

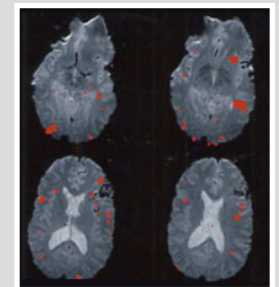


Brain Tumor Center | 2007–2008 Progress Report

Memorial Sloan-Kettering Cancer Center

Contents

Message from the Director	2
Research Initiatives.....	3
Patient Care	6
Education	8
BTC Research Grant Recipients	9
Measuring Our Success	10
BTC Leadership	11
2007–2008 Publications.....	12
Clinical Trials.....	21
Honors and Awards	23





Message from the Director

Brain tumors present a difficult therapeutic challenge. Nearly 22,000 people in the United States will learn this year that they have cancer of the brain or spinal cord, and some 13,000 will die. In order for us to make progress against these diseases, a multidisciplinary approach to understanding them is critical — one that brings basic science researchers delving into the molecular underpinnings of brain tumors together with clinical investigators seeking to evaluate new treatments for these cancers. That is exactly the approach taken by the Brain Tumor Center (BTC) at Memorial Sloan-Kettering Cancer Center.

The mission of this multidisciplinary and multidepartmental center is to promote innovative clinical, translational, and basic science research related to primary brain tumors as well as those that spread to the brain. The BTC is a center without walls, an interactive and supportive environment in which 60 diverse and talented scientists and physicians collaborate to translate preclinical advances made in the laboratory into new ways to improve the care of patients with brain tumors. We also partner with neighboring investigators at The Rockefeller University and Weill Medical College of Cornell University to advance our progress.

In our first 18 months, the BTC has focused on building infrastructure and setting a disciplined budget, raising funds for novel research projects, conducting preclinical studies and clinical trials, and educating fellows and junior faculty. We have fostered interaction among our members through seminars and workgroup meetings. In all of these efforts, we are fortunate to have the support of

generous donors who have been such strong advocates for the advancement of brain tumor research. The Simons Foundation in particular has allowed the BTC to get off to a very strong start. In addition, the Kirby Foundation has funded our “in house” seed grants to young investigators. William and Charlotte Ford have made our intraoperative MRI suite a reality, and the Litwin Foundation and Bruce Ratner have given us the financial strength to become one of the world’s leading brain tumor centers in a very short time period.

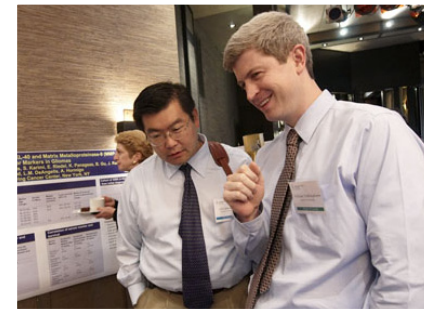
The multidisciplinary approach taken by the BTC builds on the tradition of Memorial Sloan-Kettering Cancer Center, which for decades has united basic scientists with clinical researchers in a shared quest to understand and conquer cancer. Today Memorial Hospital’s Disease Management Teams are more powerful than the sums of their parts. And investigators at the Sloan-Kettering Institute (SKI) are using the latest molecular tools to clarify the fundamental mechanisms through which normal cells operate in an effort to understand what goes wrong to produce cancer.

The BTC is well poised to unify the talents of investigators both in the laboratory and in the clinic to enrich the lives of patients with brain tumors, as well as their families and friends. I hope as you read this progress report you’ll get a sense of the cautious optimism we are feeling as we look to a brighter future for people affected by these diseases.

Eric Holland, MD, PhD

Director, Brain Tumor Center

Emily Tow Jackson Chair in Oncology



Research Initiatives

A Translational Approach

BTC researchers are elucidating the cascade of genetic events that promote tumor development and growth, with the goal of translating newfound understanding into novel treatment strategies. Critical to the development of new therapies are preclinical studies in animal models. These models allow researchers to investigate the genetic causes of brain tumors and to create and assess potential treatments.

One example of this translational approach began in the laboratory of Eric Holland, MD, PhD. He and his team created realistic mouse models of several gliomas — including glioblastoma, the most lethal form of brain tumor in people. In 2000, Dr. Holland demonstrated that a signaling pathway containing the kinase Akt (a type of enzyme) was activated in human gliomas and contributed to the formation of these tumors. This work built on earlier observations by investigators in other labs that showed that a tumor suppressor gene called PTEN was frequently mutated in gliomas, and that the Akt pathway was activated by the loss of PTEN.

Dr. Holland's hypothesis that the activation of Akt was crucial for the formation of gliomas was confirmed by the modeling his laboratory did in mice. Some time later, he and his colleagues were approached by a small pharmaceutical company with a drug that blocks the Akt pathway. Today, MSKCC neuro-oncologist Andrew B. Lassman, MD, is leading a Phase II clinical trial

of the drug sorafenib to evaluate its activity against recurrent or progressive gliomas. Moreover, radiologist Michelle S. Bradbury, MD, PhD, is using animal models to develop ways to image a tumor's response to the drug.

"In a rational attack against gliomas, we moved from the discovery of a therapeutic target, through animal modeling and preclinical studies, and into clinical trials in patients to evaluate a new agent with the potential to work against its target," explained Dr. Holland. "This is the way drug discovery now happens."

Ingo Mellinghoff, MD, came to MSKCC from the University of California, Los Angeles, in 2007. He is also a member of MSKCC's Human Oncology and Pathogenesis Program (HOPP), whose faculty works at the interface of the laboratory and the clinic. Dr. Mellinghoff is designing clinical trials of drugs that interfere with the fundamental genetic aberrations that stimulate tumor cells to grow.

