

CURRICULUM VITAE

REID CARLETON THOMPSON, M.D.
William F. Meacham Professor and Chairman
Department of Neurological Surgery
Vanderbilt University Medical Center

WORK ADDRESS: Vanderbilt University Medical Center
Department of Neurological Surgery
T-4224 Medical Center North
1161 21st Avenue, S.
Nashville, TN 37232-2380

WORK TELEPHONE: 615-322-6638

FAX: 615-343-8104

EMAIL: reid.thompson@vanderbilt.edu

DATE OF BIRTH: 08/10/63 Urbana, Illinois

EDUCATION

High School Deerfield Academy 1981
Deerfield, Massachusetts

Undergraduate Bachelor of Arts 1985
Magna Cum Laude with Honors in
Biological Sciences
University of Maryland Baltimore County
Baltimore, Maryland

Graduate M.D. Johns Hopkins University School of Medicine 1989
Baltimore, Maryland

Clinical Training Halsted Internship in General Surgery 1989-1990
Residency in Neurological Surgery 1990-1995
Johns Hopkins Hospital
Baltimore, Maryland

Advanced Clinical Training Instructor, Assistant Chief of Service 1995-1996
Department of Neurological Surgery
Johns Hopkins University School of Medicine

Fellowship Fellowship in Cerebrovascular Surgery 1996-1997
Department of Neurological Surgery
Stanford University School of Medicine

Research Training	Merck Foundation Medical Student Research Award Metabolism of the neuropeptide <i>N</i> -acetyl-aspartyl-glutamate Department of Neuroscience Johns Hopkins University School of Medicine	1985-1986
--------------------------	--	-----------

Neuro-Oncology Research Fellowship NIH National Research Service Award Johns Hopkins University School of Medicine Department of Neurosurgery Hunterian Brain Tumor Research Laboratory	1993-1995
---	-----------

LICENSURE

Maryland	1995
California	1996
Tennessee	2002

BOARD CERTIFICATION

Diplomate, American Board of Neurological Surgery	2001
---	------

PROFESSIONAL EXPERIENCE

Vanderbilt University Medical Center

Director of Neurosurgical Oncology Director, Vanderbilt Brain Tumor Center	2002-pres.
Vice-Chairman of Neurological Surgery	2004-2009
Associate Professor of Neurological Surgery	2002-2008
Professor of Neurological Surgery	2008-pres.
William F. Meacham Professor and Chairman	2010-pres.

Cedars-Sinai Medical Center

Co-Director Vascular Neurosurgery Director Neurosurgical Trauma Attending Neurosurgeon	1997-2002
--	-----------

University of California, Irvine

Assistant Clinical Professor of Neurological Surgery	1998-2001
--	-----------

Stanford University School of Medicine

Instructor, Department of Neurological Surgery	1996-1997
--	-----------

Johns Hopkins University School of Medicine

Instructor, Department of Neurological Surgery	1995-1996
--	-----------

CURRENT RESEARCH INTERESTS

Mechanisms of glioma cell invasion
Stem cell biology of glioma
Time-resolved laser induced fluorescence spectroscopy for detection of brain tumors.
Development of optical contrast agents for the detection of gliomas.
Intra-operative measurement of brain shift
Pathogenesis of cerebral vasospasm

PROFESSIONAL ACTIVITIES

National Committee Service

Young Neurosurgeons Committee (Elected)	2000-2003
--	-----------

Institutional Committee Service

Quality Assurance Representative Cedars-Sinai Division of Neurosurgery	1998-2002
---	-----------

Trauma Performance Improvement Committee Representative Cedars-Sinai Medical Center	1998-2002
---	-----------

Surgery Leadership Committee Cedars-Sinai Medical Center	1999-2002
---	-----------

Clinical Value Improvement Committee Craniotomy Team Leader Cedars-Sinai Medical Center	1998-2000
---	-----------

Main Operating Room Committee Vanderbilt University Medical Center	2004-2008
---	-----------

Medical Center Medical Board Vanderbilt University Medical Center	2007-2009
--	-----------

Enterprise Wide Mortality Review Task Force Vanderbilt University Medical Center	2007-pres.
---	------------

Otolaryngology Chair Search Committee Member	2008
--	------

Medical Director Inpatient Neurosurgery Vanderbilt University Medical Center	2009-pres
---	-----------

Neurosurgery Perioperative, POD Leader Vanderbilt University Medical Center	2009-pres
--	-----------

Professional Associations

American Association of Neurological Surgeons	2000
Congress of Neurological Surgeons	2000
Joint Section of Cerebrovascular Surgery American Association of Neurological Surgeons and Congress of Neurological Surgeons	2000
Tennessee Medical Association	2003
Nashville Academy of Medicine & Davidson County Medical Society	2003
American Board of Neurological Surgery	2004
Society for Neuro-Oncology	2004
Tennessee Neurosurgical Society	2004
Section on Tumors Association of Neurological Surgeons and Congress of Neurological Surgeons	2005
North American Skull Base Society	2007
Southern Neurosurgical Society	2009
Biomedical Engineering Society	2009

AWARDS, HONORS AND LEADERSHIP RECOGNITION

University of Maryland Chancellor's Merit Scholar	1983-1985
Phi Kappa Phi Honor Society, University of Maryland	1984
Honors Program Outstanding Leadership Award University of Maryland	1984
Outstanding Graduating Senior Biological Sciences University of Maryland Baltimore County	1985
Hunterian Award for Excellence in Neurosurgical Research	1995

Walter Dandy Resident's Award for Outstanding Research in Neurosurgery	1995
Johns Hopkins University School of Medicine Young Investigators Day Certificate of Merit for Postdoctoral Research. Cytokine Enhanced Antitumor Immunotherapy for Brain Tumors	1995
Leadership Development for Physicians in Academic Health Centers Harvard School of Public Health	2006
Dean's Academic Leadership Program Vanderbilt University Medical Center	2006
Best Doctors of America	2007-2008
Outstanding Alumnus Natural and Mathematical Sciences, University of Maryland Baltimore County	2008

TEACHING ACTIVITIES

Johns Hopkins University School of Medicine	Instructor, Teaching Assistant Neuroscience - Neuroanatomy Course	1994-1995
Stanford University School of Medicine	Lecturer, Department of Neurological Surgery	1996-1997
Cedars-Sinai Medical Center	Lecturer, Department of General Surgery Resident Education Seminar Series	1997-2002
	Lecturer, Nursing Research and Development Seminar Series	1997-2002
University of California, Irvine School of Medicine	Instructor, Neuroscience-Neuroanatomy Course	1997-2002
Vanderbilt University Medical School	Lecturer, Advanced Neuroanatomy Course	2003-pres
Vanderbilt University School of Engineering	Lecturer, ES-140 Biomedical Engineering	2003-pres
Vanderbilt University College of Arts and Sciences	Lecturer, Psychiatry 235 Biological Basis of Mental Disorders	2003-pres
Vanderbilt University	Instructor: Microsurgical Anatomy of the Orbit	2008

Graduate Courses

LECTURES AND PRESENTATIONS: (Selected)

Intramural:

Invited Speaker: Paracrine Cytokine Delivery for Brain Tumor Immunotherapy Department of Neurological Surgery Grand Rounds Johns Hopkins University School of Medicine. Baltimore, Maryland	1996
Invited Speaker: New Concepts in Cerebral Vasospasm. Department of Neurology Stroke Conference Stanford University Medical Center. Palo-Alto, California	1997
Invited Speaker: Diagnosis and Treatment of Brain Tumors and Cerebral Vascular Malformations. Nursing Research and Development Seminar Cedars-Sinai Medical Center. Los Angeles, California	1997
Invited Speaker: New Concepts in Cerebral Vasospasm. Department of General Surgery Grand Rounds Cedars-Sinai Medical Center. Los Angeles, California	1998
Invited Speaker: Pituitary Tumors. Clinical Neuroscience Lecture Series Cedars-Sinai Medical Center. Los Angeles, California	1998
Invited Speaker: Pituitary Tumors: Neurosurgical Considerations. Department of Obstetrics and Gynecology Grand Rounds Cedars-Sinai Medical Center. Los Angeles, California	1999
Invited Speaker: Intracranial Bypass Surgery: The State of the Art. Department of General Surgery Grand Rounds Cedars-Sinai Medical Center. Los Angeles, California	1999
Invited Speaker: Carotid Endarterectomy. Clinical Neuroscience Lecture Series Cedars-Sinai Medical Center. Los Angeles, California	1999
Invited Speaker: Intracranial Bypass Surgery: State of the Art. Clinical Neuroscience Lecture Series Cedars-Sinai Medical Center. Los Angeles, California	2000
Invited Speaker: Management of Intracranial Aneurysms and Subarachnoid Hemorrhage: State of the Art. Department of Emergency Medicine Grand Rounds Cedars-Sinai Medical Center. Los Angeles, California	2001
Invited Speaker: Brain Bypass: State of the Art Neurosurgery/Neurology Combined Conference	2002

Vanderbilt University Medical Center

- Invited Speaker: Section of Surgical Sciences Research Seminar
Vanderbilt University Medical Center, Nashville, Tennessee 2003
- Invited Speaker: Development of a Molecular Imaging Agent
for Primary Brain Cancer. 2003
Vanderbilt Institute of Imaging Science
Vanderbilt University Medical Center, Nashville, Tennessee
- Invited Speaker: Medical Management of Neurosurgical Emergencies. 2003, 2005
Critical Care Lecture Seminar Series
Vanderbilt University Medical Center, Nashville, Tennessee
- Invited Speaker: Operative Approaches to Frontal Region Tumors 2005
Neurosurgery/Neurology Combined Conference
Vanderbilt University Medical Center, Nashville
- Invited Speaker: Neurosurgical Infections 2007
Infectious Disease Grand Rounds
Vanderbilt University Medical Center, Nashville, Tennessee
- Invited Speaker: Malignant Gliomas: The Future 2007
Neurosurgery/Neurology Combined Conference
Vanderbilt University Medical Center, Nashville
- Invited Speaker: Intracranial Neurosurgery: *(how to avoid)* Complications 2007
Neuro-otology Fellows Conference
Vanderbilt University Medical Center

National:

- Invited Speaker: Immunotherapy for CNS Cancer Using GM-CSF. 1994
Fred Hutchinson Cancer Research Center, Glioblastoma Workshop
Seattle, Washington
- Invited Speaker: Paracrine Cytokine Delivery for Brain Tumor Immunotherapy. 1994
National Institutes of Health - Surgical Neurology Branch. Bethesda, Maryland
- Invited Speaker: Cytokine Therapy for the Treatment of Brain Tumors. 1996
Preuss Foundation Seminar on Gene Therapy for Brain Tumors.
The Salk Institute. La Jolla, California
- Invited Speaker: The Management of Patients with AVMs and Associated 1997
Intracranial Aneurysms.
Western Neurosurgical Association. Ojai, California
- Invited Speaker: The Management of Patients with Arteriovenous Malformations and 1998
Associated Intracranial Aneurysms.

Neurosurgery at Jackson Hole. Teton Village, Wyoming	
Invited Speaker: The Role of Inflammation in Cerebral Vasospasm. Neurosurgery at Jackson Hole. Teton Village, Wyoming	1999
Invited Speaker: New Approaches to Brain Tumor Therapy. Hawaii Association of Neurological Surgeons Honolulu, Hawaii	1999
Visiting Professor: Innovations in Neurological Surgery: Opportunities for Interdisciplinary Collaboration. Department of Biomedical Engineering University of Southern California. Los Angeles, California	2000
Invited Speaker: Neurosurgery: The State of the Art. Medical Neuroscience Lecture Series University of California, Irvine School of Medicine. Irvine, California	2001
Visiting Professor: The Management of Patients with AVM's and Associated Intracranial Aneurysms. Johns Hopkins University Medical Center, Department of Neurological Surgery. Baltimore, Maryland	2001
Invited Speaker: Innovations in Intraoperative Imaging of Brain Tumors: Lanthanide Chelates and Laser Spectroscopy. Donlin M. Long, M.D. Scientific Symposium. Johns Hopkins University School of Medicine. Baltimore, Maryland	2001
Invited Speaker: The Odyssey of Neurosurgery: Opening the Windows of the Mind. University of California, San Diego. San Diego, California	2001
Visiting Professor: Establishing the Molecular Signature of Brain Cancer Johns Hopkins University School of Medicine. Baltimore, Maryland	2006
Invited Speaker/ Session Chair: Molecular Imaging Agents for Primary Brain Cancer 5 th International Neuro-Oncology Updates University of Tennessee, Memphis, Tennessee	2006
Invited Speaker: Molecular Imaging. Applications to Clinical Neurosurgery 7 th International Neuro-Oncology Updates Johns Hopkins University School of Medicine	2008
<u>International:</u>	
Invited Speaker: Establishing the Molecular Signature of Brain Cancer 4 th International Neuro-Oncology Updates Arezzo, Italy	2005
Invited Speaker: Measuring Intraoperative Brain Shift: Clinical Experience With a Laser Range Scanner.	2007

6th International Neuro-Oncology Updates
Cortona, Italy

Community Service Activity

Community Lecture Series – Stroke: The Latest in Prevention and Treatment. Los Angeles County	1998-1999
Invited Participant: Brainworks Educational Program for Los Angeles Unified School District	1999-2001
Invited Participant: National Brain Tumor Foundation Patient Education Conference. Los Angeles, California	2000
Cancer Answer Evening Lecture Series – Brain Cancer: Hope on the Horizon Vanderbilt-Ingram Cancer Center. Nashville, Tennessee	2003, 2005

PATENTS

Multiuse, Multimodal Conjugable Lanthanide Chelates. Bornhop, D.J., **Thompson, R.C.**,
Goebel, T., Manning, H.C. U.S. Patent Filed (provisional), September, 2001

Cytokine Enhanced Immunotherapy for Brain Tumors. Brem, H., Pardoll, D.M., Jaffee, E.M.,
Leong K., **Thompson R.C.** (patent pending)

Therapeutic Treatment for Bronchopulmonary Dysplasia. Summar, M.L. Barr, F.E.,
Thompson, R.C. (patent pending)

STUDENTS MENTORED

Vanderbilt University School of Arts and Sciences Undergraduate Neuroscience Students Mentored

Each student carried out a year long research project with me as part of the NSC 292 independent study program:

Enami Morgan Yasui Vanderbilt Undergraduate Neuroscience Major Project: Molecular Imaging of Brain Cancer Using Lanthanide Chelates	2005-2006
Stephanie Miller Vanderbilt Undergraduate Neuroscience Major Project: Analysis of CXCR-4 Expression in Human Gliomas	2005-2006
Amanda Adkins Manaceau Vanderbilt Undergraduate Neuroscience Major Project: Quantum Dot Imaging of Human Gliomas	2005-2006

Mark Storolis Vanderbilt Undergraduate Neuroscience Major Project: Molecular Imaging of Brain Cancer	2006-2007
Joani Christensen Vanderbilt Undergraduate Neuroscience Major Project: Clinical Neurosurgery	2006-2007
Jennifer Gima Vanderbilt Undergraduate Neuroscience Major Project: Development of a Mouse model of glioma – PTEN/P53 Independent Reading Course NSC 291 (2007)	2006-2007
Michelle Equinda Vanderbilt Undergraduate Neuroscience Major Project: Stem Cell Biology of Glioma Independent Reading Course NSC 291 (2008)	2007-2008
Brent Hughes Vanderbilt Undergraduate Neuroscience Major Project: PTEN Biology in Human Glial Neoplasms Independent Reading Course NSC 291 (2008)	2007-2008
Laila Hassam-Malani Vanderbilt Undergraduate Neuroscience Major Project: Stem Cell Biology of Glioma	2008-present

**Vanderbilt University School of Engineering
Biomedical Engineering Students Mentored**

Blake Hooper Vanderbilt Department of Biomedical Engineering Project: Clinical Neurosurgery	2006-2007
---	-----------

Vanderbilt University Medical Students Mentored

Kenneth J. Niermann, M.D. Initially Vanderbilt University 4 th year medical student (2002) Postdoctoral Cancer Imaging Research Fellow (2003-2004) Currently: Resident in Radiation Oncology Vanderbilt Medical Center	2002-2004
--	-----------

Justin Bachman, M.D. Vanderbilt University Medical Scholar Program Mentor Project: The Role of bmi-1 in Human Glial Neoplasms Currently: Resident in Internal Medicine Johns Hopkins Medical Center	2005-2006
--	-----------

<p>Jason A. Winston, M.D. Vanderbilt University 3rd /4th year medical student Currently: Resident in Psychiatry at Washington University Medical Center Project: The role of CXCR-4 in Glioma Invasion</p>	<p>2005-2006</p>
<p>Katie Lane Cox, M.D. Vanderbilt University 3rd /4th year medical student Currently: Resident in Emergency Medicine at Vanderbilt Medical Center Project: Clinical Neurosurgery</p>	<p>2005-2006</p>
<p>Kristina Collins, M.D. Vanderbilt University 3rd /4th year medical student Currently: Resident in Dermatology at Harvard Project: Clinical Neurosurgery</p>	<p>2005-2006</p>
<p>Kevin Hong Ma Emphasis Program: Vanderbilt University 1st year medical student (Co-Mentor with Michael Miga, Ph.D. Biomedical Engineering) Project: Measuring Intraoperative Brain Shift</p>	<p>2006-2007</p>
<p>Mayshan Ghiassi, M.D. Vanderbilt University 4th year medical student Currently: Resident in Neurological Surgery at Vanderbilt Medical Center Project: Database Development – Brain Tumor Repository</p>	<p>2006-2007</p>
<p>Kelly Lynne Shaffer, M.D. Vanderbilt University 3rd year medical student Currently: Resident in Neurological Surgery at University of Cincinnati Project: Intracranial Aneurysm Following Ipsilateral Carotid Endarterectomy</p>	<p>2006-2007</p>
<p>Erin Burke Clinical Preceptorship. First year Vanderbilt medical student mentoring program</p>	<p>2006-2007</p>
<p>Irving Ye Clinical Preceptorship. First year Vanderbilt medical student mentoring program</p>	<p>2007-2008</p>
<p>Lauren Mitchell Clinical Preceptorship. First year Vanderbilt medical student mentoring program</p>	<p>2007-2008</p>
<p>Michael Wolfe Clinical Preceptorship. First year Vanderbilt medical student mentoring program</p>	<p>2008-</p>
<p>Carrie Buchanon Clinical Preceptorship. First year Vanderbilt medical student mentoring program</p>	<p>2008-</p>
<p>Sam Crosby Vanderbilt University 3rd year medical student Project: Atypical Meningioma</p>	<p>2007-2008</p>

Vanderbilt University School of Medicine Residents Mentored

John R. Floyd, M.D. 2004-2006
NIH Neuro-Genomics Research Fellowship Recipient
American Brain Tumor Association Grant Award Recipient
Project: "Invasive Proteome: Analysis of the Proteins in the Invasive Margin and Infiltrating Tumor Cells in Malignant Gliomas Using Laser Capture Microdissection."
Currently: Neurosurgical Oncology Fellow M.D. Anderson Cancer Center
Houston, Texas

Charles B. Stevenson, M.D. 2005-2007
2 year research experience in Neurosurgical Oncology
Project: The Role of CXCR-4 in Human Glial Neoplasms

Vanderbilt University Post Graduate Fellows Mentored

Khubaib Y. Mapara, M.D. 2005-2007
Currently: Resident in General Surgery Vanderbilt Medical Center
2 year research experience in Neurosurgical Oncology
Projects: Stem Cell Biology of Gliomas

Kathryn M. McMillan, Ph.D. 2005-2008
Imaging Research Fellow
Department of Radiology and Radiological Sciences
Vanderbilt University Medical Center
Project: Multiparametric Imaging of Human Brain Cancer

Sara Zeiber, M.D. 2007-
Currently: Pediatric Neuro-Oncology Fellow
Vanderbilt University Medical Center
Project: Developmental signaling mechanisms in low grade astrocytomas

Vanderbilt University School of Medicine Mentored Faculty

Moneeb Ehtesham, M.D. 2004-2008
Initially a Research Fellow in the Department of Neurosurgery (2004)
Currently: Assistant Professor of Neurological Surgery and Cancer Biology.
Vanderbilt University Medical Center (tenure track).
NIH R0-1 Funding: Neural precursor cell therapy for disseminated glioma

Michael Edgeworth, M.D. 2004-2008
Clinical Neuro-Oncology Fellow 2004-2005
I served as a Co Mentor for his research through the Vanderbilt MSCI Program:
Department of Neurology Vanderbilt University Medical Center
Currently: Assistant Professor of Neurology
Vanderbilt University Medical Center

Ty W. Abel, M.D., Ph.D. 2006-2008
Assistant Professor of Pathology – Neuropathology Division
Vanderbilt University Medical Center
I currently serve on Dr. Abel’s research/career mentoring committee

Jonathan Xu, Ph.D. 2008
Assistant Professor of Neurological Surgery and Cancer Biology
Awarded an American Brain Tumor Association Grant:
Identification of Plasma Protein Markers for early Detection of Glioblastoma Multiforme.

