pp. 221-223.
  15. Kennedy D, Brem H, and Zinreich J. "Transsphenoidal Pituitary Surgery." *In* Skull Base Tumors, D.M. Long, editor, (Blackwell Scientific, Philadelphia), 1992, pp. 149-173.
  16. Olivi A, Brem RF, McPherson R, Brem H. "Brain tumors in Pregnancy." *In* Neurological Complications of Pregnancy. B. Stern, Editor, (Futura Publishing Co., Mount Kisco, NY), 1992, pp 85-105.
  17. Guerin C, Tamargo RJ, Olivi A, Brem H. "Brain tumor angiogenesis: Drug delivery and new inhibitors." *In* Angiogenesis in Health and Diseases, M. E. Maragoudakis, Editor, (Plenum Press, New York), 1992, pp. 265-274.
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  19. Brem H, Tamargo RJ, and Olivi A. "Delivery of drugs to the brain by use of a sustained-release polyanhydride polymer system." *In* New Technologies and Concepts for Reducing Drug Toxicities, Harry Salem and Steven I. Baskin, Editors, (CRC Press, Boca Raton, Florida), 1993, pp 33-39.
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- Neurological Surgery-6<sup>th</sup> Edition,(Vol. 2 editors, Brem, Sawaya and Chiocca) H. Richard Winn, editor, (Saunders, Philadelphia, PA.). 2011, pp 1261-1266.
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### **Books:**

Guest Editor, Special Edition: Implant Approach to Chemotherapy, (JNO) 1995.

Section Editor, Youmans Textbook of Neurological Surgery-5<sup>th</sup> Edition, 2004.

Section Editor, Youmans Textbook of Neurological Surgery-6<sup>th</sup> Edition, 2011

Section Editor, Youmans Textbook of Neurological Surgery-7<sup>th</sup> Edition, in progress

### **Other media (films, videos, CD-ROMSs, slide sets):**

<http://www.hopkinsmedicine.org/news/audio/podcasts/BremPod.html>

[http://www.hopkinsmedicine.org/neurology\\_neurosurgery/video\\_gallery/brem-carlos-luceno-brain-tumor.html](http://www.hopkinsmedicine.org/neurology_neurosurgery/video_gallery/brem-carlos-luceno-brain-tumor.html)

[http://www.hopkinsmedicine.org/neurology\\_neurosurgery/news/videos/brem-neurosurgery-dept-video.html](http://www.hopkinsmedicine.org/neurology_neurosurgery/news/videos/brem-neurosurgery-dept-video.html)

<http://www.npr.org/blogs/health/2011/01/10/132810638/how-neurosurgeons-size-up-brain-injuries-like-giffords>

[http://www.pbs.org/newshour/bb/health/jan-june11/brain\\_01-17.html#](http://www.pbs.org/newshour/bb/health/jan-june11/brain_01-17.html#)

<http://webcast.jhu.edu/mediasite/Viewer/?peid=b31f3529438344cbab4cf0af5800c22a>

Part 1 <http://www.youtube.com/watch?v=Q3QIdGXlknY&feature=related>

Part 2 <http://www.youtube.com/watch?v=huihBDTcd2s>

[http://www.hopkinsmedicine.org/neurology\\_neurosurgery/news/videos/brem-new-brain-tumor-therapies.html](http://www.hopkinsmedicine.org/neurology_neurosurgery/news/videos/brem-new-brain-tumor-therapies.html)

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<http://ecancer.org/video/4582/interstitial-drug-delivery-to-brain-tumours.php>

**Inventions, Patents, Copyrights (pending, awarded)**

***Patents:***

Controlled Local Delivery of Chemotherapeutic Agents for Treating Solid Tumors.

Henry Brem, Robert S. Langer, Abraham J. Domb

Japanese Patent Application No. 8-506742 (August 2, 1995)

U.S. Patent Number: 5,626,862 Date: May 6, 1997

U.S. Patent Number: 5,651,986 Date: July 29, 1997

U.S. Patent Number: 5,846,565 Date: Dec 8, 1998

European Patent No: 0,774,964A: AT,BE,CH,DE,DK,ES,FR,GB,GR,IE,IT, LI,LU,MC,NL,PT,SE

Cytokine Enhanced Immunotherapy for Brain Tumors.

Henry Brem, Drew M. Pardoll, Reid C. Thompson, Elizabeth M. Jaffee, Kam W. Leong, Matthew G. Ewend

JH 100 (DM3026) USSN 08/731,597 Publication # EP0930892 A1, July 28, 1999

Antibiotic Composition for Inhibition of Angiogenesis.

Henry Brem, Rafael J. Tamargo, Robert A. Bok

U.S. Patent Number: 6,482,810 B1 Date: Nov 19, 2002

Vitamin D<sub>3</sub> Analog Loaded Polymer Formulations for Cancer and Neurodegenerative Disorders.

Martin Burke, Maria-Christina White, Jae Kyoo Lee, Mark C. Watts, Betty M. Tyler, Gary H. Posner, Henry Brem.

USSN Application No. 12/165,036 Filing Date: 6/30/2008

Publication No.: US-2008-0260834-A1 Pub date: 10/23/2008

Intracellular Delivery of Anionic Anti-cancer Drugs with Cationic Polymers.

D. Berry, G. Anderson, R Langer, B Tyler, H. Brem. MIT Case No. 11598

Combination of Local Temozolomide with Local BCNU

V. Renard Recinos, B. Tyler, S. Brem Sunshine, H. Brem.

USSN Application No. 13/163223 Filing Date 6/17/2011

Patent # 8895597 Published November 25, 2014

Use of Adjuvant Focused Radiation Including Stereotactic Radiosurgery for Augmenting Immune Based Therapies Against Neoplasms. PCT/US2012/043124 filed 19 June 2012.

Intraoperatively Placed Markers for Post-surgical Imaging

M. Lim, H. Brem, B. Tyler, J. Liauw, S. Lo

Local Delivery Forms of Acriflavine for Treating Tumors  
 Brem H, Mangraviti A, Olivi A, Tyler B, Raghavan T.  
 USSN 15/549,547; Filing date 08/08/2017  
 JHTT Ref.: C13409\_P13409-03; Our Ref.: JHU C 13409 (095238/00115)

Flexible Control and Guidance of Minimally Invasive Focused Ultrasound  
 Manbachi A, Siewerdsen J, Ellens N, Zhang X, Belzberg M, Cohen A, Brem H.  
 USSN 16/489,423; Filing date 08/28/2019; PCT/US2018/020159  
 JHU Ref.: C14589\_P14589-03

Combination of Immunotherapy with Local Chemotherapy for the Treatment of Malignancies  
 Dimitrios M, Tyler B, Pardoll D, Brem H, Lim M  
 USSN 15/136,149; filing date 04/22/2016; 210473-9079US02.P13490-03  
 JHU REF: C13490

**Extramural Sponsorships (current, pending, previous):**

**GRANTS – Current:**

4/01/17 – 3/31/22	<b>1R01CA204968-01</b> “Targeted Delivery of Brain Penetrating DNA Nanoparticles To Brain Tumors” Total DC: \$412,175 Role: Co-Investigator Effort: 1.6% P.I. Justin Hanes
4/1/17-3/31/18	<b>NIH 5R01CA164789-03</b> “Brain Tumor-Penetrating Nanoparticle Delivery with MR-Guided Focused Ultrasound” JHU Total DC: \$1,250,000 Role: Co-P.I. Effort: 5% P.I. Richard Price (UVA)
5/1/04-6/30/17	<b>NIH 5T32EB003383-12</b> “Training Program in Neuroengineering” Total Cost \$4,053,377 Role: Participating Faculty Effort 0% P.I. Xiaoqin Wang
5/01/97 – 4/30/18	<b>NCI 5P30CA006973-46</b> NIH/NCI "Regional Oncology Research Center Grant" Total Cost \$4,318,066 Role: Program Leader P.I. William Nelson

**GRANTS-Pending**

**GRANTS–Previous**

9/19/90-4/30/95 (1 <sup>st</sup> cycle)	“Controlled Release Polymers for Brain Tumors” <b>NCI/NCDDG 2 U19 CA52857</b> TDC: \$4,126,592 Role: P.I. Effort 19%
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Updated 12/10/20

- 9/19/95-4/30/00  
(2<sup>nd</sup> cycle) "Controlled Release Polymers for Brain Tumors"  
**NCI/NCDDG 2 U19 CA52857**  
TDC: \$2,189,021  
Role: P.I. Effort 19%
- 9/19/00-4/30/06  
(3<sup>rd</sup> cycle) "Controlled Release Polymers for Brain Tumors,"  
**NIH, NCI, National Cooperative Drug Discovery Group. UO1 CA52857**  
TDC: \$4,488,080  
Role: P.I. Effort 19%
- 7/1/91-5/31/95 "The Physiologic Imaging Human Brain Tumors"  
NIH, NCI, RO1-CA54112  
TDC: \$630,028  
Role: Co-investigator Effort 1% P.I.:R. Nick Bryan
- 6/10/92-12/31/03 "Research Training in Oncology Imaging"  
NIH, NCI, T32 CA09630 NCI National Research Service Award  
Total DC: \$559,478  
Role: Training Faculty Effort 5% P.I.: Z. Bhujwala
- 7/1/93-6/30/96 "Vascular Biology of Brain Tumors" Feasibility Grant for Brain Tumor Research Center NIH,  
NCI, P20-CA60172  
TDC: \$891,428  
Role: P.I. Effort 25%
- 3/21/94-12/31/97  
(1<sup>st</sup> Cycle) "New Approaches to Brain Tumor Therapy CNS Consortium"  
**NIH, NCI, UO1 CA62474**  
TDC: \$307,540  
Role: P.I. Effort 10%
- 3/21/98-12/31/03  
(2<sup>nd</sup> Cycle) "New Approaches to Brain Tumor Therapy CNS Consortium,"  
**NIH, NCI, UO1 CA62474**  
TDC: \$479,807  
Role: P.I. Effort 9%
- 5/18/04-12/31/08  
(3<sup>rd</sup> cycle) "New Approaches to Brain Tumor Therapy CNS Consortium"  
**NIH, NCI, UO1 CA62474**  
Total Project DC: \$483,133  
Role: P.I. Effort 5%
- 3/21/94-12/31/97  
(1<sup>st</sup> Cycle) "New Approaches to Brain Tumor Therapy CNS Consortium"  
**NIH, NCI, UO1 CA62475**  
Total DC: \$694,614  
Role: Co-P.I. Effort 10% P.I.: Stuart Grossman
- 3/21/98-12/31/02  
(2<sup>nd</sup> cycle) "New Approaches to Brain Tumor Therapy CNS Consortium,"  
**NIH, NCI, UO1 CA62475**  
TDC: \$1,780,451  
Role: Co- P.I. Effort 10% P.I.: Stuart Grossman
- 5/18/04-12/31/08  
(3<sup>rd</sup> cycle) "New Approaches to Brain Tumor Therapy CNS Consortium,"  
**NIH, NCI, UO1 CA62475**  
TDC: \$2,573,487  
Role: Co- P.I. Effort 5% P.I.: Stuart Grossman

- 9/1/94-8/31/99 "Molecular Biomarkers in the Classification of Gliomas"  
**NIH, NCI UO1 CA64928**  
TDC: \$804,932  
Role: Co-investigator Effort 5% P.I.: Roy C. Levitt
- 9/1/99-6/30/04 "Microchip Drug Delivery System." (MIT P.I.: Robert Langer)  
(1st cycle)  
**NIH, R24 AI-47739**  
JHU TDC: \$415,096  
Role: Co-investigator Effort 5% P.I.: Henry Brem (JHU)
- 9/1/00-8/31/03 "Non Viral Polymeric Vectors for Treating Brain Tumors"  
**Israel Binational Science Foundation (BSF)**  
JHU Total DC: \$24,000  
Role: Co-P.I.: Effort: 5% P.I.: Abraham Domb (Israel)
- 5/1/05-4/30/07 "Enhancement of Brain Tumor Immunotherapy by Fas-L RNAi"  
(1st cycle)  
**NIH 1 R21 CA112148**  
TDC: \$200,000  
Role: Co-investigator Effort 2% P.I.: Alessandro Olivi
- 2008 - 2011 "Enhancement of Brain Tumor Immunotherapy by Fas-L RNAi"  
**NIH 1 R21 CA112148**  
TDC: \$500,000  
Role: Co-investigator Effort 2% P.I.: Alessandro Olivi
- 7/1/08-6/30/12 "Efficacy of Temozolomide for the Treatment of Malignant Glioma"  
**American Cancer Society**  
TDC.: \$589,313  
Role: Co-Investigator Effort 1% P.I.: Betty Tyler
- 8/1/07-7/31/12 **NIH 9 RO1 EB006365-06** (Formerly RO1A1047739-06) (MIT, Robert Langer).  
"Microchip Drug Delivery System"  
(JHU) TDC: \$414,636  
Role: (Subcontract, Brem, P.I.) Effort: 5%
- 1987 - 2013 "Research Training in Neuro-Oncology"  
**NIH/NCI National Research Service Award, T32 CA09574**  
Total Project DC: \$1,318,370  
Role: Co-P.I. Effort 1% P.I.: Stuart Grossman
- 5/1/97-4/30/14 "Regional Oncology Research Center Grant"  
**NCI 5P30CA06973-50S1**  
Total DC: \$3,848,362  
Role: Program Leader Effort 3% P.I. William Nelson
- 9/1/10-8/31/14 "Modified Pectin and High Intensity Focused Ultrasound for Non Invasive Brain Cancer Gene  
Therapy"  
**Israel Binational Science Foundation (BSF)**  
JHU Total DC: \$22,425  
Role: Co-P.I.: Effort: 3% P.I.: Joseph Kost (Israel)
- 2011 - 2015 "Translational Research Partners Program"  
The Wallace H. Coulter Foundation  
Total DC: \$5,000,000

	Role: Co-P.I.	Effort: 0%	P.I. Elliot McVeigh
5/1/04-6/30/15	NIH 5T32EB003383-10 "Training Program in Neuroengineering" Total Cost \$3,528,005		
	Role: Participating Faculty	Effort 0%	P.I. Nitish Thakor
4/1/15 – 3/31/17	<b>"Multimodal peptide-containing biodegradable nanoparticles for Glioblastoma"</b> <b>Allegheny Health Network-Johns Hopkins Cancer Research Fund</b>		
	Total DC:	\$200,000	
	Role: Co-P.I.	Effort: 5%	P.I. Aleksander S. Popel
2011 – 2016	<b>"Subependymoma and Ependymoma Program Project Grant</b>		
	Total DC:	\$2,500,000	
	Role: Co-P.I.	Effort: 5%	P.I. Michael Lim
9/1/10 - 8/10/17	"Postdoctoral Training Program in Nanotechnology for Cancer Medicine" NIH 5R25CA153952-07 Total Cost: \$2,315,154		
	Role: Participating Faculty	Effort 0%	P.I. Denis Wirtz

**CONTRACTS****Previous:**

1986 - 1991	<b><u>Nova Pharmaceutical Corp</u></b>		
	"Development of Bioerodible Polyanhydride Polymers for Sustained Release of Chemotherapeutic Agents in the Brain"		
	Nova Pharmaceutical Corporation Grant to Develop	Total Period: 4/1/87 – 9/30/88	
	DC: \$208,015	Effort: 15%	Role: P.I.
	"Clinical Trial: Protocol NPC #8802: A Double Blind, Placebo-Controlled Study of BCNU Delivered from Gliadel, a Biodegradable Surgically Implanted Polymer for the Treatment of Recurrent, Malignant Glioma"		
	Nova Pharmaceutical Corp	Total Period: 3/1/89 – 9/1/90	
	DC: \$20,470	Effort 1%	Role: P.I.
	"Steroids in Gliadel to Treat Brain Edema" Safety & Efficacy Studies with VXZ Carcinoma in the Rabbit, Quantitative HPLC Distribution Studies, and Dosing Studies"		
	Nova Pharmaceutical Corp	Total Period: 7/1/89 – 6/30/90	
	DC: \$120,489	Effort 10%	Role: P.I.
	"Clinical Trial: NPC Protocol #9003 Interstitial Chemotherapy for Malignant Glioma: A Pilot Study to examine the safety of Gliadel Placed at the Time of First Surgery"		
	Nova Pharmaceutical Corp	Total Period: 7/1/90 – 7/31/91	
	DC: \$25,000	Effort 1%	Role: P.I.
	"Steroids in Gliadel to Treat Brain Edema" Efficacy and Drug Distribution of Dexamethasone and Triamcinolone from Gliadel in the Rat 9L Gliosarcoma Model"		
	Nova Pharmaceutical Corp	Total Period: 9/1/89 – 10/31/90	
	DC: \$84,395	Effort 5%	Role: P.I.
	"Preclinical Protocol to Evaluate Corticosteroids Released from Gliadel"		

Nova Pharmaceutical Corp. Total Period: 11/1/89 – 12/31/90  
 DC: \$84,187 Effort 5% Role: P.I.

"Steroids in Gliadel to Treat Brain Edema"  
 Nova Pharmaceutical Corp. Total Period: 9/1/90 – 8/31/91  
 DC: \$89,884 Effort 5% Role: P.I.

"Steroids in Gliadel to Treat Brain Edema"  
 Nova Pharmaceutical Corp. Total Period: 11/1/90 – 4/30/91  
 DC: \$70,349 Effort 5% Role: P.I.

7/1/89-6/30/91 "Biocompatibility of New Controlled Release Polymers in Rabbit & Rat in-vivo model"  
**Fidia Research Laboratories, Terme, Italy.**  
 DC: \$72,646 Effort 2% Role: P.I.

2004-2005

**CytoDome, Inc**

Project 1; "Ultrasound Delivery System with Systemic BCNU in the 9L Rat Flank Model" Total Period: 3/1/04 - 4/15/04  
 Total DC: \$4,991 Effort 3% Role: P.I.

