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## **CURRICULUM VITAE**

Clark Chin-Chung Chen

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### **EDUCATION**

Undergraduate Stanford University, B.S. (with honors and departmental distinction)  
in Biological Sciences, 1992

Medical School Harvard Medical School, M.D. and Ph.D. in Genetics, 1993-2001

Other Advanced Degrees Columbia University, Masters in Epidemiology, 1992-1993

### **POSTGRADUATE TRAINING**

Residency Intern, Department of Surgery, Massachusetts General Hospital, 55  
Fruit Street, Boston MA 02114, 2001-2

Resident, Department of Neurosurgery, Massachusetts General  
Hospital, 55 Fruit Street, Boston MA 02114, 2002-7

Fellowship Research post-doctoral fellow, Department of Radiation Oncology  
(Laboratory of Alan D'Andrea, M. D.), 450 Brookline Ave, Boston  
MA 02215, 2004-6

Radiosurgery clinical fellow, Department of Radiation Oncology,  
Massachusetts General Hospital, 55 Fruit Street, Boston MA  
02114, 2005-6

Stereotaxis clinical fellow, Division of Neurosurgery, Department of  
Surgery, Beth Israel Deaconess Medical Center, 330 Brookline  
Avenue, Boston MA 02215, 2008-9

### **POSTGRADUATE HONORS AND AWARDS**

1997-9, Graduate Research Fellowship Award, Ludwig Institute for Cancer Research (research award)  
1999, James Kerr Award for Excellence in Research, Ludwig Institute for Cancer Research (research  
award)  
2001, M.D.-Ph.D. student of the year, profiled in Dean's Report, Harvard Medical School (research  
award)

- 2004-6, Physician-Scientist Post-Doctoral Fellowship Award, Damon Runyon Cancer Research Foundation (research award)
- 2004, Scholar-in-Training Award, American Association for Cancer Research (research award)
- 2006, Tumor Young Investigator Award, Congress of Neurological Surgeons (research award)
- 2007, Scoville Resident Award, New England Neurosurgical Society (research award)
- 2007, Scholar Award, Qiagen Inc (research award)
- 2007, Resident Research Award, Academy of Neurological Surgeons (research award)
- 2008, Career Award in Medical Sciences, Burroughs Wellcome Foundation (research award)
- 2008, Paul Calabresi Scholar Award, National Institutes of Health (research award)
- 2008, Tumor Young Investigator Award, Congress of Neurological Surgeons (research award)
- 2009, Translational Research Award, National Brain Tumor Foundation (research award)
- 2009, Forbeck Scholar Award, William Guy Forbeck Research Fund (research award)
- 2010, Clinical Scientist Development Award, Doris Duke Charitable Foundation (research award)
- 2010, Distinguished Scientist Award, Sontag Foundation (research award)
- 2011, Developmental Research Program Award, Harvard/DFHCC SPORE grant (research award)
- 2011, Kimmel Foundation Scholar Award, Kimmel Foundation (research award)
- 2011, Charles McCabe Faculty Prize for Excellence in Teaching, Harvard Medical School (teaching award)
- 2012, V Scholar Finalist, University of California, San Diego (research recognition)
- 2012, Chancellor's Award, University of California, San Diego (research award)
- 2013, Society of Neuro-Oncology Young Investigator, Society of Neuro-Oncology (research award)
- 2013, Investigator Award, Medtronic (research award)
- 2014, Selected to participate in the Executive Leadership Program, Rady School of Management (leadership recognition)
- 2014, Clinical Investigator Award, Society of Neuro-Oncology (research award)
- 2015, Professorial Teaching Award, Peking Union Medical Center (teaching recognition)
- 2015, Leskell Radiosurgery Award, American Association of Neurological Surgeons (research award)
- 2016, Presidential Achievement Award, Government of Taiwan (recognition of clinical and research achievements)
- 2017-24, Lyle A French Chair in Neurosurgery University of Minnesota (recognition of clinical, research, and leadership achievements)
- 2018, Inducted into the Society of Neurological Surgeons (recognition of clinical, research, and leadership achievements)
- 2018-24, Top Doctors Minneapolis St. Paul Magazine (recognition of excellence in clinical care)
- 2019, Inducted into the American Academy of Neurological Surgeons (recognition of excellence in research)
- 2019, Preuss Award in Neuro-Oncology, Congress of Neurological Surgeons (research award)
- 2020, Marquis Who's Who in America (recognition of excellence in clinical care)
- 2020, Award of Medical Innovation, GT Medical (recognition of innovation in clinical care)
- 2021-2, Top Doctors, Minnesota Monthly (recognition of excellence in clinical care)
- 2021, Surgical Innovation Award, Society of Neuro-Oncology (research award)
- 2022, Brainlab Neurosurgery Award, American Association of Neurological Surgeons (research award)
- 2022-current, Top Doctor, Castle Connolly (recognition of excellence in clinical care)
- 2022-current, America's most honored doctors, American Registry (recognition of excellence in clinical care)
- 2023, Sontag Foundation Distinguished Alumni Award, Sontag Foundation (research award)

**PROFESSIONAL LICENSES AND BOARD CERTIFICATION**

2001-2011 Massachusetts Medical License Registration  
 2011-2017 California Medical License Registration  
 2012-current American Board of Neurological Surgeons (Board certified, November 2012)  
 2017-2024 Minnesota Medical License Registration  
 2024-current Rhode Island Medical License Registration

**ACADEMIC APPOINTMENTS**

2007-8	Instructor	Department of Neurosurgery	Massachusetts General Hospital
2008-9	Instructor	Department of Surgery	Beth Israel Deaconess Medical Center
2008-9	Instructor	Department of Radiation Oncology	Dana Farber Cancer Institute
2009-11	Asst. Professor	Department of Surgery	Beth Israel Deaconess Medical Center
2009-11	Asst. Professor	Department of Radiation Oncology	Dana Farber Cancer Institute
2011-12	Asst. Professor	Department of Surgery	University of California, San Diego
2013-17	Associate Professor	Department of Surgery	University of California, San Diego
2017	Professor	Department of Surgery	University of California, San Diego
2017	Professor	Department of Radiation Oncology	University of California, San Diego
2017-24	Professor and Chair	Department of Neurosurgery	University of Minnesota

**HOSPITAL APPOINTMENTS**

2007-8	Attending Neurosurgeon	Department of Neurosurgery	Massachusetts General Hospital
2008-11	Attending Neurosurgeon	Division of Neurosurgery, Department of Surgery	Beth Israel Deaconess Medical Center
2011-17	Attending Neurosurgeon	Division of Neurosurgery, Department of Surgery	University of California, San Diego
2012-17	Attending Neurosurgeon	Division of Neurosurgery, Department of Surgery	Scripps Clinic
2013-17	Attending Neurosurgeon	Department of Surgery	Palomar Hospital
2017-24	Attending Neurosurgeon	Department of Neurosurgery	University of Minnesota Medical Center
2024	Attending Neurosurgeon	Department of Neurosurgery	Rhode Island Hospital

**OTHER APPOINTMENTS*****Advisory boards***

2008-12	Scientific Advisory Board	International Brain Mapping and Intraoperative Surgical Planning Society
2010-12	Board of Directors	International Brain Mapping and Intraoperative Surgical Planning Society
2011-12	Senior Advisory Board	Society of Brain Mapping and Therapeutics
2012-17	Scientific Advisory Board	In Tech Publishing
2015	Member, Advisory Committee	Massachusetts General Hospital K12 Training Grant
2015-18	Scientific Advisory Board	Tocagen
2016	Scientific Advisory Board	Southeastern Brain Tumor Foundation
2017-current	Scientific Advisory Board	Forbeck Foundation
2017-2024	National Advisory Committee	Neurosurgeon Research Career Development Program