Thesis and Dissertation Committees

Steven C. Gebhart, Ph.D. 2003
Spectral Imaging Development for in vivo Brain Tissue Diagnosis.
Ph.D. Thesis Proposal
Biomedical Engineering, Vanderbilt University,

Tuhin Kumar Sinha, Ph.D 2004
Cortical Shift Characterization Using a Laser Range Scanner for Neurosurgery
Ph.D. Thesis Proposal
Biomedical Engineering, Vanderbilt University, December, 2004

Prashant Dumpuri, Ph.D. 2006
Development and Quantification of an Atlas-Based Method for Model-Updated Image-Guided Neurosurgery
Ph.D. Thesis Proposal
Biomedical Engineering, Vanderbilt University, September, 2006.

Sara Lynn Frappier, Ph.D candidate 2007-present
Quantitative Small Molecule Imaging
Correlated with Proteome Response by MALDI & IMS
Postdoctoral Thesis
Department of Chemistry, Vanderbilt University

Editorial Responsibilities

Reviews For:

1. Oncogene
2. Cancer Research
3. Journal of Neuro-Oncology
4. Neurosurgery
5. Southern Medical Journal

6. Nature Biotechnology

PUBLICATIONS

Research Papers (Peer Reviewed)

A. Published

1. Blakely, R.D., Ory-Lavolee, L., **Thompson, R.C.**, Coyle, J.T. Synaptosomal transport of radiolabel from *N*-acetyl-aspartyl-³[H] glutamate suggests a mechanism of inactivation of an excitatory neuropeptide. *Journal of Neurochemistry* 47: 1013-1019, 1986.
2. Blakely, R.D., Robinson, M.B., **Thompson, R.C.**, Coyle, J.T. Hydrolysis of the brain dipeptide *N*-acetyl-L-aspartyl-L-glutamate: Subcellular and regional distribution, ontogeny, and the effect of lesions on *N*-acetylated- α -linked acidic dipeptidase activity. *Journal of Neurochemistry* 50: 1200-1209, 1988.
3. Weingart, J.D., **Thompson, R.C.**, Tyler, B., Colvin, O.M., Brem, H. Local delivery of the topoisomerase I inhibitor camptothecin prolongs survival in the rat intracranial 9L gliosarcoma model. *International Journal of Cancer* 62: 605-609, 1995.
4. **Thompson, R.C.**, Pardoll, D.M., Jaffee, E.M., Ewend, M.G., Tyler, B.M., Brem, H. Systemic and local paracrine cytokine therapies utilizing transduced tumor cells are synergistic in treating intracranial tumors. *Journal of Immunotherapy* 19(6): 405-413, 1996.
5. Mofid, M.M., **Thompson, R.C.**, Pardol, C.A., Burger, P., Manson, P.N., Vanderkolk, C.A. Biocompatibility of fixation materials in the brain. *Plastic and Reconstructive Surgery* 100(1): 14-20, 1997.
6. Sills, A.K., Clatterbuck, R.E., **Thompson, R.C.**, Cohen, P.L., Tamargo, R.J. Endothelial cell expression of intercellular adhesion molecule-1 in experimental posthemorrhagic vasospasm. *Neurosurgery* 41: 453-461, 1997.
7. Fung, L.K., Ewend, M.G., Sills, A.K., Sipos, E.P., **Thompson, R.C.**, Watts, M., Colvin, O.M., Brem, H., Saltzman, W.M. Pharmacokinetics of interstitial delivery of carmustine, 4-hydroperoxycyclophosphamide and paclitaxel from a biodegradable polymer in the monkey brain. *Cancer Research* 58: 672-684, 1998.
8. **Thompson, R.C.**, Steinberg, G.K., Marks, M., Levy, R. The management of patients with AVMs and associated intracranial aneurysms. *Neurosurgery* 43: 202-212, 1998.
9. Golby, A., Marks, M., **Thompson, R.C.**, Steinberg, G.K. Direct and combined revascularization in pediatric moyamoya disease. *Neurosurgery* 45: 50-60, 1999.
10. Stoodley, M.A., **Thompson, R.C.**, Mitchell, R.S., Marks, M.P., Steinberg, G.K. Neurosurgical and neuro endovascular management of Takayasu's arteritis. *Neurosurgery* 46: 841-51, 2000.
11. Ewend, M.G., **Thompson, R.C.**, Anderson, R., Sills, A.K., Stavelly-O'Carroll, K., Tyler, B.M., Hanes, J., Brat, D., Thomas, M., Jaffee, E.M., Pardoll, D.M., Brem, H. Intracranial paracrine interleukin-2

therapy stimulates prolonged antitumor immunity which extends outside the central nervous system. *Journal of Immunotherapy* 23(4): 438-48, 2000.

12. Schievink, W.I., **Thompson, R.C.**, Lavine, S., Yu, J.S. Superficial temporal artery to middle cerebral artery bypass and external carotid artery reconstruction for carotid restenosis after angioplasty and stent placement. *Mayo Clinic Proceedings* 75: 1087-1090, 2000.
13. Yu, J.S., Wheeler, C.J., Zeltzer, P., Ying, H., Finger, D.N., Lee, P.K., Yong, W.H., Incardona, F., **Thompson, R.C.**, Riedinger, M.S., Zhang, W., Prins, R.M., Black, K.L. Vaccination of malignant glioma patients with peptide-pulsed dendritic cells elicits systemic cytotoxicity and intracranial t-cell infiltration. *Cancer Research* 61: 842-847, 2001.
14. Schievink, W.I., **Thompson, R.C.**, Loh, C.T., Maya, M.M. Spontaneous retroclival hematoma presenting as a thunderclap headache: Case report. *Journal of Neurosurgery* 95(3): 522-4, 2001.
15. Liu, Y., Ehtesham, M., Samoto, K., Wheeler, C.J., **Thompson, R.C.**, Villarreal, L.P., Black, K.L., Yu, J.S. *In situ* adenoviral interleukin 12 gene transfer confers potent and long lasting cytotoxic immunity in glioma. *Cancer Gene Therapy* 9(1): 9-15, 2002.
16. Papaioannou, T., **Thompson, R.C.**, Kateb, B., Sorokoumov, O., Grundfest, W.S., Black, K.L. Thermal imaging of brain tumors in a rat glioma model. Proc. SPIE Vol. 4615, pp. 32-35, Biomedical Diagnostic, Guidance, and Surgical-Assist Systems IV, Tuan Vo-Dinh; David A. Benaron; Warren S. Grundfest; eds., 2002.
17. Schievink, W.I., **Thompson, R.C.**, Yong, W. A syndrome of spontaneous cerebral and cervical artery dissections with angioliomatosis. *Journal of Neurosurgery* 98: 1124-1127, 2003.
18. Soukiasian, H.J., Hui, T., Avital, I., Eby, J., **Thompson, R.C.**, Kleisli, T., Margulies, D.R., Cunneen, S. Decompressive craniectomy in trauma patients with severe brain injury. *The American Surgeon* 68(12): 1066-71, 2002.
19. Marcu, L., Jo, J.A., Butte, P.V., Yong, W.H., Pikul, B.K., Black, K.L., **Thompson, R.C.** Fluorescence lifetime spectroscopy of glioblastoma multiforme. *Photochemistry and Photobiology* 80: 98-103, 2004.
20. Manning, HC, Goebel, T, **Thompson, RC**, Price, RR, Lee, H, Bornhop, DJ. Targeted Molecular Imaging Agents for Cellular-Scale Bimodal Imaging. *Bioconjugate Chemistry* 15 (6): 1488-1495, 2004.
21. Sinha, T.K., Dawant, B.M., Duay, V., Cash, D.M., Weil, R.J., **Thompson, R.C.**, Weaver, K.D., Miga, M.I. A Method to Track Cortical Surface Deformations Using a Laser Range Scanner. *IEEE Transactions on Medical Imaging* 24 (6): 767-781, 2005.
22. Jarquin-Valdivia, A.A., Rich, A.T., Yarbrough, J.L., **Thompson, R.C.** Intraventricular colloid cyst, hydrocephalus and neurogenic stunned myocardium. *Clinical Neurology and Neurosurgery* 107 (5): 361-5, 2005.
23. Schwartz, S.A., Weil, R.J., **Thompson, R.C.**, Shyr, Y., Moore, J.H., Toms, S.A., Johnson, M.D., Caprioli, R.M., Proteomic-Based Prognosis of Brain Tumor Patients Using Direct-Tissue Matrix-Assisted Laser Desorption Ionization Mass Spectrometry. *Cancer Research* 65: 7674-7681, 2005.