Amendment 1; "Low Dose BCNU Polymer in 9L Rat Flank" 4/15/04 - 5/14/04  
 Total DC: \$2,980 Effort 1% Role: P.I.

Amendment 2, "Testing the Efficacy of the CytoDome device in the 9L Rat Flank Tumor Model with and without BCNU" Total Period: 2/15/05 - 4/15/05  
 Total DC: \$3,499 Effort 1% Role: P.I.

Amendment 3, "Testing the Efficacy of the CytoDome device in the 9L Rat Flank Tumor Model with and without BCNU" Total Period: 4/15/05 – 7/22/05  
 Total DC: \$8,778 Effort 1% Role: P.I.

Amendment 4, "Testing the Efficacy of the CytoDome device in the 9L Rat Flank Tumor Model with and without BCNU" Total Period: 08/01/05 – 12/10/05  
 Total DC: \$23,163 Effort 1% Role: P.I.

5/1/05-8/31/04 **MacroMed, Inc.**  
 "OncoGel Delivery System-Toxicity and Efficacy Studies"  
 Total DC: \$11,410 Effort 3%  
 Role: P.I.

05/01/06-08/30/06 **MacroMed, Inc.**  
 "OncoGel Controlled Release ReGel/Paclitaxel Delivery System-Toxicity and Efficacy Study"  
 DC: \$10,128 Effort 1% Role: P.I.

5/01/06-8/31/06 "The Effect of Neuregen for the Treatment of Malignant Glioma in an Experimental Rodent Model with and without Locally Delivered BNCU"  
**Southern Illinois U** (Gregory Brewer)  
 Total DC: \$1,297  
 Role: Consultant Effort 0% P.I.: Betty Tyler

5/1/02-4/30/07 "Anti-Excitotoxic Therapies to Target Glioma Growth"  
**Accelerated Brain Tumor Cure (ABC<sup>2</sup>)**  
 TDC: \$100,000  
 Role: Co- P.I. Effort 2% P.I.: Jeffrey Rothstein

1/1/06-4/30/07 "Talabostat and PT-630-an Efficacy Study with Intracranial Murine Melanoma"  
**Point Therapeutics**  
 TDC \$3,060 Effort 1% (no sal)

Updated 12/10/20



Role: P.I.: Brem

- 12/01/07-03/31/08 "Combination Therapy with OncoGel and Other Chemotherapeutic Agents to Treat Experimental Malignant Glioma"  
**Protherics, PLC**  
 T DC: \$18,146 Effort 1% (no sal) Role: P.I.
- 4/1/07-11/30/08 "Safety and Efficacy Studies Using Zymes Compound in an Experimental Intracranial Rodent Glioma."  
**Zymes, LLC.**  
 TDC \$17,246  
 Role: Consultant (Effort 0/0) P.I.: B. Tyler

**OTHER****Previous:**

- 1983 - 1985 "Detection of Human Central Nervous System Tumors" PDT-228  
**American Cancer Society Grant**
- 1984 - 1985 "Inhibition of Brain Tumor Angiogenesis"  
**American Cancer Society Institutional Grant**
- 1985 - 1990 "Inhibition of Brain Tumor Angiogenesis" Total Period: 12/1/87 – 11/30/90  
**NCI, Clinical Investigator Development Award, 5 KO8-NS01058**  
 DC: \$289,440 Effort: 75% Role: P.I.
- 1987 - 1989 **Clinician-Scientist Award, Andrew W. Mellon Foundation Grant** for  
 Faculty Development, Johns Hopkins University School of Medicine
- 1988 - 1989 "New Treatment with Sustained Release to the Brain"  
**Alzheimer's Association**
- 1993 - 1994 "Anti-angiogenesis Research."  
**Preuss Foundation** Total Period: 1/1/03 – 12/31/03  
 TDC: \$50,000 Effort: 5% Role: P.I.
- 2003-2004 "Haptoglobin and Tumor Angiogenesis"  
**Technion Foundation Award; Joint JHU-Technion Program for Biomedical Sciences and  
 Biomedical Engineering** Total Period: 1/1/03 - 12/31/04  
 JHU DC: \$66,666  
 Role: Co-P.I. Effort: 5% P.I. Brem (JHU)/Andy Levy (Israel)
- 3/1/07-10/31/07 "In Vivo Evaluation of Sugar-SCFA Nanoparticles"  
**JHU Institute for NanoBioTechnology** \$25,000 Entire Project dc  
 Role: Co-investigator Effort 1% (no sal) P.I. Kevin Yarema

**Training grant participation:**

**NIH NRSA T32CA09574** (P.I.: Stuart Grossman) 7/1/87-6/30/13  
 Research Training in Neuro-Oncology" Role: Co- P.I.

(Trainees in the Hunterian Neurosurgical Laboratory)

07/89 - 07/91 Chris Guerin "Angiogenesis"  
 07/91 - 07/93 Jon Weingart " Angiogenesis, Camptothecin"  
 07/91 - 07/93 Kwame Buahin " Polymer delivery of BCNU & 4-HC"

Updated 12/10/20

07/93 - 07/93	Eric Sipos	"Angiogenesis, minocycline, CMTs"
07/93 - 07/95	Reid Thompson	"Immunotoxins, cytokines, vasospasms"
07/94 - 07/96	Allan Sills	"Steroid release from polymers" and "Squalamine"
07/94 - 07/96	Matt Ewend	"Gene therapy"
07/96 - 07/98	Prakash Sampath	"Chemo and immuno-therapy"
07/97 - 07/99	Larry Rhines, MD	"Resistance modifiers"
07/98 - 07/00	Raymond Haroun	"Antiangiogenesis"
07/00 - 06/02	Jay Storm	"Camptothecin"
07/01 - 06/03	Paul Wang	"Angiogenesis" and "COL-3, COL-8"
07/02 - 07/04	Kyle Weaver	"Glutamate transporter"
07/02 - 07/04	Eric Amundson	"Camptothecine" and "spinal metastases"
07/05 - 07/07	Khan Li	"Combination drug therapy"
07/06 - 07/08	Violette Renard	"Efficacy of Camptothecin analogs – preclinical studies"
07/06 - 07/08	Daniel Sciubba	"Ultrasound ablation of spine tumor metastases. Gene viral delivery for treatment of spine tumors"
07/08 - 07/10	Wesley Hsu	"Isolation of Cancer Stem Cells in Chordoma"
07/09 - 07-11	Gustavo Pradilla	Stereotactic Radiosurgery in an Animal Model of Metastatic Spine Disease"
07/09 - 07/11	Chetan Bettegowda	"Blood based biomarkers in Cancer"
07/11 - 07/13	Mari Groves	"Microchip Implantations in the Brain"

**NCI NRSA, 5 T32 CA09630-14** (P.I: Z. Bhujwalla) 8/1/89-12/31/2003  
 "Research Training in Oncology Imaging" Role: Participating Faculty

**NCI 2 T32-HL07712-11** (P.I. Paul Bottomley) 7/1/92-6/30/2005  
 "Research Training in Interventional Radiology" Role: Participating Faculty

**NCI 5PP30 CA006973** (P.I.: William Nelson) 5/1/97-4/30/16  
 "Regional Oncology Research Center Grant" Role: Program Leadership

**NCI NIH 5T32EB003383** (P.I.Nitish Thakor) 5/1/04-4/30/16  
 "Neuroengineering Training Grant" Role: Participating Faculty

**NIH 5R25CA153952-04** (P.I. Denis Wirtz) 9/1/10 - 8/10/16  
 "Training Program in Nanotechnology for Cancer Medicine" Role: Participating Faculty

### **Editorial Activities:**

#### **Editorial Board Appointments:**

Journal of Neuro-Oncology, Associate Editor, 1995  
 The International Journal of Drug Targeting, 1995  
 Neurosurgery, 1997 - 2011  
 Neuro-Oncology, 1998 - 2003  
 Annals of Surgical Oncology (Section of Neuro-Oncology,) Executive Committee 2002-2005  
 AACR, Molecular Cancer Therapeutics, 2001  
 NeuroRx (ASENT), 2002-2005  
 Annals of Surgical Oncology, 2006-2008  
 World Neurosurgery, 2010 - present  
 Neurosurgery, Editorial Advisory Board , 2011 - present  
 Annals of Surgical Oncology, 2017-2018

#### **Editor:**

Guest Editor, Journal of Neuro-Oncology (Special Edition: Implant Approach to Chemotherapy), 1995.

Section Editor, Youmans Textbook of Neurological Surgery-5th Edition, 2003.  
Associate Editor, Annals of Surgical Oncology (Section of Neuro-Oncology) 2002-2005.  
Section Editor, Youmans Textbook of Neurological Surgery-6<sup>th</sup> Edition, 2011

## **DEVELOPMENT AND FUNDRAISING ACTIVITIES**

**2000 -** \$155,000,000 including eleven new endowed professorships and one new Institute.

*Harvey Cushing Professorship in Neurosurgery*

*Donlin Long Chair in Neurosurgery*

*Irving J. Sherman, M.D. Research Professorship in Neurosurgery*

*Walter Dandy, M.D. Professorship in Neurosurgery*

*Salisbury Family Professorship in Neurosurgery*

*A. Earl Walker, M.D. Professorship in Functional Neurosurgery*

*Benjamin S. Carson, Sr., M.D. and Dr. Evelyn Spiro, R.N. Professorship in Pediatric Neurosurgery*

*The Solomon H. Synder Professorship in Neurosurgery*

*The George J. Heuer Professorship in Neurosurgery*

*The Henry Brem Professorship in Neurosurgery*

*Neurosurgery Pain Research Institute at Johns Hopkins*

## **CLINICAL ACTIVITIES**

Active Neurosurgical Practice. Neurosurgeon-In-Chief, Johns Hopkins Medical Institutions  
Built Largest Brain Tumor Center in the United States.

### **Medical Licensure**

Maryland Board of Physicians

Physician & Surgeon, Certification No. D0024362

**Board Certification:** American Board of Neurological Surgery - September, 1986

## **ORGANIZATIONAL ACTIVITIES**

Institutional Administrative Appointments:

### ***Search Committees for Departmental Chairs and Leadership:***

2000 Psychiatry

2001 Surgery

2002 Radiation Oncology

2003 Radiology

2003 Anesthesia and Critical Care (Vice Chairman)

2003 Ophthalmology (Chairman)

2007 Neurology

2007 Oncology

2010 Otolaryngology –Head and Neck Surgery

2013 Pediatric Surgeon in Chief of the Bloomberg Children's Hospital

- 2013 Anesthesia and Critical Care (Chairman)
- 2016 President of the Johns Hopkins Health System and Executive Vice President of Johns Hopkins Medicine
- 2017 President and CEO of the Kennedy Krieger Institute
- 2018 Neuroradiology Chief

***Johns Hopkins Academic Committees:***

- 1984 - 1994 Johns Hopkins Hospital Tissue Committee
- 1984 - 1992 Neurosurgery Department: Resident Lecture Series & Journal Club
- 1984 - 2000 Neurological Intensive Care Unit
- 1985 - 1986 Dean's Committee on Development of Resources for Clinical Investigators
- 1985 - 1990 Laser Committee - Johns Hopkins Hospital
- 1989 - 1993 Johns Hopkins University Medical School Council
- 1993 - 1995 Clinical Neurosciences Appointments & Promotions Committee
- 1993 - 1997 Faculty Compensation Ad Hoc Dean's Committee.
- 1993 - 1995 Clinician Scientist Committee, JHU Sch of Med
- 1994 - 1995 Johns Hopkins Hospital Cancer Center Project Planning
- 1994 - 1998 School of Medicine Professorial Promotions Subcommittee
- 1994 - 2000 Chairman, Neurosurgery Task Force-Faculty Compensation
- 1994 - 2005 Director, Scientific Research Center; New Approaches to Brain Tumor Therapy (NABTT;NIH,NCI)
- 1995 - 2000 Associate Professor Promotions Committee, Johns Hopkins SOM
- 1995 - Executive Operating Room Committee
- 1997 - 1998 Dean's Committee on Revision of Promotion Guidelines for Johns Hopkins School of Medicine.
- 1997 - 1998 SOM Service Excellence Task Force Committee.
- 1998 - 2000 Technology Advisory Group - Office of the Dean
- 1998 - 2000 Chairman, Neurosurgery Task Force for Laboratory and Operating Room Planning.
- 2000 - Board of Trustees, Johns Hopkins Medicine, Ex officio
- 2000 - 2002 Budget, Finance & Planning Committee of the Clinical Practice Assoc, JHMI.
- 2000 - 2003 Professors Promotions Committee, Johns Hopkins, SOM
- 2000 - Surgical Sciences Chiefs Committee
- 2000 - 2005 Length of Stay Initiative
- 2000 - 2005 Casemix/Clinical Documentation Committee
- 2000 - Clinical Directors Committee, JHH
- 2000 - Johns Hopkins Hospital Medical Board
- 2000 - Advisory Board of Medical Faculty, JHUSOM
- 2000 - 2007 Director, Neurosurgery Residency Program
- 2000 - 2007 Joint Committee on Graduate Medical Education and Postdoctoral Programs
- 2001 - 2003 Conflict of Interest Policy Review Committee, JHUSOM
- 2001 - 2010 Board of Governors, Clinical Practice Association, JHUSOM.
- 2002 - 2005 Johns Hopkins Medicine Committee on Faculty Development and Gender
- 2002 - Innovation in Quality Patient Care Steering Committee
- 2002 - Advisory Council, Sidney Kimmel Comprehensive Cancer Center
- 2002 - 2010 Chairman, Budget, Finance & Planning Committee of the Clinical Practice Association
- 2003 - 2005 Agenda Committee of the Advisory Board of Medical Faculty – JHUSOM
- 2003 - 2005 Cancer Research Building Planning Council
- 2003 - Technology Opportunities Program Committee, JHUSOM
- 2007 - Advisory Board, Brain Science Institute, JHUSOM.
- 2009 - Planning Committee & University Council – Brain Science Institute, JHUSOM
- 2009 - Johns Hopkins Prize Committee
- 2009 - Inpatient Flow Executive Team for Johns Hopkins Hospital
- 2011- 2012 Director's Committee for Quality and Safety, Johns Hopkins Medicine, Chair

- 2011- Armstrong Institute for Patient Safety and Quality, Physician Leadership in Quality and Care Delivery, Co-Chair
- 2011- Armstrong Institute for Patient Safety and Quality Transition Team
- 2011- Bed Management and Reallocation Opportunities, Johns Hopkins Health Services Workgroups, Team Leader.
- 2011- Coulter Foundation Oversight Committee
- 2011- Clinical Director's SOM, Safety Initiative
- 2011- JHM Operating Committee
- 2012- JHU Space Committee
- 2012 - 2013 Chairman, Internet and Digital Brand Management Advisory Committee
- 2012 - 2014 Chairman, LCME Institutional Setting Subcommittee for Accreditation Site Visit
- 2012 - Neurofibromatosis Therapeutic Acceleration Program (NTAP) Johns Hopkins Oversight Committee
- 2018- Grateful Patient Fundraising Ethics Committee

### **PROFESSIONAL SOCIETIES:**

#### *National Committees:*

- 1988 - 1993 Preuss Research Award Selection Committee
- 1989 - 1990 Scientific Committee for the Convention of Congress of Neurological Surgeons
- 1990 - Brain Tumor Research Subcommittee for the Joint AANS/CNS
- 1992 - Surgical Committee of the Radiation Therapy Oncology Group RTOG)
- 1996 - National Comprehensive Cancer Network (NCCN)  
Central Nervous Systems Cancer Panel (2011-)
- 1999 - American College of Surgeons-Oncology Group, Brain/Central Nervous System Organ Site Committee Physician Group (Member ID 378; Group ID 162)
- 2001 - Liaison to the National Cancer Institute for the American Association of Neurological Surgeons Board of Directors
- 2002 - 2009 Neurosurgery Research and Education Foundation, Executive Council Member
- 2003 - Institute of Medicine, National Academy of Sciences:  
IOM Membership Committee, Vice-Chair, Section 1 (2003-2005)  
IOM, Membership Committee, Chair, Section 1 (2005-2007)  
IOM, Nomination Committee, (2011-)
- 2005 - Society of Neurological Surgeons, Research Updates in Neuroscience for Neurosurgeons (RUNN) at the Marine Biological Laboratory, Woods Hole, Massachusetts.  
RUNN Course Co-Director  
RUNN Curriculum (Subcommittee)
- 2007 - B.R.A.I.N. (Brain Research Academy International for Neoplasia) founding member
- 2007 American Academy of Neurological Surgery, Scientific Program Chair -69<sup>th</sup> Annual Meeting, Lake Las Vegas, Henderson, Nevada Oct 31-Nov 3, 2007.
- 2007 - Society of Neurological Surgeons – Committee on Resident Education (CoRE).
- 2009 - NYU in DC Committee - New York University Alumni.

#### **Conference Organizer, Session Chair:**

American Academy of Neurological Surgeons, Oct 31-Nov 3, 2007, Scientific Program Chair.