***Education committees/course participation***

2013	Co-Chairman, Preuss Symposium Organizing Committee	The Preuss Foundation
2013	Co-Chairman, 2013 Annual Biomedical Engineering Conference Organizing Committee	San Diego Chinese American Science and Engineering Association
2013	Guideline Committee, Guidelines for the Treatment of Cerebral Metastasis	Congress of Neurological Surgeons
2013	Faculty, Goodman Oral Board Review Course	American Association of Neurological Surgeons
2013	Faculty and Organizing Committee, Difficult Cases in CNS	American Society for Radiation Oncology
2013	Faculty and Organizing Committee, Innovation and Technology Symposia	Congress of Neurological Surgeons
2014	Chairman, 2013 Extracellular Vesicle Forum Organizing Committee	Forbeck Foundation
2015	Course Director, 2015, Laser thermal ablation: Principles, Practice, and Pitfalls	Monteris Medical
2015-current	Faculty, Congress of Neurological Surgeon Webinar for Oral Board Review	Congress of Neurological Surgeons
2017-current	Faculty, Case-based Multidisciplinary Review	Radiological Society of North America
2024	Faculty, Neurosurgeon Scientist Symposium	Congress of Neurological Surgeons

**Study sections**

2017	Reviewer, Study Section, NCI Program Project grant (05 ZCA1 RPRB-6)	National Institutes of Health
2017	Reviewer, Peer Reviewed Cancer Research Program (PRCRP) BraC	Department of Defense
2017-24	Reviewer, Study Section, Cancer Drug Development & Therapeutics (ZRG1 OTC-T (10) B)	National Institutes of Health
2018	Reviewer, Study Section, Neuronal and Glia Function in Neurological Disorders (2018/05MDCN-N (03) M)	National Institutes of Health
2018	Reviewer, Study Section, Human Tumor Atlas Research Program (ZRG1 OTC-T (55) R)	National Institutes of Health
2018	Reviewer, Joint Warfighter Medical Research Program (JWMP)	Department of Defense
2018	Chair, Study Section, Peer Reviewed Cancer Research Program (PRCRP) BraC	Congressionally Directed Medical Research Program
2019-current	Member, Programmatic Panel	Congressionally Directed Medical Research Program
2020	Reviewer, Brain Malignancies Steering Committee	National Cancer Institute
2021	Member, Oncological Sciences Fellowship study section (F09B)	National Institutes of Health
2021	Chair, study section, Peer Reviewed Cancer Research Program (PRCRP), Rare cancer research program CRPIT REC	Congressionally Directed Medical Research Program
2021	Member, NCI Clinical and Translational R2 and Omnibus RO3 (SEP-7)	National Institutes of Health
2023-4	Chair, Study Section, Cancer Drug Development & Therapeutics (ZRG1 OTC-T (10) B)	National Institutes of Health
2023-current	Chair, Programmatic Panel	Congressionally Directed Medical Research Program

**Editorial activities**

2004-	Reviewer	<i>Molecular and Cellular Biology</i>
2004-	Reviewer	<i>Molecular Cancer Therapeutics</i>
2007-	Reviewer	<i>Cancer Research</i>
2007-	Reviewer	<i>Journal of Neuro-Oncology</i>
2007-	Reviewer	<i>Journal of Neurology</i>
2007-	Reviewer	<i>Journal of Neurology, Neurosurgery, and Psychiatry</i>
2008-	Reviewer	<i>Cancer Epidemiology, Biomarkers &amp; Prevention</i>
2008-	Reviewer	<i>Clinical Cancer Research</i>

2009-	Reviewer	<i>Cell Proliferation</i>
2009-	Reviewer	<i>Journal of Neuroimmunology</i>
2009-	Reviewer	<i>Proceedings of the National Academy of Sciences</i>
2010-	Reviewer	<i>Medical Principles and Practices</i>
2010-	Reviewer	<i>Cold Spring Harbor Protocols</i>
2010-	Reviewer	<i>Molecular and Cellular Biochemistry</i>
2011-	Reviewer	<i>Journal of Neurological Sciences</i>
2011-	Reviewer	<i>New England Journal of Medicine (CPC case conference)</i>
2011-	Reviewer	<i>Anti-Cancer Agents in Medicinal Chemistry</i>
2011-	Reviewer	<i>Neuroimage</i>
2011-	Reviewer	<i>Neurosurgery</i>
2011-	Reviewer	<i>Journal of Health Care Engineering</i>
2011-	Reviewer	<i>Journal of Neuroimmune Pharmacology</i>
2011-	Reviewer	<i>Proceedings of National Academy of Sciences</i>
2012-	Reviewer	<i>Cancers</i>
2012-	Reviewer	<i>Journal of Pediatric Neurology</i>
2012-	Reviewer	<i>Radiotherapy &amp; Oncology</i>
2012-	Reviewer	<i>PloS Genetics</i>
2012-	Reviewer	<i>Cancer Discovery</i>
2013-	Reviewer	<i>Clinical Neurology and Neurosurgery</i>
2013-	Reviewer	<i>Neuro-Oncology</i>
2013-	Reviewer	<i>Radiation and Environmental Biophysics</i>
2013-	Reviewer	<i>British Journal of Medicine and Medical Research</i>
2013-	Reviewer	<i>Journal of Neurosciences in Rural Practice</i>
2013-	Reviewer	<i>Molecular Cancer Research</i>
2013-	Reviewer	<i>World Journal of Surgical Oncology</i>
2013-	Reviewer	<i>PloSOne</i>
2013-	Reviewer	<i>Technology in Cancer Research and Treatment</i>
2013-	Reviewer	<i>Oncogene</i>
2014-	Reviewer	<i>Pathobiology</i>
2014-	Reviewer	<i>British Journal of Applied Science &amp; Technology</i>
2014-	Reviewer	<i>International Journal of Laboratory Hematology</i>
2014-	Reviewer	<i>Neuroscience Letters</i>
2014-	Reviewer	<i>EMBO Medicine</i>
2014-	Reviewer	<i>Journal of Translational Medicine</i>
2014-	Reviewer	<i>Cancer Letters</i>
2014-	Reviewer	<i>Expert Review of Neurotherapeutics</i>
2014-	Reviewer	<i>Cereus</i>
2014-	Reviewer	<i>Molecular Oncology</i>
2014-	Reviewer	<i>eLife</i>
2014-	Reviewer	<i>Cancer Research Frontiers</i>
2015-	Reviewer	<i>Journal of Clinical Investigation</i>
2015-	Reviewer	<i>Journal of Neurosurgical Sciences</i>
2016-	Reviewer	<i>World Neurosurgery</i>
2016-	Reviewer	<i>Journal of Neurosurgery</i>
2016-	Reviewer	<i>Neurosurgery Focus</i>
2010	Grant Reviewer	<i>Hong Kong Brain Cancer Genome Consortium</i>

2010	Grant Reviewer	<i>Breast Cancer Campaign, United Kingdom</i>
2013	Grant Reviewer	<i>National Science Foundation China</i>
2013	Grant Reviewer	<i>Netherlands Organization for Scientific Research</i>
2014	Grant Reviewer	<i>Cancer Research UK</i>
2014	Grant Reviewer	<i>The Netherlands Organisation for Health Research and Development</i>
2015	Grant Reviewer	<i>Austrian Science Fund</i>
2009-10	Editor	<i>NeuroImage-IBMISPS</i>
2010-2	Editor	<i>PloSOne-NeuroMapping &amp; Therapeutics</i>
2011-	Editor	<i>InTech publishing</i>
2011-	Editor	<i>Journal of Healthcare Engineering</i>
2013-	Editor	<i>Journal of Neuro-Oncology</i>
2013-	Editor	<i>Surgical Neurology Internationale</i>
2013-	Editor	<i>Surgical Neurology Internationale Stereotactic</i>
2013-	Editor	<i>PloSOne</i>
2013-	Editor	<i>Gliomas</i>
2014-	Editor	<i>Austin Journal of Neurosurgery</i>
2014-	Editor	<i>Tumor</i>
2014-	Editor	<i>Oncoscience</i>
2014-	Associate Editor	<i>Neurosurgery</i>
2014-	Editorial Board	<i>Journal of Neurology, Neurosurgery, and Psychiatry</i>
2014-	Editorial Board	<i>Journal of Radiation Oncology and Research</i>
2013-	Editor-in-Chief	<i>Journal of Gene Therapy</i>
2015-	Editorial Advisory Board	<i>InTech publishing</i>
2016	Grant Reviewer	<i>Dutch Cancer Society</i>
2016	Grant Reviewer	<i>Quest for Cures</i>
2016-	Associate Editor	<i>Journal of Circulating Biomarkers</i>
2017-21	Editor	<i>Journal of Radiosurgery and SBRT</i>
2021-	Reviewer	<i>Ebiomedicine</i>
2022-	Reviewer	<i>New England Journal of Medicine</i>
2024-	Reviewer	<i>Lancet Oncology</i>