"This approach is a departure from traditional clinical drug development, which often does not consider the genetic heterogeneity of tumors within the same disease. Dr. Mellinghoff explained, new technologies have empowered us to look at tumor cells at incredibly high resolution, and we can now focus on molecular subgroups of tumors and evaluate the effects of drugs on signaling networks within tumor tissue. "What my colleagues and I will be doing is to get a much



more detailed molecular view of each individual's brain tumor, and then ask the question, 'What is the Achilles' heel in this particular tumor, and what would be the drug to try against it?'"

The emergence and integration of genomics (the identification of genes and their functions) into clinical practice has helped to drive this work. The Brain Tumor Center maintains a brain tumor tissue and serum bank, which facilitates the identification of tumor markers that may be used to diagnose tumors or predict their aggressiveness.

"Looking at cancer as a genetic disease — the ability to detect the presence or absence of specific mutations in tumors — has allowed us to think about this sort of 'personalized medicine,'" Dr. Mellinshoff noted. Because he analyzes brain tumor tissue, it is essential that neurosurgeons remove tumor tissue very carefully. "Neurosurgeons play a big role in the success of our efforts," he added.

From the Laboratory to the Clinic

Clinical trials of new preventive, diagnostic, and treatment approaches are critical for progress to be made against cancer. Memorial Sloan-Kettering is a national leader in evaluating investigational drugs with the potential to improve the outcome of patients with all types of cancer, including brain tumors. Clinical research in the BTC combines the efforts of laboratory and clinical investigators to develop and assess new drugs for people with brain tumors.

Many of these therapies are developed in the laboratory under the guidance of neuro-oncologists with the express intent of evaluating them in clinical trials. Some of these studies have surgical components — for example, the drugs are given for a week prior to brain tumor surgery, and their effects on tumors are measured in the tissue samples that are removed.

"The BTC provides a framework for a scientist to say, 'We have a great idea in our laboratory,' and for a clinician to learn about such an idea and work with that scientist to design a clinical trial," said Lauren Abrey, MD, Director of Clinical Research for the Department of Neurology. "The BTC is an important catalyst for this sort of interaction."

"Seeing patients is a most gratifying human experience," added Dr. Mellinshoff. "It points you toward critical questions to be addressed in the laboratory, and builds strong relationships with other oncologists, surgeons, pathologists, and radiologists. This is what the BTC is all about: to attack the disease from many different directions and with many minds at work."

Memorial Sloan-Kettering has a broad spectrum of clinical trials for patients with brain tumors. MSKCC is a member of the North American Brain Tumor Consortium, a group devoted to early-phase clinical trials in patients with gliomas, sponsored by the National Cancer Institute (NCI), and is also a participant in several Radiation Therapy Oncology Group (RTOG) studies. The RTOG is a multi-institutional NCI-funded research group.



BTC RETREAT

The Brain Tumor Center held its first annual retreat on May 16, 2008, at the Tribeca Grand Hotel in downtown Manhattan. This was the first formal opportunity for all clinical and research groups with an interest in brain tumors to come together and seek areas of collaboration.

"Everyone in the room was interested in one way or another in brain tumors," said Lisa DeAngelis, MD, Chair of the Department of Neurology. "As people heard what their colleagues were doing, productive interactions began."

To kick off the event, the six recipients of the 2007 BTC Grants presented updates on their work. Following these presentations, representatives



from the Departments of Neurology, Radiation Oncology, Neurosurgery, Pediatrics, Radiology, and the Human Oncology and Pathogenesis Program described their current research interests related to brain tumors. Experts from other institutions were also invited and presented information about their own work as well as funding opportunities.

The number of MSKCC protocols related to brain tumors has grown significantly in the past seven years, from 18 protocols to more than 60. Most of them are therapeutic protocols designed to evaluate new drug and radiation therapy combinations to improve the quality of life and prolong the lives of patients. For a listing of current clinical trials related to brain tumors, visit Memorial Sloan-Kettering's Web site at www.mskcc.org/brain tumors.

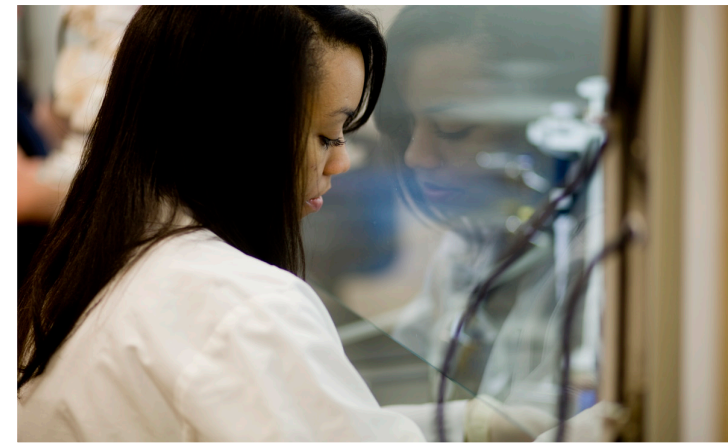
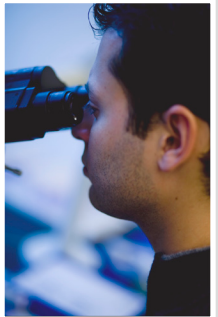
Therapeutic areas currently under study include:

Novel Chemotherapy Agents: Researchers are evaluating new types of drugs that block or interfere with cancer cell growth, particularly for the treatment of malignant brain tumors that often recur or continue to grow despite therapy. Among these agents are:

- angiogenesis inhibitors, which prevent the growth of new blood vessels that tumors need to receive nutrients and to grow and spread
- growth factor inhibitors, which block proteins that fuel tumor growth (such as epidermal growth factor) by preventing them from reaching their receptors
- drugs that reduce the ability of cells that have genetic mutations associated with cancer to multiply and divide

Combined Modality Therapy: Multimodality therapy — the use of more than one means of killing cancer cells — is commonly used to treat cancer. By combining radiation therapy with one or more chemotherapy drugs, for example, investigators hope to kill more tumor cells and overcome the drug resistance that can develop with single therapies. Therapies being evaluated for brain tumors include angiogenesis inhibitors such as bevacizumab combined with irinotecan, temozolomide, and other anticancer drugs. Other drugs have the potential to enhance the therapeutic effect of radiation therapy by increasing the sensitivity of tumor tissue to radiation while leaving healthy tissue unharmed.

