



**CURRICULUM VITAE**  
**RAFAEL J. TAMARGO, M.D., F.A.C.S.**  
**July, 2009**

***I. DEMOGRAPHIC INFORMATION***

***A. Current Appointments:***

Walter E. Dandy Professor  
Professor of Neurosurgery  
Professor of Otolaryngology-Head and Neck Surgery  
Director, Division of Cerebrovascular Neurosurgery, The Johns Hopkins Hospital  
Baltimore, Maryland

***B. Personal Data:***

**Address:** Department of Neurosurgery  
The Johns Hopkins Hospital  
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Meyer Building, Suite 8-181  
Baltimore, Maryland 21287  
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**Birthdate:** March 22, 1958, Havana, Cuba

**Citizenship:** U.S.A.

**Status:** Married with children

***C. Education and Training:***

1972-1976 ***Valedictorian***

Academia del Perpetuo Socorro High School  
Miramar, Puerto Rico

1976-1980 ***Bachelor of Arts, Magna Cum Laude***

Princeton University  
Princeton, New Jersey

1980-1984 ***Doctor of Medicine***

Columbia University - College of Physicians and Surgeons  
New York, New York

1984-1985	<p><b><i>Internship in General Surgery</i></b>  Columbia-Presbyterian Medical Center  New York, New York</p>
1985-1988	<p><b><i>Neurosurgical Oncology Fellowship</i></b>  Division of Neurosurgical Oncology  Department of Neurosurgery  Johns Hopkins Hospital  Baltimore, Maryland</p>
1985-1992	<p><b><i>Residency in Neurosurgery</i></b>  Johns Hopkins Hospital  Baltimore, Maryland</p> <ul style="list-style-type: none"> <li>- June 1985-June 1988, Assistant Resident</li> <li>- June 1988-June 1989, Junior Resident  Adult and Pediatric Neurosurgery Services</li> <li>- July 1989-December 1989, Senior Resident  Neurology Consult and Inpatient Services</li> <li>- January 1990-June 1990, Senior Resident  Francis Scott Key Medical Center</li> <li>- July 1990-September 1990, Senior Resident  Adult and Pediatric Neurosurgery Services</li> <li>- October 1990-March 1991, Senior Resident  Pediatric Neurosurgery Service</li> <li>- April 1991-June 1991, Senior Resident  Adult and Pediatric Neurosurgery Services</li> <li>- July 1991-June 1992, Chief Resident / Assistant Chief of Service  Adult and Pediatric Neurosurgery Services</li> </ul>
1985 (July-September)	<p>Microsurgery Laboratory  Johns Hopkins Hospital  Department of Neurosurgery</p>

**D. Professional Experience and Academic Appointments:**

1991-1992	<p>Instructor / Assistant Chief of Service / Full-time staff  Department of Neurosurgery  Johns Hopkins University School of Medicine / Johns Hopkins Hospital</p>
1992-1998	<p>Assistant Professor of Neurosurgery / Full-time staff  Department of Neurosurgery  Johns Hopkins University School of Medicine / Johns Hopkins Hospital</p>
1992-Present	<p>Appointments within the Department of Neurosurgery to the:  Division of Cerebrovascular Neurosurgery (currently Director)  Division of Skull Base Surgery  Division of Neurosurgical Oncology  Division of Pediatric Neurosurgery</p>
1993-Present	<p>Director, Microneurosurgery Laboratory  Department of Neurosurgery  Johns Hopkins University School of Medicine</p>
1996-2000	<p>Co-Director, Division of Cerebrovascular Neurosurgery  Department of Neurosurgery</p>

Johns Hopkins University School of Medicine

- 1998-2004 Associate Professor of Neurosurgery / Full-time staff  
Department of Neurosurgery  
Johns Hopkins University School of Medicine / Johns Hopkins Hospital
- 2000-Present Director, Division of Cerebrovascular Neurosurgery  
Department of Neurosurgery  
Johns Hopkins University School of Medicine
- 2002-2004 Associate Professor of Otolaryngology-Head and Neck Surgery  
Department of Otolaryngology-Head and Neck Surgery  
Johns Hopkins University School of Medicine / Johns Hopkins Hospital
- 2004-Present Professor of Neurosurgery / Full-time staff  
Department of Neurosurgery  
Johns Hopkins University School of Medicine / Johns Hopkins Hospital
- 2004-Present Professor of Otolaryngology-Head and Neck Surgery  
Department of Otolaryngology-Head and Neck Surgery  
Johns Hopkins University School of Medicine / Johns Hopkins Hospital

## **II. RESEARCH ACTIVITIES**

### **A. Publications:**

#### **1. Peer-Reviewed Scientific Articles:**

1. **Tamargo, R. J.**, J. I. Epstein, and H. Brem. Heterotransplantation of malignant human gliomas in neonatal rats. Journal of Neurosurgery. 69: 928-933, 1988.
2. Steen, R. G., **R. J. Tamargo**, K. A. McGovern, S. S. Rajan, H. Brem, J. P. Wehrle, and J. D. Glickson. In vivo <sup>31</sup>P 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 Research. 48: 676-681, 1988.
3. **Tamargo, R. J.**, J. I. Epstein, C. S. Reinhard, M. Chasin, and H. Brem. Brain biocompatibility of a biodegradable controlled release polymer in rats. Journal of Biomedical Materials Research. 23: 253-266, 1989.
4. Brem, H., A. Kader, J. I. Epstein, **R. J. Tamargo**, A. Domb, R. Langer, and K. W. Leong. Biocompatibility of a biodegradable, controlled-release polymer in the rabbit brain. Selective Cancer Therapeutics. 5(2): 55-65, 1989.
5. Yang, M. B., **R. J. Tamargo**, and H. Brem. Controlled delivery of 1,3-bis(2-chloroethyl)-1-nitrosourea from ethylene-vinyl acetate copolymer. Cancer Research. 49: 5103-5107, 1989.
6. Levy, A. P., **R. J. Tamargo**, H. Brem, and D. Nathans. An endothelial cell growth factor from the mouse neuroblastoma cell line NB41. Growth Factors. 2: 9-19, 1989.
7. Steen, R. G., **R. J. Tamargo**, H. Brem, J. D. Glickson, and J. P. Wehrle. In vivo <sup>31</sup>P nuclear magnetic resonance spectroscopy of rat 9L gliosarcoma treated with BCNU: Dose-response of spectral changes. Magnetic Resonance In Medicine. 11: 258-266, 1989.

8. **Tamargo, R. J.**, K. W. Leong, and H. Brem. Growth inhibition of a gliosarcoma by the local sustained release of heparin and cortisone acetate. Journal of Neuro-Oncology. 9: 131-138, 1990.
9. **Tamargo, R. J.**, R. A. Bok, and H. Brem. Angiogenesis inhibition by minocycline. Cancer Research. 51: 672-675, 1991.
10. **Tamargo, R. J.**, A. K. Sills, Jr., C. S. Reinhard, M. L. Pinn, D. M. Long, and H. Brem. Interstitial dexamethasone delivery in the brain for the reduction of peritumoral edema. Journal of Neurosurgery. 74: 956-961, 1991.
11. Grossman, S. A., C. Reinhard, O. M. Colvin, M. Chasin, R. Brundrett, **R. J. Tamargo**, and H. Brem. The intracerebral distribution of BCNU delivered by surgically implanted biodegradable polymers. Journal of Neurosurgery. 76: 640-647, 1992.
12. **Tamargo, R. J.**, J. S. Myseros, J. I. Epstein, M. B. Yang, M. Chasin, and H. Brem. Interstitial chemotherapy of the 9L gliosarcoma: Controlled release polymers for drug delivery in the brain. Cancer Research. 53: 329-333, 1993.
13. Geisler, F. H., **R. J. Tamargo**, and J. D. Weingart. Modifications to the transverse Caspar cervical retractor blades optimized for a single-level anterior cervical discectomy. Journal of Spinal Disorders. 6(1): 57-59, 1993.
14. Brem, H., **R. J. Tamargo**, A. Olivi, M. Pinn, J. D. Weingart, M. Wharam, and J. I. Epstein. Biodegradable polymers for controlled delivery of chemotherapy with and without radiation therapy in the monkey brain. Journal of Neurosurgery. 80: 283-290, 1994.
15. Miller, N. R., L. H. Monsein, G. M. Debrun, **R. J. Tamargo**, and H. J. W. Nauta. Treatment of carotid-cavernous sinus fistulas using a superior ophthalmic vein approach. Journal of Neurosurgery. 83: 838-842, 1995. (*Cover article*)
16. Sipos, E. P., **R. J. Tamargo**, J. I. Epstein, and R. B. North. Primary intracerebral small-cell osteosarcoma in an adolescent girl: Report of a case. Journal of Neuro-Oncology. 32: 169-174, 1997.
17. Oshiro, E. M., K. A. Walter, S. Piantadosi, T. F. Witham, and **R. J. Tamargo**. A new subarachnoid hemorrhage grading system based on the Glasgow Coma Scale: A comparison with the Hunt and Hess and World Federation of Neurological Surgeons Scales in a clinical series. Neurosurgery. 41: 140-148, 1997.
18. Sills, A. K., Jr., R. E. Clatterbuck, R. C. Thompson, P. L. Cohen, and **R. J. Tamargo**. Endothelial cell expression of intercellular adhesion molecule-1 (ICAM-1) in experimental post-hemorrhagic vasospasm. Neurosurgery. 41: 453-461, 1997. (*Cover article*)
19. Oshiro, E. M., D. A. Rini, and **R. J. Tamargo**. Contralateral approaches to bilateral cerebral aneurysms: A microsurgical anatomical study. Journal of Neurosurgery. 87: 163-169, 1997. (*Cover article*)
20. Javedan, S. P., and **R. J. Tamargo**. The diagnostic yield of brain biopsy in neurodegenerative disorders. Neurosurgery. 41: 823-830, 1997.
21. Oshiro, E. M., P. A. Hoffman, G. N. Dietsch, M. C. Watts, D. M. Pardoll, and **R. J. Tamargo**. Inhibition of experimental vasospasm with anti-intercellular adhesion molecule-1 monoclonal antibody. Stroke. 28:2031-2038, 1997.
22. Qureshi, A. I., J. I. Suarez, P. D. Parekh, G. Sung, R. Geocadin, A. Bhardwaj, **R. J. Tamargo**, and J. A. Ulatowski. Risk factors for multiple intracranial aneurysms. Neurosurgery. 43: 22-27, 1998.

23. Lewis, R. F., B. M. Gaymard, and **R. J. Tamargo**. Efference copy provides the eye position information required for visually-guided reaching. Journal of Neurophysiology. 80: 1605-1608, 1998.
24. Takagi, M., D. S. Zee, and **R. J. Tamargo**. Effects of lesions of the oculomotor vermis on eye movements in primate: saccades. Journal of Neurophysiology. 80: 1911-1931, 1998.
25. Thai, Q.-A., E. M. Oshiro, and **R. J. Tamargo**. Inhibition of experimental vasospasm in rats with the periadventitial administration of ibuprofen using controlled-release polymers. Stroke. 30: 140-147, 1999.
26. Suarez, J. I., A. I. Qureshi, P. D. Parekh, A. Razumovsky, **R. J. Tamargo**, A. Bhardwaj, and J. A. Ulatowski. Administration of hypertonic (3%) sodium chloride/acetate in hyponatremic patients with symptomatic vasospasm following subarachnoid hemorrhage. Journal of Neurosurgical Anesthesiology. 11: 178-184, 1999.
27. Conway, J. E., G. M. Hutchins, and **R. J. Tamargo**. Marfan syndrome is not associated with intracranial aneurysms. Stroke. 30: 1632-1636, 1999.
28. Miller, N. R., E. F. McCarthy, N. Carter, **R. J. Tamargo**, and W. R. Green. Lytic Paget disease as a cause of orbital cholesterol granuloma. Archives of Ophthalmology. 117: 1084-1086, 1999.
29. Qureshi, A. I., Y. Mohammad, A. M. Yahia, A. R. Luft, M. Sharma, **R. J. Tamargo**, and M. R. Frankel. Ischemic events associated with unruptured intracranial aneurysms: multicenter clinical study and review of the literature. Neurosurgery. 46: 282-290, 2000.
30. Qureshi, A. I., J. I. Suarez, A. Bhardwaj, A. M. Yahia, **R. J. Tamargo**, and J. A. Ulatowski. Early predictors of outcome in patients receiving hypervolemic and hypertensive therapy for symptomatic vasospasm after subarachnoid hemorrhage. Critical Care Medicine. 28: 824-829, 2000.
31. Takagi, M., D. S. Zee, and **R. J. Tamargo**. Effects of lesions of the oculomotor cerebellar vermis on eye movements in primate: smooth pursuit. Journal of Neurophysiology. 83:2047-2062, 2000.
32. Sadda, S. R., N. R. Miller, **R. Tamargo**, and R. Wityk. Bilateral optic neuropathy associated with diffuse cerebral angiomas in Sturge-Weber syndrome. Journal of Neuro-Ophthalmology. 20: 28-31, 2000.
33. Haroun, R. I., D. Rigamonti, and **R. J. Tamargo**. Recurrent artery of Heubner: Otto Heubner's description of the artery and his influence on pediatrics in Germany. Journal of Neurosurgery. 93: 1084-1088, 2000.
34. Lewis, R. F., and **R. J. Tamargo**. Cerebellar lesions impair context-dependent adaptation of reaching movements in primates. Experimental Brain Research. 138: 263-267, 2001.
35. Qureshi, A. I., M. F. K. Suri, A. M. Yahia, J. I. Suarez, L. R. Guterman, L. N. Hopkins, and **R. J. Tamargo**. Risk factors for subarachnoid hemorrhage. Neurosurgery. 49: 607-613, 2001.
36. Tierney, T. S., R. C. Clatterbuck, C. Lawson, Q.-A. Thai, L. D. Rhines, and **R. J. Tamargo**. Prevention and reversal of experimental post-hemorrhagic vasospasm by the peri-adventitial administration of nitric oxide from a controlled-release polymer. Neurosurgery. 49: 945-953, 2001.
37. Conway, J. E., and **R. J. Tamargo**. Cocaine use is an independent risk factor for cerebral vasospasm after aneurysmal subarachnoid hemorrhage. Stroke. 32: 2338-2343, 2001.
38. Carhuapoma, J. R., A. I. Qureshi, **R. J. Tamargo**, J. M. Mathis, and D. F. Hanley. Intra-arterial papaverine-induced seizures: Case report and review of the literature. Surgical Neurology. 56: 159-163, 2001.