#### **Advisory Committees, Review Groups:**

***Scientific Advisory Committees:***

1997-	National Brain Tumor Foundation, San Francisco
1997-	Brain Tumor Society, Boston, MA
2011 -	Doris Duke Charitable Foundation San Francisco Research Fellowship at Johns Hopkins
2011-	Brain Science Institute Neurotranslational Program
2011-	Armstrong Executive Committee
2011-	FDA Medical Devices Advisory Committee
2012-	The European Association of Neurosurgical Societies

***N.I.H. Study Section – Reviewer:***

Surgical Training Program Grants, Washington, DC,	Feb 17, 1993
Ad Hoc Committee UCSF - Brain Tumor Center	Oct 20-22, 1993.
Ohio State University - Brain Tumor Cooperative Group	Apr 22, 1994

***Selected Grant Reviews:***

1. North Carolina Biotechnology Center Economic Development Financial Grants Program. Spartaject Formulations of Natural Produce Anti-Cancer Agents." November 1994.
2. Breast Cancer Research Programs - California Cancer Fund. "Angiogenesis and Growth Control." May 1995.
3. The Brain Tumor Society Scientific Advisory Council, Boston, Massachusetts, 1997-2001
4. National Brain Tumor Foundation. 1997-
5. American Cancer Society – 2000
6. The Skolkovo Institute of Science and Technology SkTech/MIT Initiative. 2012
7. B\*CURED (Brain Cancer Understanding, Research, Education and Development) – 2017-

**Consultantships:*****Scientific Advisory Boards:***

1991 - 2001	Focal, Inc., Lexington, Massachusetts
1993 - 1996	Boston Life Sciences, Inc., Waltham, Massachusetts
1994 - 1997	Polykinetix, Inc., New York, New York
1995	International Cancer Alliance, Bethesda, Maryland
1995 - 1999	EnzyMed, Inc., Iowa City, Iowa
1996 - 2002	Orasomal, Technologies, Inc., Lake Bluff, Illinois
1997 - 2000	Astra Merck Neuroscience Advisory Board
1997 - 2003	Glioma Outcomes Program Advisory Board
1998 - 2000	Rhone-Poulenc Rorer Oncology Advisory Board
1998 - 2000	Medical Programs Incorporated
1999 - 2001	EntreMed, Inc., Oncology Advisory Board
2000 - 2005	Guilford Pharmaceuticals, Inc., Baltimore, MD (founding scientist)
2000 - 2005	GMP Companies, Inc.
2001 -	PureTech Ventures, LLC
2001	Accelerate Brain Cancer Cure (ABC <sup>2</sup> )
2003	CytoDome, Inc, Dunwoody, GA.
2004 - 2006	MacroMed, Inc., Sandy UT
2005 - 2009	Day Casebeer Madrid & Batchelder LLP, Cupertino, CA (consultant)

2005	BrainsGate, Ltd, Israel
2005	Northwest Biotherapeutics, Inc, Bothell, WA
2010	Voices Against Brain Cancer
2011-	Perosphere, Inc.
2013	NexImmune
2014 -	StemGen. Milano Italy
2014 -	AsclepiX Therapeutics
2015 -	Camden Partners Holdings, LLC
2016 -	AcuityBio
2016 -	Lattice Biologics
2019-	Nurami Medical
2019-	Galen Robotics
2019-	InSightec

***Board of Directors:***

1991 - 2001	Focal, Inc., Lexington, MA
1997 - 2000	Carson Scholarship Foundation, Baltimore, MD
1999 - 2004	Beth Tfiloh Day School, Baltimore, MD
2000 -	JHU Technion Joint Program
2003 - 2005	Ben Fund, Baltimore, MD
2007 - 2010	Alseres Pharmaceuticals, Inc.
2009 - 2018	Maryland/Israel Development Center
2015 -	Jerusalem College of Engineering, Board of Trustees
2016 -	LikeMinds, Inc.

***Medical Advisory Board:***

2012 -	The Jewish Caring Network
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**RECOGNITION**

**Awards, honors:**

1970	Marmorosh Award for Academic Achievement
1972	Rubin Award in Basic Medical Sciences (NYU) Coat of Arms Honor Society of NYU
1973	Salem Award for Outstanding Academic Accomplishment and Highest Honors in Biology (NYU)
1975	Saul R. Korey Award for Experimental Neurology (American Academy of Neurology)
1978	Honors in a Special Field, Harvard Med School
1980	Resident Award of the New York Society of Neurosurgery
1985	Neurosurgery Award for Distinction in Teaching, Johns Hopkins University
1985	Clinical Investigator Development Award, NIH
1987	Clinician-Scientist Award, Johns Hopkins University
1990	Fellow, American College of Surgeons
1995	Clemson Award for Applied Research, Society for Biomaterials.
1995	Walter E. Dandy Visiting Professorship, JHU
1996	Professor's Award for Excellence in Teaching, JHU
1996	Altman Lectureship, University of Pennsylvania
1997	Fellow, American Institute for Medical and Biomedical Engineering.
1998	High Technology Award (for Gliadel), The Technology Council of Maryland.
1998	Institute of Medicine, National Academy of Sciences (National Academy of Medicine)
2000	Neurosurgery Department Ranked #3 by <i>U.S. News and World Report</i>

- 2000 International Fellow of Biomaterials Science and Engineering (FBSE), Society for Biomaterials.
- 2000 Grass Foundation Award of the Society of Neurological Surgeons for research contributions.
- 2001 Founders' Award, Controlled Release Society
- 2002 - Castle Connolly America's Top Doctors, Castle Connolly Guide
- 2004 Neurosurgery Department Ranked #2 by *U.S. News and World Report*
- 2004 New York University Distinguished Alumni Award
- 2004 - Baltimore Monthly Medical Reunion Dinner Club
- 2005 2005 Technology Innovation and Development Award of the Society for Biomaterials
- 2005 E. Llewelyn Thomas lecturer, The Institute of Biomaterials and Biomedical Engineering, Toronto, CA
- 2005 - Tocqueville Society of The United Way of Central Maryland
- 2005 The Noun Shavit Memorial Lecturer, Ben-Gurion University, Beer Sheva, Israel.
- 2005 Coleman Fellow in Life Sciences, Ben-Gurion University, Beer-Sheva, Israel
- 2005 - Castle Connolly America's Top Doctors for Cancer, Castle Connolly Guide
- 2007 Rosomoff Visiting Professor, Department of Neurosurgery, University of Miami, Miami, Florida.
- 2008 Visiting Professor, Cedars-Sinai Medical Center, Los Angeles, CA.
- 2009 Henry A. Shenkin, MD Lecture, Temple University, Philadelphia, PA.
- 2010 Faculty Inductee, Alpha Omega Alpha Honor Medical Society
- 2010 Neurosurgery Department Ranked #1 by *U.S. News and World Report*
- 2010 Van Wagenen Professor, University of Rochester Medical Center, Rochester, NY.
- 2010 Gary Lichtenstein Humanitarian Award, Voices Against Brain Cancer
- 2010 Tenth Annual Hugo V. Rizzoli, M.D. Lecturer, Walter Reed Army Medical Center & National Naval Medical Center, National Capital Neurosurgery.
- 2011 Commencement Address, Johns Hopkins University School of Medicine
- 2011 Seventh Annual Stuart Rowe Society Lecturer, University of Pittsburgh, Department of Neurosurgery
- 2012 Boy Scouts of America, Health Leadership Award
- 2012 Castle Connolly Magazine, Top Doctors: Washington-Baltimore
- 2013 The Michael S. Voynick Lecture in Neuro-Oncology Award, Yale School of Medicine, New Haven, CT
- 2013 The Abitjit Guha Award and Lecture
- 2014 Johns Hopkins Medicine International Community Service Award, Chabad at Johns Hopkins
- 2014 Henry Brem Endowed Chair in Neurosurgery, Johns Hopkins University
- 2015 Castle Connolly National Physician of the Year Award for Clinical Excellence
- 2015 National Academy of Medicine
- 2017 Albert Nelson Marquis Lifetime Achievement Award
- 2017 Provost's Award for Excellence in Faculty Mentoring
- 2017 Castle Connolly America's Top Doctors for 15 Years, Castle Connolly Guide
- 2018 Andy Parsa Mentorship Award; American Association of Neurological Surgeons and the Congress of Neurological Surgeons
- 2019 Inducted into Baltimore Jewish Hall of Fame by JCC of Greater Baltimore
- 2019 The Sally Harrington Goldwater Memorial Visiting Professor Award; Barrow Neurological Foundation
- 2019 Castle Connolly America's Top Doctors for Cancer
- 2019 Society of Neurological Surgeons Medical Student Teaching Award

**Invited Talks, Panels:**

1. Seminar, Graduate Department of Psychology, New York University. "Role of Cyclic AMP in the Nervous System." April 3, 1973.
2. Seminar, Graduate Department of Biology, N.Y.U. "Membrane Changes and Regulation of DNA Synthesis." April 24, 1973.
3. Second International Catalina Colloquium on Extracellular Matrix Influences on Gene Expression Cartilage Mediated Inhibition of Tumor Angiogenesis." Sept 23, 1974
4. Soma Weiss Award Assembly, Harvard Medical School, Boston, MA. "Inhibition of Tumor Angiogenesis is Mediated by Cartilage." May 13, 1975.
5. Surgical Grand Rounds, West Roxbury V.A. Hospital. "Tumor Angiogenesis." January 13, 1977.
6. Medical Grand Rounds, Brockton V.A. Hospital. "Control of Tumor Angiogenesis." May 3, 1977.



7. Association for Research in Vision and Ophthalmology, Sarasota, Florida. "Vitreous Inhibition of Tumor Neovascularization." April 26, 1977.
8. Seminar, Department of Medicine, Massachusetts General Hospital. "Inhibition of Neovascularization as a Control of Tumor Growth." June 22, 1977.
9. Lecture, Wilmer Institute, Johns Hopkins School of Medicine. "Progress in Controlling Tumor Angiogenesis." June 14, 1977.
10. Soma Weiss Award Assembly, Harvard Medical School, Boston, MA. "Control of Neovascularization." May 18, 1978.
11. Plastic Surgery Department, Children's Hospital Medical Center and the Peter Bent Brigham Hospital, Boston, MA. "Clinical Observations and Basic Science." July 28, 1978.
12. Lecture, Workshop in New Research in Diabetic Retinopathy, Boston, Mass. "Cartilage Mediated Inhibition of Neovascularization." September 15, 1978.
13. Society of University Surgeons, University Surgical Resident's 21st Annual Conference in Salt Lake City, Utah. "One year Administration of Oral Norepinephrine and Methoxyamine to Control G.I. Bleeding from Recurrent A-V Malformations." February 15, 1979.
14. Faculty Course in Cervical Neoplasia, Hospital General de Mexico, Mexico City. "Angiogenesis." April 12, 1979.
15. Surgical Grand Rounds, Peter Bent Brigham Hospital, Boston, MA. "Control of Tumor Growth." May 12, 1979.
16. Sixth National Science Writers Seminar of Research to Prevent Blindness, Los Angeles, California. "Progress In Controlling Retinal Neovascularization." October 8, 1979.
17. Conference on Diabetic Retinal Syndrome, Downstate Medical Center, New York. "Control of Neovascularization." November 12, 1979.
18. New York Society of Neurosurgery. "Inhibition of Angiogenesis: Significance for Human Brain Tumors" - Award Lecture. March 11, 1980.
19. Association for Research - Vision and Ophthalmology, Orlando, Florida. "Corneal Inflammation Induced by a Purified Lymphokine." May 9, 1980.
20. Clinical Congress of the American College of Surgeons, Atlanta, Georgia. "Human Brain Tumors: Differences in Ability to Stimulate Angiogenesis. October 22, 1980.
21. Conference on Diabetic Renal-Retinal Syndrome II, Downstate Medical Center, New York. "Controlling Blood Vessel Proliferation." Nov., 1981.
22. The Fellowship of Academic Neurosurgeons, XIII Annual Meeting, New York. "Angiogenesis Theory." March 11, 1983.
23. American Association of Neurological Surgeons, Washington, DC "Detection of Human Brain Tumors: An In Vitro Method Utilizing CSF." April 27, 1983.
24. Clinical Congress of the American College of Surgeons, Atlanta, GA. "Detection of Human Central Nervous System Tumors: Use of Migration Stimulating Activity of the Cerebrospinal Fluid. October 19, 1983.
25. Congress of Neurological Surgeons, Chicago, Illinois. "Brain Tumor Angiogenesis." October 28, 1983.
26. Neurology Grand Rounds, Johns Hopkins Hospital. "Brain Tumor Angiogenesis." September 20, 1984.
27. Lecture, Johns Hopkins University School of Medicine, Symposium on Temporal Bone Surgery." Nov. 9-10, 1984.
28. Ophthalmology Grand Rounds, Wilmer Ophthalmological Institute, JHH. "Retinal Signs and Symptoms of Carotid Artery Disease." November 21, 1984.
29. Pediatric Neuro-Oncology Conference, Johns Hopkins Hospital. "New Approaches in Brain Tumor Therapy." December 12, 1984.
30. Surgical Grand Rounds, Johns Hopkins Hospital. "Hemangioblastomas and Angiogenesis." December 1984.
31. Oncology Grand Rounds, Johns Hopkins Hospital. "Neovascularization of Brain Tumors." January 10, 1985.
32. General Surgery Grand Rounds, St. Agnes Hospital, Baltimore, MD. "Advances in the Diagnosis and Treatment of Brain Tumors." January 16, 1985.
33. Neurology Grand Rounds, Johns Hopkins Hospital. "Extracranial-Intracranial Bypass Grafting for Cerebral Ischemia." Mar. 7, 1985.
34. NINCDS SNB, NIH, Bethesda, MD. "Brain Tumor Angiogenesis." April 12, 1985.
35. Pathology Lecture, Johns Hopkins Hospital. "Tumor Vasculature." April 16, 1985.
36. Lecture, The Johns Hopkins Medical and Surgical Association. "Angiogenesis Factor and its Potentials for

- Therapy in Brain Tumors." Jun 14, 1985
37. Medical Grand Rounds, Francis Scott Key Medical Center, Baltimore, MD. "Treatment of Brain Tumors." January 15, 1986.
  38. Lecture, Johns Hopkins Medical Institutions, Skull Base Tumor Course. "Tumors of the Foramen Magnum." February 8, 1986.
  39. Lecture, Johns Hopkins University, Acute Care in Neurology and Neurosurgery. "New Approaches to Treatment of Brain Tumors." April 4, 1986.
  40. Lecture, Johns Hopkins University, Department of Rehabilitation Medicine. "Management of Aneurysms and Vascular Malformations." May 19, 1986.
  41. Surgery Grand Rounds, Johns Hopkins Hospital. "Metastatic Spinal Disease." March 7, 1987.
  42. Science Writers Conference on Brain Cancer. March 18, 1987.
  43. Lecture, Johns Hopkins University, Topics in Clinical Medicine 1987. "Pituitary Lesions." May 15, 1987.
  44. Lecture, Society of University Neurological Surgeons. "Human Brain Tumor Angiogenesis: drug delivery by bioerodible materials." May 29, 1987.
  45. Lecture, The Johns Hopkins Medical and Surgical Association. "Angiogenesis in Human Brain Tumors." June 12, 1987.
  46. Lecture, The Johns Hopkins Medical Institutions. Interventional Neuroradiology: Current Practices and Techniques. "Treatment of Intracranial Angiofibromas and Chemodectomas." "Embolization and Surgical Management of Meningiomas." December 9, 1987.
  47. Lecture, The Johns Hopkins Medical Institutions, PET Scanning Course. "PET Scanning of Brain Tumors." March 18, 1988.
  48. Visiting Professor, Columbia College of Physician and Surgeons, New York, NY. "Advances in Neuro-Oncology." June 30, 1988.
  49. Lecture, 6th Gordon Research Conference on Drug Carriers in Biology and Medicine, Plymouth, NH. "Clinical Studies: Bioerodible Polyanhydrides for Brain Disorders." July 13, 1988.
  50. Lecture, Joint Tumor Section Program of the Congress of Neurological Surgeons, Seattle, WA. "Tumor Angiogenesis." September 26, 1988.
  51. Lecture, Johns Hopkins University Medical School, Basic Surgical Clerkship Lecture Series. "Brain Tumors." Quarterly, 1988 - 1990.
  52. Lecture, Association of Government Toxicologists. Rockville, MD. "Implants." Oct. 27, 1988.
  53. Lecture, University of Pennsylvania, Visiting Professor. Interstitial Chemotherapy for Brain Tumor Angiogenesis." March 9-10, 1989.
  54. Lecture, Peripatetic Club, 52nd Annual Meeting, Baltimore, MD. "Biodegradable Polymers as Vehicles for Therapeutic Agents." March 31, 1989.
  55. Seminar, The American Association of Neurological Surgeons, Washington, D.C. "Intralesional Therapies for Malignant Gliomas." April 6, 1989.
  56. Lecture, Neurosurgery Grand Rounds, Christiana Hospital, Newark, DE. "Advances in Neuro-Oncology." May 18, 1989.
  57. Lecture, Johns Hopkins Hospital Centennial, Baltimore, MD. "Neuro-oncology." June 6, 1989
  58. Lecture, NATO ASI, Cape Sounion, Greece, Targeting of Drugs: Optimization Studies. June 24-July 5, 1989.
  59. Lecture, Controlled Release Society, Chicago, IL. "Controlled Delivery to the Brain." August 7, 1989.
  60. Lecture, Review and Update in Neurobiology for Neurosurgeons, Woods Hole, Massachusetts. "Biodegradable Polymers." November 11, 1989.
  61. Lecture, Tables Rondes Roussel-UCLAF, Paris, France. "Delivery of Drugs to the Brain by Use of Sustained-Release Polyanhydride Polymer System." Dec 7, 1989.
  62. Lecture, Stockholm, Sweden. "Clinical Trials of Controlled Release Polymers." December 10, 1989.
  63. Lecture, McGill University - Neuroscience Symposium, Montreal, Quebec, Canada. "Biodegradable Polymers to Treat Brain Tumors." January 10, 1990.
  64. Lecture, Johns Hopkins Hospital, Surgery Grand Rounds. "Intraoperative Drug Delivery." March 10, 1990.
  65. Plenary Lecture, American Chemical Society, Boston, MA. "The Development of Polyanhydrides to Treat Brain Tumors." April 26, 1990.
  66. Lecture, Research Society of Neurological Surgery, Boston, MA. "Brain Tumor Angiogenesis." June 14, 1990.
  67. Visiting Professor, Georgetown University School of Medicine, Neurosurgery Grand Rounds, Washington, D.C. "New Approaches to Treating Brain Tumors." Jun 20, 1990
  68. Visiting Professor, Chicago Neurological Center. "The Development of Local Therapy for Brain Tumors."