Immunotherapy: Immunotherapeutic approaches harness the power of the immune system to fight cancer. BTC investigators are evaluating monoclonal antibodies designed to provoke a patient's immune system to recognize and attack brain tumor cells. These antibodies are created in the laboratory and attach to a specific protein on the surface of a tumor cell. In one approach, a monoclonal antibody is tagged with a radioactive isotope that identifies and kills tumor cells.



Patient Care

Patients with brain tumors receive multidisciplinary care from a team of Memorial Sloan-Kettering's brain tumor specialists that combines the expertise of many healthcare professionals. The team features experts dedicated to the care of children and adults with brain tumors and includes neurosurgeons, neuro-oncologists, neuroradiologists, neuro-radiation oncologists, neuropathologists, neuropsychologists, neurosurgery physician assistants, neurosurgery nurses, nurse practitioners, neuro-oncology clinical and research nurses, research managers, social workers, and specialists in integrative medicine, pain and palliative care, and endocrinology.

This collaboration ensures that patients who need several different therapies receive the most appropriate combination of treatments. Moreover, because our doctors are also clinical investigators, patients have access to the newest treatment approaches as well as to clinical trials of innovative therapies.

Talent Meets Technology

The brain is the most complicated organ in the body, controlling our every thought, movement, and function. That's why neurosurgeons try to carefully remove brain tumor tissue while leaving the patient as functional as possible, without impairing senses such as speech and motor functions such as walking or fine movements.

MSKCC surgeons operate on more brain tumors in a year than most surgeons perform in

a lifetime. This surgical expertise, combined with advanced technologies, enables the BTC to treat a wide range of tumors with the most advanced therapies available.

Functional MRI

To enhance the likelihood of a successful operation, Memorial Sloan-Kettering neurosurgeons use a variety of state-of-the-art navigational approaches to map each patient's brain. For example, surgeons can use an intraoperative mapping technique that allows them to identify crucially important areas of the brain in real time, so that they can preserve them as much as possible.

Functional magnetic resonance imaging (fMRI) is a painless imaging technology used to identify the location of functional areas of the brain — such as those responsible for movement or speech. The exact location of these areas varies among individuals, particularly when a large tumor has developed in the brain.

Functional MRI supplements standard MRI images of the brain by indicating areas of increased activity that correspond to specific tasks the patient performs. During an fMRI exam, a neuropsychologist asks the patient to tap fingers, count, or describe images. The areas of the brain corresponding to each of these tasks “light up” on an fMRI scan, enabling the surgeon to plan surgery accordingly, optimizing the patient's opportunity for the best quality of life after the operation.



FAST FACTS

Patients with brain tumors can receive treatment at a variety of MSKCC locations, including Memorial Hospital (1275 York Avenue, New York, New York), the Rockefeller Outpatient Pavilion (on Third Avenue at 53rd Street), and our regional care network facilities in Basking Ridge, New Jersey, and Commack, Long Island.

In 2007–2008:

- The Department of Neurology averaged 425 new registrations, and about 8,500 total visits
- The Department of Neurosurgery performed an average of 660 surgical procedures
- The Department of Pediatrics cared for an average of 75 patients with central nervous system tumors
- The Department of Radiation Oncology consulted on the care of an average of 485 patients with brain metastases and an average of 145 patients with brain tumors

Another navigation technology, called fusion software, allows information obtained during fMRI testing to be integrated into the anatomic MRI scans used for stereotactic surgical navigation. This system can also be used in surgical procedures of the spine.

Intra-Operative Imaging Suite

Memorial Sloan-Kettering is one of only a few hospitals in the country with an intra-operative imaging suite equipped with a high-field-strength MRI scanner located right in the operating room. Performing brain tumor surgery in this setting allows the neurosurgeon to reevaluate the tumor with MRI during the operation, thus enabling him or her to operate with increased precision and possibly reducing the need for a second surgery.

Image-Guided Stereotactic Surgery

Frameless stereotaxy, a very precise method of operating on deep-seated brain structures, is based on the idea that all points of the brain can be described using a three-dimensional system of coordinates. Using stereotaxy, surgeons can plan operations in advance and also have access to orientation and guidance as the surgery unfolds.

The team directs a wand-like viewing device with a light at its tip at the patient's brain, and a 3-D image is scanned and projected onto a monitor in the operating room. This image gives the neurosurgeon up-to-the-moment orientation as he or she navigates through healthy tissue to

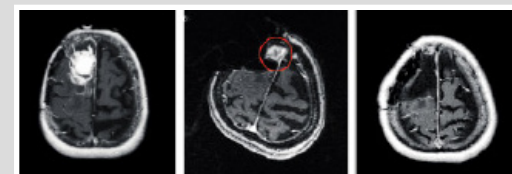
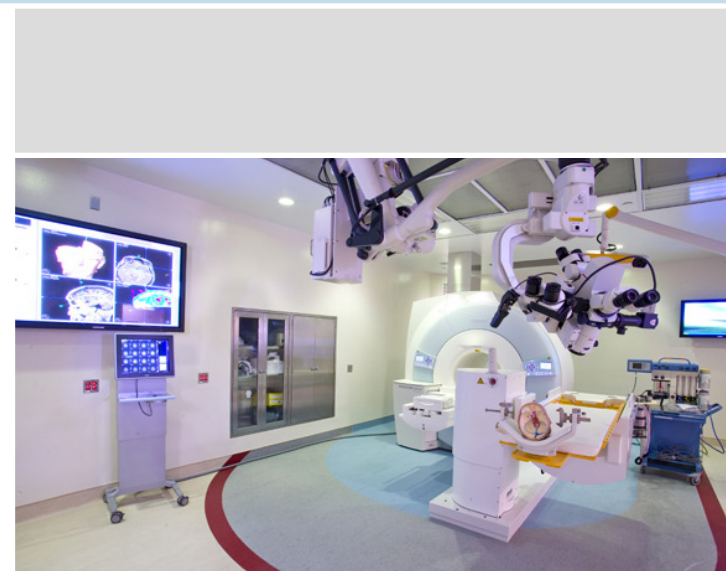
remove the tumor. The neurosurgeon can also use the viewing wand to help track the tumor to its margins (the edges or borders of the tissue removed during surgery) during the operation, increasing the chances for more complete tumor removal.