**HOSPITAL COMMITTEES**

2007-8	Director, North Neurosurgery Service	Massachusetts General Hospital
2008-11	Director, Clinical Neuro-Oncology	Beth Israel Deaconess Medical Center
2008-11	Neuro-Oncology Seminar Series (monthly seminars for medical oncology/neurology residents)	Beth Israel Deaconess Medical Center
2009-11	Director, Medical Education	Beth Israel Deaconess Medical Center
2011-13	Director of Stereotactic and Radiosurgery	University of California, San Diego Medical Center
2017-24	Clinical Sciences Council	University of Minnesota
2017-24	Council of Surgical Chairs	University of Minnesota

2017-24	Institute of Translational Neuroscience Steering Committee	University of Minnesota
2017-24	MnDRIVE Brain Conditions Steering Committee Meeting	University of Minnesota
2017-24	Medical Executive Council	University of Minnesota
2017-24	Department Heads Council	University of Minnesota
2018-24	Research Infrastructure Committee	University of Minnesota
2019-24	University of Minnesota Physicians Board, Investment Committee	University of Minnesota
2020-24	Member, Masonic Cancer Center Executive Committee	University of Minnesota
2020-24	Member, steering committee, oncology service line	M-Health Fairview
2020-24	Member, steering committee, neuroscience service line	M-Health Fairview

**UNIVERSITY COMMITTEES**

2007-8	Trauma Chief Search Committee Member	Massachusetts General Hospital
2008-11	Radiation Oncology CNS Chief Search Committee Member	Brigham and Women’s Hospital
2008-11	Organ Donation Council Member	Beth Israel Deaconess Medical Center
2009-11	Course director, Neurosurgery clerkship (SU509M.5)	Harvard Medical School
2009-11	Course director, Evidence based neurosurgery clerkship (SU524M.5)	Harvard Medical School
2009-11	Course director, Neurosurgical Oncology (SU515M.5)	Harvard Medical School
2009-11	Faculty Advisor, Cushing Neurosurgical Society	Harvard Medical School
2010-11	Fellow, The Academy at Harvard Medical School	Harvard Medical School
2010-11	Fellow, The Academy of Medical Educators at the Beth Israel Deaconess Medical Center	Beth Israel Deaconess Medical Center
2010-11	Cancer Biology Professor Search Committee Member	Beth Israel Deaconess Medical Center
2010-11	Affinity Research Collaborative Committee Member	Beth Israel Deaconess Medical Center
2010-11	Department of Surgery Performance Committee	Beth Israel Deaconess Medical Center
2011	Education Coordinator Search Committee Member	University of California, San Diego
2011-15	Director, Introduction to Neurosurgery (Surg-401A)	University of California, San Diego
2012-17	Course director, Introduction to Neurosurgery (Surg-410)	University of California, San Diego
2011-17	Co-Director, Surgical Neuro-Oncology	University of California, San Diego
2011-17	Neurosurgery Clerkship Director	University of California, San Diego
2011-17	Neurosurgery Sub-Internship Director	University of California, San Diego
2012-15	Research Day Planning Committee Member	University of California, San Diego
2012-15	Surgery Research Committee	University of California, San Diego



2012-17	Recruitment and Admissions Committee	University of California, San Diego
2012	Ph.D. Thesis Committee, Wen Qiao	University of California, San Diego
2012	Diversity Community, Division of Neurosurgery	University of California, San Diego
2012-17	Director of Medical Education	University of California, San Diego
2012-17	Course director, Neurological Surgery (Surg-454)	University of California, San Diego
2013	Tissue Distribution Committee, Brain Tumor Collaborative Group, Moores Cancer Center	University of California, San Diego
2013	IRB Committee, Brain Tumor Collaborative Group, Moores Cancer Center	University of California, San Diego
2013	Committee on Rewards and Recognition, Department of Surgery	University of California, San Diego
2013	Committee on Departmental Culture, Department of Surgery	University of California, San Diego
2013-17	Vice Chairman, Research and Academic Development, Division of Neurosurgery	University of California, San Diego
2013-17	Chief, Neurosurgical Radiosurgery	University of California, San Diego
2014	Surgery Department Representative to the Senate Assembly	University of California, San Diego
2014	Neurological Council Workgroup	University of California, San Diego
2014-17	Course director, Introduction to Neurosurgery (NEU224)	University of California, San Diego
2014-17	Academic Senate Representative	University of California, San Diego
2014-17	Coordinator of Neurosurgery Didactics for General Surgery Residents	University of California, San Diego
2015	Committee on Academic Freedom	University of California, San Diego
2015	Committee on Minor Proposition	University of California, San Diego
2015	Committee on Recruitment of Pediatric Neurosurgery	University of California, San Diego
2015	Senate Examination Committee, Tony Yen	University of California, San Diego
2015	Director of Neuro-oncology, Search Committee	University of California, San Diego
2015-17	Course director, Clinical Practice of Neurosurgery, (NEU226)	University of California, San Diego
2017-24	Graduate Medical Education Council	University of Minnesota
2016	Thesis Examination Committee, Wei Cai	University of California, San Diego
2017	Thesis Examination Committee, Tony Yan	University of California, San Diego
2020	Thesis Examination Committee, Daniel Maeser	University of Minnesota
2017-23	IRB Review Committee	University of Minnesota

**MEMBERSHIP IN SOCIETIES**

2001-	American Association of Neurological Surgeons (AANS) 2009: Translational Research Award
2001-	Congress of Neurological Surgeons (CNS) 2006: Tumor Young Investigator Award 2008: Tumor Young Investigator Award
2001-	Joint Section for Tumors, AANS and CNS 2013-current: Member of the Executive Committee

- 2016-7: Vice Chair, International Committee
- 2022-current: Innovation Committee
- 2001- Society of Neuro-oncology
- 2013: Young Investigator Award
- 2021 Surgical Innovation Award
- 2004- American Association for Cancer Research
- 2004- American Association for the Advancement of Science
- 2006- Society of Neuro-Oncology
- 2009-17 International Brain Mapping and Intraoperative Surgical Planning Society
- 2011-17 San Diego Academy of Neurosurgery
- 2013-17 Gliomas, Advisory Board Member
- 2014-17 Member and Scientific Session Chair, International Society for Extracellular Vesicles (ISEV)
- 2015-17 Member and Scientific Review Committee, International Stereotactic Radiosurgery Society Congress
- 2018- Inducted member, The Society of Neurological Surgeons
- 2019- Inducted member, American Academy of Neurologic Surgery
- 2019-20 Neurosurgery Research & Education Foundation, Joint Section on Tumors of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons
- 2021- Panel member, NIDUS expert panel, Congress of Neurological Surgeons