24. Ehtesham M, Stevenson CB, **Thompson RC**. Stem cell therapies for malignant glioma. *Neurosurgical Focus* 19(3): 2005.
25. Stevenson CB, Johnson MD, **Thompson RC**. Cystic cavernous malformation of the cerebellopontine angle. Case illustration. *Journal of Neurosurgery* 102(5): 931, 2005.
26. Ehtesham M, Winston J A, Kabos P, **Thompson RC**. CXCR4 expression mediates glioma cell invasiveness. *Oncogene* 25: 2801–2806, 2006.
27. Becher MW, Abel TW, **Thompson RC**, Weaver KD, Davis LE. Immunohistochemical analysis of metastatic neoplasms of the central nervous system. *Journal of Neuropathology and Experimental Neurology* 65(10): 935-44, 2006.
28. Mapara KY, Stevenson CB, **Thompson RC**, Ehtesham M. Stem cells as vehicles for the treatment of brain cancer. *Neurosurgery Clinics of North America* 18(1): 71-80, 2007.
29. Dumpuri, P., **Thompson, R.C.** Dawant, B.M., Cao, A. Miga, M. I. An atlas-based method to compensate for brain shift: Preliminary Results. *Medical Image Analysis* 11:128-145, 2007.
30. Johnson M.D., Stevenson C.B., **Thompson R.C.**, Atkinson J and Boyer P. 31 year old woman with hemiparesis, *Brain Pathology*: 17(2): 255-257, 2007.
31. Turner S., Pandharipande P., Matthews L., **Thompson R.C.**, Dolasetron-induced torsades de pointes. Case report. *Journal of Clinical Anesthesia* 19: 622-625, 2007.
32. Ehtesham M., Sarangi A., Valadez J.G., Chanthaphaychith S., Becher M.W., Abel T.W., **Thompson R.C.**, Cooper M.K. Ligand-dependent activation of the hedgehog pathway in glioma progenitor cells. *Oncogene* 23; 26 (39): 5752-61, 2007.
33. Gebhart S.C., **Thompson R.C.**, Mahadevan-Jansen A., Liquid-crystal tunable filter spectral imaging for brain tumor demarcation. *Appl Opt.* 46(10): 1896-910, 2007.
34. Cao A., **Thompson RC**, Dumpuri P, Dawant BM, Galloway RL, Ding S, Miga MI.: Laser range scanning for image-guided neurosurgery: Investigation of image-to-physical space registrations, *Medical Physics* 35(4):1593-605. 2008.
35. Stevenson, C.B., Ehtesham, M., McMillan, K.M., Valadez, G.J., Edgeworth, M.L. Price, R.R. Abel, T.W. Mapara, K.Y., Weaver, K.D., Pierce, L. . Kuttesch, J.F. **Thompson, R.C.** CXCR4 expression is elevated in glioblastoma multiforme and correlates with an increase in intensity and extent of peri-tumoral T2-weighted MRI signal abnormalities. *Neurosurgery*, 63 (3), 2008.
36. Ehtesham M, Stevenson CB, **Thompson RC**, Preferential expression of chemokine receptor CXCR4 by highly malignant human gliomas and its association with poor patient survival. *Neurosurgery*, 63(4), 2008.
37. Ehtesham M, Mapara KY, Stevenson CB, **Thompson RC**, CXCR4 mediates the proliferation of glioblastoma progenitor cells. *Cancer Lett*, 2009.
38. McMillan, K., Ehtesham M., Stevenson C., Edgeworth M., **Thompson R.C.**, Price R., T2 detection of tumor invasion within segmented components of glioblastoma multiforme. *Journal of Magnetic Resonance Imaging*, 29:251-257, 2009.

39. Sarangi A, Valadez JG, Rush S, Abel TW, **Thompson RC**, Cooper MK., Targeted inhibition of the Hedgehog pathway in established malignant glioma xenografts enhances survival. *Oncogene*, Oct 1;28(39):3468-76, 2009.
40. Wanna GB, Dharamsi LM, Moss JR, Bennett ML, **Thompson RC**, Haynes DS., Contemporary management of intracranial complications of otitis media. *Otol Neurotol.*, Jan;31(1):111-7, 2010.

B. Submitted / In Review/In Press

41. Dumpuri, P., **Thompson, R. C.**, Cao, A., Ding, S., Garg, I., Dawant, B. M., Miga, M. I. A fast and efficient method to compensate for brain shift during surgery *Neurosurgery*, (in review), 2008.
42. Ding, S., Miga, M. I., Noble, J. H., Cao, A., Dumpuri, P. **Thompson, R. C.**, Dawant, B. M. Semi-automatic registration of pre- and post-resection laser range scanner images, *IEEE Transactions on Biomedical Engineering*, (in review), 2008.
43. Edgeworth M.L., Mi, D., Schwartz, S.A., Frappier,S.L., **Thompson, R.C.**, Caprioli, R.M., Mass Spectrometry Proteomic Signature Predicts Response to Chemotherapy in Patients with Malignant Glioma. *Neuro-Oncology*, (in review), 2008
44. S.Ding, M.I.Miga, J.H. Noble, A.Cao, P. Dumpuri, **R.C. Thompson**, B.M. Dawant, Semi-automatic registration of pre-and post-brain tumor resection laser range data: Method and validation, *IEEE Transactions on Biomedical Engineering*, (in press), 2008

Chapters

1. Cockroft, K.M., **Thompson, R.C.**, Steinberg, G.K. Aneurysms and Arteriovenous Malformations. *In Neurosurgery Clinics of North America*, LeRoux, P.D., and Winn, H.R. (eds.) 9(3): 565-576, 1998.
2. **Thompson, R.C.** and Brem, H. Treatment of gliomas utilizing polymer-drug delivery. *In The Gliomas*, Berger, M.S., and Wilson, C.B. (eds.) 555-563, 1999.
3. Stevenson, C.B., **Thompson, R.C.** The Clinical Management of Intracranial Neoplasms in Pregnancy. *In Clinical Obstetrics and Gynecology*, Vol. 48, No. 1, 24-37, March 2005
4. Stevenson, C.B., **Thompson, R.C.** Neurosurgical Oncology: Neoplasms of the Brain and Meninges. *In Textbook of Surgical Oncology* Poston, Beauchamp & Ruers (eds) 393-410, 2007

Abstracts

1. **Thompson, R.C.**, Hodge, P.J., Tamargo, R.J. Support for an inflammatory pathogenesis of vasospasm in the rat femoral artery model. *Journal of Neurosurgery* 82: 328, 1995.