Specialized Care for Pituitary Tumors

Our multidisciplinary approach to the treatment of pituitary tumors within our pituitary clinic brings together neurosurgeons, endocrinologists, neuro-ophthalmologists, skull-base surgeons, radiation oncologists, and neuroradiologists who collaborate to customize a treatment plan for each patient. State-of-the-art diagnostics — including imaging, hormone testing, and visual-field testing — combined with surgery, radiation therapy, and medication — are used to ensure that patients receive the most sophisticated care available.

Expertise in Spine Oncology

The Spine Oncology Team is a multidisciplinary group of doctors who work together to diagnose and treat each patient who comes to the Spine Clinic. This approach to cancer care combines the expertise of many doctors within the departments of Anesthesiology, Interventional Radiology, Neurology, Neurosurgery, Orthopaedic Surgery, Radiation Oncology, and Rehabilitation Medicine to ensure that patients who need several different therapies to treat their cancer will receive the safest and most effective combination.



Education

Educating the academic medical leaders of tomorrow is a vital part of MSKCC's mission. As part of this effort, the BTC features several different levels of training:

Postdoctoral and Clinical Fellowships

The BTC supports the teaching of fellows in basic science research. We have funded three postdoctoral fellows to train in BTC laboratories:

- Jason Huse, from the Harvard Medical School, trains in the Department of Neurosurgery
- Guillaume Normand, from the Harvard Medical School, trains in the Molecular Pharmacology and Chemistry Program in SKI
- Yuhui Liu, from the Beijing Medical School, trains in the Molecular Biology Program in SKI

As part of our clinical program, the Departments of Neurology, Neurosurgery, and Pediatrics educate clinical fellows seeking to specialize in the care of patients with brain tumors.

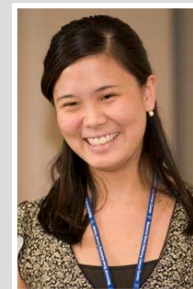
Medical Student Training

As part of MSKCC's Medical Student Summer Fellowship Program, students interact with oncologists who specialize in different aspects of brain tumor research and treatment. Students have the opportunity to observe surgery and participate in clinics for brain tumor patients.

Eleven students participated in the Brain Tumor Center Summer Exposure Program in 2008 and were mentored by BTC faculty. These students, who came from various medical schools in the northeastern United States, conducted brain-related research projects focusing on areas such as stem cell research, DNA damage, the importance of functional MRI, and outcomes for glioblastoma patients.

Seminars

The BTC has developed a seminar series in which faculty members both within and outside MSKCC make presentations focusing on various brain tumor topics. The series is the first of its kind to bring together brain tumor specialists from multiple disciplines. Viviane Tabar, MD, an Attending Surgeon in the Department of Neurosurgery, facilitates the series.



BTC Research Grant Recipients

2007

Michael McDevitt, PhD

Assistant Attending, Department of Medicine

Targeting tumor vasculature with a self-assembling synthetic infarct

Andrew Lassman, MD

Assistant Attending, Department of Neurology

Targeting glioblastoma stem cells with Akt inhibition and radiation

Adilia Hormigo, MD, PhD

Assistant Attending, Department of Neurology

Understanding the role of CD133+ stem cells in the brain

Michelle Bradbury, MD, PhD

Assistant Attending, Department of Radiology

Dynamic PET imaging of tumor growth and early response to targeted signaling inhibitors in genetically engineered mouse models

Luca Cartegni, PhD

Assistant Member, Molecular Pharmacology and Chemistry Program (SKI)

Profiling, characterization, and therapeutic modulations of aberrant alternative RNA splicing in gliomas

Daniel Ciznadija, PhD

Research Fellow, Molecular Biology Program (SKI)

Dissection of the oncogenic functions of the cyclin-dependent kinase inhibitor p21 mediating PDGF-directed gliomagenesis

2008

Kathryn Beal, MD

Assistant Attending, Department of Radiation Oncology

Robert Young, MD

Assistant Attending, Department of Radiology

Using advanced MR imaging to determine high risk areas in patients with malignant high grade gliomas and potential changes in radiation therapy

Oren Becher, MD

Instructor, Department of Pediatrics

Using RCAS tv-a system to model brainstem gliomas

Bipin Bhatia, PhD

Research Fellow, Cancer Biology and Genetics Program (SKI)

Tumor suppressor TSC2 inactivation and p27 mislocalization in brain development and medulloblastoma

Cameron Brennan, MD

Assistant Attending, Department of Neurosurgery

A microarray-based molecular diagnostic panel for glioma

Steven Foster, PhD

Research Fellow, Molecular Biology Program (SKI)

The link between covalent protein-DNA lesion formation and repair in neurons and medulloblastoma development