July 9, 1990.

69. Lecture, Johns Hopkins Hospital, Surgery Grand Rounds. "Progress in the Treatment of Pituitary Tumors." October 13, 1990
70. Visiting Professor, Robert Wood Johnson Medical School, New Brunswick, New Jersey. "New Approaches to Treat Brain Tumors" November 28, 1990.
71. Lecture, Recent Advances in Drug Delivery systems Symposium, Salt Lake City, UT. "Polymeric Drug Delivery Systems in the Treatment of Brain Diseases." February 28, 1991.
72. Lecture, International Symposium on Angiogenesis, St. Gallen, Switzerland, "Drug Delivery to the Brain and Angiogenesis Inhibition." March 13, 1991.
73. Lecture, The Preuss Foundation Seminar on Pharmacologic Problems in the Treatment of Glial Tumors, Durham, NC. April 16, 1991.
74. Lecture, Research Society of Neurological Surgeons, Durham, NC. "Drug Delivery to the Brain Utilizing Biodegradable Polymers." May 3, 1991.
75. Plenary Lecture, American Association of Cancer Research, Houston, TX. "Interstitial Chemotherapy Utilizing Polymers for Treating Brain Tumors." May 17, 1991.
76. Lecture, Johns Hopkins University Joint Neurology/Neurosurgery Biennial Meeting. "Polymers for Treatment of Brain Tumors." June 7, 1991.
77. Lecture, Johns Hopkins University Surgical Symposium. "New Approaches to the Treatment of Brain Tumors." June 7, 1991.
78. Lecture, International Conference on Biomaterials, Jerusalem, Israel. "Biodegradable polymer implants to release drugs in the treatment of brain disease." June 9, 1991.
79. Lecture, The Ninth International Conference on Brain Tumor Research and Therapy, Asilomar, CA. "Interstitial chemotherapy." October 16, 1991.
80. The Chicago Institute for Neurosurgery and Neuroresearch, Basic Neurooncology Symposium. "Biodegradable Polymers for Brain Tumor Treatment." Nov 9, 1991.
81. US-Japan Conference on Drug Delivery Systems, Maui, Hawaii. "Controlled Drug Delivery Systems for the Brain." Dec 16, 1991.
82. Lederle Laboratories, Dept of Molecular Biology, NY. "Mechanism of Tetracycline Inhibition of Angiogenesis." January 28, 1992.
83. Department of Chemical Engineering, M.I.T. "Polymer Development." February 24, 1992.
84. Neurology Lecture Series, Johns Hopkins Hospital. "Control of Angiogenesis." February 25, 1992.
85. Co-Chairman, Preuss Foundation Symposium. Dallas, TX. "Delivery of Treatment to Brain Tumors." March 12-13, 1992.
86. American Chemical Society, San Francisco, CA. "Controlled Release Polymers to Deliver Drugs to the Brain." April 8, 1992.
87. Second Jerusalem Conference on Pharmaceutical Sciences and Clinical Pharmacology, Jerusalem, Israel. "Drug Delivery to the Brain." May 29, 1992.
88. Neurology and Oncology Grand Rounds, Jerusalem, Israel. "New Developments in Brain Tumor Treatment." May 31, 1992.
89. Gordon Research Conference on Drug Carriers in Biology and Medicine, New Hampshire. "Polymer Controlled Delivery to the Brain." July 6, 1992.
90. American Association of Colleges of Pharmacy (AACP), Washington, D.C. "Biodegradable Implants for Brain Cancer." July 12, 1992.
91. Controlled Release Society Symposium, Orlando, FL. "Controlled Delivery Systems for the Brain." July 31, 1992.
92. Visiting Professor, Polish Academy of Sciences, Warsaw, Poland. "New Approaches to Intracranial Edema." August 21, 1992
93. Strategic Alliances with Industry, Greater Baltimore Committee's High Tech Assembly, Baltimore, Maryland. "Surgery, Drug Delivery and Computer Visualization." October 21, 1992.
94. Congress of Neurological Surgeons, Washington, D.C. "Pharmacological Surgical Implants for Brain Tumor Therapy." November 2, 1992.
95. Visiting Professor, Ohio State University, Department of Surgery. "Local Delivery of Chemotherapeutic Agents for the Treatment of Cancer." November 7, 1992.
96. International Congress on Advances in Brain Revascularization, Eilat, Israel. "Polymers as Controlled Drug Delivery Systems for the Brain." April 22, 1993.

97. American Association for Neurological Surgeons, Boston, MA. "New Windows in Glioma Treatment." April 27, 1993.
98. Third Drug Discovery and Development Symposium, San Diego, CA. "Local Drug Delivery to Tumor using Polymer." July 24, 1993.
99. Congress of Neurological Surgeons, Vancouver, British Columbia. "Interstitial Chemotherapy for Brain Tumors." October 4, 1993.
100. American Academy of Neurological Surgery, Phoenix, AZ. "Polymers as an Intracranial Implantable Controlled Drug Delivery System." October 30, 1993.
101. Harvard Medical School - Continuing Education Medical Course, Boston, MA. "Delivery Systems for Brain Tumor Therapy." November 11, 1993.
102. UCLA Division of Neurosurgery, Advances in Brain Tumor Management Symposium, Marina del Rey, CA. "Biodegradable Polymers for Drug Delivery" and "Antiangiogenesis Therapy." November 20, 1993.
103. The 2nd US-Japan Symposium on Drug Delivery, Maui, HI. "Neural Applications of Controlled Delivery Devices." December 1993.
104. The New York Academy of Sciences Symposium, Tampa, FL. "Biodegradable Polymers for Neurological Applications." January 21, 1994.
105. Pet and Spect Imaging in Oncology, Johns Hopkins Medical Institutions, Baltimore, MD. "Therapeutic Decisions in Patients with Brain Tumors." March 9, 1994.
106. The Society of Surgical Oncology, Houston, TX. "Polymers as an Intracranial Implantable Controlled Drug Delivery System." March 19, 1994.
107. The American Association of Neurological Surgeons, San Diego, CA. "Novel Treatments for Malignant Gliomas." April 14, 1994.
108. The American Society of Clinical Oncology, Dallas, TX. "Intraoperative Chemotherapy using Biodegradable Polymers: Safety and Effectiveness for Recurrent Glioma Evaluated by a Prospective, Multi-Institutional Placebo-Controlled Clinical Trial." May 17, 1994.
109. The Controlled Release Society, Nice, France. "Polymers as an Intracranial Implantable Controlled Drug Delivery System." June 28, 1994.
110. Congress of Neurological Surgeons, Chicago, IL. "Intraoperative Chemotherapy Using Biodegradable Polymers by a Prospective, Multi-institutional Placebo-Controlled Trial for Safety and Effectiveness." October 5, 1994.
111. Multidisciplinary Clinical Conference, Johns Hopkins Oncology Center. "Local Delivery of Chemotherapy for Brain Tumors." October 20, 1994.
112. The Neurological Institute Association of the Alumni, Columbia University, NY. "New Horizons in Brain Tumor Therapy: From Laboratory to Bedside." December 1, 1994.
113. Seattle Glioblastoma Workshop, Seattle, Washington. "Polymer Systems for Drug Delivery to Brain Tumors." Dec 10-11, 1994.
114. The Keystone Symposia on Molecular & Cellular Biology, Hilton Head, SC. "Drug Delivery for Brain Tumors." January 11, 1995.
115. UCLA Symposium on Advances in Brain Tumor Management, Las Vegas, NV. "Biodegradable Polymers" and "Angiogenesis." Feb 18, 1995
116. Visiting Professor, Harvard Medical School, Boston, MA: Children's Hospital, Neurosurgery Grand Rounds, "Local Therapy for Brain Tumors Utilizing Biodegradable Polymers," and Brigham & Women's Hospital, Neuroscience Seminar, "Minocycline for Inhibition of Brain Tumor Angiogenesis." March 2, 1995.
117. Neuroscience Medical Student Course, Johns Hopkins University School of Medicine. "Brain Tumors." March 3, 1995.
118. Walter E. Dandy Visiting Professor, Baltimore, MD. "Treatment of Brain Tumors: Past, Present and Future." March 9, 1995.
119. 1995 Clemson Award Recipient for Biomaterials Research, Society for Biomaterials, San Francisco. "Polymeric Drug Delivery to the Brain." March 19-23, 1995.
120. American Association of Neurological Surgeons, Orlando, FL. "Current and Novel Treatments of Malignant Gliomas." April 27, 1995.
121. M.I.T. Chemical Engineering Lectureship, Cambridge, MA. "New Medical Technologies." May 8, 1995.
122. Visiting Professor, University of Calgary, Calgary, Alberta, Canada. "Biodegradable Polymers for Local Therapy of Brain Tumors--From Laboratory to Clinical Trials," and "Minocycline for Inhibition of Brain Tumor Angiogenesis." May 19, 1995.

123. The Johns Hopkins Medical & Surgical Association Biennial Meeting, Baltimore, MD. "New Approaches to Brain Tumor Therapy." June 9, 1995.
124. American Chemical Society, Conference on Formulations and Drug Delivery, Boston, Massachusetts. "Polymer Systems for Drug Delivery to the Brain." October 12, 1995.
125. Congress of Neurological Surgeons, San Francisco, CA "Treatment of Recurrent Gliomas." October 16, 1995.
126. American Neurological Association, Washington, DC. "Clinical Trials of Brain Tumor Therapy." Oct 23, 1995.
127. Society of Surgical Chairmen, Washington, DC. "Craniotomy Outcome Analysis." October 29, 1995.
128. Eleventh International Conference on Brain Tumor Research and Therapy, Napa, California. "Controlled Delivery of Chemotherapy by Biodegradable Polymers for the Treatment of Malignant Gliomas." Nov 1, 1995.
129. American Academy of Neurological Surgeons, Tucson, Arizona. "Surgically Implanted Biodegradable Polymers for the Treatment of Malignant Gliomas." Nov 4, 1995.
130. Visiting Professor, Neurology Grand Rounds, Johns Hopkins University, Baltimore, Md. "Drug Delivery to the Brain." November 9, 1995.
131. Controlled Release Society - 3rd US-Japan Symposium, Maui, HI. "Novel Delivery Therapies for Cancer." Dec 17-22, 1995.
132. American Association for the Advancement of Science, Baltimore, MD. "Polymeric Delivery Systems to the Brain." Feb 11, 1996.
133. Sandra Altman Memorial Lecture, University of Pennsylvania, Philadelphia, PA. "Novel Treatments for Brain Tumors." February 29, 1996.
134. Neuroscience Teaching Course, Johns Hopkins School of Medicine, Baltimore, MD. "Clinical Correlation." March 1, 1996.
135. Neuropathology Teaching Course, Johns Hopkins School of Medicine, Baltimore, MD. March 4, 1996.
136. Neurology Grand Rounds, University of Maryland, Baltimore. MD. "Local Therapy of Brain Tumors." March 13, 1996.
137. Ethical Dilemmas in Contemporary Surgery, Johns Hopkins Medical Institutions, Baltimore, MD. "The Education of Surgeons and the Surgical Dabbler: The Ethics of Referral." March 23, 1996.
138. PET and SPECT Imaging in Cancer Diagnosis and Treatment, Baltimore, MD. "The Problem: Care of Patients with Brain Tumors." March 27, 1996.
139. Howard University Cancer Center, Seminars in Oncology, Washington, DC. "Chemotherapeutic Implants for Malignant Brain Tumors." April 18, 1996.
140. Johns Hopkins University, Department of Medicine, Baltimore, MD. "New Approaches to Brain Tumor Therapy." April 27, 1996.
141. American Association of Neurological Surgeons, Minneapolis, MN. "Polymeric Delivery systems to Treat Brain Tumors: Current Clinical Status and Future Studies." May 2, 1996.
142. Visiting Professor, University of Cincinnati, Cincinnati, OH. "Inhibition of Brain Tumor Angiogenesis." June 18, 1996.
143. "Novel Treatments of Brain Tumors." June 19, 1996.
144. 3rd Jerusalem conference on Pharmaceutical Sciences and Clinical Pharmacology, Jerusalem, Israel. "Polymeric Delivery to the Brain: Laboratory and Clinical Studies." September 4, 1996.
145. Congress of Neurological Surgeons, Satellite Symposium, Joint Section on Tumor, Montreal, Canada. "Molecular Therapy." October 4, 1996.
146. Johns Hopkins University, Neuroscience, The Neurosurgeon in Society Program. "Introduction of New Therapies." October 31, 1996.
147. Medical College of Pennsylvania and Hahnemann University Symposium on Malignant Brain Tumors: Future Directions. "Chemotherapy: New Strategies to By-pass the Blood Brain Barrier." November 9, 1996.
148. Johns Hopkins University, Department of Chemistry, Homewood Campus, Baltimore, MD. Colloquium Series Seminar. "Drug Delivery to the Brain." Nov 12, 1996.
149. Training Program for Gliadel<sup>R</sup> Usage, Rhone-Poulenc Rorer, Dallas, TX. Dec 10 and Dec 16, 1996.
150. 18th Annual Eino Nelson Memorial Conference, Aventura, FL. "Localized Controlled Delivery of Chemotherapy for Brain Tumors." Jan 7, 1997.
151. European Association of Neurological Surgeons, Paris, France. "Defining a Standard for Local Therapy of Gliomas." February 1, 1997.
152. Neuroscience Medical School Course, Johns Hopkins University, Baltimore, MD. "Clinical Correlations." February 28, 1997.

153. The Neurosurgeon in Society Program, Johns Hopkins Department of Neurosurgery. "After Cushing and Dandy," April 3, 1997.
154. Visiting Professor, University of Florida, Tampa, FL "New Approaches to Brain Tumor Therapy," April 4, 1997.
155. Visiting Professor, The Moffitt Cancer Center, Tampa, FL. "Controlled Sustained Release Polymers to Deliver Cancer Therapy," April 4, 1997.
156. Medical Technology Assessment Course, Johns Hopkins School of Public Health, Baltimore, MD. "Assessing New Technologies." April 11, 1997.
157. American Association of Neurological Surgeons, Denver, CO. Seminar Moderator, "Current and Novel Treatment of Malignant Gliomas." April 17, 1997.
158. West Coast Advisory Panel on Brain Tumor Therapy, Laguna Beach, CA. "Role Gliadel<sup>®</sup> in Treating Brain Tumors." April 19, 1997.
159. American Association of Pharmaceutical Scientists Western Regional Meeting, San Francisco, CA. "Drug Delivery to the Brain Using Biodegradable Polymers." April 24, 1997.
160. The 6th Meeting of the Scandinavian Glioma Group, Espoo, Finland. "Local Chemotherapy of Gliomas." May 15, 1997.
161. American Society of Hospital Pharmacists, Minneapolis, MN. "New Treatments for Brain Disease." June 5, 1997.
162. Johns Hopkins Medical and Surgical Biennial Meeting, Baltimore, MD., "Advances in Brain Tumor Therapy." June 6, 1997.
163. Fourth Anticancer Drug Discovery Symposium, Annapolis, Maryland. "Polymeric Local Delivery of Therapeutic Agents to Treat Brain Tumors." August 5, 1997.
164. Bundesinstitut for Arzneimittel und Medizinprodukte (BfArM), Berlin, Germany. "Clinical Experience with BCNU-polymers." August 6, 1997.
165. American Academy of Otolaryngology-Head and Neck Surgery, San Francisco, CA. "Cerebrospinal Fluid and Cerebral Vasculature Dynamics in Skull Base Surgery." Sept 10, 1997.
166. Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD. "Treatment of Brain Tumors Utilizing Controlled Drug Delivery." September 19, 1997.
167. Localized Treatments for Brain Cancer Symposium, New Orleans, LA. "Chemotherapeutic Wafer Implant after Glioma Surgery." September 29, 1997.
168. Johns Hopkins School of Medicine, Neurosurgeon In Society Program, Baltimore, MD. "Pituitary Tumors." October 9, 1997
169. Visiting Professor, University of Chicago, Chicago, IL. "New Approaches to Brain Tumor Therapy." October 17, 1997.
170. New Jersey Neurological Society, Short Hills, NJ. "Interstitial Chemotherapy for Brain Tumors." November 3, 1997.
171. Medicines Control Agency, London, England. "Clinical Trial Results with Gliadel<sup>®</sup>." Nov 7, 1997.
172. Seminaire Franco-Mexicain de Neurologie et de Neuroradiologie, Hospital de la Salpetriere. Paris, France. "Clinical Experience with Gliadel<sup>®</sup> Wafer in Glioblastoma." November 13, 1997.
173. NYU Post-Graduate Medical School Course (A Systems Approach to Glial Neoplasms), New York, NY. "The Future of Interstitial Chemotherapy". November 14, 1997.
174. Medical Grand Rounds, Johns Hopkins School of Medicine. "New Approaches to Drug Delivery in the Brain." November 21, 1997.
175. French Regulatory Agency, Paris, France. "Gliadel<sup>®</sup> to Treat Malignant Glioma." November 26, 1997.
176. 4th US-Japan Symposium on Drug Delivery Systems, Kauai, HI. "Polymers for the Development Brain Tumor Vaccines." December 14, 1997.
177. Visiting Professor, University of Tennessee, Memphis, TN. "Development of New Treatment Approach for Brain Tumors." February 6, 1998.
178. Astra Merck Neuroscience Seminar, Phoenix, AZ. "Brain Drug Delivery Using Intra-Cerebral Implants." March 7, 1998.
179. Neurology Grand Rounds, Johns Hopkins School of Medicine, Baltimore, MD. "New Approaches to Brain Tumor Therapy." March 5, 1998.