39. Conway J. E., G. M. Hutchins, and **R. J. Tamargo**. Lack of evidence for an association between neurofibromatosis type I and intracranial aneurysms: Autopsy study and review of the literature. Stroke. 32: 2481-2485, 2001.
40. Lewis, R. F., D. S. Zee, M. R. Hayman, and **R. J. Tamargo**. Oculomotor function in the rhesus monkey after deafferentation of the extraocular muscles. Experimental Brain Research. 141: 349-358, 2001.
41. **Tamargo, R. J.**, L. A. Rossell, E. H. Kossoff, B. M. Tyler, M. G. Ewend, and J. J. Aryanpur. The intracerebral administration of phenytoin using controlled-release polymers reduces experimental seizures in rats. Epilepsy Research. 48: 145-155, 2002.
42. Chiang, V. L., P. Gailloud, K. J. Murphy, D. Rigamonti, and **R. J. Tamargo**. Routine intraoperative angiography during aneurysm surgery. Journal of Neurosurgery. 96: 988-992, 2002.
43. Borden, W. B., and **R. J. Tamargo**. George J. Heuer, M.D. - Forgotten pioneer neurosurgeon at The Johns Hopkins Hospital. Journal of Neurosurgery. 96: 1139-1146, 2002.
44. Suarez, J. I., A. I. Qureshi, A. B. Yahia, P. D. Parekh, **R. J. Tamargo**, M. A. Williams, J. A. Ulatowski, D. F. Hanley, and A. Y. Razumovsky. Symptomatic vasospasm diagnosis after subarachnoid hemorrhage: Evaluation of transcranial Doppler ultrasound and cerebral angiography as related to compromised vascular distribution. Critical Care Medicine 30: 1348-1355, 2002.
45. Clatterbuck, R. E., E. M. Oshiro, P. A. Hoffman, G. N. Dietsch, D. M. Pardoll, and **R. J. Tamargo**. Inhibition of vasospasm with lymphocyte function-associated antigen-1 monoclonal antibody in the rat femoral artery model. Journal of Neurosurgery. 97: 676-682, 2002.
46. Gabikian, P., R. E. Clatterbuck, C. G. Eberhart, B. M. Tyler, T. S. Tierney, and **R. J. Tamargo**. Prevention of experimental cerebral vasospasm by intracranial delivery of a nitric oxide donor from a controlled-release polymer: Toxicity and efficacy studies in rabbits and rats. Stroke. 33: 2681-2686, 2002.
47. Heck, D. V., P. Gailloud, H. L. Cohen, R. E. Clatterbuck, **R. J. Tamargo**, A. M. Avellino, and K. P. Murphy. Choroid plexus arteriovenous malformation presenting with intraventricular hemorrhage. Journal of Pediatrics. 141: 710-711, 2002.
48. Komotar, R. J., A. Olivi, D. Rigamonti, and **R. J. Tamargo**. Microsurgical fenestration of the lamina terminalis reduces the incidence of shunt-dependent hydrocephalus following aneurysmal subarachnoid hemorrhage. Neurosurgery. 51: 1403-1413, 2002.
49. Antezana, D. F., R. E. Clatterbuck, N. J. Alkayed, S. J. Murphy, L. G. Anderson, J. Frazier, P. D. Hurn, R. J. Traystman, and **R. J. Tamargo**. High-dose ibuprofen for reduction of striatal infarcts during middle cerebral artery occlusion in rats. Journal of Neurosurgery. 98: 860-866, 2003.
50. Takagi, M., **R. J. Tamargo**, and D. S. Zee. Effects of lesions of the cerebellar oculomotor vermis on eye movements in primate: Binocular control. Progress in Brain Research. 142: 19-33, 2003.
51. Chicani, C. F., N. R. Miller, and **R. J. Tamargo**. Giant cavernous malformation of the occipital lobe. Journal of Neuro-ophthalmology. 23:151-153, 2003.
52. Clatterbuck, R. E., P. Gailloud, L. Ogata, A. Gebremariam, G. N. Dietsch, K. P. J. Murphy, and **R. J. Tamargo**. A humanized anti-CD11/CD18 monoclonal antibody prevents cerebral vasospasm following experimental subarachnoid hemorrhage in non-human primates. Journal of Neurosurgery. 99: 376-382, 2003.

53. Tuffiash, E., **R. J. Tamargo**, and A. E. Hillis. Craniotomy for treatment of unruptured aneurysms is not associated with long-term cognitive dysfunction. Stroke 34: 2195-2199, 2003.
54. O Bray, R., R. Clatterbuck, A. Olvi, **R. Tamargo**, K. J. Murphy, and P. Gailloud. De novo aneurysm formation 6 and 22 months after initial presentation in two patients. AJNR American Journal of Neuroradiology. 24:1811-1813, 2003.
55. Kretzer, R. M., P. C. Burger, and **R. J. Tamargo**. Hypertrophic neuropathy of the cauda equina: Case report. Neurosurgery. 54: 515-519, 2004.
56. Kretzer, R. M., R. W. Crosby, D. A. Rini, and **R. J. Tamargo**. Dorcas Hager Padgett: Neuroembryologist and neurosurgical illustrator trained at Johns Hopkins. Journal of Neurosurgery. 100: 719-730, 2004. (*Cover Article*)
57. Goldenberg-Cohen, N., C. Curry, N. R. Miller, **R. J. Tamargo**, and K. P. Murphy. Long term visual and neurological prognosis in patients with treated and untreated cavernous sinus aneurysms. Journal of Neurology, Neurosurgery, and Psychiatry. 75:863-867, 2004.
58. Pradilla, G., P. P. Wang, F. G. Legnani, L. Ogata, G. N. Dietsch, and **R. J. Tamargo**. Vasospasm in rabbits following subarachnoid hemorrhage prevented by anti-CD11/CD18 monoclonal antibody therapy. Journal of Neurosurgery. 101: 88-92, 2004.
59. Frazier, J. L., G. Pradilla, P. P. Wang, and **R. J. Tamargo**. Inhibition of cerebral vasospasm by intracranial delivery of ibuprofen from a controlled-release polymer in a rabbit model of subarachnoid hemorrhage. Journal of Neurosurgery. 101: 93-98, 2004.
60. Pradilla, G., P. P. Wang, F. G. Legnani, J. L. Frazier, and **R. J. Tamargo**. Pharmacokinetics of controlled-release polymers in the subarachnoid space after subarachnoid hemorrhage in rabbits. Journal of Neurosurgery. 101: 99-103, 2004.
61. Rodrigues, M., B. W. O'Malley, Jr., H. Staecker, and **R. Tamargo**. Extended pericranial flap and bone graft reconstruction in anterior skull base surgery. Otolaryngology - Head and Neck Surgery. 131: 69-76, 2004.
62. Gailloud, P., R. E. Clatterbuck, J. H. Fasel, **R. J. Tamargo**, and K. J. Murphy. Segmental agenesis of the internal carotid artery distal to the posterior communicating artery leading to the definition of a new embryologic segment. AJNR American Journal of Neuroradiology. 25: 1189-1193, 2004.
63. Weaver, K. D., J. Huang, **R. J. Tamargo**, and E. J. Bernard, Jr.. Preoperative localization of the carotid bifurcation for carotid endarterectomy using magnetic resonance angiography without tomography: Technical note. Neurosurgery. 55: E1249-E1252, 2004.
64. Pradilla, G., Q.-A. Thai, F. G. Legnani, W. Hsu, R. M. Kretzer, P. P. Wang, and **R. J. Tamargo**. Delayed intracranial delivery of a nitric oxide donor from a controlled-release polymer prevents experimental vasospasm in rabbits. Neurosurgery. 55: 1393-1400, 2004.
65. Subramanian, P. S., P. H. Gailloud, D. V. Heck, **R. J. Tamargo**, K. J. Murphy, and N. R. Miller. Guglielmi detachable coil embolization of a symptomatic, isolated orbital arteriovenous fistula via a superior ophthalmic vein approach. Neuroradiology. 47: 62-65, 2005.
66. Huang, J., M. J. McGirt, P. Gailloud, and **R. J. Tamargo**. Intracranial aneurysms in the pediatric population: case series and literature review. Surgical Neurology. 63: 424-32, 2005.

67. Pradilla, G., Q.-A. Thai, F. G. Legnani, R. E. Clatterbuck, P. Gailloud, K. P. Murphy, and **R. J. Tamargo**. Local delivery of ibuprofen via controlled-release polymers prevents angiographic vasospasm in a monkey model of subarachnoid hemorrhage. Neurosurgery. 57 (1 Suppl.): 184-190, 2005.
68. Burger, I. M., **R. J. Tamargo**, J. Broussard, and P. Gailloud. Combined surgical and endovascular treatment of a spontaneous diploic arteriovenous fistula. Case report. Journal of Neurosurgery. 103: 179-181, 2005.
69. Gailloud, P., D. P. O'Riordan, I. Burger, O. Levrier, G. Jallo, **R. J. Tamargo**, K. J. Murphy, and C. U. Lehmann. Diagnosis and management of vein of galen aneurysmal malformations. Journal of Perinatology. 25: 542-51, 2005.
70. Thai, Q.-A., S. M. Raza, G. Pradilla, and **R. J. Tamargo**. Aneurysmal rupture without subarachnoid hemorrhage: case series and literature review. Neurosurgery 57: 225-229, 2005.
71. Clatterbuck, R. E., P. Gailloud, T. Tierney, V. M. Clatterbuck, K. J. Murphy, and **R. J. Tamargo**. Controlled release of a nitric oxide donor for the prevention of delayed cerebral vasospasm following experimental subarachnoid hemorrhage in nonhuman primates. Journal of Neurosurgery. 103: 745-751, 2005.
72. McGirt, M. J., B. A. Perler, B. S. Brooke, G. F. Woodworth, A. Coon, S. Jain, D. Buck, G. S. Roseborough, **R. J. Tamargo**, J. Heller, J. A. Freischlag, and G. M. Williams. 3-Hydroxy-3-methylglutaryl coenzyme A reductase inhibitors reduce the risk of perioperative stroke and mortality after carotid endarterectomy. Journal of Vascular Surgery. 42: 829-836, 2005.
73. Subramanian, P. S., N. R. Miller, V. Renard, and **R. J. Tamargo**. Delayed progressive visual loss following wrapping of bilateral clinoidal aneurysms: recovery of vision and improvement in neuroimaging during corticosteroid treatment. British Journal of Ophthalmology. 89:1666-1668, 2005.
74. McGirt, M. J., G. Pradilla, F. G. Legnani, Q.-A. Thai, P. F. Recinos, **R. J. Tamargo**, and R. E. Clatterbuck. Systemic administration of simvastatin after the onset of experimental subarachnoid hemorrhage attenuates cerebral vasospasm. Neurosurgery. 58:945-951, 2006.
75. Tierney, T. S., G. Pradilla, P. P. Wang, R. E. Clatterbuck, and **R. J. Tamargo**. Intracranial delivery of the nitric oxide donor diethylenetriamine/nitric oxide from a controlled-release polymer: Toxicity in cynomolgus monkeys. Neurosurgery. 58:952-960, 2006.
76. McGirt, M. J., G. F. Woodworth, B. S. Brooke, A. L. Coon, S. Jain, D. Buck, J. Huang, R. E. Clatterbuck, **R. J. Tamargo**, and B. A. Perler. Hyperglycemia independently increases the risk of perioperative stroke, myocardial infarction, and death after carotid endarterectomy. Neurosurgery. 58:1066-1073, 2006.
77. Triantafyllopoulou, A., A. Beaumont, J. Ulatowski, **R. J. Tamargo**, and P. N. Varelas. Acute subdural hematoma caused by an unruptured, thrombosed giant intracavernous aneurysm. Neurocritical Care. 5:39-42, 2006.
78. Thai, Q. A., G. Pradilla, F. G. Legnani, R. M. Kretzer, W. Hsu, and **R. J. Tamargo**. Lysis of intracerebral hematoma with stereotactically implanted tissue plasminogen activator polymers in a rabbit model. Journal of Neurosurgery. 105: 424-429, 2006.
79. Sherman, I. J., R. M. Kretzer, and **R. J. Tamargo**. Personal recollections of Walter E. Dandy and his brain team. Journal of Neurosurgery. 105: 487-493, 2006.
80. Clatterbuck, R. E., R. M. Galler, **R. J. Tamargo**, and D. J. Chalif. Orthogonal interlocking tandem clipping technique for the reconstruction of complex middle cerebral artery aneurysms. Neurosurgery (Operative Neurosurgery Supplement). 59 (ONS 4): 347-352, 2006.

81. Burger, I. M., K. J. Murphy, L. C. Jordan, **R. J. Tamargo**, and P. Gailloud. Safety of Cerebral Digital Subtraction Angiography in Children. Complication Rate Analysis in 241 Consecutive Diagnostic Angiograms. Stroke. 37: 2535-2539, 2006.

82. Recinos, P. F., G. Pradilla, Q.-A. Thai, M. Perez, A. M. Hdeib, and **R. J. Tamargo**. Controlled release of lipopolysaccharide in the subarachnoid space of rabbits induces chronic vasospasm in the absence of blood. Surgical Neurology. 66: 463-469, 2006.

83. Chaichana, K., L. H. Riley, and **R. J. Tamargo**. Delayed cerebral vasospasm secondary to bacterial meningitis after lumbosacral spinal surgery: Case report. Neurosurgery. 60: E206-E207, 2007.

84. Shan, X., J. Tian, H. S. Ying, C. Quaia, L. M. Optican, M. F. Walker, **R. J. Tamargo**, and D. S. Zee. Acute Superior Oblique Palsy in Monkeys: I. Changes in Static Eye Alignment. Investigative Ophthalmology & Visual Sciences. 48: 2602-2611, 2007.
85. Shan, X., H. S. Ying, J. Tian, C. Quaia, M. F. Walker, L. M. Optican, **R. J. Tamargo**, and D. S. Zee. Acute Superior Oblique Palsy in Monkeys: II. Changes in Dynamic Properties during Vertical Saccades. Investigative Ophthalmology & Visual Sciences. 48: 2612-2620, 2007.
86. Tian, J., X. Shan, D. S. Zee, H. Ying, **R. J. Tamargo**, C. Quaia, L. M. Optican, and M. F. Walker. Acute Superior Oblique Palsy in Monkeys: III. Relationship to Listing's Law. Investigative Ophthalmology & Visual Sciences. 48: 2621-2625, 2007.
87. Baird, C. J., A. Hdeib, I. Suk, H. W. Francis, M. J. Holliday, **R. J. Tamargo**, H. Brem, and D. M. Long. Reduction of cerebrospinal fluid rhinorrhea after vestibular schwannoma surgery by reconstruction of the drilled porus acusticus with hydroxyapatite bone cement. Journal of Neurosurgery. 107: 347-351, 2007. (*Cover Article*)
88. Chaichana, K. L., A. P. Levy, R. Miller-Lotan, S. Shakur, and **R. J. Tamargo**. Haptoglobin 2-2 genotype determines chronic vasospasm after experimental subarachnoid hemorrhage. Stroke. 38: 3266-3271, 2007.
89. McGirt, M. J., G. F. Woodworth, M. Ali, K. D. Than, **R. J. Tamargo**, and R. E. Clatterbuck. Persistent perioperative hyperglycemia as an independent predictor of poor outcome after aneurysmal subarachnoid hemorrhage. Journal of Neurosurgery. 107: 1080-1085, 2007.
90. Woodworth, G. F., M. J. McGirt, K. D. Than, J. Huang, B. A. Perler, and **R. J. Tamargo**. Selective versus routine intraoperative shunting during carotid endarterectomy: a multivariate outcome analysis. Neurosurgery. 61:1170-1176, 2007.
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## **2. Peer-Reviewed Scientific Abstracts:**

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70. Antezana, D. F., R. E. Clatterbuck, J. Frazier, N. J. Alkayed, S. J. Murphy, P. D. Hurn, R. J. Traystman, and **R. J. Tamargo**. High-dose ibuprofen is equivalent to mild hypothermia for the reduction of caudate/putamen infarct volume in rats. Joint Meeting of the American Association of Neurological Surgeons/Congress of Neurological Surgeons (AANS/CNS) Section on Cerebrovascular Surgery and the American Society of Interventional and Therapeutic Neuroradiology (ASITN) in collaboration with the Japanese Society of Surgery for Cerebral Stroke and the Japanese Society for Intravascular Surgery, Waikoloa, Hawaii, February 9-12, 2001.