Ruimin Huang, PhD

Fellow, Department of Neurology

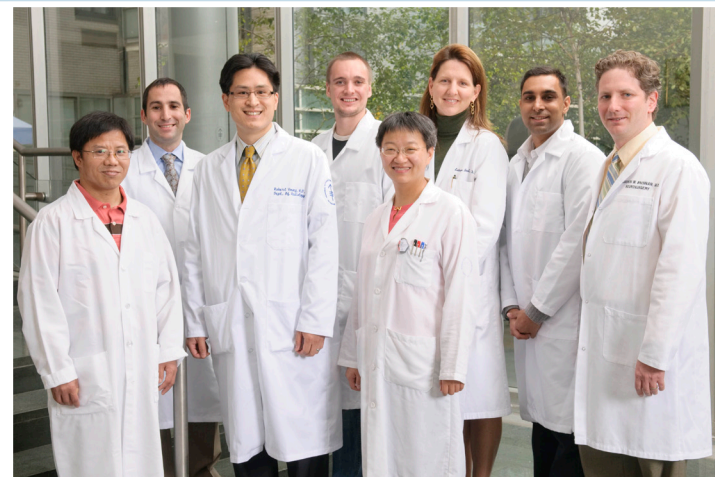
Non-Invasive bioluminescence imaging of antiangiogenic effects on gliomas in VEGF/VEGFR2 reporter mouse models

Xinjiang Wang, PhD

Research Fellow, Cell Biology Program (SKI)

NEDD4-1 as a gliomagenic oncogene and drug target for treatment of brain tumor

Grant Review Committee: Lisa DeAngelis, Philip Gutin, Desert Horse-Grant, Johanna Joyce, Andrew Koff, Steven Larson, Joan Massagué, Neal Rosen, Charles Sawyers



2008 Grant Winners

(From left), Xinjiang Wang, Oren Becher, Robert Young, Steven Foster, Ruimin Huang, Kathryn Beal, Bipin Bhatia, and Cameron Brennan



2007 Grant Winners

(From left), Andrew Lassman, Luca Cartegni, Adilia Hormigo, Michelle Bradbury, Michael McDevitt, and Daniel Ciznadija

Measuring Our Success

Our Program Development Office has made the vision of the BTC a reality. The office includes a program administrator, research manager, research coordinator, project coordinator, programmer analyst, and administrative assistant, and in the laboratory, a senior scientist and laboratory technician.

The Program Development Office has collected data to measure the impact of our members' efforts on brain tumor research — investigations that are heavily dependent on donations from generous foundations and individuals as well as

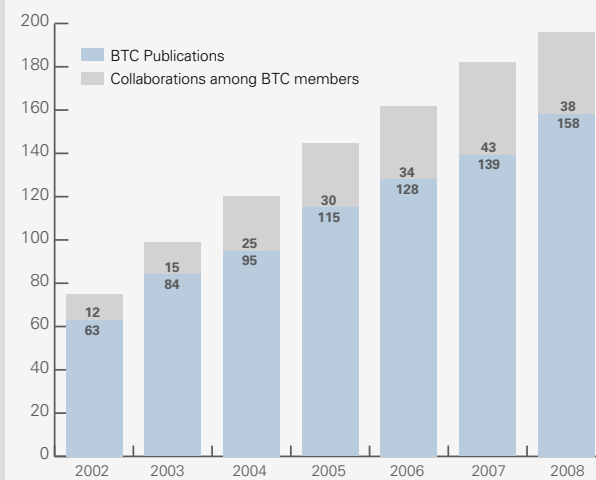
grants from different agencies, in particular, the National Institutes of Health (NIH). Last year, we witnessed a 100 percent increase in our NIH funding compared with funding five years ago.

The progress in our research is evidenced not only by this funding increase but also by publications authored by BTC members. As depicted in the sidebar, our publications have more than doubled, and our collaborations have approximately doubled in the past seven years. We are now focused on further increasing these numbers and fostering new collaborations.



MSKCC Publications in Brain-Tumor-Related Topics

Including joint publications (■), by Year (n=1138)



Brain Tumor Center Leadership

EXECUTIVE BOARD

Director

Eric Holland, MD, PhD
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Attending Surgeon, Department of Neurosurgery
Member, Cancer Biology and Genetics Program
Emily Tow Jackson Chair in Oncology

Executive Co-Directors

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Program Administrator
Desert Horse-Grant

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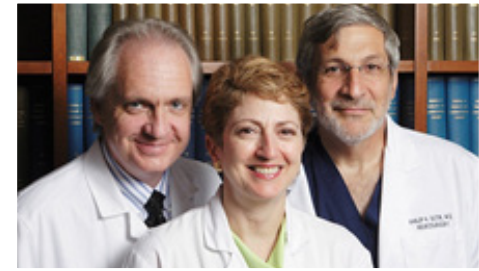
Richard Gilbertson, MD, PhD
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Co-Leader, Neurobiology and Brain Tumor Program
Department of Developmental Neurobiology Oncology
St. Jude Children's Research Hospital

Paul Mischel, MD
Professor, Department of Pathology and Laboratory Medicine
David Geffen School of Medicine
Scientific Director, Sarkaria Biomarkers Program
Co-Director, Cancer Stem Cell Program
UCLA Institute for Stem Cell Biology and Medicine

Philip Gutin, MD
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Fred Lebow Chair in Neuro-Oncology

Luis Parada, PhD
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Diana and Richard C. Strauss Distinguished Chair in
Developmental Biology
Director, Kent Waldrep Center for Basic Research on
Nerve Growth and Regeneration
Southwestern Ball Distinguished Chair in Basic
Neuroscience Research
University of Texas Southwestern Medical Center

Jim Rutka, MD, PhD
Chairman, Department of Neurosurgery
Co-Director, Labatt Brain Tumor Research Centre
University of Toronto