180. American College of Surgeons - Young Surgical Investigators' Conference, Chantilly, VA. "Grant Writing Skills-Mock Study Section on Neurosurgical Surgery." March 9, 1998.
181. American Association of Neurological Surgeons, Philadelphia, PA. "Current and Novel Treatment of Malignant Gliomas." April 30, 1998.
182. Visiting Professor, Medical College of Georgia, Augusta, GA. "New Approaches to Brain Tumor Therapy." May 7, 1998.
183. Angiogenesis Invasiveness Symposium, University of South Florida College of Medicine, Tampa, FL. "Update on Gliadel and Polymer-Based Drug Delivery: Outlook for Polymers as a Vehicle for Local Delivery of Angiostatic Inhibitors of Brain tumors." May 16, 1998.
184. Neurosurgery Visiting Professor, Beth Israel-Deaconess Hospital, Boston, MA. "New Approaches in Brain Tumor Therapy." June 24, 1998.
185. Genetics in Neuroscience, 1st International Congress, Terni, Italy. "Management of Gliomas." June 30, 1998.
186. Korean Brain Tumor Study Group, Seoul, Korea. (1) "Direct Delivery of Therapeutic Agents to Brain Tumors: Clinical and Laboratory Studies," (2) "Antiangiogenic Approaches to Brain Tumor Therapy." July 4, 1998.
187. Third Congress of the European Association for Neuro-Oncology (EANO III), Versailles, France. "Interstitial Chemotherapy: clinical Experience and Perspectives." September 14, 1998.
188. Congress of Neurological Surgeons, Seattle, WA. "From Laboratory Bench to Clinical Application." Oct 5, 1998.
189. 5th IUBMB Conference on the Biochemistry of Health and Diseases, Jerusalem, Israel. "Implantable Slow-Release Polymers for the Treatment of Brain Tumors." October 21, 1998.
190. Radiology Grand Rounds, Johns Hopkins School of Medicine. "The Development of New Approaches to Treating Brain Tumors" Oct 27, 1998
191. United Kingdom and Ireland Controlled Release Society Symposium, Aston University, Birmingham, England. "Polymers for CNS Delivery." January 8, 1999.
192. Tri-National Meeting of the Israeli, German, and Finnish Neurosurgical Societies, Eilat, Israel. "Current and Future Applications of Polymer Technology for Brain Tumor Therapy." January 22, 1999.
193. Johns Hopkins Medicine Technology Fair, Baltimore, MD. "New Delivery Approaches for Cancer and for the Brain." March 19, 1999.
194. American Society for Experimental Neuro-Therapeutics, Inc., Washington, DC. "New Technologies for Effective Delivery of Neurotherapeutic Agents." March 20, 1999
195. The American Association of Neurological Surgeons, New Orleans, LA. "Craniotomy for Tumor: Outcomes in High Volume Versus Low Volume Hospitals." April 26, 1999.
196. Johns Hopkins Medical Institutions, Surgical Grand Rounds, Baltimore, MD. "New Approaches for Brain Tumor Therapy." May 8, 1999.
197. Johns Hopkins Medicine Faculty Leadership Development Program, Baltimore, MD. "Fulfilling the Research Mission: Leadership Challenges (Clinical Research). June 3, 1999.
198. Controlled Release Society, Boston, MA. "Polymer Delivery of Therapeutic Agents for Cancer." June 24, 1999.
199. Macromolecular Drug Delivery Conference, Breckenridge, CO. "Polymeric Delivery of Cytokines for the Treatment of Tumors." July 16, 1999.
200. Harvard Medical School Postgraduate Course, Tumors of the Central Nervous System: Brain Tumor Management, Boston, MA. "Interstitial Chemotherapy for Brain Tumors." September 13, 1999.
201. Fifth Anticancer Drug Discovery and Development Symposium, Detroit, MI. "Polymeric Local Delivery of Therapeutic Agents to Treat Brain Tumors." September 24, 1999.
202. Visiting Professor, Walter Reed Army Medical Center, Washington, DC. "Advances in Local Therapy for Brain Tumors." "Development of a Research Program." Oct 25, 1999.
203. Congress of Neurological Surgeons, Boston, MA. Moderator, Luncheon Seminar, "Current Management of Malignant Gliomas." November 2, 1999.
204. Visiting Professor, St. Joseph Medical Center, Baltimore, MD. "New Approaches for Brain Tumor Treatment." December 3, 1999.
205. US-Japan Symposium on Drug Delivery Systems, Kaanapali Beach, Lahaina, HI. "Clinical Development Utilizing Biodegradable Polymer Implants." December 12-17, 1999.
206. Visiting Professor, University of California, Irvine. "Brain Tumor Treatment-2000." January 12, 2000.
207. Visiting Professor, Cedars-Sinai Medical Center, Los Angeles, CA. "Brain Tumor Treatment-2000." January 12, 2000.

208. Visiting Professor, University Hospital of Brooklyn, Health Science Center, Brooklyn, NY. "Adjunct Treatment of Recurrent Glioblastoma Multiforme." January 27, 2000.
209. American Association of Neurological Surgeons, San Francisco, CA. "New Developments in Local Therapy of Brain Tumors." April 10, 2000.
210. AANS/CNS Section on Tumors Satellite Symposium, San Francisco, CA. "Implantable Biodegradable Polymers." April 13, 2000.
211. The Society of Neurological Surgeons, Pasadena, CA. "Brain Tumor Therapy," May 21, 2000. (Grass Foundation Award)
212. La Genetica Nelle Neuroscienze, Terni, Italy. "Neuro-Oncology Clinical Lecture." July 3, 2000.
213. Visiting Professor, Yale University, New Haven, CT. "New Approaches to Brain Tumor Therapy." Sept 6, 2000.
214. Controlled Release Society, International Symposium on Tumor Targeted Delivery Systems, Bethesda, MD. "Polymer Drug Delivery for Cancer Therapy: Clinical Observations." September 25, 2000.
215. Congress of Neurological Surgeons, San Antonio, TX. Moderator, Luncheon Seminar, "Novel Therapies for Malignant Gliomas." September 26, 2000.
216. Society for Neuro-Oncology, Annual Meeting, Chicago, IL. Moderator, Session: "Therapeutic Studies 1" November 10, 2000.
217. Pivotal Glioma Trial Meeting, San Juan, Puerto Rico. "Gliadel Clinical Presentation." November 18, 2000.
218. South Florida Brain Tumor Association, Fort Lauderdale, FL. Keynote Address: "Advances in Brain Tumor Therapy." Jan 20, 2001.
219. MD Anderson Cancer Center, Houston, Texas, Neurosurgical Oncology Symposium: The Decade Ahead. "Intracavitary Drug Delivery: Clinical Potential." Jan 27, 2001
220. Clinical Neuroscience Lecture, Johns Hopkins School of Medicine, Baltimore, MD. "Developments in Brain Tumor Therapy." Feb 5, 2001.
221. The Cleveland Clinic Foundation, Neuro-Onc Symposium, Naples, FL. "Intratumoral Chemotherapy," February 19, 2001
222. "The Structure and Function of NABTT Consortium" Feb 20, 2001.
223. Baltimore Women's Forum, Baltimore, MD. "The Brain and Intelligence in the New Century." March 7, 2001.
224. Visiting Professor, University of Pittsburgh. Pittsburgh, PA. "New Approaches to Brain Tumor Therapy" and "Novel Brain Tumor Therapies." March 21, 2001.
225. American Association of Neurological Surgeons, Toronto, Canada. Discussant at Scientific Session for abstract "Phase I Clinical Trial of Adenovirus-mediated p53 Gene Therapy for Recurrent Glioma: Biological and Clinical Results," presenter: Dr. Frederick F. Lang. April 25, 2001.
226. Visiting Professor, Department of Neurosurgery, George Washington University, Washington DC. "Neuro-Oncology Advances." May 23, 2001.
227. Johns Hopkins Medical and Surgical Association Biennial Meeting, Johns Hopkins, Baltimore, MD. "New Developments in tumor Therapy." June 8, 2001.
228. Update in Clinical Neurosciences, Baltimore, MD. Moderator: "Discussion of Case Studies". June 22, 2001.
229. Accelerate Brain Cancer Cure Retreat (ABC), Santa Barbara, CA. Moderator: "Latest on Brain Cancer" July 13, 2001.
230. The Johns Hopkins University School of Medicine, Neurology Medical Student Clerkship Lecture, Baltimore, MD. "Brain Tumors and Subarachnoid Hemorrhage." July 17, 2001.
231. Polymers for Advanced Technologies Symposium, Eilat, Israel. "Brain Tumors Treatments with Polymer Delivery Systems: Preclinical and Clinical Results." Sept 5, 2001.
232. Johns Hopkins University and Technion-Israel Institute of Technology, Baltimore, MD. "Brain Tumor Research." September 11, 2001.
233. The Congress of Neurological Surgeons, San Diego, CA. Moderator - Luncheon Seminar, "Novel Therapies for Malignant Brain Tumors." October 2, 2001. Speaker - "Therapeutic Discoveries." October 3, 2001.
234. Johns Hopkins University School of Medicine, Dean's Lectures, Baltimore, MD. "Advances in Brain Tumor Therapy." Dec 3, 2001.
235. FDA Oncology Drugs Advisory Committee (ODAC), Bethesda, MD. "Gliadel Clinical Trials." Dec 6, 2001
236. The 6<sup>th</sup> US-Japan Symposium on Drug Delivery Systems, Maui, HI. "Biodegradable Polymer Implants to Treat Brain Tumors." Dec 21, 2001.
237. Visiting Professor, Barrow Neurological Institute, Phoenix, AZ. "Progress in Brain Tumor Therapy." Jan 11, 2002.



238. Johns Hopkins Town Meeting, Baltimore, MD. "Advances in Neurosurgery." Feb 7, 2002.
239. Medical Student Forum, Baltimore, MD. "Women in Surgery." Mar 5, 2002.
240. GMP Scientific Retreat, Hallandale Beach, FL. "Neuroscience: Advances in Drug Delivery to the Brain." April 28, 2002.
241. Johns Hopkins, Baltimore, MD. "Jeffery Williams Memorial." May 30, 2002.
242. Visiting Professor, Dartmouth University Medical Center, New Hampshire. "New Approaches to Brain Tumor Therapy." July 26, 2002.
243. Congress of Neurological Surgeons, Philadelphia, PA. Moderator, Luncheon Seminar "Controversies in Brain Tumor Management." Sept 24, 2002.
244. Premiere "Red Dragon", Senator Theater, Baltimore, MD "Dedication for Brain Tumor Research." Oct 7, 2002.
245. The University of Minnesota Brain Tumor Symposium, Doubletree Hotel, Bloomington, MN. "Advances in Brain Tumor Therapy." October 25, 2002.
246. Mt. Sinai School of Medicine-4<sup>th</sup> Annual Advances in Neurosurgery, Roosevelt Hotel, New York, NY. "Molecular and Chemotherapeutic Advances." Dec 8, 2002.
247. Johns Hopkins Palm Beach Meeting, Palm Beach, FL. "Neurosurgery." Jan 22, 2003.
248. Guilford Advisory Board, Carlyle Hotel, New York, NY. Moderator of the Brain Tumor Advisory Board. Feb 8, 2003.
249. Thirty Years of Angiogenesis Research: A Symposium in Honor of Dr. Judah Folkman. Children's Hospital, Boston, MA "New Approaches to Brain Tumor Therapy." Feb. 28, 2003.
250. GMP 4<sup>th</sup> Annual Scientific Retreat, Ft. Lauderdale, FL. "Neurosurgery Update." Mar 9, 2003.
251. American College of Surgeons Oncology Group, Durham, NC. "New Brain Tumor Trials." Mar 27, 2003.
252. Johns Hopkins Biennial Meeting, Baltimore, MD. "New Directions in Neurosurgery." May 2, 2003.
253. Visiting Professor, Dept of Neurosurgery, Emory University, Atlanta, GA. "Treatment of Brain Tumors." Nov 6, 2003.
254. Keynote Speaker, RUNN Conference, Woods Hole, MA. "Research Advances in Neurooncology." Nov 13, 2003.
255. The 7<sup>th</sup> US-Japan Symposium on Drug Delivery Systems, Maui, HI. "New Approaches to Brain Tumor Therapy." Dec 14-19, 2003.
256. Lecture, Palm Beach Neurosurgical Meeting, Palm Beach, FL. "Academic Neurosurgery." Jan 24, 2004.
257. Lecture, Fifteenth Annual Cancer Progress Conference, New York, NY. "Novel Formulation Technologies for Cancer Therapy." March 9, 2004.
258. The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Translational Research Conference. Baltimore, MD "Targeted Therapy for Brain Tumors." March 10, 2004.
259. American Association of Neurological Surgeons, Orlando, FL. "Targeted Therapy for Brain Tumors." May 5, 2004.
260. Lecture, AANS Tumor Section Symposium, Orlando, FL. Session: "Controversies in Neurosurgical Oncology." May 6, 2004.
261. The American Association of Pharmaceutical Scientists, National Biotechnology Conference, Boston, MA. "Biodegradable Polymers as Methods to Enhance Drug Delivery to Tumors of the CNS." May 18, 2004.
262. Symposium Moderator, Genetics and Regeneration in Neuroscience, 4<sup>th</sup> International Congress, Terni, Italy. "Advances in Radiation Therapy in the CNS. June 30, 2004.
263. Lecture, The Second Technion-Johns Hopkins Symposium in Medical Sciences and Biomedical Engineering, Technion University, Haifa, Israel. "Developing New Therapies for Brain Tumors: From Laboratory to Bedside. Oct 17, 2004.
264. Johns Hopkins University & Hospital, Evolution of Treatment Options for Adult Patients with Brain Tumors, Baltimore, MD. "Neurosurgical Management of Pituitary Tumors." Oct. 29, 2004.
265. Medical Grand Rounds Speaker, Johns Hopkins University, Baltimore, MD. "New Therapies for Brain Tumors." Dec 17, 2004.
266. Mount Sinai Lecture, New York, NY. "Adjuvant Treatments for Gliomas." Dec. 18, 2004.
267. Technion Lecture, Haifa, Israel. "New Approaches to Brain Tumor Therapy." Dec. 27, 2004
268. Weizmann Neurobiology seminar, The Weizmann's Institute, Rehovot, Israel. "Therapeutic Delivery to the Brain: Challenges and Opportunities." January 3, 2005
269. Johns Hopkins Brain Tumor Research Seminar Series, Baltimore, MD. "Therapeutic Delivery to the Brain: Challenges and Opportunities." January 10, 2005

270. Visiting Professor, Neurosurgery Grand Rounds, Stanford, CA. "New Approaches to Brain Tumor Therapy." February 11, 2005
271. Keynote Speaker, Society for Biomaterials, Memphis, TN. "Technology Innovation and Development of Gliadel™ for the Treatment of Brain Tumors." April 30, 2005.
272. Hopkins Biotech Network, Baltimore, MD. "Finding Harmony Between Academic Research and Entrepreneurship" Panelist on Gliadel® . May 5, 2005.
273. The Noun Shavit Memorial Lecturer, Ben-Gurion University, Beer Sheva, Israel.  
The 8<sup>th</sup> Coleman Fellow in Life Sciences presented to Prof Henry Brem,  
"Brain Tumor Therapy: Advances from Laboratory Research." May 23, 2005  
Dept of Chemical Engineering: "Penetrating the Brain for Therapeutic Delivery." May 24, 2005.  
Dept of Life Sciences: "Brain Tumor Angiogenesis." May 25, 2005
274. Johns Hopkins Medical and Surgical Association Biennial Meeting, Baltimore, MD. "New Directions in Neurosurgery at Johns Hopkins." June 3, 2005.
275. E. Llewelyn Thomas lecturer, The Institute of Biomaterials and Biomedical Engineering, Toronto, CA  
"Brain Tumor Therapy" June 7, 2005
276. Updates in Neuro-Oncology, Arezzo, Italy. "Translating Research Findings into Clinical Applications." June 25, 2005
277. Food and Drug Administration, Rockville, MD. "Development of New Therapy for Brain Tumors." September 26, 2005
278. Congress of Neurological Surgeons Meeting, Boston, MA. Roundtable: Neurosurgeons as Clinical Investigators—An Open Forum on the Future of Brain Tumor Research.  
Discussion: "Clinical Investigators, Industry Based Trials and Conflicts of Interest, Education and Reward Paradigms, Mechanisms by which AANC/CNS Can Promote Clinical Research and Funding for Clinical Research." October 11, 2005.
279. ATNS (Advanced Technologies in the Neurosciences), American Academy of Arts and Sciences, Cambridge, MA. "Timetables for Scientific Advances into Practice: Brain Tumor Therapy Case Studies." October 19, 2005.
280. RUNN Conference, Woods Hole, MA. "Brain Tumor Therapy." October 27, 2005.
281. Johns Hopkins Biotechnology Meeting on Neurosurgery, Chicago, IL. "Advances in Neurosurgery Technology". April 10, 2006.
282. Rambam Medical School, Haifa, Israel. "Advances in Brain Tumor Therapy." April 20, 2006.
283. Asilomar 006 Brain Tumor Research and Therapy Meeting at Silverado, CA "Targeting Brain Tumor Therapy." April 27, 2006.
284. Lecture: Johns Hopkins General Surgery Interns. Johns Hopkins Hospital, Baltimore, MD. "Neurosurgical problems and emergencies." May 4, 2006.
285. Second Joint American-Israeli Conference on Cancer, Jerusalem, ISRAEL "New Approaches to Brain Tumor Therapy." June 30, 2006
286. Symposium Honoring Robert S. Langer – 30 Years in Science. Boston, MA "Dr. Langer's Impact on Medicine." July 14, 2006.
287. Neuro-Oncology Update, FedEx Institute of Technology, Memphis, TN "Development of New Therapies for Brain Tumors." August 24, 2006.
288. Congress of Neurological Surgeons, Chicago, IL. Seminar M07 Moderator "Malignant Gliomas: Current Surgical and Adjuvant Strategies." Oct. 9, 2006.
289. American Academy of Neurological Surgery, Ritz Carlton Reynolds Plantation, GA. "Directed Therapy with Polymers for Brain Tumors." October 21, 2006.
290. RUNN Conference, Woods Hole, MA. "Brain Tumor Therapy." October 22, 2006.
291. The Johns Hopkins Health System Corporation and The Johns Hopkins Hospital Board. Baltimore, MD "Neurosciences Safety Initiatives." December 5, 2006.
292. David H. Koch Building Dedication, Johns Hopkins School of Medicine, Baltimore, MD.  
"From Discovery to Results." December 5, 2006.
293. Visiting Professor, Grand Rounds, University of Medicine and Dentistry of New Jersey, Newark, NJ.  
"Brain Tumor Therapy: From Bench to Bedside." December 13, 2006.
294. Florida Brain Tumor Association, 8<sup>th</sup> biennial Brain Tumor Conference, Fort Lauderdale, FL. "Developing New Brain Tumor Therapies." January 20, 2007.
295. Discussant for Scientific Session, American Association of Neurological Surgeons, Washington, DC. Young