## **PUBLICATION LIST**

### ***Original publications in peer-reviewed journals***

- 1) Bass DM, Baylor MR, **Chen CC**, Machkow EM, Bremont M, Greenberg HB. Liposome mediated transfection of intact viral particles reveals that plasma membrane penetration determines permissivity of tissue culture cells to rotavirus. *J Clin Invest* 1992; 90:2313-2320. PMID: 1334974  
DOI: 10.1172/JCI116119
- 2) **Chen CC**, Baylor MR, Bass DM. Murine intestinal mucins inhibit rotavirus infection. *Gastroenterology* 1993; 105(1):84-92. DOI: 10.1016/0016-5085(93)90013-3. PMID: 8390382.  
PMID: 1334974 DOI: 10.1172/JCI116119
- 3) Bass DM, Baylor MR, **Chen CC**, Upadhyayula U. Dansylcadaverine and cytochalasin D enhance rotavirus infection of murine L cells. *Virology* 1995; 212:429-437. PMID: 7571412.  
DOI: 10.1006/viro.1995.1500 DOI: 10.1006/viro.1995.1500.
- 4) **Chen CC**, Neugut AI, Rotterdam H. Risk factors for adenocarcinomas and malignant carcinoids of the small intestine: Preliminary Findings. *Cancer Epidemiol Biomarkers Prev* 1994; 3:1-3. PMID: 8019367.
- 5) Chow JS, **Chen CC**, Ahsan H, Neugut AI. A population-based study of the incidence of malignant small bowel tumors: SEER 1973-1990. *Int J Epidemiol* 1996; 25:722-728. PMID: 8921448  
DOI: 10.1093/ije/25.4.722
- 6) Keshav KF, **Chen CC**, Dutta A. RPA4, a homologue of the 34 kDA subunit of the replication protein A complex. *Mol Cell Biol* 1995; 15:3119-3128. PMID: 7760808 DOI: 10.1128/MCB.15.6.3119
- 7) Lin Y-L, **Chen CC**, Keshav KF, Winchester E, Dutta A. Dissection of the functional domains of the human DNA replication protein complex Replication Protein A. *J Biol Chem* 1996; 271:17190-17198. PMID: 8663296 DOI: 10.1074/jbc.271.29.17190
- 8) Lin Y-L, Shivji MK, **Chen CC**, Kolodner RD, Wood RD, Dutta, A. The evolutionarily conserved zinc finger motif in the largest subunit of human replication protein A is required for DNA replication and mismatch repair but not for nucleotide excision repair. *J Biol Chem* 1998; 273:1453-1461.  
PMID: 9430682 DOI: 10.1074/jbc.273.3.1453
- 9) Umezu K, Sugawara N, **Chen CC**, Haber JE, Kolodner R. Genetic analysis of *Saccharomyces cerevisiae RPA1* reveals multiple functions in DNA metabolism. *Genetics* 1998; 148:989-1005. DOI: 10.1093/genetics/148.3.989. PMID: 9539419 DOI: 10.1093/genetics/148.3.989
- 10) **Chen CC**, Umezu K, Kolodner RD. Chromosomal rearrangements occur in *S. cerevisiae rfa1* mutator mutants due to mutagenic lesions processed by double-strand-break repair. *Mol Cell* 1998; 2:9-22. PMID: 9702187 DOI: 10.1016/s1097-2765(00)80109-4
- 11) **Chen CC**, Merrill BJ, Lau P, Holm C, Kolodner RD. *Saccharomyces cerevisiae pol30* (PCNA) mutations impair replication fidelity and mismatch repair. *Mol Cell Biol* 1999;

19:7801-7815. Mol Cell Biol. 1999 Nov;19(11):7801-15. PMID: 10523669 DOI: 10.1128/MCB.19.11.7801.

12) **Chen CC**, Kolodner RD. Gross chromosomal rearrangements in *Saccharomyces cerevisiae* replication and recombination defective mutants. Nat Genet 1999; 23:81-85. PMID: 10471504 DOI: 10.1038/12687.

13) Myung K, Dutta A, **Chen CC**, Kolodner RD. SGS1, the *Saccharomyces cerevisiae* homologue of BLM and WRN, suppresses genome instability and homeologous recombination. Nat Genet 2001; 27:113-116. PMID: 11138010 DOI: 10.1038/83673

14) Myung K, **Chen CC**, Kolodner RD. Multiple pathways cooperate in the suppression of genome instability in *Saccharomyces cerevisiae*. Nature 2001; 411:1073-1076. PMID: 11429610 DOI: 10.1038/35082608.

15) **Chen CC**, Bellon RJ, Ogilvy CS, Putman CM. Aneurysms of the lateral spinal artery. Neurosurgery 2001; 48:949-954. PMID: 11322459 DOI: 10.1097/00006123-200104000-00057

16) **Chen CC**, Hsu L, Hecht, JL, Janecka I. Bimaxillary chondrosarcoma: clinical, radiologic, and histologic correlation. Am J Neuroradiol 2002; 23:667-670. PMID: 11950664

17) **Chen CC**, Motegi A, Hasegawa Y, Myung K, Kolodner RD, D'Andrea A. Genetic analysis of ionizing radiation induced-mutagenesis in *Saccharomyces cerevisiae* reveals TransLesion Synthesis (TLS) independent of PCNA K164 SUMOylation and ubiquitination. DNA Repair 2006; 5:1475-1488. PMID: 16990054 DOI: 10.1016/j.dnarep.2006.07.007

18) **Chen CC**, Taniguchi T, D'Andrea A. The Fanconi Anemia (FA) pathway confers cellular resistance to the DNA alkylating agents. J Mol Med 2007; 85:497-509. PMID: 17221219 DOI: 10.1007/s00109-006-0153-2

19) Kennedy RD, **Chen CC**, Stuckert P, Archila EM, De la Vega MA, Moreau L, Shimamura A, D'Andrea A. Fanconi anemia pathway deficient tumor cells are hypersensitive to inhibition of ataxia telangiectasia mutated. J Clin Invest 2007; 117:1440-1449. PMID: 17431503 DOI: 10.1172/JCI31245. Epub 2007 Apr 12.

20) **Chen CC**, Kennedy RD, Sidi S, Look AT, D'Andrea A. CHK1 inhibition as a strategy for targeting DNA repair deficient tumors. Mol Cancer 2009; 8: 1-16. PMID: 19371427 DOI: 10.1186/1476-4598-8-24

21) Ng K, Nitta M, Hu L, Kesari S, D'Andrea A, **Chen CC**. A siRNA screen revealed proteasome inhibition as strategy for glioblastoma therapy. Clin Neurosurg 2009; 56: 107-18. PMID: 20214041

22) **Chen CC**, Hochberg F, Batchelor T, Shih HA, Chakravarti A, Chapman P, Loeffler J. Radiosurgery as Salvage Therapy for Primary Central Nervous System Lymphoma. Radiosurgery 2009; 7: 276-287. DOI: 10.7759/cureus.34817

- 23) Nitta M, Kozono D, Kennedy RD, Stommel J, Ng K, Zinn PO, Kushwaha D, Kesari S, Furnari F, Hoadley KA, Chin L, DePinho RA, Cavenee WK, D'Andrea A, **Chen CC**. Targeting EGFR induced oxidative stress by PARP1 inhibition in glioblastoma therapy. *PLoS ONE* 2010; 5(5): e10767. PMID: 20532243 DOI: 10.1371/journal.pone.0010767
- 24) **Chen CC**, Zinn PO, Kasper EM, Ogilvy CS. Cranio-spinal migration of a metallic clip placed during arteriovenous malformation resection – A case report, review of the literature, and management strategies. *BMC Neurology* 2010; 10: 109-112. PMID: 21047415 DOI: 10.1186/1471-2377-10-109
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Collaborations in Neurosurgery (Wall Street Journal)

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Skull surgery offers perils and potentials (New York Times)

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DARPA Awards \$6 million to develop nanotech therapies

[http://ucsdnews.ucsd.edu/pressrelease/darpa\\_awards\\_6\\_million\\_to\\_develop\\_nanotech\\_therapies\\_for\\_traumatic\\_brain\\_in](http://ucsdnews.ucsd.edu/pressrelease/darpa_awards_6_million_to_develop_nanotech_therapies_for_traumatic_brain_in)

Minimally invasive laser treatment for brain cancers (CNN)

<http://money.cnn.com/news/newsfeeds/articles/globenewswire/10086649.htm>

New therapeutic development for glioblastomas (World Journal – a prominent Chinese newspaper)

<http://worldjournal.com/bookmark/25290444/article-%E6%8A%97%E7%B2%BE%E7%A5%9E%E7%97%85%E8%97%A5%E7%89%A9%E5%8F%AF%E6%B2%BB%E8%85%A6%E8%85%AB%E7%98%A4>