2007–2008 Publications

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BRAIN TUMOR CENTER MEMBERS

Neurology



Lisa DeAngelis, MD



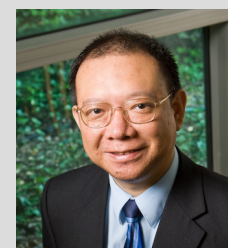
Lauren Abrey, MD



Edward Avila, DO



Denise Correa, PhD



Xi Chen, PhD



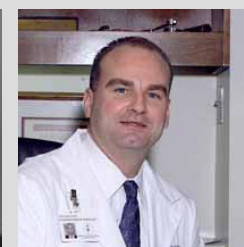
Igor Gavrilovic, MD



Adilia Hormigo, MD, PhD



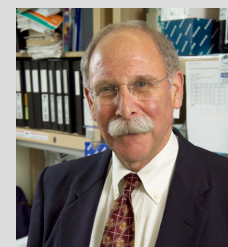
Andrew Lassman, MD



Craig Nolan, MD



Antonio Omuro, MD



Gavril Pasternak, MD, PhD



Jerome Posner, MD

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BRAIN TUMOR CENTER MEMBERS

Neurosurgery



Philip Gutin, MD



Mark Bilsky, MD



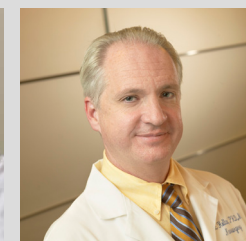
Mark Souweidane, MD



Cameron Brennan, MD



Viviane Tabar, MD

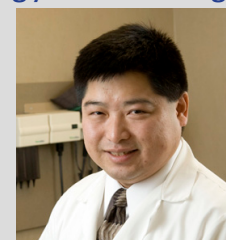


Eric Holland, MD, PhD

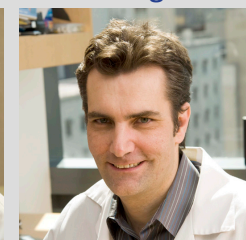
Human Oncology and Pathogenesis Program



Charles Sawyers, MD



Timothy Chan, MD, PhD



Ingo Mellinghoff, MD

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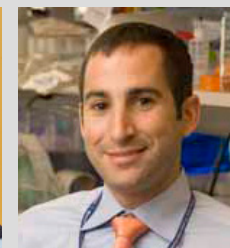
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BRAIN TUMOR CENTER MEMBERS

Pediatrics



Ira Dunkel, MD



Oren Becher, MD



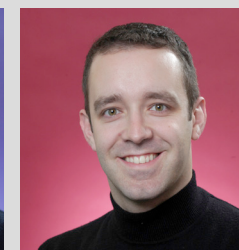
Timothy Gershon, MD



Kim Kramer, MD



David Lyden, MD, PhD



Stephen Gilheeny, MD



Yasmin Khakoo, MD

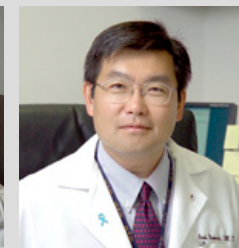
Radiation Oncology



Kathryn Beal, MD



Suzanne Wolden, MD



Yoshiya Yamada, MD

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BRAIN TUMOR CENTER MEMBERS

Radiology



Timothy Akhurst, MBBS



Hilda Stambuk, MD



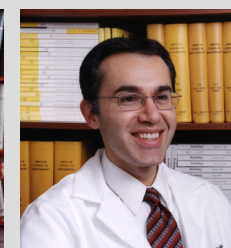
Michelle Bradbury, MD, PhD



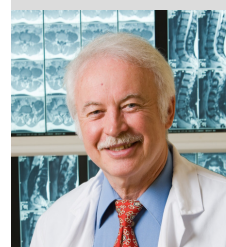
Sofia Haque, MD



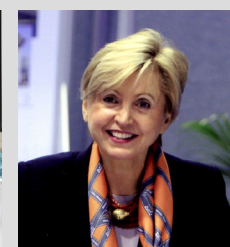
Andrei Holodny, MD



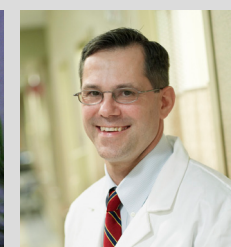
Sasan Karimi, MD



George Krol, MD



Hedvig Hricak, MD, PhD



Eric Lis, MD



Robert Young, MD

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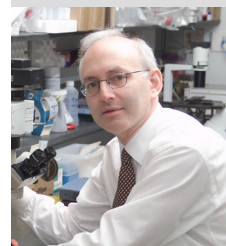
BRAIN TUMOR CENTER MEMBERS

Surgery



Bhuvanesh Singh, MD

Medicine



Stephen Nimer, MD

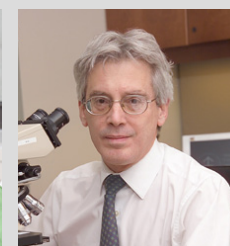


Neal Rosen, MD

Pathology



Mark Edgar, MD



Marc Rosenblum, MD

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BRAIN TUMOR CENTER MEMBERS

Cancer Biology and Genetics



Joan Massagué, PhD



Robert Benezra, PhD

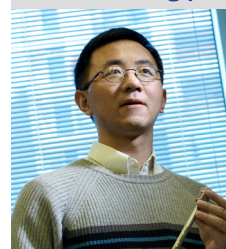


Johanna Joyce, PhD



Anna Kenney, PhD

Cell Biology



Xuejun Jiang, PhD



Marilyn Resh, PhD

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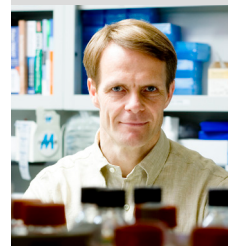
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BRAIN TUMOR CENTER MEMBERS

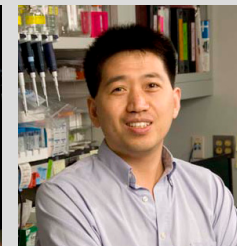
Developmental Biology



Lorenz Studer, MD



Alexandra Joyner, PhD



Songhai Shi, PhD

Molecular Biology



Andrew Koff, PhD



John Petrini, PhD

Molecular Pharmacology and Chemistry



Hakim Djaballah, PhD

Perry A, Miller R, Gujrati M, Scheithauer B, Casavilca Zambrano S, Jost S, Raghavan R, Qian J, Cochran E, Huse J, Holland E, Burger P, Rosenblum M. Malignant gliomas with primitive neuroectodermal tumor-like components (MG-PNET). A clinicopathologic and genetic study of 53 cases. *Brain Pathol.* 2009 Jan;19(1):81-90.