- Investigator Award Presentation: "Autologous Heat Shock Protein Vaccine for Recurrent Glioma: Results of a Phase I Clinical Trial," T. Parsa, et al. April 16, 2007.
296. The Johns Hopkins Medical and Surgical Association, 2007 Biennial Meeting and Reunion, Baltimore, MD. Opening Remarks "New Directions in NUS at Johns Hopkins." June 1, 2007.
  297. 2007 Rosomoff Visiting Professor, Department of Neurosurgery, University of Miami, Miami, Florida. "New Approaches to Brain Tumor Therapy." and "Brain Tumor Angiogenesis." June 2, 2007.
  298. 56th Congresso Nazionale SINch, Rome, Italy "New Therapies for Malignant Gliomas." June 26, 2007.
  299. 3<sup>rd</sup> International Meeting Updates in Neuro-Oncology, Cortona, Arezzo, Italy "Developing New Therapies for Brain Tumors." June 30, 2007.
  300. Presentation, Vision 2020-The 2006 Report of the University Committee on the Status of Women at the Johns Hopkins University, Baltimore, MD. "Progress in Neurosurgery." September 10, 2007.
  301. The Congress of Neurological Surgeons, San Diego, CA.  
Seminar Moderator : "Malignant Gliomas: Future Treatment Alternatives." September 17, 2007.  
Luncheon Seminar: "How to Pursue an Academic Career in Neurosurgery." September 18, 2007.  
Section on Tumors II – Senior Discussant: "Gene Therapy." September 19, 2007.
  302. 2007 International Workshop on Glioma Research and Therapy; Brigham and Women's Hospital, Harvard Medical School; Boston, MA. "Surgical Therapies for Glioma." Oct 10-13, 2007
  303. Lecture, RUNN Course, Woods Hole, MA. "Brain Tumor Therapy." October 21, 2007.
  304. Moderator and Scientific Program Chair. The American Academy of Neurological Surgery, Lake Las Vegas, NV. October 31 – November 3, 2007.
  305. Plenary Lecture, 9<sup>th</sup> US-Japan Symposium on Drug Delivery Systems, Maui, HI. "Targeted Brain Tumor Therapy." December 17, 2007.
  306. Guest Lecturer, The Arthur and Sonia Labatt Brain Tumour Research Centre, The Hospital for Sick Children, Toronto, Canada. "Targeting Brain Tumor Therapy." January 24, 2008.
  307. Neurosurgery Resident Lecture, The Hospital for Sick Children, Toronto, CA. "Brain Tumor Angiogenesis." January 25, 2008.
  308. Visiting Professor, Neurosurgery Grand Rounds, Cornell University, Ithaca, NY "Developing New Therapies for Brain Tumors." Feb. 11, 2008.
  309. Visiting Professor, Neurosurgery Grand Rounds, Montefiore Hospital, NY. "Brain Tumor Therapy." March 24, 2008.
  310. American Association of Neurological Surgeons, Chicago, IL. Breakfast seminar - Tumor Neurosurgery: Meet the Experts. "Targeting Brain Tumor Therapy." May 1, 2008.
  311. Guest Lecturer, The Johns Hopkins University Department of Neurosurgery Symposium on Multidisciplinary Perspectives in Brain Tumor Management, Puerto Vallarta, Mexico. "Brain Tumors: The Hopkins Experience." August 14, 2008.
  312. Guest Lecturer, 7<sup>th</sup> Annual International Neuro-Oncology Updates, Baltimore, MD. "Brain Tumors: Targeted Therapy." September 18, 2008.
  313. Congress of Neurological Surgeons Meeting, Orlando, FL. "Preparing for an Academic Laboratory Career: Residency and the Early Faculty Years." Sept 22, 2008.
  314. Congress of Neurological Surgeons Meeting, Orlando, FL. "How to Pursue an Academic Career in Neurosurgery." Sept 23, 2008.
  315. RUNN Course, Woods Hole, MA. "Advances in Brain Tumor Therapy." October 19, 2008.
  316. Visiting Professor, Cedars-Sinai Medical Center, Los Angeles, CA. Dinner Lecture "Advances in Brain Tumor Therapy," Nov 13, 2008.
  317. The Johns Hopkins Neurosurgery Grand Rounds "Developing New Treatments for Brain Tumors," Nov 14, 2008.
  318. Speaker, Neuro Critical Care Unit Research Seminar, Johns Hopkins University, Baltimore, MD "Advances in Brain Tumor Therapy," November 18, 2008
  319. Guest Lecturer, Folkman Symposium, Harvard Medical School, Boston, MA. "Dr. Folkman's Impact on Neurosurgery" Dec 5, 2008.
  320. George Washington University School of Medicine, Washington, DC. "Targeted Brain Tumor Therapy." January 15, 2009.
  321. Keynote Speaker, 44<sup>th</sup> Annual Pharmaceutical Technologies Arden Conference (AAPS) Arden House, West Point, NY. "How Drug Delivery and Targeting will Impact the Future of Medicine." February 2, 2009.
  322. Invited Lecturer: "Brain Tumor Therapy: Gliadel as a Case Study." February 2, 2009.

323. The Johns Hopkins Neuroscience Nurse Clinician II Workshop, Baltimore, MD. "Brain Tumor Therapy: The Evolution of Gliadel." February 23, 2009.
324. Visiting Professor, 35<sup>th</sup> Annual symposium, Barrow Neurological Institute, Phoenix, AZ. "Advances in Brain Tumor Therapy." March 5, 2009.
325. Visiting Professor, 35<sup>th</sup> Annual symposium, Barrow Neurological Institute, Phoenix, AZ. March 6, 2009.
326. Guest Lecturer, The Baltimore City Medical Society, Baltimore, MD. "Advances in Brain Tumor Therapy." March 10, 2009.
327. Johns Hopkins Medical Institution, School of Medicine Neuroscience Lecture, Baltimore, MD "Classification of Brain Tumors." March 26, 2009.
328. Visiting Professor, Grand Rounds, Henry Ford Hospital, Detroit, MI. "Developing New Targeted Treatments for Brain Tumors." April 1, 2009.
329. 2009 American Association for Cancer Research, Denver, CO. Co-Chair, New Concepts Session: Invading the Sanctuary: New Approaches to Brain Metastases. "Introduction: Importance of Brain Metastasis" April 19, 2009.
330. The Musella Foundation: Central NJ. Brain Tumor Support Group: You are not Alone!! "Advances in Brain Tumor Therapy." May 9, 2009.
331. Henry A. Shenkin, MD Lecture, Temple University, Philadelphia, PA. "Developing New Targeted Treatments for Brain Tumors." June 12, 2009.
332. Johns Hopkins Neurosurgical Oncology Grand Rounds, Johns Hopkins University, Baltimore MD. "Developing New Targeted Treatments for Brain Tumors." July 24, 2009
333. EISAI, Co., LCD, Baltimore, MD. "Brain Tumor Therapy: Gliadel as a Case Study." August 21, 2009
334. 1<sup>st</sup>. Annual Johns Hopkins Pituitary Tumor Center, Patient Education Day, Mount Washington, MD. "Surgical Therapy of Pituitary Tumors." September 26, 2009.
335. NCCN<sup>2</sup> Annual Forum: Innovative Diagnostics and Therapeutics in Cancer Care. New York, NY. "Use of BCNU Wafers in Aggressive Gliomas." October 2, 2009.
336. RUNN COURSE, Woods Hole, MA. "Advances in Brain Tumor Therapy." October 17-24, 2009.
337. American Academy of Neurological Surgery, Palm Beach, FL. "High Grade Glioma & Data Supporting Maximal Resection." Nov 4-7, 2009
338. University of North Carolina Lineberger Comprehensive Cancer Center Clinical Symposium, Chapel Hill, NC. "Translating Scientific Advances into Clinical Care for Brain Tumors." November 7, 2009.
339. 10<sup>th</sup> Biannual US-Japan symposium on drug Delivery Systems, Maui, HI. "Advances in Brain Tumor Therapy." December 17, 2009.
340. EISAI Meeting, Chicago, IL "Brain Tumor Therapy: Gliadel as a Case Study". January 26, 2010
341. Johns Hopkins University School of Medicine Surgery Grand Rounds, Baltimore, MD. "Translating Scientific Advances Into Clinical Care for Brain Tumors ", April 1, 2010
342. Johns Hopkins Neuroscience Nursing, Baltimore, MD. "Translating Scientific Advances Into Clinical Care for Brain Tumor Patients." April, 26, 2010.
343. 14<sup>th</sup> BiAnnual Canadian Neuro-Oncology Meeting, Niagara-on-the-Lake, Ontario, Canada. "Developing New Brain Tumor Approaches." May 15, 2010.
344. Traumatic Brain Injury in Professional Football: An Evidence-Based Perspective. Washington, DC. "Setting the Tone." June 2, 2010
345. 15<sup>th</sup> Van Wagenen Professor and Lecturer, Rochester, NY Grand Rounds Lecture "New Approaches to Brain Tumor Therapy". June 18, 2010.
346. 15<sup>th</sup> Van Wagenen Professor and Lecturer, Rochester, NY Grand Rounds Lecture "Neurosurgery at Johns Hopkins". June 18, 2010.
347. 9<sup>th</sup> International Meeting: Updates in Neuro-Oncology, Cortona, Italy "Developing New Therapies for Malignant Gliomas". July 3, 2010
348. 11<sup>th</sup> Hugo V Rizzoli Distinguished Surgical Lecture in Neurosurgery, Johns Hopkins University, Baltimore, MD. "Brain Tumor Surgery". November 15, 2010
349. Washington Academy of Neurosurgery, George Washington University, Washington, DC. "Improving Access to Neurosurgical Care". November 15, 2010
350. 4<sup>th</sup> Annual Johns Hopkins Skull Base Course. Baltimore, MD. "Craniofacial Approaches to the Skull Base: From Open to Endoscopic". December 3, 2010
351. New Clinical Building Partnering Session, Johns Hopkins, Baltimore, MD "Brain Tumor Surgery". December 9, 2010

352. Howard Hughes Medical Student Symposium, Johns Hopkins, Baltimore, MD December 13, 2010
353. Keynote Speaker, Johns Hopkins Medical Student Research Day, Baltimore, MD. January 5, 2011
354. Nanomedicine Conference at Cedars-Sinai Medical Center in Los Angeles, CA “Brain Microchips to Treat Brain Tumors”. March 4, 2011
355. Johns Hopkins Medicine- Brain Science Institute Brain Night. Baltimore MD “Challenges of Treating Tumors in the Brain” March 9, 2011
356. JHMI International Neurosurgery, Baltimore, MD. “Johns Hopkins Neurosurgery Innovations”, March 23, 2011
357. Genes to Society, Johns Hopkins University School of Medicine, Baltimore, MD. “Neuroscience Clinical Correlations”. May 4, 2011
358. Johns Hopkins Neuroscience Nursing, Baltimore, MD. “Translating Scientific Advances Into Clinical Care for Brain Tumor Patients.” May 16, 2011
- 359. Commencement Address , Johns Hopkins University School of Medicine, Graduation, Baltimore, MD May 24, 2011**
360. Johns Hopkins Medicine-A Womans Journey Executive Breakfast, Washington, DC “Heads Up: The Ability of the Brain to Recover” May 18, 2011
361. Plenary Lecture, Controlled Release Society 38th Annual Meeting and Exhibition, National Harbor, MD “Challenges of Therapeutic Delivery to the Brain”. August 3, 2011
362. Controlled Release Society 38th Annual Meeting and Exhibition, National Harbor, MD. “Healthcare of the Future: How Pharmaceutical Advances Are Changing Medical Practice”. August 3, 2011
363. Fourth Annual Quinones-Hinojosa Stem Cell Luncheon for Patients, Mt. Washington Conference Center, Baltimore, MD. “Educating Patients on Research Therapies for Brain Tumors”. August 6, 2011.
364. Session Moderator, 10<sup>th</sup> Annual International Neuro-Oncology Updates. “Brain Tumor Clinical Management”. Nashville, TN, September 15, 2011
365. Research Update in Neuroscience for Neurosurgeons (RUNN), Marine Biological Laboratory Woods Hole, Massachusetts. “Advancing Brain Tumor Therapy”. October 30 – November 6, 2011.
366. Plenary Lecture, Association of American Medical Colleges Annual Meeting, Denver, CO. “Changing Times, Changing Partnerships: Propelling Research by Rethinking Collaborations,” Nov. 6, 2011
367. Johns Hopkins Medicine-A Womans Journey Seminar Series, Baltimore, MD “Repairing the Brain”. November 12, 2011.
368. Concurrent Meetings of the Boards of Trustees of THE JOHNS HOPKINS HEALTH SYSTEM CORPORATION and THE JOHNS HOPKINS HOSPITAL, Baltimore MD. “Innovations in Neurosurgery Safety”. December 5, 2011
369. Visiting Professorship, Stuart Rowe Lectureship, University of Pittsburgh, Pittsburgh, PA. “Advancing Brain Tumor Therapy” December 7, 2011.
370. Visiting Professorship, Stuart Rowe Lectureship, University of Pittsburgh, Pittsburgh, PA. “Improving Access to Neurosurgical Care” December 7, 2011.
371. Plenary Lecture, 11<sup>th</sup> US-Japan Symposium on Drug Delivery Systems, Maui, Hawaii. “Delivery of Therapeutic Agents to the Brain” December 19, 2011.
372. Deans Research Integrity Lecture Series, Johns Hopkins University, Baltimore, MD. “Research Integrity, The Scientist as a Responsible Member of Society”. January 23, 2012
373. Top of the World Meet Top of China Symposium, BeiJing, China. “Opening Remarks” at Part 1., March 6, 2012
374. Top of the World Meet Top of China Symposium. Xi’ An, China . “Drug Delivery for Brain Tumors” at Part 2., March 8, 2012
375. Top of the World Meet Top of China Symposium. “Topic 1”.at Seminar, ShangHai, China. March 10, 2012.
376. Johns Hopkins University, Neurosurgery Grand Rounds, Baltimore, MD. Developing New Brain Tumor Therapies. May 31, 2012.
377. Accelerating US-Israel Neuroscience and Neurotechnology Collaborations. National Academy of Sciences, Washington, DC. “Intraoperative Brain Tumor Therapy”. September 12, 2012.
378. Plenary Lecture, 11<sup>th</sup> Annual International Neuro-Oncology Updates. Baltimore, MD. “Developing Brain Tumor Therapies”.September 20, 2012.
379. Johns Hopkins Hospital Board of Trustees Quality Improvement Committee. Baltimore, MD. “How can Neurosurgery continue to provide and improve patient care”. October 22, 2012.
380. Vanderbilt University Medical Center, Department of Neurosurgery Grand Rounds, Nashville TN. “Developing