2. **Thompson, R.C.**, Pardoll, D.M., Jaffee, E.M., Tyler, B.M., Brem, H. Development of a new intracranial tumor model using the murine B16-F10 melanoma. *Journal of Neurosurgery* 82: 337, 1995.
3. **Thompson, R.C.**, Ewend, M.G., Pardoll, D.M., Brem, H. Development of a cytokine tumor vaccine for treatment of an experimental intracranial tumor. *International Conference on Gene Therapy for CNS Disorders*. Philadelphia, PA, 1995.
4. **Thompson, R.C.**, Ewend, M.G., Jaffee, E.M., Pardoll, D.M., Brem, H. Cytokine enhanced antitumor immunotherapy for brain tumors. *Congress of Neurological Surgeons*. San Francisco, CA, 1995.
5. Ewend, M.G., **Thompson, R.C.**, Jaffee, E.M., Pardoll, D.M., Brem, H. Tumor specific immune response against intracranial melanoma elicited by exposure to IL-2 transfected melanoma cells. *International Conference on Gene Therapy for CNS Disorders*. Philadelphia, PA, 1995.
6. Ewend, M.G., **Thompson, R.C.**, Jaffee, E.M., Pardoll, D.M., Brem, H. Development of immunologic memory against intracranial metastatic melanoma after exposure to interleukin-2 transfected melanoma cells. *Congress of Neurological Surgeons*. San Francisco, CA, 1995.
7. Sills, A.K., Clatterbuck, R.E., **Thompson, R.C.**, Tamargo, R.J. Early up-regulation of ICAM-1 expression in experimental vasospasm. *Congress of Neurological Surgeons*. San Francisco, CA, 1995.
8. Storm, P.B., **Thompson, R.C.**, Veliuona, M.A., Tyler, B.M., Brem, H. Intracranial biodistribution of tritiated camptothecin. *Congress of Neurological Surgeons*. San Francisco, 1995.
9. Mofid, M.M., **Thompson, R.C.**, Vanderkolk, C.A., Manson, P.N. Brain biocompatibility of materials used in rigid fixation of the skull. *Plastic Surgery Research Council*, 1995.
10. Sills, A.K., Clatterbuck, R.E., Cohen, P.L., **Thompson, R.C.**, Tamargo, R.J. Endothelial cell ICAM-1 expression as an early signal for the subsequent development of experimental vasospasm. *Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons*. San Antonio, Texas, January, 1996.
11. Cohen, P.L., Sills, A.K., Clatterbuck, R.E., **Thompson, R.C.**, Tamargo, R.J. Timing of blood removal and development of vasospasm in the rat femoral artery model. *American Association of Neurological Surgeons*. Minneapolis, Minnesota, April, 1996.
12. Anderson, R.C., Ewend, M.G., **Thompson, R.C.**, Pardoll, D.M., Tyler, B.T., Brem, H. Intracranial interleukin-2 generates long term immunological memory against subsequent systemic tumor challenges. *American Association of Neurological Surgeons*. Minneapolis, Minnesota, April, 1996.
13. Ewend, M.G., **Thompson, R.C.**, Anderson, R.C., Pardoll, D.M., Brem, H. IL-2 and GM-CSF act synergistically in the treatment of intracranial tumors. *American Association of Neurological Surgeons*. Minneapolis, Minnesota, April, 1996.
14. Fung, L.K., Ewend, M.G., Sills, A.K., Sipos, E.P., **Thompson, R.C.**, Brem, H., Saltzman, W.M. Polymer delivery of carmustine, 4-hydroperoxycyclophosphamide and taxol in the monkey brain. *American Association for Cancer Research*. Washington, D.C., April, 1996.

15. **Thompson, R.C.**, Marks, M., Steinberg, G.K. Special considerations in the management of patients with AVMs and associated intracranial aneurysms. *American Association of Neurological Surgeons*. Denver, Colorado, April, 1997.
16. Wheeler, C., Prins, R., Lee, P., Liu, Y., Sugita, M., **Thompson, R.C.**, Yi, J., Black, K., Local and systemic alteration of cellular immune components in experimental glioma, *American Association of Neurological Surgeons*, New Orleans, Louisiana, 1999.
17. Stoodley, M., **Thompson, R.C.**, Mitchell, M., Marks, M., Steinberg, G.K. Neurosurgical and neuro endovascular management of Takayasu's arteritis. *Congress of Neurosurgical Surgeons*. Boston, MA, October, 1999.
18. Yu, J.S., Wheeler, C.J., Zeltzer, P.M., Nacis-Finger, D., Lee, P.K., Prins, R., Yong, W.H., **Thompson, R.C.**, Riedinger, M., Zhang, W., Black, K.L. Vaccination of recurrent malignant glioma patients with tumor-lysate pulsed dendritic cells elicits a potent T-cell anti-tumor response. *Congress of Neurological Surgeons*. San Antonio, Texas, September, 2000.
19. Black, K.L., Wheeler, C.J., Zeltzer, P.M., Nacis-Finger, D., Lee, P.K., Prins, R., Yong, W.H., **Thompson, R.C.**, Riedinger, M., Zhang, W., Yu, J.S. Dendritic cell vaccination with malignant glioma elicits systemic and intracranial T-cell response. *Congress of Neurological Surgeons*. San Antonio, Texas, September, 2000.
20. **Thompson, R.C.**, Papaioannou, T., Kateb, B., Black, K.L. Infrared thermal imaging of experimental brain tumors. *American Association of Neurological Surgeons*. Toronto, CA, April, 2001.
21. Marguiles, J., Eroglu, Z., **Thompson, R.C.** Differential expression of aquaporin water channels in human brain tumors. *American Association of Neurological Surgeons*. Toronto, CA, April, 2001.
22. **Thompson, R.C.**, Marcu, L., Black, K.L. Time-resolved laser-induced fluorescence spectroscopy for the detection of experimental brain tumors. *Congress of Neurological Surgeons*. San Diego, CA, September, 2001.
23. **Thompson, R.C.**, Marquiles, J., Inderbitzin, D., Demetriou, A.A. The role of aquaporin-4, a molecular water channel, in cerebral edema. *Congress of Neurological Surgeons*. San Diego, CA, September, 2001.
24. Yu, J.S., Wheeler, C.J., Zeltzer, P., Ying, H., Finger, D.N., Lee, P.K., Yong, W.H., Incardona, F., **Thompson, R.C.**, Riedinger, M.S., Zhang, W., Prins, R.M., Black, K.L. Dendritic cell immunotherapy for patients with glioblastoma multiforme and anaplastic astrocytoma. *Neuro-Oncology*, 3: 320, 2001.
25. **Thompson, R.C.**, Motwani, S., Riedinger, M., Black, K., Clinical variables associated with development of communicating hydrocephalus following resection of astrocytoma, *American Association of Neurological Surgeons*, Chicago, Illinois, 2002.
26. **Thompson, R.C.**, Black, K., Garde, S., Yong, W., Sedrak, M., Marcu, L., Diagnosis of primary human brain tumors by time-resolved laser-induced fluorescence spectroscopy, *American Association of Neurological Surgeons*, Chicago, Illinois, 2002.
27. **Thompson, R.C.**, Papaioannou, T., Smith, F., Black, K., Intraoperative infrared thermal imaging of human brain tumors, *American Association on Neurological Surgeons*, Chicago, Illinois, 2002.