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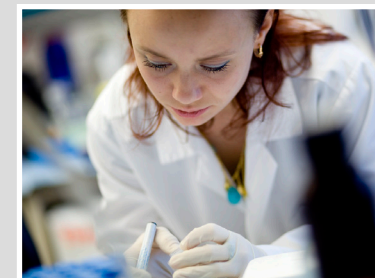
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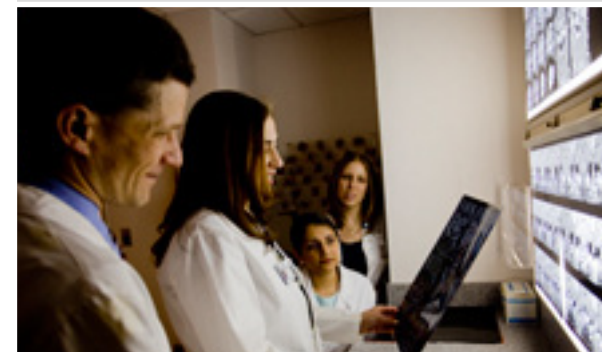
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Clinical Trials

GLIOMAS

A Pharmacokinetic and Phase II Study of Sunitinib Malate in Recurrent Malignant Gliomas. PI: Abrey, Lauren, MD [Protocol 07-153]

A Phase I Study of XL765 in Combination with Temozolomide in Patients with Malignant Gliomas. PI: Omuro, Antonio, MD [Protocol 08-057]

A Phase II Trial of Continuous Low-Dose Temozolomide for Patients with Recurrent Malignant Glioma. PI: Abrey, Lauren, MD [Protocol 07-064]

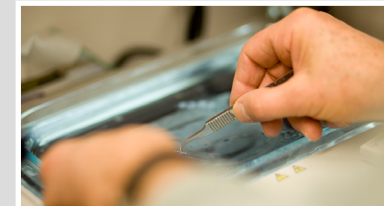
A Phase II Trial of Intensive Chemotherapy & Autotransplantation in Patients with Newly Diagnosed Anaplastic Oligodendroglioma. PI: Abrey, Lauren, MD [Protocol 02-089]

A Phase II Study of Bevacizumab, Temozolomide and Hypofractionated Radiotherapy for Patients with Newly Diagnosed Glioblastoma. PI: Abrey, Lauren, MD [Protocol 08-126]

A Phase II Trial of Continuous Low-Dose Temozolomide for Patients with Recurrent Malignant Glioma. PI: Abrey, Lauren, MD [Protocol 07-064]

A Phase II Trial of Temozolomide and Radiotherapy Followed by Temozolomide and Maintenance Cis-retinoic Acid for Patients with Newly Diagnosed Gliomas. PI: Abrey, Lauren, MD [Protocol 05-079]

Phase I/II Study of BAY 43-9006 (Sorafenib) in Combination with Several Other Drugs in Patients with Gliomas. PI: Lassman, Andrew, MD [Protocol 06-109]



Phase II Trial of Perifosine for Recurrent/Progressive Malignant Gliomas. PI: Lassman, Andrew, MD [Protocol 06-044]

PRIMARY CENTRAL NERVOUS SYSTEM (CNS) LYMPHOMA

A Phase II Study of Rituximab, Methotrexate, Procarbazine and Vincristine Followed by High-Dose Chemotherapy with Autologous Stem Cell Rescue in Newly Diagnosed Primary CNS Lymphoma. PI: Abrey, Lauren, MD [Protocol 04-129]

A Pilot Study of Combined Immunochemotherapy Followed by Reduced Dose Radiotherapy for Patients with Newly Diagnosed Primary Central Nervous System Lymphoma. PI: Abrey, Lauren, MD [Protocol 01-146]

BRAIN METASTASIS

A Phase II Study of Intrathecal I131-3F8 in Patients with GD2-Expressing Central Nervous System and Leptomeningeal Neoplasms. PI: Kramer, Kim, MD [Protocol 05-122]

A Phase II Trial of Patupilone in Patients with Brain Metastases from Breast Cancer. PI: Seidman, Andrew, MD [Protocol 07-036]

Phase II Study of Patupilone (EPO906) to Treat Recurrent or Progressive Brain Metastases in Patients with Non-Small Cell Lung Cancer. PI: Abrey, Lauren, MD [Protocol 05-085]

PEDIATRIC TUMORS

A Phase III Study of Intensive Induction Chemotherapy with or without Methotrexate Followed by Consolidation Therapy with Stem Cell Rescue in Young Children Newly Diagnosed with Supratentorial PNET or High-Risk Medulloblastoma. PI: Gilheeney, Stephen, MD [Protocol 07-170]

A Phase I Study of Intrathecal Radioimmunotherapy Using 131I-8H9 for Central Nervous System/Leptomeningeal Cancers. PI: Kramer, Kim, MD [Protocol 03-133]

Radiotherapy Alone versus Chemotherapy Followed by Response-Based Radiotherapy for Newly Diagnosed Primary CNS Germinoma. PI: Dunkel, Ira, MD [Protocol 07-167]

A Phase II Study of Intrathecal I131-3F8 in Patients with GD2-Expressing Central Nervous System and Leptomeningeal Neoplasms. PI: Kramer, Kim, MD [Protocol 05-122]

A Phase II Study of Motexafin-Gadolinium and Involved Field Radiation Therapy for Intrinsic Pontine Glioma of Childhood. PI: Dunkel, Ira, MD [Protocol 07-140]

A Phase III Study Assessing Carboplatin and/or Isotretinoin plus Radiation in Patients with Supratentorial Primitive Neuroectodermal Tumor or High-Risk Medulloblastoma. PI: Gilheeney, Stephen, MD [Protocol 07-174]