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72. Chiang, V. L., P. Gailloud, K. J. Murphy, D. Rigamonti, and **R. J. Tamargo**. Routine intraoperative angiography. American Association of Neurological Surgeons Annual Meeting, Toronto, Ontario, Canada, April 21-26, 2001.

73. Conway, J. E., and **R. J. Tamargo**. Acute cocaine use is an independent risk factor for cerebral vasospasm after aneurysmal subarachnoid hemorrhage. American Association of Neurological Surgeons Annual Meeting, Toronto, Ontario, Canada, April 21-26, 2001.

74. Kim, S. H., A. I. Qureshi, A. M. Yahia, J. I. Suarez, O. Zaidat, Z. Ali, M. F. K. Suri, **R. J. Tamargo**, L. R. Guterman, and L. N. Hopkins. Multicenter evaluation of the efficacy of endovascular treatment for symptomatic vasospasm unresponsive to hypervolemic and hypertensive therapy in patients with SAH. American Association of Neurological Surgeons Annual Meeting, Toronto, Ontario, Canada, April 21-26, 2001.

75. Tierney, T. S., R. E. Clatterbuck, C. Lawson, Q.-A. Thai, L. D. Rhines, and **R. J. Tamargo**. Prevention and reversal of experimental post-hemorrhagic vasospasm by the peri-adventitial administration of nitric oxide from a controlled-release polymer. 2001 Annual Meeting of the Neurosurgical Society of America, Amelia Island, Florida, June 8-10, 2001.

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79. Gabikian, P., R. E. Clatterbuck, C. G. Eberhart, B. M. Tyler, and **R. J. Tamargo**. Controlled-release toxicity of the nitric oxide donor compound, DETA/NO, after intracranial implantation in rats. American Association of Neurological Surgeons Annual Meeting, Chicago, Illinois, April 6-11, 2002.

80. Clatterbuck, R. E., P. Gailloud, L. Ogata, A. Gebremariam, G. Dietsch, K. J. Murphy, and **R. J. Tamargo**. Hu23F2G (LeukArrest) prevents cerebral vasospasm following experimental subarachnoid hemorrhage in non-human primates. American Association of Neurological Surgeons Annual Meeting, Chicago, Illinois, April 6-11, 2002.

81. **Tamargo, R. J.**, R. E. Clatterbuck, P. Gailloud, L. Ogata, A. Gebremariam, G. N. Dietsch, and K. P. J. Murphy. Anti-CD18 humanized monoclonal antibody prevents cerebral vasospasm in

monkeys. Fifty-fifth (2002) Annual Meeting of the Neurosurgical Society of America, Kiawah Island, South Carolina, April 21-24, 2002.

82. Clatterbuck, R. E., P. Gailloud, T. Tierney, K. Murphy, and **R. J. Tamargo**. Controlled release of nitric oxide donor DETA-NO prevents cerebral vasospasm following experimental subarachnoid hemorrhage in monkeys. Congress of Neurological Surgeons 52nd Annual Meeting, Philadelphia, Pennsylvania, September 21-26, 2002. *Neurosurgery* 51: 545-546, 2002. (Recipient of **The Galbraith Award** for best abstract submission by a resident on cerebrovascular disease at the CNS Annual Meeting)

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87. **Tamargo, R. J.**, R. E. Clatterbuck, T. Tierney, G. Pradilla, P. P. Wang, P. Gailloud, and K. P. Murphy. Polymeric controlled release of a nitric oxide donor in the subarachnoid space prevents vasospasm after subarachnoid hemorrhage in monkeys: Efficacy and toxicity studies. Fifty-sixth (2003) Annual Meeting of the Neurosurgical Society of America, Sunriver Resort, Oregon, June 8-11, 2003.

88. Frazier, J., G. Pradilla, P. P. Wang, and **R. J. Tamargo**. Inhibition of experimental cerebral vasospasm by intracranial delivery of ibuprofen from a controlled-release polymer in a rabbit subarachnoid hemorrhage model. Eighth International Conference on Cerebral Vasospasm, Chicago, Illinois, July 9-12, 2003.

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vasospasm after subarachnoid hemorrhage. Eighth International Conference on Cerebral Vasospasm, Chicago, Illinois, July 9-12, 2003.

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96. **Tamargo, R. J.**, G. Pradilla, P. P. Wang, F. G. Legnani, L. Ogata, and G. N. Dietsch. Anti-CD11/CD18 monoclonal antibody prevents vasospasm after subarachnoid hemorrhage in rabbits. American Academy of Neurological Surgery, Williamsburg, Virginia, October 29-November 1, 2003.

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99. **Tamargo, R. J.**, G. Pradilla, P. P. Wang, F. G. Legnani, L. Ogata, and G. N. Dietsch. Anti-CD11/CD18 monoclonal antibody therapy prevents vasospasm after subarachnoid hemorrhage in rabbits. Fifty-seventh (2004) Annual Meeting of the Neurosurgical Society of America, El Dorado, Santa Fe, New Mexico, June 6-9, 2004.

100. Huang, J., M. McGirt, P. Gailloud, and **R. J. Tamargo**. Intracranial aneurysms in the pediatric population: Case series and review of the literature. Fifty-seventh (2004) Annual Meeting of the Neurosurgical Society of America, El Dorado, Santa Fe, New Mexico, June 6-9, 2004.

101. Thai, Q.-A., G. Pradilla, and **R. J. Tamargo**. Contralateral Approaches to Bilateral Aneurysms: Case Series. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

102. Thai, Q.-A., G. Pradilla, P. P. Wang, and **R. J. Tamargo**. Intraoperative angiographically-assisted localization for small vascular malformations: technical note. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

103. Thai, Q.-A., S. Raza, G. Pradilla, and **R. J. Tamargo**. Aneurysmal rupture without subarachnoid hemorrhage: case series and literature review. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

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105. Thai, Q.-A., G. Pradilla, F. Legnani, H. Brem, and **R. J. Tamargo**. Stereotactic implantation of controlled-release “string” polymers in a human head: technical report. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

106. Pradilla, G., Q.-A. Thai, F. G. Legnani, W. Hsu, R. M. Kretzer, P. P. Wang, and **R. J. Tamargo**. Delayed intracranial delivery of a nitric oxide donor from a controlled-release polymer prevents experimental cerebral vasospasm in rabbits. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

107. Pradilla, G., Q.-A. Thai, F. G. Legnani, and **R. J. Tamargo**. Frontozygomatic titanium cranioplasty prevents aesthetic defect of the frontozygomatic fossa after pterional craniotomy. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

108. Pradilla, G., Q.-A. Thai, F. G. Legnani, R. E. Clatterbuck, P. Gailloud, K. P. Murphy, and **R. J. Tamargo**. Local delivery of ibuprofen via controlled-release polymers prevents angiographic vasospasm in a monkey model of subarachnoid hemorrhage. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

109. Pradilla, G., P. P. Wang, F. G. Legnani, J. L. Frazier, Q.-A. Thai, and **R. J. Tamargo**. Local delivery of drugs to the subarachnoid space for treatment of vasospasm is not affected by presence of blood in the rabbit model of subarachnoid hemorrhage. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

110. McGirt, M. J., G. Pradilla, J. Lynch, F. G. Legnani, M. Perez, **R. J. Tamargo**, R. E. Clatterbuck, and D. Laskowitz. Simvastatin attenuates experimental cerebral vasospasm and ameliorates serum markers of neuronal and endothelial injury in patients after subarachnoid hemorrhage: a dose-response effect dependent on endothelial nitric oxide synthase. 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004. (Recipient of **The Galbraith Award** for best abstract submission by a resident on cerebrovascular disease at the CNS Annual Meeting)

111. McGirt, M. J., G. F. Woodworth, G. Pradilla, F. Legnani, D. Warner, **R. J. Tamargo**, R. E. Clatterbuck, J. R. Lynch, and D. T. Laskowitz. Galbraith Award: Simvastatin attenuates experimental cerebral vasospasm and ameliorates serum markers of neuronal and endothelial injury in patients after subarachnoid hemorrhage: A dose-response effect dependent on endothelial nitric oxide synthase. Clinical Neurosurgery 52:371-378, 2005.

112. Thai, Q.-A., S. Raza, G. Pradilla, and **R. J. Tamargo**. Aneurysmal ruptures presenting only with intraparenchymal or intraventricular hemorrhages: Case series and literature review. Annual Meeting

of the AANS/CNS Cerebrovascular Section and the American Society of Interventional and Therapeutic Neuroradiology, New Orleans, Louisiana, February 1-4, 2005.

113. Thai, Q.-A., G. Pradilla, F. G. Legnani, W. Hsu, H. Brem, and **R. J. Tamargo**. “String” polymer implantation in a human cadaver head using stereotactic techniques: Technical report. Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional and Therapeutic Neuroradiology, New Orleans, Louisiana, February 1-4, 2005.

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115. Thai, Q.-A., G. Pradilla, F. G. Legnani, W. Hsu, R. M. Kretzer, and **R. J. Tamargo**. Stereotactically implanted tPA polymers effectively lysed intraparenchymal hematomas in rabbit model. Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional and Therapeutic Neuroradiology, New Orleans, Louisiana, February 1-4, 2005.

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117. Pradilla, G., Q.-A. Thai, F. G. Legnani, W. Hsu, R. M. Kretzer, P. P. Wang, and **R. J. Tamargo**. The nitric-oxide donor DETA-NO prevents vasospasm in a rabbit model of SAH when administered in a delayed fashion via controlled-release polymers. Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional and Therapeutic Neuroradiology, New Orleans, Louisiana, February 1-4, 2005.

118. Pradilla, G., Q.-A. Thai, F. G. Legnani, and **R. J. Tamargo**. Aesthetic defects of the frontozygomatic fossa after pterional craniotomy can be prevented using a frontozygomatic titanium cranioplasty. Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional and Therapeutic Neuroradiology, New Orleans, Louisiana, February 1-4, 2005.

119. Pradilla, G., Q.-A. Thai, F. G. Legnani, W. Hsu, R. E. Clatterbuck, P. Gailloud, K. P. Murphy, and **R. J. Tamargo**. Ibuprofen polymers placed in the subarachnoid space prevent angiographic cerebral vasospasm after subarachnoid hemorrhage in monkeys. Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional and Therapeutic Neuroradiology, New Orleans, Louisiana, February 1-4, 2005.

120. Pradilla, G., Q.-A. Thai, F. G. Legnani, S. P. Raman, A. Hdeib, M. J. McGirt, **R. J. Tamargo**, and R. E. Clatterbuck. Delayed administration of simvastatin prevents vasospasm in a rabbit model of subarachnoid hemorrhage. Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional and Therapeutic Neuroradiology, New Orleans, Louisiana, February 1-4, 2005.

121. Thai, Q.-A., G. Pradilla, F. G. Legnani, W. Hsu, R. M. Kretzer, and **R. J. Tamargo**. Experimental intraparenchymal hematoma thrombolysis using controlled-release tissue plasminogen activator polymers. 73rd Annual Meeting of the American Association of Neurological Surgeons, New Orleans, Louisiana, April 16-21, 2005.

122. Thai, Q.-A., S. M. Raza, G. Pradilla, and R. J. Tamargo. Aneurysmal ruptures presenting only with intraparenchymal or intraventricular hemorrhages: Case series and literature review. 73rd Annual Meeting of the American Association of Neurological Surgeons, New Orleans, Louisiana, April 16-21, 2005.

123. Tamargo, R. J., and C. Baird. Limitations of the Maryland clinical administrative database regarding cases of intracranial aneurysms. 58th (2005) Annual Meeting of the Neurosurgical Society of America, Grand Floridian, Orlando, Florida, June 5-8, 2005.

124. **Tamargo, R. J.** Contralateral pterional microsurgical approach for bilateral supratentorial aneurysms: patient selection and outcomes in a prospective series of 50 patients. American Academy of Neurological Surgery, Half Moon Bay, California, September 21-24, 2005.

125. McGirt, M. J., A. L. Coon, G. Woodworth, S. Jain, D. Buck, B. Perler, and **R. J. Tamargo.** A decade experience with carotid endarterectomy at the Johns Hopkins Hospital: An assessment of current surgical risks. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

126. McGirt, M. J., A. L. Coon, G. Woodworth, S. Jain, D. Buck, B. Perler, and **R. J. Tamargo.** Statins, HMG CoA-reductase inhibitors, reduce the risk of perioperative stroke after carotid endarterectomy: A novel role for a potential neuroprotectant. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

127. McGirt, M. J., A. L. Coon, G. Woodworth, S. Jain, D. Buck, B. Perler, and **R. J. Tamargo.** Selective versus routine intraluminal carotid artery shunting guided by intraoperative electroencephalography (EEG) and somatosensory evoked potential (SSEP) monitoring reduces the risk of perioperative stroke after carotid endarterectomy. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

128. McGirt, M. J., A. L. Coon, G. Woodworth, S. Jain, D. Buck, B. Perler, and **R. J. Tamargo.** Surgeon frequency, not cumulative volume, is associated with perioperative morbidity after carotid endarterectomy. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

129. Recinos, P., G. Pradilla, Q.-A. Thai, A. M. Hdeib, F. G. Legnani, R. E. Clatterbuck, and **R. J. Tamargo.** Lipopolysaccharide (LPS)-induced cerebral vasospasm is comparable to SAH-induced vasospasm in rabbits. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

130. Pradilla, G., Q.-A. Thai, D. L. Vargas, F. G. Legnani, J. R. Williams, J. L. Mankowski, C. A. Pardo, and **R. J. Tamargo.** Endothelial expression of ICAM-1 and VCAM-1 after subarachnoid hemorrhage in monkeys treated with locally-delivered ibuprofen. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

131. Pradilla, G., S. Basu, Q.-A. Thai, A. M. Hdeib, F. G. Legnani, **R. J. Tamargo,** and R. E. Clatterbuck. Simvastatin administration reverses cerebral vasospasm in rabbits by increasing endothelial nitric oxide synthase (eNOS) expression. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

132. Baird, C. J., and **R. J. Tamargo**. Inaccuracy of the international classification of diseases 9th revision coding for cerebral aneurysms in the Maryland administrative database. 55th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 8-13, 2005.

133. McGirt, M., B. Perler, S. Jain, G. Woodworth, **R. J. Tamargo**, and D. Buck. A 10-year experience with carotid endarterectomy at the Johns Hopkins Hospital: An assessment of current surgical risks. American College of Surgeons 91<sup>st</sup> Annual Clinical Congress, San Francisco, California, October 16-20, 2005.