- New Approaches to Brain Tumor Therapy”. October 26, 2012.
381. The Second Israeli Medical Student’s Conference. The Treatment for Brain Cancer-The Whole Picture. Tel Aviv University, Tel Aviv, Israel. “The Neurosurgical Experience at Johns Hopkins”. December 28, 2012.
  382. University of Maryland, Department of Neurology Grand Rounds, Baltimore, MD. “Developing Brain Tumor Therapies”. February 6, 2013.
  383. Dean's Research Integrity Lecture Series. Johns Hopkins University, Baltimore, MD. “Research Integrity, the Importance of the Scientist as a Responsible Member of Society”. February 14, 2013.
  384. Johns Hopkins University Executive Support Staff Group, Baltimore, MD. “Brain Repair”. March 15, 2013.
  385. Israel Neurosurgery Society Annual Meeting, Herzilya, Israel. Session II **From Experimental To New Horizons in Clinical Neurosurgery** “Technology to Improve Brain Tumor Outcomes”. March 20, 2013. Session VIII **New Modalities in Brain Tumor Surgery** “Developing New Therapies for Brain Tumor Therapy”. March 22, 2013.
  386. Keynote Speaker, Office of Research Integrity at 20, ORI and Johns Hopkins University, Baltimore, MD. “Reassessing Research Integrity”. April 4, 2013
  387. 81st AANS Annual Scientific Meeting Discussant on Oral Abstract Presentation , New Orleans, Louisiana. “Development of an MRI-guided Delivery and Molecular Targeting System for Glioblastoma multiforme Theranostics based on Surface Enhanced Raman Scattering Nanoparticles”. April 27 to May 1, 2013.
  388. The Michael S. Voynick Lecture in Neuro-Oncology. Yale School of Medicine, New Haven, CT. “Developing Brain Tumor Therapies”. May 8, 2013.
  389. Institute of Medicine of the National Academies, Roundtable on Translating Genomic-Based Research for Health, Washington, D.C. "Assuring Integrity While Facilitating Innovation in Medical Research". June 5, 2013.
  390. Wake Forest University School of Medicine, 10<sup>th</sup> Anniversary Brain Tumor Center of Excellence Annual Retreat, Winston-Salem, NC. “Developing Brain Tumor Therapies”. September 20, 2013.
  391. Teva Pharmaceutical Industries & Johns Hopkins University, Baltimore, MD. “ Propelling Research by Rethinking Collaborations”. September 30, 2013
  392. Johns Hopkins University School of Medicine, Baltimore, MD. Diseases and Disorders of the Nervous System Course. “Developing Brain Tumor Therapies”. October 17, 2013
  393. AANS/CNS Section on Tumors and Society of Neuro-Oncology Abhijit Guha Award and Plenary Lecture, San Francisco, CA. “Developing Brain Tumor Therapies”. October 22, 2013.
  394. Research Update in Neuroscience for Neurosurgeons (RUNN), Marine Biological Laboratory Woods Hole, Massachusetts. “Advancing Brain Tumor Therapy”. October 29, 2013.
  395. Weitzman Institute, Rehovot, Israel. “Understanding and Exploiting the Genetic Basis of Brain Tumors”. October, 2013
  396. Plenary Lecture, EANS Tumor Section-AANS/CNS Section on Tumors-Annual International Neuro-Oncology Updates. Tel Aviv, Israel. “ How to Build a Neuro-Oncology Program”. November 13, 2013.
  397. Keynote speaker, A Cushing Neuroscience Institute Symposium, Hofstra North Shore LIJ School of Medicine, The Feinstein Institute for Medical Research, New York Neurosurgery:, Manhasset, NY. “Intralesional Treatment of Brain Tumors”. December 13, 2013
  398. US-Japan Symposium on Drug Delivery Systems. Lahaina, Maui, Hawaii. “Developing Brain Tumor Therapies” December 16, 2013.
  399. National Institutes of Health, NINDS Grand Rounds. Bethesda, MD. “Effectively Delivering Therapies to the Brain”. February 11, 2014.
  400. CaRTT Translational Research Lecture Series: University of Western Ontario and London Health Sciences Center. London, Ontario, Canada. “Translational Research for Brain and Metastatic Brain Tumor Patients”. February 20, 2014.
  401. Montefiore Medical Center Grand Rounds, Albert Einstein College of Medicine, Bronx, NY. “Treating Brain Tumor Patients” February 24, 2014.
  402. American Friends of Tel Aviv University TAU on the Potomac. Four Seasons Hotel in Washington, DC. “Making cancer a chronic disease.” March 8, 2014.
  403. Centers for Medicare and Medicaid Services, ICD-10-CM/PCS Coordination and Maintenance Committee Meeting. Baltimore, MD. “Gliadel” March 19, 2014.
  404. JHU Fifth Annual Spinal Disorders: Updates in Diagnosis and Management, Johns Hopkins Hospital. April 19, 2014.
  405. Johns Hopkins University, Neurosurgery Grand Rounds, Baltimore, MD. “How to Build a Neuro-Oncology

- Program". April 24, 2014
406. Brainiacs: Recent Advances in Neuroscience 2014 Science Writers Boot Camp. The National Press Club, Washington D.C. "Breakthrough Treatments: Brain Tumor vaccines and Direct-To-The Brain Chemotherapy." April 28, 2014.
  407. NSS Case Conference Leaders of Brain Science Lunches. Johns Hopkins University School of Medicine, Baltimore MD. May 7, 2014.
  408. Recent Advances in Targeted Delivery of Biologics and Small Molecule Drugs. Center for Drug Evaluation and Research, Food and Drug Administration (FDA), Silver Spring, MD. "Developing Brain Tumor Therapies; Effectively Delivering Therapies to the Brain." May 19, 2014.
  409. Johns Hopkins University School of Medicine, Baltimore, MD. "Helping Patients with Brain Tumors". May 29, 2014
  410. Keynote Speaker, Brain Tumor Biotech Summit 2014. The Weill Cornell Brain and Spine Center, Weill Cornell Medical College, NY, NY. "BCNU impregnated Gliadel wafers: lessons learned about Biotech and Brain Tumors". June 6, 2014.
  411. The Institute for Clinical and Translational Research Translational Research Communities, Johns Hopkins University, Baltimore, MD. "Overcoming Barriers: Gliadel Wafers as a Case Study". July 9, 2014.
  412. 13th Annual International Neuro-Oncology Updates, Boston Massachusetts. "How new treatments for Gliomas get accepted: Opportunities VS Obstacles". September 4, 2014.
  413. Keynote Speaker, The 9th Biennial Meeting of the Israeli Chapter of the Controlled Release Society. Nanomedicines in Cancer Treatment. Maalot Tarshiha, Western Galilee, Israel. "Targeted Brain Tumor Therapy". September 9, 2014.
  414. Johns Hopkins University, "Henry Brem Professorship". Palm Beach FL. October 6, 2014.
  415. Johns Hopkins University, Baltimore MD. "Solomon Snyder and George Heuer Professorship". October 10, 2014.
  416. Research Update in Neuroscience for Neurosurgeons (RUNN), Woods Hole, MA. "Advances in Brain Tumor Therapy". October 28, 2014.
  417. Research Update in Neuroscience for Neurosurgeons (RUNN), Woods Hole, MA. "How to Pursue an Academic Career in Neurosurgery". October 28, 2014.
  418. Diseases and Disorders of the Nervous System, Johns Hopkins University, Baltimore, MD. "Developing Brain Tumor Therapies". October 30, 2014.
  419. Speaker and Moderator, Religious, Medical, Ethical and Legal Perspectives on End of Life Issues. Institute for Jewish Continuity, The University of Maryland Schools of Medicine, Nursing, Pharmacy and Social Work, and The Maryland Healthcare Ethics Committee Network at the UM Carey School of Law. Panel Discussion: "Overview of Case Study in an Adult". November 14, 2014.
  420. Johns Hopkins Hospital Womens Advisory Board, Baltimore, MD. "Neurosurgery at Johns Hopkins". February 23, 2015.
  421. The Inaugural Indo-US Translational Neuroscience Symposium: Biomarker Discovery and Validation. Johns Hopkins University. "Translational Neuroscience: Johns Hopkins Neurosurgery". February 25, 2015.
  422. Visiting Professor, Stanford University Department of Neurosurgery Grand Rounds Lecture, Stanford, CA. "Developing New Treatments for Brain Tumors". April 24, 2015.
  423. AANS/CNS Section on Tumors 11<sup>th</sup> Biennial Satellite Symposium. Washington, D.C. "Surgical Trials: Gliadel". May 1-2, 2015.
  424. 14<sup>th</sup> International Updates in Neuro-Oncology Meeting, Presidential Address. Cortona Italy. July 2, 2015.
  425. 1<sup>st</sup> Annual HARVARD-JOHNS HOPKINS Multidisciplinary Symposium, Harvard Club, Boston, MA. "Lessons learned from Dr. Murray". September 19, 2015.
  426. Keynote Lecture, 1st Annual HARVARD-JOHNS HOPKINS Multidisciplinary Symposium, Shriners Hospital, Boston, MA. "Harvard-Hopkins tradition in neurosurgery and craniofacial surgery". September 20, 2015.
  427. 1st Annual HARVARD-JOHNS HOPKINS Multidisciplinary Symposium, Shriners Hospital, Boston, MA. "Syndrome of the trephined". September 20, 2015.
  428. Visiting Professor, 20th Annual Milam E. Leavens Distinguished Lectureship, University of Texas MD Anderson Cancer Center, Houston, TX. "Developing New Approaches to Brain Tumor Therapy." January 15, 2016.
  429. Keynote Speaker, Children With Cancer UK Research Workshop on drug delivery in paediatric brain tumors. Royal College of Physicians, London. "Developing Drug Delivery Systems for Brain Tumors" February 1<sup>st</sup>, 2016.

430. Children With Cancer UK Research Workshop on drug delivery in paediatric brain tumors. Royal College of Physicians, London. Session 7, “Recent developments: Interstitial delivery for brain tumors”. February 2<sup>nd</sup>, 2016.
431. Responsible Conduct of Research Series, George Washington University, Washington, DC. “Challenges for Translational Research”. February 24, 2016.
432. Training in Neurotherapeutics Discovery and Development for Academic Scientists. National Institutes of Health, Bethesda, MD. “Personal Reflections on the Development of Gliadel for Brain Cancer”. March 16, 2016.
433. Johns Hopkins Hospital, Baltimore, MD. Webinar on Meningiomas “Helping Patients with Brain Tumors”. April 16, 2016.
434. Johns Hopkins Hospital, Baltimore, MD. Johns Hopkins Medical Student Lecture “Helping Patients with Brain Tumors”. May 23, 2016.
435. Visiting Professor, Grand Rounds at Department of Neurosurgery at Northwestern University Feinberg School of Medicine, Chicago IL. “Developing New Approaches to Brain Tumor Therapy”. July 1, 2016.
436. American Clinical and Climatological Association. Developing Therapies for Brain Tumors: The Hunterian Laboratory. October 21, 2016.
437. Research Update in Neuroscience for Neurosurgeons (RUNN), Woods Hole, MA. “Brain Tumor Therapy”. October 31, 2016.
438. Johns Hopkins Hospital, Baltimore, MD. Medical Student Lecture “Diseases and Disorders of the Nervous System”. November 8, 2016.
439. Invited Speaker, Royal College of Surgeons Conference, Glasgow Scotland. “Challenges to Developing New Brain Tumor Therapies”. November 19, 2016.
440. Royal College of Surgeons Conference Workshop, Glasgow Scotland. “Surgical Considerations for Brain Tumor Treatment”. November 19, 2016.
441. Langer Laboratory Seminar Series, Massachusetts Institute of Technology, Cambridge, MA. “Targeted Brain Tumor Therapy”. December 6, 2016.
442. Visiting Professor, Dinner Lecture at Department of Neurosurgery at Cedars-Sinai Medical Center, Los Angeles, CA. “Challenges to Developing New Therapies for Brain Tumors.” March 23, 2017.
443. Visiting Professor, Grand Rounds at Department of Neurosurgery at Cedars-Sinai Medical Center, Los Angeles, CA. “Recent Developments in Brain Tumor Therapy”. March 24, 2017.
444. Session speaker, AAMC National Professional Development Conference for Institutional Advancement. “A Tale of Two Unlikely Donors: How Priorities, Politics, and Perseverance Led to Two Mega-Gifts”. March 31, 2017.
445. Lecture, Society for Neurological Surgeons Annual Meeting. Houston, Texas. “Enhancing Philanthropy: Neurosurgery Fund Raising”. May 21, 2017.
446. Johns Hopkins Hospital, Baltimore, MD. Johns Hopkins Medical Student Lecture “Helping Patients with Brain Tumors”. May 23, 2017.
447. Invited Speaker, Al Owens Jr. Symposium. Johns Hopkins Hospital. Baltimore, MD. “Dr. Albert Owens’ Influence on the Growth of Neurosurgical Oncology at Johns Hopkins”. June 8, 2017.
448. Lecture, Grateful Patient Fundraising and Philanthropy Summit. Baltimore, MD. June 28, 2017.
449. Plenary Lecture, Controlled Release Society’s 44<sup>th</sup> Annual Meeting and Exposition. Boston, MA. “The Changing Role of Drug Delivery in Brain Tumor Delivery”. July 16, 2017.
450. Lecture, National Science Foundation IUCRC meeting. Arlington, VA. TED Talk: “Innovation and Entrepreneurship: New Brain Tumor Treatments”. July 27, 2017.
451. Lecture, Neurosurgery Interest Group. Johns Hopkins University. Baltimore, MD. “Johns Hopkins Neurosurgery”. August 22, 2017.
452. Plenary Lecture, 14<sup>th</sup> US-Japan Symposium on Drug Delivery Systems, Maui, Hawaii. “New Understanding of Brain Tumor Therapies”. December 18, 2017.
453. Invited Speaker, Johns Hopkins Medicine, Baltimore, MD. A Fond Farewell: Johns Hopkins Medicine Celebrates the Legacy of Ronald R. Peterson. January 16, 2018.
454. Lecture, Grand Rounds, Distinguished Faculty Visitor Program, Johns Hopkins Aramco Healthcare, Dhahran, Saudi Arabia. “Developing New Therapies for Neurosurgery at Johns Hopkins”. January 23, 2018.
455. Lecture, Community Outreach, Distinguished Faculty Visitor Program, Johns Hopkins Aramco Healthcare, Dhahran, Saudi Arabia. “Advances in Neurosurgery at Johns Hopkins”. January 23, 2018.
456. Lecture, UCLA Neurosurgery Update CME, Los Angeles, California. “Recent Developments in Brain Tumor



- Therapy". April 13, 2018.
457. Guest Lecture, UCLA Neurosurgery Update CME, Los Angeles, California. "Challenges to Developing New Therapies for Brain Tumors". April 13, 2018.
  458. Lecture, Rabin Medical Center, Israel. "Developing New Therapies for Brain Tumors". May 22, 2018.
  459. Johns Hopkins Hospital, Baltimore, MD. Johns Hopkins Medical Student Lecture "Helping Patients with Brain Tumors". June 6, 2018.
  460. Moderator; 6<sup>th</sup> International Symposium on Focused Ultrasound, Brain Tumors Part I session. October 23, 2018.
  461. Research Update in Neuroscience for Neurosurgeons (RUNN), Woods Hole, MA. "Brain Tumor Therapy". October 29, 2018.
  462. Lecture, Istituto di Neurochirurgia, Rome, Italy. "New Developments in the Treatment of Brain Tumors". November 6, 2018.
  463. Lecture, Istituto di Neurochirurgia, Rome, Italy. "The Formation of Clinician-Scientists: The Hopkins Hunterian Laboratory Experience". November 8, 2018.
  464. Johns Hopkins University, Baltimore, MD. Medical Student Lecture "Diseases and Disorders of the Nervous System". November 1, 2018.
  465. Barrow Neurological Institute, Phoenix, AZ. Sally Harrington Goldwater Grand Rounds Visiting Professor. "Developing New Approaches to Brain Tumor Treatment". January 25, 2019.
  466. University of Maryland School of Medicine, Baltimore, MD. 22<sup>nd</sup> annual Henderson Lecture. "Developing New Therapies for Brain Tumors". March 27, 2019.
  467. Visiting Professor, Neurosurgery Grand Rounds, Stanford, CA. "Developing Brain Tumor Therapies." April 12, 2019.
  468. NSS Case Conference Leaders of Brain Science Lunches. Johns Hopkins University School of Medicine, Baltimore MD. May 29, 2019.
  469. NSS Neurosurgery Case Conference. Johns Hopkins University School of Medicine, Baltimore MD. June 5, 2019.
  470. Society for Image Guided Neurointerventions (SIGN) Symposium. "Novel Approaches to Therapeutic Brain Delivery". Mount Washington Conference Center, Baltimore, MD. June 11, 2019.
  471. 68th SINh National Congress, Rome, Italy. Low Grade Gliomas; Meet The Expert: Case Discussion. "Advancement in the Understanding and Treatment of Gliomas". September 18, 2019.
  472. Neurosurgery Grand Rounds. "Recent Developments in Brain Tumor Therapy". Henry Ford Neuroscience Institute, Detroit, Michigan. September 25, 2019.
  473. Rosenblum Lectureship in Neurosurgery. "Challenges to Developing New Therapies for Brain Tumors". Henry Ford Neuroscience Institute, Detroit, Michigan. September 25, 2019.
  474. Johns Hopkins University, Baltimore, MD. History of Medicine Lecture. "Treating Brain Tumors: Challenges and Opportunities". October 16, 2019.
  475. Research Update in Neuroscience for Neurosurgeons (RUNN), Woods Hole, MA. "Brain Tumor Therapy". October 27, 2019.
  476. Johns Hopkins University, Baltimore, MD. Lecture to School of Medicine Neurosurgery Student Interest Group. "Johns Hopkins Neurosurgery". November 12, 2019.
  477. Plenary Lecture, 15<sup>th</sup> US-Japan Symposium on Drug Delivery Systems, Maui, Hawaii. "Brain Tumor Therapy". December, 2019.
  478. Sonnentag Distinguished Lecture, Neuroscience-Neurosurgery Lecture Series, Mayo Clinic, Jacksonville, Florida. "Developing Brain Tumor Therapies". February 24, 2020.
  479. Tumor Symposium lecture, Brigham and Women's Hospital Advances and Innovations in Neurosurgery. "Implantable Devices for High-Grade Glioma: Back to the Future?" Boston, MA. April 24, 2020.
  480. Johns Hopkins University, Baltimore, MD. Lecture to School of Medicine Neurosurgery Student Interest Group "Johns Hopkins Neurosurgery". October 20, 2020
  481. Johns Hopkins University, Baltimore, MD. Neurosurgery Grand Round. "Developing Brain Tumor Therapies" November 12, 2020