28. Marcu, L., Yong, W.H., Kateb, B., Black, K.L., **Thompson, R.C.** Time-resolved fluorescence spectroscopy of primary human brain tumors. Optical Society of America. Long Beach, CA, October, 2001. To be published in *Optical biopsy IV*, SPIE, Vol. 4613, 2002.
29. **Thompson, R.C.**, Black, K.L., Kateb, B., Marcu, L. Detection of experimental brain tumors using time-resolved laser-induced fluorescence spectroscopy, accepted for presentation, to be published in *Optical biopsy IV*, SPIE, Vol: 4613, 2002.
30. Marcu, L., **Thompson, R.C.**, Black, K.L., Yong, W.H. Time-resolved fluorescence spectroscopy of primary brain tumors. *Optical Society of America Topical Meeting, Biomedical Optical Spectroscopy and Diagnostics*. Miami Beach, Florida, April 7-10, 2002.
31. Marcu, L., Butte, P., Jo, J.A., Papaioannou, T., Fang, Q., Yong, W.H., **Thompson, R.C.**, Black, K.L., and Pikul, B.K. Lifetime fluorescence spectroscopy in neurological surgery. *World Congress in Medical Biophysics and Biomedical Engineering*, Sydney, Australia, 2003.
32. Marcu, L., Butte, P., Jo, J.A., Papaioannou, T., Fang, Q., Pikul, B.K., **Thompson, R.C.**, Yong, W.H., Black, K.L. Time-resolved fluorescence spectroscopy as tool for neurological surgery. *The European Conference on Biomedical Optics*, Munich, Germany, June, 2003.
33. Marcu, L., Butte, P., Yong, W.H., **Thompson, R.C.**, Black, K.L., and Pikul, B.K. Diagnosis of human brain tumor by lifetime fluorescence spectroscopy. *Lasers Surg Med*, S15: 51, 2003.
34. Marcu, L., Fang, Q., Papaioannou, T., Jo, J.A., Butte, P., Pikul, B.K., **Thompson, R.C.**, Yong, W.H., Black, K.L., Freischlag, J.A., Fishbein, M.C., Gundersen, M.A. Lifetime fluorescence spectroscopy for in-vivo diagnosis of tissues. *Keystone Symposia in Optical Imaging: Applications to Biology and Medicine*. Taos, New Mexico, Feb. 11-16, 2003.
35. **Thompson, R.C.**, Manning, C., Sexton, M., Johnson, M., Albea, J., Bornhop, D. Development of a brightly fluorescing contrast agent for gliomas. *Congress of Neurological Surgeons*, Denver Colorado, 2003.
36. Albea, J., Nierman, K., Geng, L., Manning, C., Bornhop, D., Hallahan, D., **Thompson, R.C.** Development of a novel glioma specific agent for gd-neutron capture therapy. *Congress of Neurological Surgeons*, Denver Colorado, 2003.
37. Ehtesham, M., Manning, H., Bornhop, D., **Thompson, R.C.**, The development of novel PBR ligands for glioma specific tissue labeling, *Congress of Neurological Surgeons*, San Francisco, California, 2004.
38. Weil, R., Schwartz, S., Toms, S., Johnson, M.D., Niermann, Y.S., Shaktour, B., **Thompson, R.C.**, Roberts, J., Caprioli, R., Matrix-assisted ionization desorption mass spectrometry proteomic-based diagnosis and prognosis of gliomas. *Congress of Neurological Surgeons*, San Francisco, California, 2004.
39. Ehtesham, M., Cooper, M., Valadez, J., **Thompson, R.C.**, Derivation of tumorigenic stem-like cells from glioblastoma multiforme, *Congress of Neurological Surgeons*. Boston Massachusetts, 2005.
40. Ehtesham, M., Valadez, J., Sarangi, A., Cooper, M., **Thompson, R.C.**, Hedgehog signaling activity in adult glioma cancer stem cells correlates with tumor grade, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006

41. Mapara, K., Deal, K., **Thompson, R.C.**, Ehtesham, M., Growth kinetics of cultured human glioma-derived stem-like cells, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006
42. Mapara, K., Deal, K., Chanthaphaychith, S., **Thompson, R.C.**, Ehtesham, M., The role of the CXCL12/CXCR4 axis in glioma angiogenesis, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006.
43. Bachman, J., Deal, K., Stevenson, C., Chanthaphaychith, S., **Thompson, R.C.**, Ehtesham, M., Expression profiling of the stem cell marker Bmi-1 in human gliomas, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006.
44. Chanthaphaychith, S., Deal, K., **Thompson, R.C.**, Ehtesham, M., U87 glioma cell line is a vehicle to test directed cytotoxicity of CD133+Tumor cells, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006.
45. Stevenson, C.B., Ehtesham, M., Faley, S., Cassady, S., Jansen, D., **Thompson, R.C.**, Development of quantum dot-based near-infrared molecular imaging for glioma, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006.
46. Stevenson, C.B., Deal, K., Miller, S., Valadez, J., Chanthaphaychith, S., Winston, J., **Thompson, R.C.**, Ehtesham, M., CXCR4 expression as a marker for tumor grade and invasiveness in malignant glioma, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006.
47. Deal, K., Chanthaphaychith, S., Stevenson, C.B., **Thompson, R.C.** Ehtesham, M., Expression profiling of stem cell genes in gliomas, *Congress of Neurological Surgeons*, Chicago, Illinois, 2006.
48. Dumpuri, P., **Thompson, R. C.**, Sinha, T. K., Miga, M. I. Automated brain shift correction using a pre-computed deformation atlas Medical Imaging 2006: Visualization, Image-guided Procedures, and Display: *Proc. of the SPIE*, 2006.
49. Ding, S., Miga, M. I., **Thompson, R. C.**, Dawant, B. M. Non-rigid registration of laser-range scanner in Image Guided Surgery. Vanderbilt University Institute of Imaging Science Research Retreat, June 25-27, Louisville, KY, 2006.
50. Cao, A., Miga, M. I., Dumpuri, P., Ding, S., Dawant, B. M., **Thompson, R. C.** Target error for image-to-physical space registration: Preliminary clinical results using laser range scanning. Medical Imaging 2007: Visualization and Image-Guided Procedures: *Proc. of SPIE*, 2007.
51. Ding, S., Miga, M. I., **Thompson, R. C.**, Dumpuri, P., Cao, A., Dawant, B. M. Estimation of intra-operative brain shift using a tracked laser range scanner. *Proc. Of the IEEE Engineering Medicine and Biology Conference 2007, (in press)*, Lyon, France, 2007.
52. **Thompson, R.C.**, Ehtesham, M., The cell surface chemokine receptor CXCR4 mediates the proliferation of glioblastoma cancer stem cells, *Congress of Neurological Surgeons*, San Diego, California, 2007.
53. **Thompson, R.C.**, Ehtesham, M., Silencing of the tumor suppressor gene PTEN enhances the proliferation on neural stem cells, *Congress on Neurological Surgeons*, San Diego, California, 2007.