134. Coon, A., M. McGirt, G. Woodworth, S. Jain, B. Perler, and **R. J. Tamargo**. Accuracy of carotid ultrasonography in the treatment of carotid stenosis: A comparison to digital subtraction angiography in 631 consecutive cases. Ninth Joint Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional & Therapeutic Neuroradiology, Orlando, Florida, February 17-20, 2006.

135. Recinos, P. F., G. Pradilla, Q.-A. Thai, A. M. Hdeib, M. Perez, F. G. Legnani, R. E. Clatterbuck, and **R. J. Tamargo**. Controlled release of lipopolysaccharide in the subarachnoid space of rabbits induces chronic vasospasm. Ninth Joint Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional & Therapeutic Neuroradiology, Orlando, Florida, February 17-20, 2006.

136. Recinos, P. F., Q.-A. Thai, G. L. Gallia, G. Pradilla, D. Rigamonti, **R. J. Tamargo**, and R. E. Clatterbuck. Outcomes in 100 cases of ruptured aneurysms managed with microsurgery at an academic center. Ninth Joint Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional & Therapeutic Neuroradiology, Orlando, Florida, February 17-20, 2006.

137. McGirt, M., G. F. Woodworth, A. L. Coon, D. Buck, J. Huang, R. E. Clatterbuck, B. Perler, and **R. J. Tamargo**. Hyperglycemia independently increases the risk of perioperative stroke, myocardial infarction, and death after carotid endarterectomy. 56th Annual Meeting of the Congress of Neurological Surgeons, Chicago, Illinois, October 7-12, 2006.

138. Huang, J., and **R. J. Tamargo**. Predictors of success for the contralateral approach to multiple intracranial aneurysms. International Stroke Conference 2007, San Francisco, California, February 7-9, 2007. *Stroke* 38: 595, 2007.

139. Perez, A., V. Urrutia, A. Nohara, R. Llinas, E. Aldrich, A. Hillis, P. Nyquist, K. Murphy, P. Gailloud, J. Black, **R. J. Tamargo**, and R. Wityk. Natural history and management of dissecting pseudoaneurysms of the cervical cerebral arteries. International Stroke Conference 2007, San Francisco, California, February 7-9, 2007. *Stroke* 38: 484, 2007.

140. **Tamargo, R. J.**, K. L. Chaichana, A. P. Levy, R. Miller-Lotan, and S. Shakur. Haptoglobin 2-2 genotype determines chronic vasospasm after experimental subarachnoid hemorrhage. 60<sup>th</sup> Annual Meeting of the Neurosurgical Society of America, Kohler, Wisconsin, June 3-6, 2007.

141. Chaichana, K. L., A. P. Levy, R. Miller-Lotan, S. Shakur, and **R. J. Tamargo**. Haptoglobin 2-2 genotype determines chronic vasospasm after experimental subarachnoid hemorrhage. 57th Annual Meeting of the Congress of Neurological Surgeons, San Diego, California, September 15-20, 2007. *Neurosurgery* 61: 198, 2007.

142. **Tamargo, R. J.**, A. P. Levy, K. L. Chaichana, R. Miller-Lotan, and S. Shakur. Haptoglobin 2-2 genotype predisposes to chronic vasospasm after experimental subarachnoid hemorrhage. 69<sup>th</sup>

Annual Meeting of the American academy of Neurological Surgery, Henderson, Nevada, October 31-November 3, 2007.

143. Chaichana, K. L., A. P. Levy, R. Miller-Lotan, S. Shakur, and **R. J. Tamargo**. The role of the haptoglobin genotype in the development of chronic vasospasm after experimental subarachnoid hemorrhage. 2008 International Stroke Conference, New Orleans, Louisiana, February 20-22, 2008.

144. Germanwala, A. V., P. Raja, J. Huang, P. Gailloud, K. P. J. Murphy, and **R. J. Tamargo**. Microsurgical clipping and endovascular coiling for intracranial aneurysms: A critical review of the literature. 61<sup>st</sup> Annual Meeting of the Neurosurgical Society of America, Whistler, British Columbia, Canada, June 1-4, 2008.

145. **Tamargo, R. J.**, P. Raja, A. Germanwala, and J. Huang. Microsurgical clipping and endovascular coiling of intracranial aneurysms: A critical review of the literature. 70<sup>th</sup> Annual Meeting of the American Academy of Neurological Surgery, Phoenix/Sedona, Arizona, September 10-13, 2008.

146. Raja, P. V., J. Huang, A. Germanwala, P. Gailloud, K. P. J. Murphy, and **R. J. Tamargo**. Microsurgical clipping and endovascular coiling of intracranial aneurysms: A critical review of the literature. 58th Annual Meeting of the Congress of Neurological Surgeons, Orlando, Florida, September 20-25, 2008.

147. Schwab, K., P. Gailloud, G. Wyse, and **R. J. Tamargo**. Inaccuracy of magnetic resonance imaging (MRI) and magnetic resonance angiography (MRA) in the diagnosis of intracranial aneurysms. 58th Annual Meeting of the Congress of Neurological Surgeons, Orlando, Florida, September 20-25, 2008.

148. Froehler, M. T., A. Kooshkabadi, and **R. J. Tamargo**. Inhibition of leukocyte migration by blocking VLA-4 prevents vasospasm after subarachnoid hemorrhage in haptoglobin 2-2 mice. International Stroke Conference 2009, San Diego, California, February 17-20, 2009. (Mordecai Y. T. Globus New Investigator Award in Stroke)

149. McGirt, M. J., G. L. Garces-Ambrossi, J. Huang, and **R. J. Tamargo**. Simvastatin to prevent symptomatic vasospasm following aneurysmal subarachnoid hemorrhage: A single institution prospective study. AANS/CNS Cerebrovascular Section Meeting 2009, San Diego, California, February 16-17, 2009.

150. Momin, Eric N., and **R. J. Tamargo**. Nitric oxide reverses post-hemorrhagic cerebral vasospasm in Hp 2-2 mice. 32<sup>nd</sup> Young Investigators' Day Award, Paul Ehrlich Research Awards, Vernon B. Mountcastle Auditorium, Preclinical Teaching Building, Johns Hopkins University School of Medicine, April 16, 2009.

151. Coon, A., G. Havlena, G. Colby, G. Wyse, D. San Millan Ruiz, **R. J. Tamargo**, and P. Gailloud. Characterization of proximal A1 segment aneurysms: a possible source of occult subarachnoid hemorrhage. 77<sup>th</sup> Annual Meeting of the American Association of Neurological Surgeons, San Diego, California, May 2-6, 2009.

152. Coon, A., G. Wyse, M. Radvany, D. San Millan Ruiz, K. Murphy, **R. J. Tamargo**, J. Huang, and P. Gailloud. Safety of power-injected 3D DSA in the neurological patient: experience with 283 consecutive angiograms. 77<sup>th</sup> Annual Meeting of the American Association of Neurological Surgeons, San Diego, California, May 2-6, 2009.

153. Coon, A., G. Colby, G. Wyse, M. Radvany, D. San Millan Ruiz, **R. J. Tamargo**, P. Gailloud, and J. Huang. Prevalence of small ruptured cerebral aneurysms measured with 3D digital subtraction angiography (DSA): does size matter? 77<sup>th</sup> Annual Meeting of the American Association of Neurological Surgeons, San Diego, California, May 2-6, 2009.

154. **Tamargo, R. J.**, G. F. Woodworth, C. J. Baird, G. Garces-Ambrossi, and J. Tonascia. Inaccuracy of an administrative database: A comparative analysis between the Maryland and the Johns Hopkins Hospital neurosurgery Databases for the diagnosis and treatment of intracranial aneurysms. 62<sup>nd</sup> Annual Meeting of the Neurosurgical Society of America, The Homestead, Hot Springs, Virginia, June 7-10, 2009.

155. Germanwala, A. V., Q.-A. Thai, G. Pradilla, and **R. J. Tamargo**. Simple technique for intraoperative angiographic localization of small vascular lesions. 62<sup>nd</sup> Annual Meeting of the Neurosurgical Society of America, The Homestead, Hot Springs, Virginia, June 7-10, 2009.

### **3. Reviews, Editorials, Letters, and Commentaries:**

1. **Tamargo, R. J.**, and H. Brem. Drug delivery to the central nervous system: A review. Neurosurgery Quarterly. 2(4): 259-279, 1992.

2. **Tamargo, R. J.**, R. Langer, and H. Brem. Interstitial drug delivery to the central nervous system using controlled release polymers: chemotherapy for brain tumors. Methods in Neurosciences. 21: 135-149, 1994.

3. Sipos, E. P., **R. J. Tamargo**, J. D. Weingart, and H. Brem. Inhibition of tumor angiogenesis. Annals of the New York Academy of Sciences. 732: 263-272, 1994.

4. Walter, K. A., **R. J. Tamargo**, A. Olivi, P. C. Burger, and H. Brem. Intratumoral chemotherapy. Neurosurgery. 37: 1129-1145, 1995.

5. **Tamargo, R. J.**, K. A. Walter, and E. M. Oshiro. Aneurysmal subarachnoid hemorrhage: Prognostic features and outcomes. New Horizons. 5: 364-375, 1997.

6. **Tamargo, R. J.**, J. E. Conway, and G. M. Hutchins. Marfan syndrome and intracranial aneurysms. Stroke. 30: 2767-2768, 1999.

7. Samdani, A. F., **R. J. Tamargo**, and D. M. Long. Brain edema: A review of current ideas. Neurosurgery Quarterly. 9: 120-137, 1999.

8. Clatterbuck, R. C., **R. Tamargo**, and D. Rigamonti. Making the diagnosis of subarachnoid hemorrhage. The New England Journal of Medicine. 342: 1454-1455, 2000.

9. **Tamargo, R. J.**, D. Rigamonti, K. Murphy, P. Gailloud, J. E. Conway, and R. E. Clatterbuck. Treatment of intracranial aneurysms: surgical clipping or endovascular coiling? Annals of Neurology. 49: 682, 2001.

10. **Tamargo, R. J.**, P. Gailloud, K. J. Murphy, D. Rigamonti, and V. L. Chiang. Intraoperative angiography. Journal of Neurosurgery. 96: 980, 2002.

11. **Tamargo, R. J.** Commentary on the World Federation of Neurological Surgeons scale for subarachnoid hemorrhage. Surgical Neurology. 59: 237-238, 2003.

12. **Tamargo, R. J.**, E. S. Connolly, Jr., G. M. McKhann, A. Khandji, Y. Chang, J. Libien, and D. Adams. Clinicopathological review: Primary angiitis of the central nervous system in association with cerebral amyloid angiopathy. Neurosurgery. 53: 136-143, 2003.
13. **Tamargo, R. J.** Commentary on “Endothelin-1 levels in plasma and cerebrospinal fluid of patients with cerebral vasospasm after aneurysmal subarachnoid hemorrhage” by I. Moraes Kessler et al., Surgical Neurology. 64 (S1): 5, 2005.
14. Clatterbuck, R. E., and **R. J. Tamargo**. Contralateral approaches to multiple cerebral aneurysms. Neurosurgery. 57 (1 Suppl.): 160-163, 2005.
15. **Tamargo, R. J.** Commentary on “Monoclonal antibody against E-selectin attenuates subarachnoid hemorrhage–induced cerebral vasospasm” by C.-L. Lin et al., Surgical Neurology. 64: 205-206, 2005.
16. **Tamargo, R. J.** Commentary on “A saccular-like dissecting aneurysm of the anterior cerebral artery that developed 2 years after an ischemic event” by T. Iwashita et al., Surgical Neurology. 64: 541, 2005.
17. **Tamargo, R. J.**, and J. Conway. Should patients surviving subarachnoid hemorrhage from a ruptured aneurysm be given follow-up screening? Nature Clinical Practice Neurology. 2: 184-185, 2006.
18. **Tamargo, R.J.** Commentary on “Sodium nitrite as a therapeutic agent for central nervous system diseases” by R. Pluta and E. Oldfield, Surgical Neurology. 66: 8-10, 2006.
19. Huang, J., U. M. Upadhyay, and **R. J. Tamargo**. Inflammation in stroke and focal cerebral ischemia. Surgical Neurology. 66: 232-245, 2006.
20. Gallia, G. L., and **R. J. Tamargo**. Leukocyte-endothelial cell interactions in chronic vasospasm after subarachnoid hemorrhage. Neurological Research. 28: 750-758, 2006.
21. Subramanian, P. S., P. H. Gailloud, D. V. Heck, **R. J. Tamargo**, K. J. Murphy, and N. R. Miller. Embolization of orbital arteriovenous fistulas. Journal of Neurosurgery. 105: 797, 2006.
22. **Tamargo, R. J.** Commentary on “Cerebral vasospasm after resection of an esthesioneuroblastoma: case report and literature review” by M. Almubaslat and C. Africk, Surgical Neurology 68: 322-328, 2007.
23. Miller, N. R., **R. J. Tamargo**, and K. J. Murphy. Treatment of Dural Carotid-Cavernous Sinus Fistulas Using a Superior Ophthalmic Vein Approach. Techniques in Ophthalmology. 5: 156-160, 2007.
24. **Tamargo, R. J.** Comentary on “Ventriculoperitoneal shunting after aneurysmal subarachnoid hemorrhage: Analysis of the indications, complications, and outcome with a focus on patients with borderline ventriculomegaly” by A. S. Little et al., Neurosurgery 62: 618-627, 2008.
25. **Tamargo, R. J.** Commentary on “Statin use was not associated with less vasospasm or improved outcome after subarachnoid hemorrhage” by A. H. Kramer et al., Neurosurgery 62: 422-427, 2008.

26. **Tamargo, R. J.** Commentary on “Treatment of giant middle cerebral artery aneurysms with a flow replacement bypass using the Excimer laser-assisted nonocclusive anastomosis technique” by T. P. C. Van Doormaal et al., Neurosurgery 63: 12-22, 2008.

27. **Tamargo, R. J.** Commentary on “Protective effect of C5a receptor inhibition after murine reperfused stroke” by G. H. Kim et al., Neurosurgery 63: 122-126, 2008.

28. **Tamargo, R. J.** Commentary on “Surgical management of a paraclinoid aneurysm containing a displaced neuroform microstent: technical case report” by J. A. Thomas et al., Neurosurgery 63: E817, 2008.

29. **Tamargo, R. J.** Commentary on “Treatment of cerebral vasospasm with biocompatible controlled-release systems for intracranial drug delivery” by I. Omeis et al., Neurosurgery 63: 1011-1021, 2008.

30. **Tamargo, R. J.** Commentary on “Radiosurgery facilitates resection of brain arteriovenous malformations and reduces surgical morbidity” by R. O. Sanchez-Mejia et al., Neurosurgery 64:231-240, 2009.

31. **Tamargo, R. J.** Commentary on “Perioperative fever and outcome in surgical patients with aneurysmal subarachnoid hemorrhage” by M. M. Todd et al., Neurosurgery 64: 897-909, 2009.