Anti-psychotic Medications Offer New Hope in the Battle Against Glioblastoma

<http://health.ucsd.edu/news/releases/Pages/2014-03-07-anti-psychotics-may-fight-glioblastoma.aspx>

California's First MRI-Guided Laser Treatment for Brain Cancer

<http://health.ucsd.edu/news/releases/Pages/2014-02-24-MRI-guided-brain-cancer-surgery.aspx>

Brain Surgeons Go with the Flow

<http://health.ucsd.edu/news/releases/Pages/2013-11-27-tractography.aspx>

Southern California's First Real-Time MRI-Guided Gene Therapy for Brain Cancer at UC San Diego Health System

<http://health.ucsd.edu/news/releases/Pages/2013-08-06-MRI-guided-gene-therapy-for-brain-cancer.aspx>

MRI-Guided Biopsy for Brain Cancer Improves Diagnosis, California First

<http://health.ucsd.edu/news/releases/Pages/2014-04-30-mri-guided-brain-biopsy-improves-diagnosis.aspx>

Biomarker Predicts Effectiveness of Brain Cancer Treatment

<http://health.ucsd.edu/news/releases/Pages/2014-07-01-biomarker-predicts-brain-cancer-treatment.aspx>

Novel Technologies Advance Brain Surgery to Benefit Patients

<http://health.ucsd.edu/news/releases/Pages/2014-07-24-novel-technologies-advance-brain-surgery.aspx>

Patients Benefit from Complex, Minimally Invasive Neurosurgery (Bloomberg Businessweek)

<http://investing.businessweek.com/research/markets/news/article.asp?docKey=600-201408190800PRIMZONEFULLFEED10095177-1>

Finding Keys to Glioblastoma Therapeutic Resistance

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Bio-engineered pump could carry cancer drug (UT San Diego)

<http://www.utsandiego.com/news/2014/aug/30/pumping-cancer-drugs-schnitzer/>

Extracellular Vesicles (EVs) as a novel biomarker platform

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PTPRZ-MET Fusion Protein: A New Target for Personalized Brain Cancer Treatment

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'Extracellular Vesicles' May Open New Opportunities for Brain Cancer Diagnosis and Treatment

<http://www.wolterskluwerhealth.com/News/Pages/%27Extracellular-Vesicles%27-May-Open-New-Opportunities-for-Brain-Cancer-Diagnosis-and-Treatment.aspx>

UCSD doctors use 3-D technology to remove brain tumors

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<http://www.utsandiego.com/news/2014/oct/30/san-diego-rallies-around-365ft-rappel-for-brain-ca/>

UCSD Medical Researchers Discover New Fusion Protein

<http://ucsdguardian.org/2014/10/26/ucsd-medical-researchers-discover-new-fusion-protein/>

New Combination Treatment Strategy to “Checkmate” Glioblastoma

[http://ucsdnews.ucsd.edu/pressrelease/new\\_combination\\_treatment\\_strategy\\_to\\_checkmate\\_glioblastoma](http://ucsdnews.ucsd.edu/pressrelease/new_combination_treatment_strategy_to_checkmate_glioblastoma)

Spotlight on Extracellular Vesicles in Cerebrospinal Fluid

<https://www.facebook.com/IzonScience/posts/833355260077523>

Studies show that Rapidarc® radiosurgery is a viable, time efficient way to treat multiple brain metastases.



[HTTP://WWW.REUTERS.COM/ARTICLE/2015/06/05/VAR-BRAIN-METASTASES-IDUSNPn773NGM+87+PRN20150605](http://www.reuters.com/article/2015/06/05/var-brain-metastases-idUSNPn773NGM+87+PRN20150605)

Improved Survival in Adult Patients with Low-Grade Brain Tumors

[http://ucsdnews.ucsd.edu/pressrelease/improved\\_survival\\_in\\_adult\\_patients\\_with\\_low\\_grade\\_brain\\_tumors](http://ucsdnews.ucsd.edu/pressrelease/improved_survival_in_adult_patients_with_low_grade_brain_tumors)

Epigenetic Driver of Glioblastoma Provides New Therapeutic Target

<http://health.ucsd.edu/news/releases/Pages/2015-07-06-glioblastoma-and-epigenetics.aspx>

Adult Glioma Survival Improved Significantly in Past Decade

<http://www.medscape.com/viewarticle/847504>

Extracellular Vesicles (Including Exosomes) As Diagnostics and Prognostics

<http://www.bioquicknews.com/node/2596>

Neuro-oncologists seek balance between optimism, realism amid promising immunotherapy data

<http://www.healio.com/hematology-oncology/news/print/hematology-oncology>

A tale of two hospitals

*GE SIGNA PULSE of MR*

<http://www.gesignapulse.com/signapulse/signapulse2014autumn?pg=42#pg42>

Cancer that took life of Beau Biden, uncommon, but dangerous

*The San Diego Union Tribune*

<http://www.utsandiego.com/news/2015/jun/16/beau-biden-brain-cancer/>

Seeking Tiny Vesicles For New Medical Diagnostics

*Chemical & Engineering News (American Chemical Society)*

<http://cen.acs.org/articles/93/i29/Seeking-Tiny-Vesicles-New-Medical.html>

Total Resection of Brain Tumor Extends Survival

*Medscape*

<http://www.medscape.com/viewarticle/844272>

Laser Ablation Shows Benefit for Tumors Near the Spine

*Medscape*

<http://www.medscape.com/viewarticle/844351>

Medical Research Influenced by Training “Genealogy”

[http://ucsdnews.ucsd.edu/pressrelease/medical\\_research\\_influenced\\_by\\_training\\_genealogy](http://ucsdnews.ucsd.edu/pressrelease/medical_research_influenced_by_training_genealogy)

Neurosurgeons Evaluate Precision Laser Treatment Of Brain Tumors at UC San Diego Health

<https://health.ucsd.edu/news/releases/Pages/2016-01-13-precision-laser-treatment-for-brain-tumors.aspx>

Clinical Study Suggests the Origin of Glioblastoma Subtypes

[http://ucsdnews.ucsd.edu/pressrelease/clinical\\_study\\_suggests\\_the\\_origin\\_of\\_glioblastoma\\_subtypes](http://ucsdnews.ucsd.edu/pressrelease/clinical_study_suggests_the_origin_of_glioblastoma_subtypes)

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<https://ucsandiegoextension.wordpress.com/2016/10/04/50-voices-of-the-future-dr-clark-chen-on-viral-gene-therapy-and-the-treatment-of-cancer/>

Laser thermal ablation for treatment of brain tumors

<https://globenewswire.com/news-release/2017/04/26/972775/0/en/Monteris-Medical-Announces-New-Data-from-Clinical-Studies-Evaluating-Laser-Interstitial-Thermal-Therapy-for-Brain-Lesions.html>

Depression Rates After Spine Surgery

<https://www.spineuniverse.com/professional/news/depression-rates-after-spine-surgery>

New Cancer Drug Could Cure John McCain's glioblastoma using a virus

<http://www.newsweek.com/trump-may-be-president-because-brain-cancer-694532>

Gene therapy shows promise against brain cancer in early testing

<http://www.philly.com/philly/health/gene-therapy-shows-promise-against-brain-cancer-in-early-testing-20171027.html>

Top U of M Researcher, Drug Firm Collaborate to Yield Brain Cancer Progress

<http://tcbmag.com/news/articles/2017/november/top-u-of-m-researcher-drug-firm-collaborate-to-yi>  
*Press coverage and videos accompanying press release*

MRI Interventions ClearPoint® Neuro Navigation System Utilized for the First Time in Minnesota

<https://globenewswire.com/news-release/2018/01/03/1281602/0/en/MRI-Interventions-ClearPoint-Neuro-Navigation-System-Utilized-for-the-First-Time-in-Minnesota.html>

Dr. Clark Chen Performs Brain Surgery Utilizing Cutting-Edge MRI Navigation Platform