54. **Thompson, R.C.**, Ehtesham, M., Expression of the cell surface chemokine receptor CXCR4 correlates with MRI-based evidence of diffuse disease in patients with glioblastoma multiforme, *Congress of Neurological Surgeons*, San Diego, California, 2007.
55. **Thompson, R.C.**, Ehtesham, M., Ligand-dependent activation of the hedgehog pathway in glioma cancer stem cells, *Congress of Neurological Surgeons*, San Diego, California, 2007.
56. **Thompson, R.C.**, Ehtesham, M., Analysis of phosphatase and tensin homologue expression in glioblastoma multiforme, *Congress of Neurological Surgeons*, San Diego, California, 2007.
57. Ehtesham, M., Driggins, N., Hughes, B., Equinda, M.J., Quarles, C., Gore, J., **Thompson, R.C.** Ferromagnetic labeling of neural precursor cells for *in vivo* MRI-based tracking of glioma-tropic migration. *Congress of Neurological Surgeons*, Orlando, Florida, 2008
58. Ehtesham, M., **Thompson, R.C.** A purified A2B5+ CXCR4+ neural precursor cell population demonstrates enhanced tumor-tropic migratory activity. *Congress of Neurological Surgeons*, Orlando, Florida, 20
59. Dumpuri, P., Miga, M.I., Ding, S., Cao, A., Dawant, B.M., **Thompson, R.C.** Intraoperative brain shift prediction and registration using laser range scanning. *Congress of Neurological Surgeons*, Orlando, Florida, 2008
60. Ding, S., Miga, M.I., **Thompson, R.C.**, Dawant, B. Robust vessel registration and tracking of microscope video images in tumor resection neurosurgery. *IEEE International Symposium of Biomedical Imaging*, 2009

Comments

61. Steinberg, G.K., **Thompson, R.C.** Rotational vertebral artery occlusion: A mechanism of vertebrobasilar insufficiency. *Neurosurgery* 41: 433, 1997.
62. **Thompson, R.C.**, Steinberg, G.K. Coagulative and fibrinolytic activation in cerebrospinal fluid and plasma after subarachnoid hemorrhage. *Neurosurgery* 41: 350, 1997.
63. **Thompson, R.C.**, Steinberg, G.K. Effect of N-methyl-D-aspartate and inhibition of neuronal nitric oxide in collateral cerebral blood flow after middle cerebral artery occlusion. *Neurosurgery* 42: 123, 1998.
64. Steinberg, G.K., **Thompson, R.C.** Qualitative versus quantitative assessment of cerebrovascular reserves. *Neurosurgery* 42: 1011, 1998.
65. Steinberg, G.K., **Thompson, R.C.** Intracranial aneurysms associated with aortitis syndrome. Case report and review of the literature. *Neurosurgery* 42: 161, 1998.
66. **Thompson, R.C.** Intracerebral hemorrhage: the least treatable form of stroke. *South Med J.* 98(8): 767-73, 2005

67. **Thompson, R.C.**, Stevenson, C., Ehtesham, M., Preferential Expression of Chemokine Receptor CXCR4 by Highly Malignant Human Gliomas and its Association with Poor Patient Survival. *Neurosurgery* 63: 2008

Book Review

1. **Thompson, Reid** (2004) Book Review: Brain Tumors: Leaving the Garden of Eden: *A Survival Guide to Diagnosis, Learning the Basics, Getting Organized, and Finding Your Medical Team*. Neuro-Oncology, 2005, Vol. 7, Issue 4.

GRANT AWARDS:

CURRENT:

NIH/NINDS 5R01 NS051557-03 12/01/2005-11/30/2009
Principal Investigator: Moneeb Ehtesham, M.D. \$1,502,103

“Neural precursor cell therapy for disseminated glioma.”

Role: Co-Investigator (5.0% effort)

The focus of this project is to definitively identify fundamental mechanisms that govern the ability of neural precursor cells to migrate towards sites of neoplastic infiltration in the brain.

MacroMed/Protherics (Thompson, Reid C.) 2/01/2007-1/31/2010

“A Phase ½ Dose Escalation Study of Locally-Administered OncoGel in Subjects with Recurrent Glioma”

Role: Principal Investigator

The primary objective of this project is to evaluate the safety and tolerability of OncoGel as an adjuvant treatment delivered intracranially at the tumor site following tumor resection in subjects with recurrent glioma.

NIH/NINDS 1R01 NS045888-01A2 12/01/2004-11/30/2009
Principal Investigator: Charles P. Lin, Ph.D. \$1,000,000

“Vascular Maintenance and Brain Tumors”

2004-2009

Role: Co – Investigator (5.0 % effort). Dr. Thompson is responsible for in-vivo investigations of novel anti-angiogenic agents.

NIH R01 CA116174-01A2 12/01/2004 – 11/30/2009
Principal Investigator: Kathleen Egan, Ph.D. \$4,191,375

“Southeast Region Case-Control Study of Adult Glioma”

2007-2011

Role: Co-Principal Investigator (3.0% effort). This is a multicenter, case control study of the epidemiology of adult human glioma. Dr. Thompson is responsible for recruitment and enrollment of cases and controls at Vanderbilt University Medical Center.

NIH/NINDS 2R01NS049251-04A1 (Miga, Michael)

01/15/2009-12/31/2012

“Multimodal Registration of the Brain's Cortical Surface”

2009-2012

Role: Co – Investigator

The goal of this project is to develop a clinically translatable strategy for documenting brain shift which could be pivotal in developing affordable image-guided platforms capable of compensating for soft tissue

deformation in patients with brain tumors.

COMPLETED:

Sention 22018 (Principal Investigator)

“A randomized, double-blind, placebo-controlled, parallel-group study of c105 to improve memory in subjects with a treated anterior communicating artery aneurysm”

2002-2004

The overall objective of this research is to evaluate the role of c105 to improve memory in patients with a previously treated anterior communicating artery aneurysm.

American Brain Tumor Association (Co – Principal Investigator)

“Invasive Proteome: Analysis of the Proteins in the Invasive Margin and Infiltrating Tumor Cells in Malignant Gliomas Using Laser Capture Microdissection.”

2004-2005

The objective of this study is to identify the unique proteomic signature of infiltrating human glioma cells.

NIH/NCI 5R01 CA85989-04 (Co- Investigator)

PI: Anita Mahadevan-Jansen., Ph. D.

“Brain Tumor/Tumor Margin ID by Optical Spectroscopy”

2004-2005

The main objective of this project is to develop a technique based on optical spectroscopy that enables intra-operative identification of brain tumor margins, such that tumor removal is maximized with minimum sacrifice to normal tissue.

National Science Foundation BES-0323067 (Principal Investigator)

“Collaborative proposal for in-vitro diagnostics using a PBR targeted molecular imaging agent”

2003-2006

The overall objective of this research is to perform the fundamental studies of a novel optical reporter for further definition of its interaction with cells and their internal organelles.