#### ***4. Book Chapters, Monographs:***

1. Brem, H., **R. J. Tamargo**, C. Guerin, S. Brem, and H. Brem. Brain tumor angiogenesis. In Advances in Neuro-Oncology. Ed. P. L. Kornblith and M. D. Walker. Mount Kisco, New York: Futura Publishing Company, Inc., 1988.

2. Olivi, A., A. Domb, D. Lenartz, **R. J. Tamargo**, and H. Brem. Interstitial chemotherapy with drug-impregnated polymer implants to treat brain tumors: Pre-clinical and clinical studies. In Neuro-Oncology. Ed. P. Paoletti, K. Takakura, M. D. Walker, G. Butti, and S. Pezzotta. Dodrecht, The Netherlands: Kluwer Academic Publishers, 1991.

3. Guerin, C., **R. J. Tamargo**, A. Olivi, and H. Brem. Brain tumor angiogenesis: Drug delivery and new inhibitors. In Angiogenesis in Health and Disease. Ed. M. E. Maragoudakis. New York: Plenum Press, 1992.

4. Brem, H., **R. J. Tamargo**, and A. Olivi. Delivery of drugs to the brain by use of a sustained-release polyanhydride polymer system. In New Technologies and Concepts for Reducing Drug Toxicities. Ed. H. Salem and S. I. Baskin. Boca Raton, Florida: CRC Press, 1993.

5. Brem, H., K. A. Walter, **R. J. Tamargo**, A. Olivi, and R. Langer. Drug delivery to the brain. In Polymeric Site-Specific Pharmacotherapy. Ed. A. J. Domb. New York, New York: John Wiley and Sons, Ltd., 1994.

6. **Tamargo, R. J.**, and D. Rigamonti. The poor grade aneurysm patient. In Cerebrovascular Disease. Ed. H. H. Batjer. New York: Raven Press, chapter 88: 103-1110, 1996.

7. Miller, N. R., L. H. Monsein, and **R. J. Tamargo**. Treatment of carotid-cavernous sinus fistulas using a superior ophthalmic vein approach. In Neurosurgical Operative Atlas. Eds. S. S. Rengachary and R. H. Wilkins. Baltimore: Williams and Wilkins. 6: 1-4, 1997.

8. Samdani, A. F., **R. J. Tamargo**, and D. M. Long. Brain tumor edema and the role of the blood-brain barrier. In Handbook of Clinical Neurology: Neuro-Oncology Part I. Ed. Ch. J. Veitch. Amsterdam, The Netherlands: Elsevier. 23 (67): 71-102, 1997.
9. Clatterbuck, R. E., and **R. J. Tamargo**. Intracranial emergencies. In Emergencies of the Head and Neck. Eds. D. W. Eisele and S. J. McQuone. St. Louis, Missouri: Mosby, Inc., chapter 24: 398- 411, 2000.
10. Lesniak, M. S., and **R. J. Tamargo**. Pediatric intracranial aneurysms. In Current Management in Child Neurology - Second Edition. Ed. B. L. Maria. Hamilton, Ontario: B. C. Decker Inc., chapter 82: 519-524, 2002.
11. Moriarty, J. L., P. B. Storm, and **R. J. Tamargo**. Pediatric intracranial and spinal vascular malformations. In Current Management in Child Neurology - Second Edition. Ed. B. L. Maria. Hamilton, Ontario: B. C. Decker Inc., chapter 81: 509-518, 2002.
12. Storm, P. B., D. Chou, and **R. J. Tamargo**. Lumbar spinal stenosis, cauda equina syndrome, and multiple lumbosacral radiculopathies. In Physical Medicine and Rehabilitation Clinics of North America. Guest Ed. T. R. Dillingham. Philadelphia: W. B. Saunders, 13(3): 713-733, August 2002.
13. Storm, P. B., D. Chou, and **R. J. Tamargo**. Surgical Management of Cervical and Lumbosacral Radiculopathies: Indications and Outcomes. In Physical Medicine and Rehabilitation Clinics of North America. Guest Ed. T. R. Dillingham. Philadelphia: W. B. Saunders, 13(3): 735-759, August 2002.
14. **Tamargo, R. J.**, R. I. Haroun, and D. Rigamonti. Anterior communicating artery and anterior cerebral artery aneurysms. In Youmans Neurological Surgery - Fifth Edition. Ed. H. R. Winn. Philadelphia: W. B. Saunders Company, volume 2, chapter 113: 1923-1943, 2003.
15. Clatterbuck, R. C., and **R. J. Tamargo**. Surgical exposures and positioning: cranial procedures. In Youmans Neurological Surgery - Fifth Edition. Ed. H. R. Winn. Philadelphia: W. B. Saunders Company, volume 1, chapter 26: 623-630, 2003.
16. Pradilla, G., M. S. Lesniak, and **R. J. Tamargo**. Pediatric intracranial aneurysms. In Current Management in Child Neurology - Third Edition. Ed. B. L. Maria. Hamilton, Ontario: B. C. Decker Inc., chapter 91:606-612, 2005.
17. Thai, Q.-A., J. L. Moriarty, and **R. J. Tamargo**. Central nervous system vascular malformations. In Current Management in Child Neurology - Third Edition. Ed. B. L. Maria. Hamilton, Ontario: B. C. Decker Inc., chapter 90: 595-605, 2005.
18. Pradilla, G., Q.-A. Thai, and **R. J. Tamargo**. Animal models of subarachnoid hemorrhage. In Acute Stroke: Bench to Bedside. Eds. A. Bhardwaj, N. J. Alkayed, J. R. Kirsch, and R. J. Traystman. New York, New York: Informa Healthcare USA, Inc., chapter 1: 1-14, 2006.
19. Thai, Q.-A., P. Gailloud, and **R. J. Tamargo**. Aneurysms and subarachnoid hemorrhage. In Stroke. Eds. R. J. Wityk and R. H. Llinas. Philadelphia, Pennsylvania: American College of Physicians, Versa Press, chapter 17: 337-363, 2006.
20. Walker, M. F., J. Tian, X. Shan, **R. J. Tamargo**, H. Jing, and D. S. Zee. Effects of lesions in monkeys on gaze stability. In Advances in Understanding Mechanisms and Treatment of Infantile Forms

of Nystagmus. Eds. R. J. Leigh and M. W. Devereaux. New York, New York: Oxford University Press, chapter 7: 55-60, 2008.

21. Pradilla, G., Q.-A. Thai, P. Gailloud, and **R. J. Tamargo**. Central nervous system vascular malformations. In Current Management in Child Neurology - Fourth Edition. Ed. B. L. Maria. Shelton, Connecticut: B.C. Decker, Inc. / People's Medical Publishing House, chapter 103: 715-725, 2009.

22. Chaichana, K. L., G. Pradilla, and **R. J. Tamargo**. Pediatric intracranial aneurysms. In Current Management in Child Neurology - Fourth Edition. Ed. B. L. Maria. Shelton, Connecticut: B.C. Decker, Inc. / People's Medical Publishing House, chapter 104: 726-732, 2009.

### **5. Miscellaneous Publications:**

1. **Tamargo, R. J.** Derivation of hybridomas producing antibodies against the flagellar membrane of *Chlamydomonas reinhardtii*. Senior Thesis, Department of Biology, Princeton University, April, 1980.

2. **Tamargo, R. J.**, and R. Grzanna. Temporal bone, central auditory pathways, and vestibular system. In The Johns Hopkins University School of Medicine Neuroscience 1987 Laboratory Manual, Neuroscience 1987.

3. **Tamargo, R. J.** Foreword. In Crazy Visitation: A Chronicle of Illness and Recovery by Sandra Murray Nettles, Ph.D.. University of Georgia Press, Athens, Georgia, pp. xi-xviii, August 2001. (ISBN 0-8203-2299-7)

4. **Tamargo, R. J.**, and H. Brem. Editorial Comment. In Walter Dandy. The Personal Side of a Premier Neurosurgeon by Mary Ellen Dandy Marmaduke. Editors Issam A. Awad and Edward R. Laws, Jr.. Lippincott Williams & Wilkins, Baltimore, Maryland, September 2002, pp. 101-104. (ISBN 0-7817-4237-4)

### **B. Inventions, Patents, Copyrights:**

1. "Antibiotic Composition for Inhibition of Angiogenesis." H. Brem, R. J. Tamargo, and R. Bok. Filed April 13, 1994; Application No. 08/227,100; Patent No. US 6,482,810 B1; Date of Patent November 19, 2003.

2. "Method and Composition for Inhibition of Vasospasm." R.J. Tamargo (Inventor). International Application Number PCT/US00/18323, Priority date 7/6/99, International Filing Date 6/30/00 (Pending)

### **C. Extramural Sponsorship:**

#### **Past:**

1985-1988	"Experimental foundation for interstitial drug delivery in malignant gliomas: Therapy with BCNU and antiangiogenesis agents." The Association for Brain Tumor Research Fellowship Award. (Principal investigator)
1992-1995	"Vascular biology of brain tumors." National Cancer Institute/National Institute of Neurological Disease and Stroke Grant 1-P20-NS31081-01. (Co-investigator)

- 1993-1994 "Brain tumor therapy by the interstitial, intracerebral delivery of minocycline and BCNU." American Cancer Society Institutional Grant #IRG 11-33. (Principal investigator)
- 1994-1998 "New approaches to brain tumor therapy CNS consortium." National Cancer Institute Grant 1-U01-CA62474-01. (Co-investigator)
- May 1996 "The use of Na/H exchange system inhibitors in the treatment of cerebral ischemia in rats." Upjohn Resident Award in Cerebrovascular Disease. (Co-sponsor for Dr. John Davis)
- February 1997 "Ibuprofen inhibition of post-hemorrhagic vasospasm." Stroke Council of the American Heart Association Student Scholarship in Cerebrovascular Disease. (Sponsor for Quoc-Anh Thai)
- March 2001 "Prevention of experimental vasospasm by local intracranial delivery of the nitric oxide donor DETA/NO from biodegradable polymers." Harold Lamport Student Research Award. (Sponsor for Patrik Gabikian)
- May 2001 "Prevention of experimental vasospasm in rabbits by local intracranial delivery of the nitric oxide donor DETA/NO from biodegradable polymers." Stroke Council of the American Heart Association Student Scholarship in Cardiovascular Disease and Stroke. (Sponsor for Patrik Gabikian)

**Current:**

- Jan. 2002- Dec. 2005 "The inflammatory hypothesis of cerebral vasospasm: Leukocytes as mediators and therapeutic targets." American Heart Association-Bugher Foundation Award for the Investigation of Stroke Grant 0270175N. (Principal investigator)  
 Total Costs: \$400,000  
 Annual Total Costs: \$100,000  
 Annual Direct Costs: \$90,901
- Oct. 2003- Gift by J. Dorsey Brown Family  
 Sept. 2004 \$ 100,000
- 2003-2005 Endovascular Surgical Neuroradiology Fellowship Program. American Society of Interventional Neuroradiology (ASITN) and American Association on Neurosurgeons (AANS/CNS) (Section of Cerebrovascular Disease Endovascular Surgical)  
 Total Costs: \$100,000.  
 Annual Total Costs: \$50,000

**D. Intramural Sponsorship:**

- 1995-1997 "Inflammatory basis for post-hemorrhagic cerebral vasospasm and its treatment with local therapy." Richard S. Ross Clinician Scientist Award. (Principal investigator)

**III. EDUCATIONAL ACTIVITIES**

**A. Teaching:**

**1. Classroom, Clinical, and CME Instruction:**

(Teaching role is that of “lecturer” unless otherwise specified)

1. 1986-1988 “Introductory Neurosciences” Course for first-year medical (January-March) students, Johns Hopkins University School of Medicine  
Teaching Assistant
2. Feb. 25, 1987 “Introduction to the Anatomy of the Temporal Bone.” Introductory Neurosciences Course for first-year medical students, Johns Hopkins University School of Medicine
3. Feb. 24, 1988 “Introduction to the Anatomy of the Temporal Bone.” Introductory Neuroscience Course for first-year medical students, Johns Hopkins University School of Medicine
4. 1992-Present “Introduction to Microsurgical Neuroanatomy.” Course for Neurosurgery residents and visiting neurosurgeons.  
Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Course Director and Lecturer
5. Jan. 5, 1994 “Pediatric Brain Tumors.” The Osler Institute, Omni Inner Harbor Hotel, Baltimore, Maryland.
6. Jan. 11, 1995 “Cerebral Aneurysms.” Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital
7. Feb. 1, 1995 “Cerebral Arteriovenous Malformations.” Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital
8. Mar. 10, 1995 “Management and Physiology of Head Trauma.” Neurosciences Course for second-year medical students, Johns Hopkins University School of Medicine
9. Mar. 30, 1995 “Pediatric Cerebral Arteriovenous Malformations.” Pediatric Resident Conference, Department of Pediatrics, Johns Hopkins Hospital
10. July 5, 1995 “Cerebral Aneurysms.” Neurosciences Nursing Seminar, Meyer 7, Johns Hopkins Hospital
11. Mar. 8, 1996 “Cerebral Aneurysms: A Clinical Correlation.” Neurosciences Course for first-year medical students, Johns Hopkins University School of Medicine
12. Mar. 12, 1996 “Management and Physiology of Head Trauma.” Neuroscience Course for second-year medical students, Johns Hopkins University School of Medicine
13. June 12, 1996 “Chiari Malformation.” Neurosciences Nursing Seminar, Meyer 9, Johns Hopkins Hospital
14. July 24, 1996 “Cerebral Aneurysms and Arteriovenous Malformations.” Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital

15. Oct. 1, 1996 “Carotid Endarterectomy.” Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital
16. Nov. 14, 1996 “Brain Edema.” Neurosurgery Resident Conference, Department of Neurosurgery, Johns Hopkins Hospital
17. Feb. 20, 1997 “Subarachnoid Hemorrhage.” Neurosurgery Resident Conference, Department of Neurosurgery, Johns Hopkins Hospital
18. Feb. 28, 1997 “Management and Physiology of Head Trauma.” Neurosciences Course for second-year medical students, Johns Hopkins University School of Medicine
19. Mar. 7, 1997 “Cerebral Aneurysms: A Clinical Correlation.” Neuroscience Course for first-year medical students, Johns Hopkins University School of Medicine
20. Apr. 28, 1997 “Cerebral Aneurysms and Subarachnoid Hemorrhage.” Neurosciences Nursing Seminar, Meyer 8, Johns Hopkins Hospital
21. May 1, 1997 “Cerebral Arteriovenous Malformations” Neurosurgery Resident Conference, Department of Neurosurgery, Johns Hopkins Hospital
22. May 24, 1997 “Brain Arteriovenous Malformations and Aneurysms.” AVM and Aneurysm Support Group of Maryland Meeting, Maryland Rehabilitation Center, Baltimore, Maryland
23. July 8, 1997 “Aneurysmal Subarachnoid Hemorrhage.” Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital
24. Feb. 27, 1998 “Management and Physiology of Head Trauma.” Neurosciences Course for second-year medical students, Johns Hopkins University School of Medicine
25. Mar. 27, 1998 “Cerebral Aneurysms: A Clinical Correlation.” Neuroscience Course for first-year medical students, Johns Hopkins University School of Medicine
26. July 28, 1998 “Aneurysmal Subarachnoid Hemorrhage.” Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital
27. Aug. 12, 1998 “Clinical Management of Cerebral Arteriovenous Malformations.” Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital
28. Sept. 17, 1998 “Brain AVMs and Aneurysms.” Stroke Group, Johns Hopkins Bayview Medical Center, Baltimore, Maryland
29. Nov. 4, 1998 “Management and Physiology of Head Trauma.” Neurosciences Course for second-year medical students, Johns Hopkins University School of Medicine
30. Dec. 15, 1998 “Diagnosis and Management of Aneurysmal Subarachnoid Hemorrhage.” Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
31. May 5, 1999 “Aneurysmal Subarachnoid Hemorrhage.” Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital

32. July 21, 1999 "Clinical Features and Outcomes in Aneurysmal Subarachnoid Hemorrhage." Neurology Resident Conference, Department of Neurology, Johns Hopkins Hospital
33. Sept. 15, 1999 "Intracranial Aneurysms and Subarachnoid Hemorrhage." Mind-Brain Institute, Johns Hopkins University, Baltimore, Maryland
34. Nov. 19, 1999 "Management and Physiology of Head Trauma." Neurosciences Course for second-year medical students, Johns Hopkins University School of Medicine
35. Nov. 23, 1999 "Clinical Presentation of Aneurysmal Subarachnoid Hemorrhage." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
36. Mar. 31, 2000 "Carotid Stenosis and Cerebral Aneurysms: A Clinical Correlation." Neuroscience Course for first-year medical students, Johns Hopkins University School of Medicine
37. Apr. 18, 2000 "Aneurysmal Subarachnoid Hemorrhage." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
38. July 1, 2000 "Aneurysmal Subarachnoid Hemorrhage." Neurosurgery Residents' Symposium on Neurosurgical Emergencies, Department of Neurosurgery, Johns Hopkins Hospital
39. July 1, 2000 "Intraparenchymal Hemorrhages." Neurosurgery Residents' Symposium on Neurosurgical Emergencies, Department of Neurosurgery, Johns Hopkins Hospital
40. July 1, 2000 "Extracranial Occlusive Disease: Carotid Stenosis." Neurosurgery Residents' Symposium on Neurosurgical Emergencies, Department of Neurosurgery, Johns Hopkins Hospital
41. July 1, 2000 "Brain Biopsy in Neurodegenerative Disorders." Neurosurgery Residents' Symposium on Neurosurgical Emergencies, Department of Neurosurgery, Johns Hopkins Hospital
42. Sept. 23, 2000 "What the Internist Should Know About Cerebral Aneurysms." Saturday Medicine Lecture, Department of Medicine, Johns Hopkins Hospital
43. Sept. 26, 2000 "Aneurysmal Subarachnoid Hemorrhage." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
44. Dec. 19, 2000 "Aneurysmal Subarachnoid Hemorrhage: Clinical Presentation, Evaluation, and Outcomes." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
45. Feb. 15, 2001 "Head Injury and Intracranial Pressure Physiology." Neuroscience Course for second-year medical students, Johns Hopkins University School of Medicine

46. Mar. 8, 2001 "Chronic Post-hemorrhagic Vasospasm." Neurosciences Operating Room Nursing Conference, Johns Hopkins Hospital
47. Mar. 26, 2001 "Aneurysmal Subarachnoid Hemorrhage." Meyer Clinical Neurosciences Nursing Seminar, Johns Hopkins Hospital
48. Mar. 30, 2001 "Carotid Stenosis and Cerebral Aneurysms: A Clinical Correlation." Neuroscience Course for first-year medical students, Johns Hopkins University School of Medicine
49. Apr. 17, 2001 "Aneurysmal Subarachnoid Hemorrhage: Clinical Presentation, Evaluation, and Outcomes." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
50. July 1, 2001 "Aneurysmal Subarachnoid Hemorrhage." Neurosurgery Residents' Symposium on Neurosurgical Emergencies, Department of Neurosurgery, Johns Hopkins Hospital
51. July 1, 2001 "Evaluation and Treatment of Carotid Stenosis." Neurosurgery Residents' Symposium on Neurosurgical Emergencies, Department of Neurosurgery, Johns Hopkins Hospital
52. Sept. 21, 2001 "Aneurysmal Subarachnoid Hemorrhage: Clinical Presentation, Evaluation, and Outcomes." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
53. Oct. 18, 2001 "Brain AVMs and Aneurysms." Stroke Group, Johns Hopkins Bayview Medical Center, Baltimore, Maryland
54. Nov. 1, 2001 "An Update on Aneurysmal Subarachnoid Hemorrhage." Neurology Resident's Clinical (Noon) Conference, Johns Hopkins Hospital
55. Dec. 6, 2001 "The Diagnostic Challenge of Aneurysmal Subarachnoid Hemorrhage." Cader Internal Medicine Conference for Housestaff, Johns Hopkins Hospital
56. Feb. 12, 2002 "Diagnostic Challenge of Aneurysmal Subarachnoid Hemorrhage." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
57. June 28, 2002 "Aneurysmal Subarachnoid Hemorrhage." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
58. Sept. 5, 2002 "Controversies in the Diagnosis of Aneurysmal Subarachnoid Hemorrhage." Cader Internal Medicine Conference for Housestaff, Johns Hopkins Hospital
59. Oct. 22, 2002 "Intracranial Aneurysms and Subarachnoid Hemorrhage." Neurosciences Nursing Talks, Meyer 9 Conference Room, Johns Hopkins Hospital
60. Jan. 31, 2003 "Aneurysmal Subarachnoid Hemorrhage." Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital

61. Apr. 30, 2003 “Aneurysmal Subarachnoid Hemorrhage: Evaluation, Treatment, and Outcomes.” Neurosciences Nursing Conference, Johns Hopkins Hospital
62. Apr. 30, 2003 “Arteriovenous Malformations: Evaluation, Treatment, and Outcomes.” Neurosciences Nursing Conference, Johns Hopkins Hospital
63. June 20, 2003 “Aneurysmal Subarachnoid Hemorrhage.” Neurosciences Medical Student Lecture Series, Johns Hopkins Hospital
64. July 2003-Present “Cerebrovascular Neurosurgery Conference.” Didactic weekly conference for Neurosurgery residents, medical students, and visiting neurosurgeons, Department of Neurosurgery, Johns Hopkins Hospital.  
Organizer, moderator, and lecturer
65. July 23, 2003 “Misdiagnosis in Aneurysmal Subarachnoid Hemorrhage.” Cader Internal Medicine Conference for Housestaff, Johns Hopkins Hospital
66. Mar. 24, 2004 “Aneurysmal Subarachnoid Hemorrhage.” Neurology Resident Conference, Johns Hopkins Hospital
67. Aug. 24, 2004 “Epidemiology, Diagnosis, and Treatment of Aneurysmal Subarachnoid Hemorrhage.” Cader Internal Medicine Conference for Housestaff, Johns Hopkins Hospital
68. Jan. 27, 2005 “An Update on Federal Medical Liability Reform.” Neurosurgery Grand Rounds, Johns Hopkins Hospital
69. Sept. 28, 2005 “An Update on Vasospasm after Aneurysmal Subarachnoid Hemorrhage” Neurosciences Critical Care Unit (NCCU) Nursing Grand Rounds, Johns Hopkins Hospital
70. Jan. 10, 2006 “Clinical and Research Update on Vasospasm after Aneurysmal Subarachnoid Hemorrhage” Neurosciences Critical Care Unit (NCCU) Nursing Rounds, Johns Hopkins Hospital
71. Aug. 2, 2006 “Vasospasm after Aneurysmal Subarachnoid Hemorrhage: Case Study and Research Update.” Herlong Rounds for the Johns Hopkins University School of Medicine M.D.-Ph.D. Program, Johns Hopkins Hospital, 1830 Building

**B. Mentoring:**

**1. Advisees Mentored in Both Post-Doctoral and Pre-Doctoral Stages:**

1. Allen K. Sills, Jr., M.D., 1994-1996 and 1989  
Assistant Professor in Neurosurgery  
University of Tennessee / Semmes-Murphey Clinic  
6325 Humphreys Blvd.  
Memphis, Tennessee 38120
2. Richard E. Clatterbuck, M.D., Ph.D., 1999-2001 and 1995  
Assistant Professor in Neurosurgery  
Division of Cerebrovascular Neurosurgery

Johns Hopkins University School of Medicine  
600 North Wolfe Street, Meyer Suite 8-181  
Baltimore, Maryland 21287

**Award:** Galbraith Award for Best Abstract Submission by a Resident on Cerebrovascular Disease, 52nd Annual Meeting of the Congress of Neurological Surgeons, Philadelphia, Pennsylvania.

3. Quoc-Anh Thai, M.D., 2003-(2005) and 1997  
Resident in Neurosurgery and Cerebrovascular Research Fellow  
Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287

**Award:** Stroke Council of the American Heart Association Student Scholarship in Cerebrovascular Disease.

## **2. Post-doctoral Advisees:**

1. Reid C. Thompson, M.D., 1993-1995  
Assistant Professor, Department of Neurosurgery  
Vanderbilt University Medical Center  
T4224 MCN  
Nashville, Tennessee 37232
2. Neal J. Naff, M.D., 1997  
Assistant Professor (Part-time Staff), Department of Neurosurgery  
Johns Hopkins University School of Medicine / Sinai Hospital  
Baltimore, Maryland 21287
3. Eric M. Oshiro, M.D., 1996-1997  
Private practice  
Honolulu, Hawaii
4. John D. Davis, M.D., 1996-1997  
Private practice  
105 Summit Grove  
Jackson, Mississippi 39047  
  
Upjohn Resident Award in Cerebrovascular Disease.
5. David F. Antezana, M.D., 1998-2000  
Private practice  
Ste. 440, 9155 S.W. Barnes Road  
Portland, Oregon 97225
6. Veronica L. Chiang, M.D., 2000-2001  
Assistant Professor, Department of Neurosurgery  
Yale University School of Medicine  
New Haven, Connecticut

7. Paul P. Wang, M.D., 2001-2003  
Resident in Neurosurgery, Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287
8. Gustavo Pradilla, M.D., 2002-2005  
(From Bogota, Colombia)  
Cerebrovascular Research Fellow, Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287
9. Federico Legnani, M.D., 2002-2003  
(From Italy)  
Research Fellow, Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287
10. Quoc-Anh Thai, M.D. 2003-2005  
Resident in Neurosurgery, Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287
11. Michael T. Froehler, M.D., Ph.D. 2007-2008  
Resident in Neurology, Department of Neurology  
Johns Hopkins School of Medicine  
Baltimore, Maryland 21287

*Award:* Mordecai Y. T. Globus New Investigator Award in Stroke

**3. Pre-Doctoral Advisees:**

1. Michael B. Yang, M.D., 1988-1989  
Assistant Professor in Pediatric Ophthalmology  
Cincinnati Children's Hospital Medical Center  
Department of Pediatric Ophthalmology  
3333 Burnet Avenue, Location E 4510 ML 4008  
Cincinnati, Ohio 45229
2. John S. Myseros, M.D., 1987  
Assistant Professor in Neurosurgery and Pediatrics  
Cincinnati Children's Hospital Medical Center  
Department of Pediatric Neurosurgery  
3333 Burnet Avenue, Location E 4510 ML 4008  
Cincinnati, Ohio 45229
3. Sam P. Javedan, M.D., 1997  
Resident in Neurosurgery, Department of Neurosurgery  
Barrow Neurological Institute  
Phoenix, Arizona

4. James E. Conway, M.D., 1998-2000  
Resident in Neurosurgery, Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287

5. Patrik Gabikian, M.D., 2001  
Resident in Neurosurgery, Department of Neurosurgery  
University of Washington  
Seattle, Washington

**Award:** Harold Lamport Student Research Award.

**Award:** Stroke Council of the American Heart Association Student Scholarship  
in Cerebrovascular Disease.

6. Travis S. Tierney, M.D., Ph.D., 2002  
Resident in Neurosurgery, Department of Neurosurgery  
Massachusetts General Hospital  
Boston, Massachusetts

7. James L. Frazier, M.D., 2002  
Resident in Neurosurgery, Department of Neurosurgery  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287

8. Ricardo J. Komotar, M.D., 2002  
Resident in Neurosurgery, Department of Neurosurgery  
Columbia-Presbyterian Medical Center  
New York, New York

9. Ryan M. Kretzer, 2003  
Medical student  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287

10. Wesley Hsu, 2003  
Medical student  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287

11. Pablo Recinos, 2004-2006  
Medical student  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287

12. Kaisorn Chaichana, 2006-2008  
Medical student  
Johns Hopkins University School of Medicine  
Baltimore, Maryland 21287

13. Eric Momin, 2007-2009  
 Medical student  
 Johns Hopkins University School of Medicine  
 Baltimore, Maryland 21287
14. Kristin Schwab, 2007-2008  
 College student  
 Princeton University  
 Princeton, New Jersey 08540
15. Sophia Shakur, 2007-2009  
 Medical student  
 Johns Hopkins University School of Medicine  
 Baltimore, Maryland 21287
16. Ali Kooshkabadi, 2008-2009  
 Medical student  
 Johns Hopkins University School of Medicine  
 Baltimore, Maryland 21287
17. Pushpa V. Raja, 2007-2008  
 Medical student  
 Johns Hopkins University School of Medicine  
 Baltimore, Maryland 21287
18. Joshua Kenny, 2008  
 College student  
 Virginia Military Institute  
 Lexington, Virginia

**3. Training Grant Participation:**

National Institutes of Health Training Grant for Neurointerventional Radiology (Co-director with Dr. Kieran Murphy of Neuroradiology) - July 2003-June 2004

**C. Editorial Activities:**

2001-2004	Reviewer for <u>Annals of Neurology</u>
2001-Present	Reviewer for <u>Surgical Neurology</u>
2003-Present	Editorial Board member of <u>Surgical Neurology</u>
2004-Present	Reviewer for <u>Stroke</u>
2004-Present	Reviewer for <u>Journal of Cerebral Blood Flow and Metabolism</u>
2005-2006	Reviewer for <u>Brain Research Bulletin</u>
2005-Present	Reviewer for <u>Neurosurgery</u>
2006	Reviewer for <u>Archives of General Psychiatry</u>
2006	Reviewer for <u>Brain Research</u>
2006-Present	Reviewer for <u>New England Journal of Medicine</u>
2007	Reviewer for <u>Urology</u>
2008	Reviewer for <u>Journal of Neuroscience Research</u>
2008	Reviewer for <u>Journal of Neuroimmunology</u>

2009

Reviewer for Clinical Anatomy

**IV. CLINICAL ACTIVITIES**

**A. Certification:**

**1. Licensure:**

State of Maryland (D41887) - June 1991

D.E.A. Certification (BT 3836042) - November 1993

**2. Board Certification:**

National Board of Medical Examiners - July 1985

American Board of Neurological Surgery

Primary (Written) Examination - March 1988

Diplomate of the American Board of Neurological Surgery

Oral Examination - November 1995

**B. Service Responsibilities:**

1992-Present      Attending neurosurgeon, Johns Hopkins Hospital

1994-Present      Attending neurosurgeon, Johns Hopkins Bayview Medical Center

**V. ORGANIZATIONAL ACTIVITIES**

**A. Institutional Administrative Appointments:**

1992-1996      Neurosurgery Representative  
Tissue Committee  
Johns Hopkins Hospital