Phase II Study of Nimotuzumab (TheraCIM®) in Pediatric Patients with Recurrent Diffuse Intrinsic Pontine Glioma. PI: Trippett, Tanya, MD [Protocol 08-034]

Radioimmunotherapy, Reduced-Dose External Beam Craniospinal Radiation Therapy with IMRT Boost and Chemotherapy for Patients with Standard-Risk Medulloblastoma. PI: Dunkel, Ira, MD [Protocol 02-088]

A Phase II Study of Conformal Radiotherapy in Patients with Low-Grade Gliomas. PI: Dunkel, Ira, MD [Protocol 07-049]

A Study of Cilengitide (EMD 121974) in Recurrent or Progressive and Refractory Childhood High-Grade Glioma. PI: Gilheeney, Stephen, MD [Protocol 08-143]

Phase I Study of Single Agent Perifosine for Recurrent Pediatric Solid Tumors. PI: Becher, Oren, MD [Protocol 08-091]

OTHER TRIALS

A Phase II Trial of Sunitinib (Sutent®) in Patients with Recurrent or Inoperable Meningioma. PI: Abrey, Lauren, MD [Protocol 07-135]

Adjunctive Donepezil Therapy and Genetic Risk Factors of Cognitive Dysfunction in Brain Tumor Survivors. PI: Correa, Denise, PhD [Protocol 04-122]

GLIOGENE: Genetic Epidemiology of Glioma International Consortium. PI: Bernstein, Jonine, PhD [Protocol 07-137]

Reorganization of Language Function in Patients with Brain Tumors. PI: Holodny, Andrei, MD [Protocol 05-043]



2007-2008 Additional Honors and Awards

Oren Becher

Basic Science Award (Genetically engineered
brainstem glioma model), 13th ISPNO 2008

Mark Bilsky

Strathmore Who's Who 2005–2008

America's Top Doctors, Castle Connolly Guide 2005–2008

Ronald Blasberg

Paul C. Aebersold Award for Outstanding
Achievement in Basic Nuclear Medicine Science,
Society of Nuclear Medicine 2008 Annual Meeting 2008

Cameron Brennan

ABC2 Association, research award 2005–present

Preuss Research Award, Congress of
Neurological Surgeons 2008

Luca Cartegni

Bressler Scholar (Alfred W. Bressler Scholars
Endowment Fund recipient) 2004–present

Lisa DeAngelis

Hopkins School Distinguished Alumna 2008

Global Directory of Who's Who 2008

The Best Doctors in New York,
New York Magazine 2000–2008

America's Top Doctors, Castle Connolly Guide 2000–2008

Guide to America's Top Oncologists 2007

New York Super Doctors 2008

Best Doctors List, *New York Magazine* 2008

Hakim Djaballah

Robots & Vision User Recognition Award 2007

Ira Dunkel

The Best Doctors in New York,
New York Magazine 2005–2008

Kathleen Foley

League of Women Voters Women of
Distinction Award 2007

Timothy Gershon

Child Neurology Society Scientific Award 2007

Hedvig Hricak

Gold Medal, Association of University
Radiologists (AUR) 2007

Xeujun Jiang

Louis and Allston Boyer Young
Investigator Award 2007

American Cancer Society Scholar 2007–2010

Alfred Bressler Scholar 2004–2007

Johanna Joyce

Sidney Kimmel Foundation for Cancer
Research Scholar Award 2005–2007

V Foundation for Cancer Research
Scholar Award 2005–2007

Rita Allen Foundation Faculty
Development Award 2005–2008

Anna Kenney

The Sontag Foundation Distinguished
Scientist Award 2003–2007

Handler Foundation Award for New
Investigators at MSKCC 2006–2007

Alex's Lemonade Stand Foundation
for Childhood Cancer Young
Investigator Award 2006 - 2008

Children's Brain Tumor Foundation Award 2006–2008

Pediatric Brain Tumor Foundation Award 2007–2008

Andrew Lassman

Preuss Award in Neuro-Oncology,
American Academy of Neurology 2008

David Lyden

Marquis *Who's Who in America*, Marquis
Who's Who in Science and Engineering 2007

Presidential Science Award, Bial Medical
Distinction Award, Pres. Silva of the
Portuguese Republic 2007

Fulbright Scholarship (Beth Psaila,
Marianna Papaspyridonos, research fellows) 2006–2007



Joan Massagué

Award in Cancer Research, Massachusetts General Hospital 2007

Passano Laureate Prize 2007

Ingo Mellinghoff

Sontag Foundation Distinguished Scientist

Stephen Nimer

G & P Foundation "Angel of Hope" Award 2007

Marc Rosenblum

America's Top Doctors, Castle Connolly Guide 2008

Guide to America's Top Pathologists 2008

Charles Sawyers

Emil J. Freireich Award 2007

Songhai Shi

Klingenstein Fellowship Award 2007

March of Dimes Defects Foundation Basil O'Connor Starter Scholar 2007

NARSAD Young Investigator 2008

Whitehall Foundation Award 2007

DANA Foundation Award 2007

Bhuvanesh Singh

Teacher of the Year Award – Otolaryngology Cornell-Columbia Program 2007

Mark Souweidane

Lehman Brothers Foundation Award 2006–2009

Children's Hope Award 2007

Clinical & Translational Science Center Pilot Award 2008

America's Top Doctors (New York Metro Area) Castle Connolly Guide 2008

Lorenz Studer

Semifinalist, Howard Hughes Medical Institute Investigator Competition 2008

Viviane Tabar

ALS Association 2006–2007

Suzanne Wolden

Best Doctors in America, Best Doctors, Inc. 2007

Yoshiya Yamada

Distinguished Award for Teaching, MSKCC Radiation Oncology Department 2008

Robert Young

Norman E. Leeds Award, Eastern Neuroradiological Society 2007



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