## OTHER PROFESSIONAL ACCOMPLISHMENTS

Abstracts

- a1. Brem S, Finkelstein D, Chen C, Brem H, Folkman J, and Patz A. "Retinal neovascularization: Experimental induction by intravitreal tumor." Investigative Ophthalmology, Supp., 14:21, 1975.
- a2. Brem H and Folkman J. "Inhibition of tumor angiogenesis." In Year Book of Surgery, J.S. Najarian, ed., Year Book Medical Publishers, Chicago, 1977.
- a3. Brem S, Preis I, Langer R, Brem H, Folkman J, and Patz A. "Vitreous inhibition of tumor angiogenesis." Investigative Ophthalmology, Supp., 16:54, 1977.
- a4. Prendergast R, Luty G, Thompson D, Liu S, Patz A, and Brem H. "Corneal inflammation and neovascularization induced by a purified protein with lymphokine activity. Investigative Ophthalmology, Supp., 19, 1980.
- a5. Leong KW, Simonte V, Hilton J, Colvin OM, Brundrett B, Brem H, and Langer R. "Bioerodible polyanhydrides for cancer chemotherapy." Proceedings of the Controlled Release Society, 12:106-107, 1985.
- a6. Won SK, Bronner AJ, Brem H, Carson BS, and Rosenbaum AE. "Improving ultrasound intraoperative localization and operation of large, variegated lesions: The stringed metallic clip." Annual meeting of the American Society of Neuroradiology, San Diego, CA., January 23, 1986.
- a7. LaFrance ND, Links J, Williams J, Holcomb H, Dannals R, Ravert, H, Wilson A, Drew H, Herda S, Wong D, Brem H, Long D, and Wagner H, Jr. "C11-methionine and F18-deoxyglucose (FDG) in the postoperative management of patients with brain tumors with positron emission tomography." Journal of Nuclear Med., 27:890, 1986.
- a8. Zinreich JS, Wang H, Epstein JI, Brem H, Anderson JH, Rosenbaum AE. "Carotid bifurcation imaging model for more accurately comparing imaging techniques." XIII Symposium Neuroradiologicum, Stockholm, Sweden, June 23-28, 1986.
- a9. Steen RG, Tamargo RJ, Rajan S, McGovern R, Brem H, Wehrle JP, and Glickson JD. "In vivo <sup>31</sup>P NMR detects the response of 9L gliosarcoma to chemotherapy with BCNU." Symp American College of Radiology, Banff, Canada, April 21, 1987.
- a10. Tamargo RJ, Epstein JI, and Brem H. "Heterotransplantation of Mouse and rabbit tumors to the quadrigeminal cistern of neonatal rats." American Association of Neurological Surgeons, Dallas, Texas, May 3, 1987, p. 255.
- a11. Tamargo RJ, Leong K, and Brem H. "Inhibition of growth of the 9L glioma by the local sustained release of angiogenesis inhibitors." Joint Tumor Section Session of the American Assoc of Neurological Surgeons, Dallas, TX, May 3, 1987, p. 132.
- a12. LaFrance ND, O'Tuama L, Villemagne V, Williams J, Douglass K, Dannals RF, Ravert H, Wilson A, Drew H, Links J, Wong D, Carson B, Brem H, Strauss L, and Wagner HN, Jr. "Quantitative imaging and follow-up experience of C-11-L-methionine accumulation in brain tumors with positron emission tomography." Journal of Nuclear Medicine 28(4):645, 1987.
- a13. Brem H, Fossett D, Myseros JS, Leong KW, Tamargo RJ, Colvin M, and Hilton J. "Sustained local release of a biologically active chemotherapeutic agent by a new bioerodible polymer." Annual Meeting of the Congress of Neurological Surgeons, Baltimore, Maryland, October 24, 1987.
- a14. Tamargo RJ, Steen RG, Rajan SS, McGovern K, Wehrle JP, Glickson JD, and Brem H. "In vivo <sup>31</sup>P NMR spectroscopy of the 9L gliosarcoma following treatment with BCNU." Annual Meeting of the Congress of Neurological Surgeons, Baltimore, Maryland, October 24, 1987.
- a15. Tamargo RJ, Myseros JS, and Brem H. "Growth inhibition of the 9L gliosarcoma by the local sustained release of BCNU: A comparison of systemic versus regional chemotherapy." American Association of Neurological Surgeons, Toronto, Canada, pp 212-214, April 24, 1988.
- a16. Tamargo RJ, Epstein JI, Reinhard CS, Chasin M, and Brem H. "Brain biocompatibility of a biodegradable polymer capable of sustained release of macromolecules." American Association of Neurological Surgeons, Toronto, Canada, April 24, 1988, p. 399.
- a17. Tamargo RJ, Epstein JI, and Brem H. "Heterotransplantation of malignant gliomas to the quadrigeminal cistern and subcutaneous space of neonatal rats." American Association of Neurological Surgeons, Toronto, Canada, April 24, 1988, p. 409.

- a18. Brem H, Tamargo RJ, Pinn M, and Chasin M. "Biocompatibility of a BCNU-loaded biodegradable polymer: A toxicity study in primates." American Association of Neurological Surgeons, Toronto, Canada, April 24, 1988, p. 381.
- a19. Brem H, Carson BS, LaFrance ND, O'Tuama L, and Wagner HN. "Positron emission tomography: Quantitative imaging and experience with C-11-L-methionine accumulation in brain tumor patients." American Association of Neurological Surgeons, Toronto, Canada, April 24, 1988, p. 350.
- a20. Brem H, Ahn H, Tamargo RJ, Pinn ML, and Chasin M. "A biodegradable polymer for intracranial drug delivery: A radiological study in primates." American Association of Neurological Surgeons, Toronto, Canada, April 24, 1988, p. 349.
- a21. Yang M, Tamargo R, Leong K, and Brem H. "Sustained systemic delivery of BCNU from an intraperitoneal polymer implant." American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 1988, p. 414.
- a22. Steen G, Tamargo R, McGovern K, Glickson J, and Brem H. "In vivo <sup>31</sup>P NMR spectroscopy of the 9L gliosarcoma: Dose-dependent changes in tumor bioenergetics following chemotherapy with BCNU." American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 1988, p. 409.
- a23. Malat J, Brem H, Kumar A, Wang H, and Carson B. "Intraoperative ultrasound of brain tumors, CT and MRI correlation." American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 1988.
- a24. Grossman SA, Reinhard CS, Brem H, Brundrett R, Chasin M, Tamargo R, and Colvin OM. "The intracerebral delivery of BCNU with surgically implanted bioerodable polymers: A quantitative autoradiographic study." Proceedings of the American Society of Clinical Oncology, 7:84, 1988.
- a25. Griffin CA, Long PP, Brem H, Carson BS, Tamargo RJ, and Grossman SA. "Chromosome abnormalities in central nervous system tumors." Proceedings of American Association Cancer Research, 29:28, 1988.
- a26. O'Tuama L, Douglass K, Phillips P, Strauss L, Links J, Dannals R, Ravert H, Wilson A, Carson B, Brem H, Wong D, LaFrance N, and Wagner H, Jr. "Maturation of cerebral neutral aminoacid accumulation from childhood to the adult: A C-11-L-methionine PET study." Society of Nuclear Medicine 35th Annual Meeting, San Francisco, CA, Journal of Nuclear Medicine, 29(5):784, 1988.
- a27. Yang MB, Tamargo TJ, and Brem H. "Intracranial versus systemic delivery of BCNU using an implantable controlled release polymer." Annual Meeting of the Congress of Neurological Surgeons, Seattle, Washington, Sept. 24, 1988.
- a28. Griffin CA, Long PP, Brem H, Carson BS, and Grossman SA. "Cytogenetics of central nervous system tumors: Specific abnormalities and comparison of culture methods." 3rd International Workshop on Chromosomes in Solid Tumors, Feb. 26-28, 1989.
- a29. Tamargo RJ, Sills AK, Reinhard C, and Brem H. "Controlled release of dexamethasone from a polymer implant in the brain." American Association of Neurological Surgeons, Washington, D.C., April 3, 1989, p. 383.
- a30. Tamargo RJ, Epstein JI, Yang MB, Pinn ML, Chasin M, and Brem H. "Interstitial vs systemic chemotherapy of the intracranial 9L gliosarcoma: Controlled-release polymers for local therapy." Proceedings of AANS, Vol.30:88, 1989.
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- a32. Brem H. "Delivery of drugs to the brain by a controlled-release polymer system." Proceed. Internat'l. Symp. Control. Rel. Bioact. Mater., 16:7-8, 1989.
- a33. Olivi A, Pinn ML, Ewend MG, Chan DW, and Brem H. "Use of polymers to locally release carboplatin and inhibit the growth of Walker 256 carcinosarcoma." Ped. Section of Amer Assoc of Neurol Surgeons, Washington, DC, Nov 28 - Dec 1, 1989.
- a34. Nabors MW, Griffin CA, Zehnbauser BA, Kaufman SH, Grossman SA, Zhao XL, Brem H, Long DM, Chu YW, Phillips PC, and Colvin OM. "MDR1 expression in human brain tumors. Proceedings of the Amer Association for Cancer Research, 31:355, 1990.
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- a37. Brem H. "Controlled-release polymer systems for drug delivery to the brain." American Chemical Society, 199:117, 1990.
- a38. Olivi A, Lenartz D, Domb A, Dureza C, Pinn ML, and Brem H. "Treatment of F98 rat glioma with local controlled-release of carboplatin from a biodegradable polymer." International Symposium on Advances in Neuro-Oncology, Sanremo, Italy, September 1990.
- a39. Brem R and Brem H. "Biodegradable polymer for intracranial drug delivery: A radiologic study in monkeys and humans." Advances in Neuro-Oncology, Sanremo, Italy, September 1990.
- a40. Brem H, Mahaley MST, Vick NA, Black K, Schold SC, Burger PC, Friedman AH, Ciric IS, Eller TW, Cozzens JW, and Kenealy JN. "Interstitial chemotherapy with drug polymer implants for the treatment of recurrent gliomas." Advances in Neuro-Oncology, Sanremo, Italy, September 1990.
- a41. Reinhard CS, Radomsky ML, Saltzman WM, Hilton J, and Brem H. "Polymeric controlled release of dexamethasone in normal rat brain." Advances in Neuro-Oncology, Sanremo, Italy, September 1990.
- a42. Brem H, Mahaley MST, Vick NA, Black K, Schold SC, Burger PC, Friedman AH, Ciric IS, Eller TW, Cozzens JW, and Kenealy JN. "Interstitial chemotherapy with drug polymer implants for the treatment of recurrent gliomas." Congress of Neurological Surgeons, Los Angeles, CA, 1990.
- a43. Guerin C, Laterra J, Hruban R, Brem H, Drewes L, and Goldstein G. "The glucose transporter and blood-brain barrier of human brain tumors." Congress of Neurological Surgeons, Los Angeles, CA, 1990.
- a44. Long PP, Carson BS, Brem H, Grossman S, and Griffin CA. "Chromosome abnormalities in low grade central nervous system (CNS) tumors." 4th International Workshop on Chromosomes in Solid Tumors, Tucson, Arizona, Cancer Genetics and Cytogenetics, February, 1991.
- a45. Griffin CA, Long PP, Brem H, Carson BS, and Grossman SA. "Chromosome analysis of 50 high grade astrocytomas." 4th International Workshop on Chromosomes in Solid Tumors, Tucson, Arizona, Cancer Genetics and Cytogenetics, February, 1991.
- a46. Brem H, Mahaley S, Vick NS, Black K, Schold SC, Burger PC, H. Friedman AF, Ciric IS, Eller TW, and Cozzens JW. "Interstitial chemotherapy with drug polymer implants for the treatment of recurrent gliomas." American Association of Neurological Surgeons, New Orleans, LA, April, 1991, p. 527.
- a47. Tamargo RJ, Olivi, A, Bok, RJ, and Brem H. "Angiogenesis inhibition by Minocycline." American Association of Neurological Surgeons, New Orleans, LA, April, 1991, p. 525.
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- a49. Guerin C, Laterra J, Goldstein GW, and Brem H. "Blood-brain barrier properties of malignant glioma blood vessels: Expression of glucose transporter despite high vascular permeability." American Association of Neurological Surgeons, New Orleans, LA, April, 1991, p. 510.
- a50. Judy KD, Long DM, and Brem H. "Evaluation of inhibition of Xanthine Oxidase by Allopurinol to reduce oxygen free radical production in cryogenic induced brain edema." American Association of Neurological Surgeons, New Orleans, LA, April 1991, p. 450.
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- a53. Brem H. "Interstitial chemotherapy utilizing polymers for treating brain tumors." Proceedings of the American Association for Cancer Research, 32:488-489, 1991.
- a54. Judy KD, Olivi A, Domb A, Colvin OM, Brem H. "Controlled release of a cyclophosphamide derivative with polymers is effective against rat gliomas." Congress of Neurological Surgeons, Orlando, Florida, Oct. 1991.
- a55. Guerin C, Wolff J, Laterra J, Goldstein GW, Brem H. "Glucose transporter expression by 9L glioma vessels is increased by dexamethasone." Congress of Neurological Surgeons, Orlando, FL Oct. 1991.
- a56. Domb A, Olivi A, Judy K, Brem H. "Anticancer implant for the treatment of brain tumors." ICRF Scientific Conference on Advanced Concepts in Cancer Research, Maleh Hachamishan, Israel, p. 103, 1991
- a57. Guerin, C, Laterra J, Masnyk T, Golub LM, Brem H. "Mechanisms of antiangiogenesis: relationship of anticollagenase activity and endothelial cell growth." AANS, San Francisco, CA., April 1992.
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- a60. Sills AK, Davis JD, Brem H. "Prolongation of survival by interstitial dexamethasone in a rat glioma model." American Association of Neurological Surgeons, San Francisco, CA, April, 1992.
- a61. Olivi A, Park HC, Epstein JI, Domb AJ, Brem H. "Biocompatible polymers as means to reduce the postoperative epidural scar in a rat model." American Association of Neurological Surgeons, San Francisco, CA, April, 1992.
- a62. Weingart J, Tamargo R, Brem H. "Minocycline, an anti-angiogenesis inhibitor, inhibits brain tumor growth." American Association for Cancer Research, San Diego, CA, 33:75, 1992.
- a63. Weingart J, Brem H, Long DM, Zinreich J. "Application of a computer-associated localizing probe using 3-D CT/MRI images in neurosurgery." Congress of Neurological Surgeons, Washington, D.C., October 31 - November 5, 1992.
- a64. Buahin KG, Colvin OM, Brem H. "Interstitial chemotherapy of a brain tumor model: comparison of intratumoral injection versus polymeric controlled release." Congress of Neurological Surgeons, Washington, D.C., October 31 - November 5, 1992.
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- a66. Weingart J, Brem H. "Minocycline, an angiogenesis inhibitor, acts synergistically with carmustine (BCNU) to control 9L gliosarcoma growth. The American Society for Cell Biology, , Denver, Colorado, November 15-19, 1992.
- a67. Rothman GB, Holliday MJ, Brem H, Mattox DE, Long DM. "Posterior fossa meningiomas: A retrospective review." North American Skull Base Society, Scottsdale, Arizona, 1993, Vol 3, p. 11.
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- a88. Jedlicka AE, DiSilvestre D, Holroyd KJ, Brem H, Burger PC, Levitt RC. "Application of fluorescence-based semi-automated allelotyping to the molecular characterization of tumors. American Society of Human Genetics, Montreal, Canada, October 18-22, 1994.
- a89. Brem H. "Drug delivery: Barriers to drug transport and the design of novel therapeutic agents." Journal of Cellular Biochemistry, Supplement 19A, p. 170, 1995.
- a90. Sampath P, Holliday MJ, Brem H, Long DM. "Immediate and delayed facial paralysis in acoustic tumor surgery. Etiologies and prevention." VI Annual North American Skull Base Society, Naples, Florida, Feb 18-21, 1995.
- a91. Sipos EP, Witham TF, Ratan R, Baraban J, Brem H. "Buthionine sulfoximine potentiates the antitumor effect of 4-hydroperoxy-cyclophosphamide when delivered locally in the intracranial 9L-glioma model. American Association for Cancer Research, Toronto, Ontario, Canada, March 18-22, 1995.
- a92. Choti MA, Saenz J, Yang X, Brem H. "Intrahepatic FudR delivered from biodegradable polymer in experimental liver metastases from colorectal carcinoma." American Association for Cancer Research, Toronto, Ontario, Canada, March 18-22, 1995.
- a93. Thompson RC, Pardoll DM, Jaffee EM, Tyler BM, Brem H. "Development of a new intracranial tumor model using the murine B16-F10 melanoma." American Association of Neurological Surgeons, Orlando, Florida, April 22-27, 1995.
- a94. Brem H, Ewend MG, Greenhoot J, Sisti M. "The safety of interstitial chemotherapy with BCNU-loaded polymer in the treatment of newly diagnosed malignant gliomas: a multi-institutional study with three year follow-up. American Association of Neurological Surgeons, Orlando, Florida, April 22-27, 1995.
- a95. Gibbons MC, Rosenberg JM, Jedlicka AE, Brem H, Burger PC, Levitt RC. "Clinical applications of molecular genetic methods (microsatellite instability) for the pathologic subclassification of gliomas. Association of University Anesthesiologists, San Diego, CA, May 1995.
- a96. Rosenberg JM, Gibbons MC, Jedlicka AE, Holroyd KJ, Burger PC, Brem H, Levitt RC. "Evidence for FAS antigen as a tumor suppressor gene in gliomas." Association of University Anesthesiologists, San Diego, CA., May 1995.
- a97. Gibbons MC, Rosenberg J, Jedlicka AE, Brem H, Levitt RC, Burger PC. "Microsatellite instability in gliomas." American Assoc of Neuropathologists, San Antonio, TX, June 6-11, 1995.
- a98. Williams JA, Dillehay L, Sipos EP, Tabassi K, Civelek AC, Brem H. "Controlled release of radiochemicals from implantable biodegradable polymer devices." Society of Nuclear Medicine, Minneapolis, Minnesota,

June 12-15, 1995.

- a99. Fung LK, Shin M, Strasser J, Caviston T, Sipos EP, Tyler B, Brem H, Saltzman WM. "Transport of 1,3-Bis(1,2-chloroethyl)-1-nitrosourea (BCNU) in the brain following controlled release by a polymer." Controlled Release Society, Seattle, WA, July 30-Aug 2, 1995.
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- a209 Weingart J, Kleinberg L, Brem H, Burger P, Olivi A, Grossman SA. “Necrosis/treatment effect as pathologic finding following Gliadel and cranial radiation (RT) for newly diagnosed glioblastoma multiforme (GBM). American Society of Clinical Oncology, New Orleans, LA. May 20-23, 2000.
- a210 Walter KA, Li K, Dang W, Troiano G, Tyler B, Brem H. “Paclitaxel: Polylactofate microspheres versus 9L gliosarcoma: efficacy, toxicity, pharmacology.” Congress of Neurological Surgeons, San Antonio, TX. September 23-28, 2000.
- a211 Haroun RI, Li KW, Tyler B, Guerin C, Zerler B, Brem H. “Chemically modified tetracyclines inhibit solid tumor growth in brain tumor models *in vivo*.” Congress of Neurological Surgeons, San Antonio, TX. September 23-28, 2000.
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