1993-Present      Director, Microneurosurgery Laboratory  
Department of Neurosurgery  
Johns Hopkins University School of Medicine

1993-Present      Quality Improvement Physician Advisor  
Neurosciences Quality Improvement Committee  
Johns Hopkins Hospital

1993-1995      Elected Representative  
Medical School Council  
Johns Hopkins University School of Medicine

1995-1997      Re-elected Representative  
Medical School Council  
Johns Hopkins University School of Medicine

1996-2000      Co-Director  
Division of Cerebrovascular Neurosurgery  
Department of Neurosurgery

	Johns Hopkins University School of Medicine
2000-Present	Director Division of Cerebrovascular Neurosurgery Department of Neurosurgery Johns Hopkins University School of Medicine
2000-2008	Member Associate Professor Promotions Committee Johns Hopkins University School of Medicine
2002	Member Clinical Practice Association Budget, Finance, and Planning Committee Johns Hopkins University School of Medicine
2002-2003	Member Search Committee for Chairman of Department of Otolaryngology Johns Hopkins University School of Medicine
2008-Present	Member Institutional Claims Committee Johns Hopkins Health System

***B. Professional Societies:***

1989-Present	Active Member Joint Section on Tumors (AANS/CNS)
1992-Present	Active Member Alpha Omega Alpha Honor Medical Society
1994-Present	Active Member Joint Section on Cerebrovascular Surgery (AANS/CNS)
1994-Present	Active Member American Association of Neurological Surgeons
1997-Present	Active Member Congress of Neurological Surgeons
1997-Present	Fellow American College of Surgeons
1997	Guest Fellow Association of Medical Illustrators
1998-2006	Active Member Medical and Chirurgical Faculty of Maryland
1998-2006	Active Member Baltimore City Medical Society

1999-Present      Active Member  
Neurosurgical Society of America

**C. Session Moderator, Chair, Discussant:**

- July 2003    Member of International Scientific Committee for the 8th International Conference on Cerebral Vasospasm, Chicago, Illinois, Co-Moderator of Session 7, "Clinical and Medical Aspects," July 11, 2003.
- June 2007    Session co-moderator and discussant, "Special Topics in Skull Base Surgery," 2<sup>nd</sup> International Meeting, Updates in Neuro-Oncology, Brain Tumor satellite Symposium of the 56<sup>th</sup> Congresso Nazionale SINch/Congress of Neurological Surgeons, Cortona, Italy, June 28-30, 2007.
- Sept. 2007    Course co-director, "Surgical Indications, Techniques, and Alternatives for Cranial Vascular Malformations," Annual 2007 Meeting of the Congress of Neurological Surgeons, San Diego, California, September 15-20, 2007.
- Sept. 2008    Course co-director, "Surgical Indications, Techniques, and Alternatives for Cranial Vascular Malformations," Annual 2008 Meeting of the Congress of Neurological Surgeons, Orlando, Florida, September 21, 2008.

**VI. RECOGNITION**

**A. Honors and Awards:**

- 1980            Princeton University  
Bachelor of Arts Magna Cum Laude
- 1985-1988      Clinical and Research Fellowship  
Brain Tumor Laboratory  
Department of Neurosurgery  
Johns Hopkins University School of Medicine
- 1985-1987      Brain Tumor Research Fellowship Award  
The Association for Brain Tumor Research  
Chicago, Illinois
- 1987-1988      Competitive extension, Brain Tumor Fellowship Award  
The Association for Brain Tumor Research  
Chicago, Illinois
- May 1988        Maryland Neurological Society  
Ciba-Geigy Award  
Best Paper in Basic Science Research in Neurosurgery  
Maryland Neurological Society  
Annual Resident's Research Symposium
- 1992            Alpha Omega Alpha Honor Medical Society

- June 1995            Neurosurgery Faculty Teaching Award  
Department of Neurosurgery  
Johns Hopkins University School of Medicine
- June 1995            Richard S. Ross Clinician Scientist Award  
Johns Hopkins University School of Medicine
- June 1996            Competitive renewal, Richard S. Ross Clinician Scientist Award  
Johns Hopkins University School of Medicine
- Sept. 2002           Galbraith Award for Best Abstract Submission by a Resident on Cerebrovascular  
Disease (senior author and sponsor of Dr. Richard E. Clatterbuck), 52nd Annual  
Meeting of the Congress of Neurological Surgeons, Philadelphia, Pennsylvania.
- Nov. 2004            Walter E. Dandy, M.D., Professorship/Chair  
Johns Hopkins University School of Medicine
- Nov. 2004            Walter E Dandy, M.D., Guest Lecturer  
Department of Neurosurgery  
Johns Hopkins University School of Medicine
- Oct. 2006            Professional Achievement Recognition  
“Transforming Influences”  
The Johns Hopkins Campaign: Knowledge for the World  
Gala Dinner, Ralph S. O’Connor Recreation Center  
Johns Hopkins University Homewood Campus
- Feb. 2009            Mordecai Y. T. Globus New Investigator Award for Stroke Abstract (senior  
author and sponsor of Dr. Michael T. Froehler), International Stroke Conference  
2009, San Diego, California.
- April 2009           Paul Ehrlich Research Award (senior author and sponsor of Eric N. Momin), 32<sup>nd</sup>  
Young Investigators’ Day Award, Vernon B. Mountcastle Auditorium,  
Preclinical Teaching Building, Johns Hopkins University School of Medicine

***B. Invited Talks, Panels:***

1. April 29, 1987            “Inhibition of Brain Tumor Angiogenesis.” Grand Rounds, Department of  
Neurosurgery, Johns Hopkins Hospital
2. Jan. 26, 1988            “Interstitial Chemotherapy for Malignant Gliomas.” Neurological Surgery  
Research Conference, The National Institutes of Health, Bethesda, Maryland
3. March 16, 1988            “Experimental Background of Interstitial Chemotherapy for Malignant Gliomas.”  
Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
4. May 10, 1988            “Experimental Foundation for Interstitial Drug Delivery in Malignant Gliomas:  
Therapy with BCNU and Antiangiogenesis Agents.” The Association for Brain  
Tumor Research, Chicago, Illinois, at the Sheraton International at O’Hare Hotel,  
Rosemont, Illinois

5. Sept. 18, 1989 "Intracranial Interstitial Chemotherapy." Combined Neurology-Neurosurgery Conference, Department of Neurology, The Francis Scott Key Medical Center, Baltimore, Maryland
6. Oct. 31, 1992 "Cerebral Edema." General Surgery Grand Rounds, Johns Hopkins Hospital
7. June 11, 1993 "Advances in Cerebrovascular Surgery." Johns Hopkins School of Medicine Biennial Meeting
8. March 6, 1996 "The Pterional Craniotomy: A Historical and Anatomical Perspective." Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
9. Jan. 18, 1997 "Interstitial Chemotherapy for Brain Tumors: Research and Development of Gliadel." Annual Scientific Meeting, San Juan Community Clinical Oncology Program (CCOP), El San Juan Hotel, San Juan, Puerto Rico
10. April 24, 1997 "Deep Hypothermic Cardiopulmonary Bypass for Intracranial Aneurysm Surgery." Cardiac Surgery Grand Rounds, Division of Cardiac Surgery, Johns Hopkins Hospital
11. May 27, 1997 "Immunobiology of Post-Hemorrhagic Vasospasm." Clinical Neurosciences Research Seminar, Johns Hopkins Hospital
12. June 5, 1997 "Immunobiology of Experimental Vasospasm." Neurosurgery Research Conference, Department of Neurosurgery, The University of Chicago Medical Center, Chicago, Illinois. Invited by Dr. Bryce K. A. Weir and Dr. R. Loch Macdonald.
13. June 6, 1997 "Immunobiology of Post-Hemorrhagic Vasospasm." Johns Hopkins School of Medicine Biennial Meeting
14. June 16, 1997 "Immunobiology of Experimental Vasospasm." Neuroradiology Conference, Johns Hopkins Hospital
15. July 27, 1997 "Neurovascular Anatomy of Intracranial Aneurysm Surgery: The Frontotemporal Approach." 52nd Annual Meeting of the Association of Medical Illustrators, Omni Inner Harbor Hotel, Baltimore, Maryland
16. Oct. 6, 1997 "Immunobiology of Experimental Post-Hemorrhagic Vasospasm." Invited Scientific Seminar, ICOS Corporation, Bothell, Washington
17. Oct. 8, 1997 "Immunology of Experimental Post-Hemorrhagic Vasospasm." Visiting Professor lecture at Neurosurgery Grand Rounds, Department of Neurosurgery, University of Washington, Seattle, Washington. Invited by Dr. H. Richard Winn and Dr. Michel Kliot.
18. Oct. 22, 1997 "Immunobiology of Experimental Post-Hemorrhagic Vasospasm." Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
19. Nov. 1, 1997 "Immunobiology of Post-Hemorrhagic Vasospasm." General Surgery Grand Rounds, Johns Hopkins Hospital

20. Nov. 5, 1997 "Surgical Management of Cerebral Hemorrhages." *Trends in Patient Management* Conference of the Maryland Academy of Physicians Assistants, Sheraton Baltimore North, Towson, Maryland
21. April 23, 1998 "Contralateral Approaches to Bilateral Supratentorial Aneurysms: Microsurgical Cadaver Studies and Operative Series." Brazilian Neurosurgical Conference at Johns Hopkins, Johns Hopkins Hospital
22. April 28, 1998 "Diagnostic Workup for Common Vascular Disorders: Noninvasive, Invasive. Cerebrovascular Disease." American College of Surgeons 26th Annual Spring Meeting, Baltimore Convention Center, Baltimore, Maryland
23. Sept. 30, 1998 "Medical and Surgical Therapy of Deep Spontaneous Intraparenchymal Hemorrhages." Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
24. Oct. 1, 1998 "Immunobiology of Chronic Post-Hemorrhagic Vasospasm." Research Conference, Department of Anesthesiology, Johns Hopkins Hospital
25. Oct. 7, 1998 "Spontaneous Intraparenchymal Hemorrhage: Medical Vs. Surgical Therapy." Seminar Presentation, Congress of Neurological Surgeons, Seattle, Washington
26. Nov. 12, 1998 "Immunobiology of Experimental Chronic Post-Hemorrhagic Vasospasm." Visiting Professor lecture in Neurosurgery Grand Rounds, Department of Neurosurgery, Neurological Institute, Columbia University, New York City, New York. Invited by Dr. Robert A. Solomon and Dr. E. Sander Connolly, Jr.
27. Nov. 24, 1998 "Immunobiology of Experimental Chronic Post-Hemorrhagic Vasospasm." Neuroscience Critical Care Research Conference, Johns Hopkins Hospital
28. March 5, 1999 "Is Vasospasm after Aneurysmal Subarachnoid Hemorrhage an Inflammatory Arteriopathy? Experimental and Clinical Evidence." Visiting Professor lecture at Neurosurgery Grand Rounds, Stanford University Medical Center, Stanford, California. Invited by Dr. Gary K. Steinberg and Dr. Steven Cheng.
29. June 25, 1999 "Aneurysmal Subarachnoid Hemorrhage: Prognostic Features and Outcomes." Neurological and Neurosurgical Emergencies Course, Johns Hopkins Medicine/Fondazione Agarini, Hyatt Regency, Baltimore, Maryland
30. Sept. 9, 1999 "Aneurysmal Subarachnoid Hemorrhage." Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
31. Sept. 15, 1999 "Intracranial Aneurysms and Subarachnoid Hemorrhage." Mind-Brain Institute, Johns Hopkins University, Baltimore, Maryland
32. Oct. 25, 1999 "Special Topics in Intracranial Aneurysms: Neuroradiology, Post-Hemorrhagic Vasospasm, and Deep Hypothermic Cardiopulmonary Bypass." Brazilian Neurosurgical Conference at Johns Hopkins, Johns Hopkins Hospital

33. Dec. 7, 1999 “Is Vasospasm after Aneurysmal Subarachnoid Hemorrhage an Inflammatory Arteriopathy? Experimental and Clinical Evidence.” Clinical Neurosciences Research Conference, Johns Hopkins Hospital
34. Jan. 27, 2000 “Anti-inflammatory Therapy in Chronic Vasospasm and Possibly Ischemia after Aneurysmal Subarachnoid Hemorrhage.” Grand Rounds, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins Hospital
35. Feb. 9, 2000 “Experimental Evidence Supports an Inflammatory Role in Chronic Vasospasm after Aneurysmal Subarachnoid Hemorrhage.” Neuroradiology Research Conference, Phipps Building, Johns Hopkins Hospital
36. April 8-13, 2000 “Intraoperative Angiography in Aneurysm, AVM, and AVF Surgery.” (Presented by Dr. Daniele Rigamonti.) American Association of Neurological Surgeons Annual Meeting, San Francisco, California
37. May 5, 2000 “Update on Cerebral Aneurysms.” 45th Annual Philip A. Tumulty Topics in Clinical Medicine 2000, Johns Hopkins Hospital
38. Sept. 10, 2000 “Carotid Endarterectomy: Radiographic Evaluation and Surgical Outcomes.” The Johns Hopkins Hands-On Stenting Conference, Château Mont Tremblant, Mont-Tremblant, Quebec, Canada
39. Sept. 22, 2000 “Special Topics in Intracranial Aneurysms: Contralateral Approaches, Endovascular Coiling, and Unruptured Aneurysms.” Brazilian Neurosurgical Conference at Johns Hopkins, Johns Hopkins Hospital
40. Oct. 12, 2000 “Carotid Endarterectomy: Evaluation and Outcomes.” Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
41. Dec. 11, 2000 “Chronic Vasospasm after Aneurysmal Subarachnoid Hemorrhage: Experimental Therapeutic Approaches.” Clinical Neurosciences Research Conference, Johns Hopkins Hospital
42. March 30, 2001 “What Is the Risk of an Unruptured Cerebral Aneurysm?” Cerebrovascular Topics at Johns Hopkins, Focus on Acute Stroke Therapies, Thomas B. Turner Building, Johns Hopkins University School of Medicine
43. April 26, 2001 “Contralateral Frontosphenotemporal Approaches to Bilateral Aneurysms.” Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
44. May 2, 2001 “Contralateral Approaches to Bilateral Supratentorial Aneurysms.” Teleconference to OSDE Neurosurgical Seminar, Buenos Aires, Argentina, from Johns Hopkins Hospital. Invited by Dr. Mario Colonna.
45. May 26, 2001 “Contralateral Approaches to Bilateral Supratentorial Aneurysms: Anatomical Studies and Surgical Results.” Invited lecture, XIII Reunião da Sociedade Portuguesa de Neurocirurgia (13th Conference of the Portuguese Neurosurgery Society), Oporto, Portugal. Invited by Dr. Ernesto Carvalho and Dr. Joaquim L. Reis.