<https://www.med.umn.edu/news-events/umn-medical-school%E2%80%99s-dr-clark-chen-performs-minnesota%E2%80%99s-first-brain-tumor-surgery-utilizing-cutting-edge-mri-navigation-platform>

Breakthrough Surgery Uses Laser To Remove Brain Tumor

<https://minnesota.cbslocal.com/2018/01/08/laser-brain-surgery/>

Hibbing man revels in results of a brain surgery never-before performed in Minnesota

<http://www.duluthnewstribune.com/news/4386775-hibbing-man-revels-results-brain-surgery-never-performed-minnesota>

New brain surgery option less invasive (Star Tribune)

<https://www.pressreader.com/usa/star-tribune/20180114/283798559159327>

Minimally invasive procedure gives brain tumor patient another chance at a health life

<https://www.mhealth.org/blog/2018/january-2018/minimally-invasive-procedure-gives-brain-tumor-patient-another-chance-at-a-healthy-life>

The future of brain cancer treatment

<https://www.mhealth.org/blog/2018/may-2018/four-things-to-know-future-of-brain-tumor-treatment>

Modern neurosurgery helps patient overcome daunting disease and pursue dream of becoming a doctor  
<https://www.neurosurgery.umn.edu/news/modern-neurosurgery-helps-patient-overcome-daunting-disease-and-pursue-dream-becoming-doctor>

Battle with rare brain cyst inspires former patient to become doctor  
<https://www.mhealth.org/blog/2018/may-2018/battle-with-rare-brain-cyst-inspires-former-patient-to-become-doctor>

Doctor, patient reunited years after lifesaving surgery  
<https://www.kare11.com/article/news/doctor-patient-reunited-years-after-lifesaving-surgery/89-559752487>

University clinical trials test new ways to fight brain cancer  
<http://www.mndaily.com/article/2018/07/n-university-clinical-trials-test-new-ways-to-fight-brain-cancer>

High-profile glioblastoma deaths may be no coincidence  
<https://www.kare11.com/article/news/high-profile-glioblastoma-deaths-may-be-no-coincidence/89-587886812>

U of M begins trial for new brain cancer treatment  
<https://www.kare11.com/article/news/u-of-m-begins-trial-for-new-brain-cancer-treatment/89-612405014>

U Doctor Examining How Laser Brain Surgery Affects Peoples' Lives  
<https://minnesota.cbslocal.com/2018/12/03/u-doctor-examining-how-laser-brain-surgery-affects-peoples-lives/>

U of M building first-in-the-world cancer surgical suite  
<https://www.kare11.com/article/news/u-of-m-building-first-in-the-world-cancer-surgical-suite/89-621332400>

Minnesota-developed NeuroBlate device saves brain cancer patients. But what's next?  
<http://www.startribune.com/minnesota-developed-neuroblate-device-saves-brain-cancer-patients-but-what-s-next/504887592/>

University of Minnesota First in U.S. to Offer New Targeted Therapy for Recurrent Brain Tumors  
<https://www.businesswire.com/news/home/20190214005486/en/University-Minnesota-U.S.-Offer-New-Targeted-Therapy>

University of Minnesota targets brain cancer with new form of radiation therapy  
<http://www.startribune.com/u-targets-brain-cancer-with-new-form-of-radiation-therapy/505850192/>

New brain cancer treatment at the University of Minnesota  
<https://www.kare11.com/article/news/new-brain-cancer-treatment-at-the-university-of-minnesota/89-d0b5f5d4-fb9f-4fc4-8f70-802e12858399>

The top doctors in the twin cities, 2018

<http://mspmag.com/health-and-fitness/the-top-doctors-in-the-twin-cities-2018/>

How this Arizona startup is building the future of brachytherapy for brain cancer

<https://medcitynews.com/2019/03/how-this-arizona-startup-is-building-the-future-of-brachytherapy-for-brain-cancer/?rf=1>

MRI Interventions Congratulates Dr. Clark Chen On First Patient Dosing In Minnesota For Phase 2 Glioblastoma Trial

<https://www.globenewswire.com/news-release/2019/03/25/1760528/0/en/MRI-Interventions-Congratulates-Dr-Clark-Chen-On-First-Patient-Dosing-In-Minnesota-For-Phase-2-Glioblastoma-Trial.html>

Clinical trial at U of M brings hope to one cancer patient

<https://kstp.com/news/clinical-trial-university-minnesota-adam-donahue-glioblastoma/5370831/>

New drug helps surgeons spot brain tumors by turning them pink

<https://www.kare11.com/article/news/new-drug-helps-surgeons-spot-brain-tumors-by-turning-them-pink/89-7d4eff28-6db3-4319-b58f-970a8ae24c2a>

First in the world intraoperative MRI surgical suite at U of M Medical Center

<https://kstp.com/medical/intraoperative-mri-surgical-suite-at-university-minnesota-medical-center-will-be-first-in-the-world/5434081/>

New MRI machine at U of M to help with 'surgeries of tomorrow'

<http://www.fox9.com/news/new-mri-machine-at-u-of-m-to-help-with-surgeries-of-tomorrow->

Exploding Shells Boost Immune Response to Brain Cancer

<https://ucsdnews.ucsd.edu/pressrelease/exploding-shells-boost-immune-response-to-brain-cancer>

Leukemia Drug Shows Promise for Treating a Childhood Brain Cancer

<https://health.ucsd.edu/news/releases/Pages/2019-09-20-leukemia-drug-shows-promise-treating-childhood-brain-cancer.aspx>

The “Goldilocks” Principle for Curing Brain Cancer

<https://med.umn.edu/news-events/“goldilocks”-principle-curing-brain-cancer>

U of M pioneers new 'T-suite' surgical room

<https://www.kare11.com/article/news/health/u-of-m-pioneers-new-t-suite-surgical-room/89-90c6811d-0cca-4854-94a6-a6fb483295fd>

New campus MRI machine to expand surgery capability

<https://www.mndaily.com/article/2019/12/n-new-campus-mri-machine-to-expand-surgery-capability>

DNatrix Presents Positive Results from the Phase 2 CAPTIVE/KEYNOTE-192 Study of DNX-2401 in Combination with Pembrolizumab for Glioblastoma at the 2019 SNO Annual Meeting

<https://markets.businessinsider.com/news/stocks/dnatrix-presents-positive-results-from-the-phase-2-captive-keynote-192-study-of-dnx-2401-in-combination-with-pembrolizumab-for-glioblastoma-at-the-2019-sno-annual-meeting-1028713221>

Glioblastoma: Activating an immune response  
<http://www.mppub.com/mp-s2-0220.html>

New discovery by University of Minnesota reveals that glioblastoma acquires radiation resistance by jettisoning exosomal microRNAs  
<https://med.umn.edu/news-events/university-minnesota-researchers-study-radiation-resistance-brain-cancer-cells>

Karolinska University Hospital announces the first treatment in the Nordic Region of a brain tumor with laser ablation  
<https://news.cision.com/karolinska-universitetssjukhuset/r/karolinska-university-hospital-announces-the-first-treatment-in-the-nordic-region-of-a-brain-tumor-w,c2923607>

Microglia, Stockholm syndrome and miraculous cures in glioblastoma patients  
<https://www.sciencedaily.com/releases/2021/04/210419135700.htm>

New drug helps U of M neurosurgeon make the decisions required for more complete brain tumor resections, benefiting local patient  
<https://med.umn.edu/news-events/new-drug-helped-u-m-neurosurgeon-make-%E2%80%9Csplit-second-decisions%E2%80%9D-required-more-complete-brain-tumor-resection>

ClearPoint Neuro, Inc. Announces First-in-Human Cases of the SmartFrame Array™ Neuro Navigation System and Software  
<https://www.globenewswire.com/news-release/2021/05/18/2232002/25687/en/ClearPoint-Neuro-Inc-Announces-First-in-Human-Cases-of-the-SmartFrame-Array-Neuro-Navigation-System-and-Software.html>