46. July 29, 2001 "Walter Dandy and the Birth of Modern Vascular Neurosurgery." Donlin M. Long Scientific Symposium, Johns Hopkins Hospital
47. Sept. 29-  
Oct. 4, 2001 "Posterior Circulation Aneurysms: Microsurgical Clipping Vs. Endovascular Coiling." (Presented by Dr. Daniele Rigamonti.) Congress of Neurological Surgeons, 51st Annual Meeting, San Diego California
48. Oct. 22, 2001 "Leukocyte-Mediated Chronic Post-Hemorrhagic Vasospasm After Aneurysmal Subarachnoid Hemorrhage." Clinical Neurosciences Research Conference, Johns Hopkins Hospital
49. Nov. 20, 2001 "Leukocyte-Mediated Chronic Post-Hemorrhagic Vasospasm After Aneurysmal Subarachnoid Hemorrhage." Neuroscience Critical Care Research Conference, Johns Hopkins Hospital
50. April 11, 2002 "Walter Dandy, George Heuer, Harvey Cushing and the Birth of Cerebrovascular Neurosurgery." Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
51. April 26, 2002 "Carotid Endarterectomy." Grand Rounds, Department of Medicine, Johns Hopkins Hospital
52. June 27, 2002 "Routine Intraoperative Angiography During Aneurysm Surgery: A New Standard of Care?" Grand Rounds, Department of Neurosurgery, Johns Hopkins Hospital
53. Sept. 18, 2002 "Aneurysm Clipping Vs. Coiling." Johns Hopkins Medicine Cerebrovascular Emergencies Seminar, Thomas B. Turner Building, Johns Hopkins Hospital
54. Sept. 23, 2002 "Contralateral Pterional Approaches to Bilateral Anterior Circulation Aneurysms." 52nd Annual Meeting of the Congress of Neurological Surgeons, Philadelphia, Pennsylvania
55. March 25, 2003 "The Contralateral Microsurgical Approach for Bilateral Intracranial Aneurysms." Neurosurgery Clinical Seminar, National Institutes of Health/National Institute of Neurological Disorders and Stroke, Natcher Conference Center (Building 45), Bethesda, Maryland. Invited by Dr. Ryszard M. Pluta and Dr. Edward Oldfield.
56. March 25, 2003 "Leukocyte-Endothelial Cell Interactions as an Etiology for Vasospasm after Aneurysmal Subarachnoid Hemorrhage." Neurosurgery Clinical Seminar, National Institutes of Health/National Institute of Neurological Disorders and Stroke, Natcher Conference Center (Building 45), Bethesda, Maryland. Invited by Dr. Ryszard M. Pluta and Dr. Edward Oldfield.
57. April 2, 2003 "Cell Adhesion Molecules and Leukocyte-Endothelial Cell Interactions in Vasospasm after Aneurysmal Subarachnoid Hemorrhage." M.D.-Ph.D. Clinical Research Conference, Johns Hopkins University School of Medicine, 1830 Building

58. April 24, 2003 “Leukocyte-Endothelial Cell Interactions as the Primary Etiology for Chronic Vasospasm after Aneurysmal Subarachnoid Hemorrhage.” Neurosurgery Grand Rounds, Johns Hopkins Hospital
59. July 24, 2003 “Neurosurgical Evaluation and Management of Aneurysmal Subarachnoid Hemorrhage.” Neurosurgery Grand Rounds, Johns Hopkins Hospital
60. Aug. 7, 2003 “The Contralateral Microsurgical Approach for Bilateral Intracranial Aneurysms.” Neurosurgery Grand Rounds, Johns Hopkins Hospital
61. Oct. 21, 2003 “Career Transitions: Options, Challenges, and Decisions in Academic Neurosurgery.” 53rd Annual Meeting of the Congress of Neurological Surgeons, Denver, Colorado.
62. Oct. 20, 2003 “Neurosurgical Techniques Performed by Master Neurosurgeons: Contralateral Approach to Aneurysms.” 53rd Annual Meeting of the Congress of Neurological Surgeons, Denver, Colorado.
63. Nov. 20, 2003 “Periclinoidal Internal Carotid Artery Aneurysms.” Neuroradiology Cerebrovascular Conference, Johns Hopkins Hospital
64. Jan. 15, 2004 “Clinical Presentation and Anatomy of Periclinoidal Internal Carotid Artery Aneurysms.” Neurosurgery Grand Rounds, Johns Hopkins Hospital.
65. Feb. 3, 2004 “Hypervascular Spinal Tumors: Surgical Management.” Seventh Joint Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional & Therapeutic Neuroradiology, San Diego, California.
66. Feb. 19, 2004 “Dorcas Hager Padgett: Neuroembryologist and Neurosurgical Illustrator of Johns Hopkins.” Neurosurgery Grand Rounds, Johns Hopkins Hospital.
67. Feb. 26, 2004 “Craniofacial Approaches for Anterior Skull Base Malignant Tumors.” Neurosurgery Grand Rounds, Johns Hopkins Hospital.
68. Apr. 6, 2004 “Leukocyte-Endothelial Cell Interactions as the Root Cause of Post-Hemorrhagic Vasospasm.” Invited by ESP Pharma, Charleston Restaurant, Baltimore, Maryland.
69. Oct. 7, 2004 “Microsurgical Clipping and Endovascular Coiling/Stenting of Intracranial Aneurysms.” Neurosurgery Grand Rounds, Johns Hopkins Hospital.
70. Oct. 16, 2004 “Neurosurgical Techniques Performed by Master Neurosurgeons: Exposure and Clipping of Clinoidal/Ophthalmic Aneurysms.” 54th Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California.
71. Nov. 4, 2004 “Cerebrovascular Neurosurgery at Johns Hopkins (1937-2004): From Aneurysm Clipping to Molecular Vasospasm.” Walter E. Dandy Lecture, Hurd Hall, Johns Hopkins Hospital.
72. Feb. 8, 2005 “Life as a Neurosurgeon.” Voyage and Discovery Lecture Series, Mergenthaler Hall, Johns Hopkins University.

73. Apr. 12, 2005 "Polymeric Controlled Release of Nitric Oxide in the Brain for Stroke after Subarachnoid Hemorrhage." Johns Hopkins Medicine Alliance for Science and Technology Development, Johns Hopkins University School of Medicine.
74. Apr. 21, 2005 "Leukocyte-Endothelial Cell Interactions and Chronic Vasospasm after Aneurysmal Subarachnoid Hemorrhage." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
75. June 23, 2005 "Microsurgical Clipping and Endovascular Coiling of Intracranial Aneurysms." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
76. Oct. 5, 2005 "Cell adhesion molecules, leukocyte-endothelial cell interactions, and nitric oxide in chronic vasospasm after subarachnoid hemorrhage." Visiting Professor lecture in Neurosurgery Grand Rounds, Ether Dome at the Massachusetts General Hospital, Department of Neurosurgery, Harvard Medical School, Boston, Massachusetts. Invited by Dr. Christopher S. Ogilvy.
77. Oct. 11, 2005 "Combined Surgical/Endovascular Treatment of Carotid-Cavernous Sinus Fistulas (CCFs): The Superior Ophthalmic Vein (SOV) Approach." Luncheon Seminar, 55<sup>th</sup> Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts.
78. Oct. 11, 2005 "Contralateral Pterional Approach to Multiple Bilateral Aneurysms." Digital Masters Video Symposium, 55<sup>th</sup> Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts.
79. Oct. 18, 2005 "How to Optimize the Results of Carotid Endarterectomy: A Neurosurgeon's Perspective on Cerebral Protection and Operative Technique. Is Selective Shunting a Better Strategy?" Controversies in the Management of Carotid Disease, American Congress of Surgeons 91<sup>st</sup> Annual Clinical Congress, San Francisco, California.
80. Feb. 19, 2006 "Future Treatment Options in the Management of Vasospasm." Ninth Joint Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional & Therapeutic Neuroradiology, Orlando, Florida.
81. Feb. 19, 2006 "Surgical and Endovascular Management of Hypervascular Spinal Tumors." Ninth Joint Annual Meeting of the AANS/CNS Cerebrovascular Section and the American Society of Interventional & Therapeutic Neuroradiology, Orlando, Florida.
82. June 22, 2006 "Contralateral Pterional Microsurgical Approach for Bilateral Supratentorial Aneurysms: Patient Selection and Outcomes in a Prospective Series of 50 Patients." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
83. Aug. 24, 2006 "Craniofacial Approaches to Anterior Skull Base Tumors." Fifth Annual International Neuro-Oncology Update, Methodist University Hospital, Neuroscience Institute, Memphis, Tennessee.

84. Oct. 9, 2006 "Combined Craniofacial Approaches to Anterior Skull Base Lesions." Luncheon Seminar ("Anterior Skull Base Approaches: What, When, and How?"), 56th Annual Meeting of the Congress of Neurological Surgeons, Chicago, Illinois.
85. Feb. 2, 2007 "Leukocyte-Endothelial Cell Interactions ("Inflammation") in Chronic Vasospasm after Subarachnoid Hemorrhage." Visiting Professor lecture in Neurosurgery Grand Rounds, Clark Center at the Stanford University Medical Center, Stanford, California. Invited by Dr. Gary K. Steinberg.
86. Apr. 12, 2007 "Craniofacial Approaches to Anterior Skull Base lesions." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
87. Apr. 16, 2007 Commentary Presentation on "The impact of microsurgical fenestration of the lamina terminalis on shunt-dependent hydrocephalus and vasospasm following aneurysmal subarachnoid hemorrhage" as submitted by R. J. Komotar, D. H. Hahn, G. Kim, J. D. Mocco, J. Khandji, R. M. Starke, N. Kumar, C. P. Kellner, M. Schmidt, S. A. Mayer, and E. S. Connolly, Jr., 2007 AANS Annual Meeting, Washington, D.C..
88. Apr. 17, 2007 "The Inflammatory Hypothesis of Vasospasm after Subarachnoid Hemorrhage: Clinical and Research Implications." Breakfast Seminar ("Modern Perspectives of Treatment Paradigms for Vasospasm"), 2007 AANS Annual Meeting, Washington, D.C..
89. Apr. 26, 2007 "The Inflammatory Hypothesis of Vasospasm after Subarachnoid Hemorrhage: An Update." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
90. May 29, 2007 "The Role of Leukocyte-Endothelial Cell Interactions (Inflammation) in Vasospasm after Subarachnoid Hemorrhage: A Ten-Year Overview of Basic and Clinical Research." Invited Research Lecture to the Laboratory of Gregory Riggins, M.D., Ph.D., Cancer Research Building II, Johns Hopkins School of Medicine.
91. July 12, 2007 "Craniofacial Approaches to Anterior Skull Base Lesions." XIX Congreso Mexicano de Cirugía Neurológica, Hospital Español de México, Auditorio Angel Urraza, Mexico City, Mexico.
92. Aug. 16, 2007 "Current Status of Microsurgical Clipping and Endovascular Coiling of Intracranial Aneurysms." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
93. Sept. 13, 2007 "Microsurgical Revascularization for Moyamoya Disease." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
94. Sept. 16, 2007 "Epidemiology and Management of Brain Arteriovenous Malformations (AVMs)," in Morning Practical Course "Surgical Indications, Techniques, and Alternatives for Cranial vascular Malformations," Annual 2007 Meeting of the Congress of Neurological Surgeons, San Diego, California.
95. Sept. 17, 2007 "Combined Craniofacial Approaches for Anterior Skull Base Lesions," in Luncheon Seminar "Anterior Skull Base Approaches: What, When, and How," Annual 2007 Meeting of the Congress of Neurological Surgeons, San Diego, California.

96. Sept. 27, 2007 "Perioperative Management of Patients with Intracranial Aneurysms." Operating Room Nursing Grand Rounds, Harvey Auditorium, Johns Hopkins Hospital.
97. Oct. 4, 2007 "Inflammatory Etiology of Vasospasm after Subarachnoid Hemorrhage." Visiting Professor Lecture in Neurology Grand Rounds, Johns Hopkins Hospital. Invited by Dr. Justin McArthur and Dr. Michael Froehler.
98. Jan. 31, 2008 "Surgical Management of Moyamoya Disease." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
99. Apr. 30, 2008 "Chronic Vasospasm after Subarachnoid Hemorrhage: Current Standard Therapies and Future Directions." Breakfast Seminar ("Management of Vasospasm"), 2008 AANS Annual Meeting, Chicago, Illinois.
100. June 12, 2008 "Current Standard Therapies and Future Directions in Vasospasm after Subarachnoid Hemorrhage." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
101. July 31, 2008 "Update on the Role of Inflammation in Vasospasm after Subarachnoid Hemorrhage." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
102. Aug. 14, 2008 "Craniofacial Approaches to Anterior Skull Base Tumors." XV Congreso Internacional Sociedad de Cirugía Neurológica de Occidente, A. C., Puerto Vallarta, Jalisco, México.
103. Aug. 15, 2008 "Complex Aneurysms of the Middle Cerebral Artery." XV Congreso Internacional Sociedad de Cirugía Neurológica de Occidente, A. C., Puerto Vallarta, Jalisco, México.
104. Aug. 15, 2008 "Contralateral Approaches for Bilateral Supratentorial Aneurysms." XV Congreso Internacional Sociedad de Cirugía Neurológica de Occidente, A. C., Puerto Vallarta, Jalisco, México.
105. Sept. 18, 2008 "Craniofacial Approaches to Anterior Skull Base Tumors." Seventh Annual International Neuro-Oncology Updates Conference, Baltimore, Maryland.
106. Sept. 21, 2008 "Brain Arteriovenous Malformations (AVMs): Epidemiology, Management, and Outcomes," in Practical Course PC04 "Surgical Indications, Techniques, and Alternatives for Cranial vascular Malformations," Annual 2008 Meeting of the Congress of Neurological Surgeons, Orlando, Florida.
107. Oct. 23, 2008 "Complex Aneurysms of the Middle Cerebral Artery." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
108. Oct. 23, 2008 "Epidemiology and Management of Cranial Arteriovenous Malformations (AVMs)." Neurosurgery Grand Rounds, Johns Hopkins Hospital.
109. Oct. 30, 2008 "Aneurysmal Subarachnoid Hemorrhage: Evaluation and Management." Baptist Hospital, Miami, Florida. Invited by Dr. Sergio Gonzalez Arias.

110. Jan. 15, 2009 “Surgical Management of Aneurysmal Subarachnoid Hemorrhage.” Seminar on Neurocritical Care for the Medical and Surgical Intensivist, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine, at the Ritz-Carlton Hotel, Tysons Corner, McLean, Virginia..
111. Mar. 12, 2009 “The History of the Circle of Willis ( ... or is it the “Circulus of Casserius”).” Neurosurgery Grand Rounds, Johns Hopkins Hospital.
112. April 2, 2009 “Surgical Approaches to Carotid Cavernous Fistulas.” Neurosurgery Grand Rounds, Johns Hopkins Hospital.
113. July 2, 2009 “Implications for Neurosurgical Practice of Erroneous or Incomplete Data in Statewide/National Administrative Databases.” Neurosurgery Grand Rounds, Johns Hopkins Hospital.