Top Doctors: A Legacy of Discovery  
<https://mspmag.com/health-and-fitness/top-doctors-in-the-twin-cities-2021/>

“My heart hurts”: Mark Rosen announces that his wife Denise “died peacefully”  
<https://minnesota.cbslocal.com/2021/08/31/my-heart-is-aching-mark-rosen-announces-wife-denise-passed-peacefully/>

Years of scientific progress lead to hope for glioblastoma patient  
<https://blog.braintumor.org/years-of-scientific-progress-lead-to-hope-for-glioblastoma-patient/>

Portable MRI machine opens a world of possibilities for M Health Fairview patients  
<https://mhealthfairview.org/blog/m-health-fairview-trials-portable-magnetic-resonance-imaging-mri-machine>

Using the most cutting-edge technology to advance the care of brain tumor patients  
<https://med.umn.edu/news-events/using-most-cutting-edge-technology-advance-care-brain-tumor-patients>

M Health Fairview offers first portable MRI to patients (17:13:47)

<https://us02web.zoom.us/j/85126505755?pwd=V0MxZ0RLeWVUVmMyNzVHYTErcDJ5Zz09>

M Health Fairview University of Minnesota Medical Center Receives First Hyperfine Portable MRI to Grow its Advanced Imaging Systems Offering

<https://www.biospace.com/article/releases/m-health-fairview-university-of-minnesota-medical-center-receives-first-hyperfine-portable-mri-to-grow-its-advanced-imaging-systems-offering/>

Virtual tour of the human brain

<https://kstp.com/kstp-news/local-news/5-at-the-fair-virtual-tour-of-the-human-brain/>

GT Medical Technologies Announces First Patient Enrolled in GESTALT Trial of GammaTile® Therapy for Newly Diagnosed Glioblastoma Brain Tumors

[https://www.prnewswire.com/news-releases/gt-medical-technologies-announces-first-patient-enrolled-in-gestalt-trial-of-gammatile-therapy-for-newly-diagnosed-glioblastoma-brain-tumors-301645360.html?tc=eml\\_cleartime](https://www.prnewswire.com/news-releases/gt-medical-technologies-announces-first-patient-enrolled-in-gestalt-trial-of-gammatile-therapy-for-newly-diagnosed-glioblastoma-brain-tumors-301645360.html?tc=eml_cleartime)

Drug offers renewed hope to brain cancer patients

<https://www.kare11.com/video/news/local/breaking-the-news/drug-offers-renewed-hope-to-brain-cancer-patients/89-212ebef2-dd7d-45cb-b30a-25d7ea5225b9>

“The future is here”: How virtual reality at U of M helped save woman with brain cancer

<https://kstp.com/kstp-news/top-news/the-future-is-here-how-virtual-reality-at-u-of-m-helped-save-woman-with-brain-cancer/>

## **Videos**

Gene therapy for brain cancer

UCSD: <https://www.youtube.com/watch?v=xApelpgAoVc>

KPBS: <http://www.youtube.com/watch?v=c5bDgzhP2Fc>

ABC: <http://on.aol.com/video/attacking-glioblastoma-brain-cancer-with-a-virus-518161528>

Huffingtonpost: <http://videos.huffingtonpost.com/voces/attacking-glioblastoma-brain-cancer-with-a-virus-518161528>

NBC: <https://www.youtube.com/watch?v=lfFMYzfRznk>

MRI-guided brain biopsy

[https://www.youtube.com/watch?v=hALKyJL9e\\_c](https://www.youtube.com/watch?v=hALKyJL9e_c)

MRI-guided laser surgery for brain cancer

<https://www.youtube.com/watch?v=Vet3ZJlfLJ0>

Cell phone and brain cancer

FOX: [https://www.youtube.com/watch?v=-50eTf\\_Hb9U](https://www.youtube.com/watch?v=-50eTf_Hb9U)

Brain tumor and behavior

FOX: <https://www.youtube.com/watch?v=Lr-KNVrSZPs>

Tractography guided neurosurgery

<https://www.youtube.com/watch?v=UhUgCxU0x1I>

Brain cancer responds to anti-psychotic meds

<http://www.ziptrials.us/cancer-studies/brain-cancer-responds-to-anti-psychotic-meds/>

UCSD surgeon uses unique 3-D tools during brain surgery

*KPBS (2 part series):*

[http://www.kpbs.org/news/2014/aug/05/groundbreaking-imaging-tools-advance-brain-surgery/?utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+kpbs%2Flocal+\(KPB S+News%3A+Local+Headlines\)](http://www.kpbs.org/news/2014/aug/05/groundbreaking-imaging-tools-advance-brain-surgery/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+kpbs%2Flocal+(KPB S+News%3A+Local+Headlines))

[http://www.kpbs.org/news/2014/aug/06/ucsd-surgeon-uses-cutting-edge-imaging-tools-guide/?utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+kpbs%2Fhealth+\(KPB S+News%3A+Health\)](http://www.kpbs.org/news/2014/aug/06/ucsd-surgeon-uses-cutting-edge-imaging-tools-guide/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+kpbs%2Fhealth+(KPB S+News%3A+Health))

Minimally invasive neurosurgery offers new hopes for brain tumor patients

*ESPN:* <http://youtu.be/K-PPwNW2QIY>

Minimally invasive brain surgery advanced at UC San Diego Health System

<https://www.youtube.com/watch?v=arJbjOjx2Dc>

Brain Tumors, Tractography, and Surgery in the MRI

*UCTV:* <http://www.ucsd.tv/search-details.aspx?showID=28395>

Minimally invasive biomarker for brain tumor detection

*ABC2:* <http://abc2.org/article/san-diego-brain-cancer-experts-partner-industry-research-early-tumor-recurrence-detection>

First Real-time MRI-guided Brain Surgery for Parkinson's in Southern California

<http://health.ucsd.edu/news/releases/Pages/2014-12-16-mri-guided-dbs-surgery.aspx>

Treating recurrent glioma with Toca511

<http://cancerdiscovery.aacrjournals.org/content/early/2017/11/07/2159-8290.CD-NB2017-157>

Breakthrough Brain Tumor Surgery

<http://minnesota.cbslocal.com/video/3789439-breakthrough-surgery-uses-laser-to-remove-brain-tumor/>

Doctor, patient reunited years after lifesaving surgery

<https://www.kare11.com/article/news/doctor-patient-reunited-years-after-lifesaving-surgery/89-559752487>

THE CURRENT LANDSCAPE IN HIGH GRADE GLIOMA

<https://futureofglioma.com>

THE TUMOR MICROENVIRONMENT OF HIGH GRADE GLIOMA

<https://futureofglioma.com>

CHALLENGES POSED BY IMMUNE SUPPRESSION

<https://futureofglioma.com>

CHALLENGES POSED BY TUMOR HETEROGENEITY

<https://futureofglioma.com>

BUILDING A MULTIDISCIPLINARY APPROACH FOR TREATING HIGH GRADE GLIOMA

<https://futureofglioma.com>

Safety of laser thermal ablation

<https://www.facebook.com/MonterisMedical/videos/vb.189694034488566/2320137528208803/?type=2&theater>

GammaTile Therapy Patient Experience | Chad, Glioblastoma Survivor

<https://www.youtube.com/watch?v=SAa5K70T17w>

GammaTile Therapy Physician Perspective - Dr. Clark Chen

[https://www.youtube.com/watch?v=hQgYifhI\\_3s](https://www.youtube.com/watch?v=hQgYifhI_3s)

### ***Interviews and University Release***

Accelerated Brain Cancer Cure:

<https://www.youtube.com/watch?v=QMr9FOqnKmE>

<https://www.youtube.com/watch?v=YLcYrtLgzEE>

Accelerated Brain Cancer Cure:

<https://www.youtube.com/watch?v=b9E9amfKrEQ>

Whole brain radiation therapy and neurocognitive assessment

<https://soundcloud.com/bmjpodcasts/radiation-for-brain-metastases>

Concepts in glioblastoma therapy

<http://elo-cdn.podcasts.bmj.com/themes/jnnp/mp3/warnke-chen.mp3>

MRI-guided stereotactic brain biopsy

*Practical Neurology*

Go with the flow

*UCSD Discoveries*

<http://health.ucsd.edu/flip-books/discoveries/2014/index.html>

Taiwan Outlook interview

[https://www.youtube.com/watch?v=FvJpgtVukBI&index=1&list=PL1jgDkmVYB7b1YCaUsu7b6SIH6i1S0V\\_I](https://www.youtube.com/watch?v=FvJpgtVukBI&index=1&list=PL1jgDkmVYB7b1YCaUsu7b6SIH6i1S0V_I)



Neurosurgery Focus

<https://vimeo.com/user16212450/review/182601977/6e4924613b>

Association of Surgical Technologists

<https://vimeo.com/187724623>

University of Minnesota Doctor on why McCain likely stopped his cancer treatment

<https://wccoradio.radio.com/articles/university-minnesota-dr-why-sen-mccain-likely-stopped-his-cancer-treatment>

High-profile glioblastoma deaths may be no coincidence

<https://www.kare11.com/article/news/high-profile-glioblastoma-deaths-may-be-no-coincidence/89-587886812>

University of Minnesota First in U.S. to Offer New Targeted Therapy for Recurrent Brain Tumors

<https://www.cancer.umn.edu/node/17171>

Top Doctors: University of Minnesota Health physicians recognized by MPLS-St.Paul Magazine

<https://www.mhealth.org/blog/2018/june-2018/top-doctors-2018>

Gene Therapy Trial Led by UMN Medical School's Dr. Clark Chen Shows Promise in Treatment of Recurrent Brain Cancer

<https://www.med.umn.edu/news-events/gene-therapy-trial-led-umn-medical-school%E2%80%99s-dr-clark-chen-shows-promise-treatment-recurrent-brain-cancer>

Leading-edge Neurosurgery Suite Under Construction at University of Minnesota Medical Center

[https://www.mhealth.org/blog/2019/mar-2019/advanced-neurosurgery-suite-in-development-university-minnesota-medical-center?utm\\_source=facebook&utm\\_medium=social&utm\\_campaign=tsuite-development-ummc](https://www.mhealth.org/blog/2019/mar-2019/advanced-neurosurgery-suite-in-development-university-minnesota-medical-center?utm_source=facebook&utm_medium=social&utm_campaign=tsuite-development-ummc)

Medical Breakthrough at the University of Minnesota (at 19:30 mark)

<https://wccoradio.radio.com/media/audio-channel/2-14-19-cory-hepola-11am>

U of M Team Receives Award for Use of GammaTile Technology in Brain Tumor Treatment

<https://med.umn.edu/news-events/u-m-team-receives-award-use-gammatile-technology-brain-tumor-treatment>

Teamwork and speed of response restore patient's ability to move after suffering epidural hematoma

<https://med.umn.edu/news-events/teamwork-and-speed-response-restore-patient%E2%80%99s-ability-move-after-suffering-epidural-hematoma>

First-of-its-kind robot-aided brain surgery gives a Minnesota couple hope

<https://med.umn.edu/news-events/first-its-kind-robot-aided-brain-surgery-brings-hope-minnesota-couple>

University of Minnesota T-suite: "x-ray vision" allows surgeons to do surgeries of tomorrow

<https://med.umn.edu/news-events/university-minnesota-t-suite-%E2%80%9Cx-ray-vision%E2%80%9D-allows-surgeons-do-surgeries-tomorrow>

Thanks to generous funding of a clinical trial, brain tumor sufferer getting more time with loved ones  
<https://med.umn.edu/news-events/thanks-generous-funding-clinical-trial-brain-tumor-sufferer-getting-more-time-loved-ones>

New drug helps U of M neurosurgeon make the decisions required for more complete brain tumor resections, benefiting local patient  
<https://med.umn.edu/news-events/new-drug-helped-u-m-neurosurgeon-make-%E2%80%9Csplit-second-decisions%E2%80%9D-required-more-complete-brain-tumor-resection>

Historic use of new therapy gives U of M glioblastoma patient a chance to overcome her condition  
<https://med.umn.edu/news-events/historic-use-new-therapy-gives-u-m-glioblastoma-patient-chance-overcome-her-condition>

Convergence of technology, immunotherapy and courage help U of M patient rise above life-threatening brain tumor  
<https://med.umn.edu/news-events/convergence-of-technology-immunotherapy-and-courage-help-UMN-patient>

Innovative laser ablation procedure enables German patient to beat deadly glioblastoma  
<https://med.umn.edu/news-events/innovative-laser-ablation-procedure-enables-german-patient-beat-deadly-glioblastoma>

U of M Neurosurgery Department team worked together to transform a patient's life  
<https://med.umn.edu/news-events/u-m-neurosurgery-department-team-worked-together-transform-patient%E2%80%99s-life>

First Minnesota brain tumor patient enrolled in study to evaluate effect of laser ablation on quality of life  
<https://med.umn.edu/news-events/first-minnesota-brain-tumor-patient-enrolled-study-evaluate-effect-laser-ablation-quality-life>

Clinical trial giving patients hope in their fight against a devastating brain cancer  
<https://med.umn.edu/news-events/clinical-trial-giving-patients-hope-their-fight-against-devastating-brain-cancer>

Young glioblastoma patient achieves stunning results from clinical trial at the U  
<https://med.umn.edu/news-events/young-glioblastoma-patient-achieves-stunning-results-clinical-trial-u>

GammaTile Therapy Patient Experience | Chad, Glioblastoma Survivor  
<https://vimeo.com/445306212>

Teamwork and speed of response restore patient's ability to move after suffering epidural hematoma  
<https://med.umn.edu/news-events/teamwork-and-speed-response-restore-patient%E2%80%99s-ability-move-after-suffering-epidural-hematoma>

Intraoperative MRI technology

<https://www.youtube.com/watch?v=iBk6KXIagu4>

Minimally invasive procedure helps patient recover quickly from brain surgery without any side effects

<https://med.umn.edu/news-events/minimally-invasive-procedure-enables-patient-recover-quickly-brain-surgery-without-any-side-effects>

Moving toward “checkmate” of a very aggressive brain cancer

<https://med.umn.edu/news-events/moving-toward-%E2%80%9Ccheckmate%E2%80%9D-very-aggressive-brain-cancer>

Expanded Access Program for brain tumor patients – thinking outside the box

<https://med.umn.edu/news-events/expanded-access-program-brain-tumor-patients-%E2%80%93-thinking-outside-box>

Years of scientific progress led to hope for a glioblastoma patient

<https://med.umn.edu/news-events/years-scientific-progress-lead-hope-glioblastoma-patient>

Encouraging patients — and physicians — to collaborate in healthcare decisions

<https://med.umn.edu/news-events/encouraging-patients-%E2%80%94-and-physicians-%E2%80%94-collaborate-healthcare-decisions>

## **INVITED PRESENTATIONS**

### ***Local Invited Presentations***

- 2003 Grand Rounds, “Decompressive craniectomy”, BWH
- 2005 Grand Rounds, “Radiosurgery for treatment of dural arteriovenous fistulas”, MGH
- 2006 Grand Rounds, “Mutagenesis: from yeast to men”, MGH
- 2006 Grand Rounds, “Radiosurgery for primary CNS lymphoma”, MGH
- 2007 Grand Rounds, “Strategies for glioma therapy”, MGH
- 2007 Lecture, “RNAi and miRNA screening”, Harvard Medical School Workshop for Functional Genomics (sponsored by Qiagen)
- 2008 Lecture, “A siRNA screen for novel components of the Fanconi Anemia DNA repair pathway”, First annual conference on small molecule and RNAi screening, Harvard Medical School
- 2009 Grand Rounds, “Non-invasive and minimally invasive neurosurgery”, Cambridge Hospital, Department of Medicine, MA
- 2009 Grand Rounds, “Emerging evidence in the treatment of brain cancer”, Beth Israel Deaconess Medical Center Needham Campus, MA
- 2009 Lecture, “Targeting DNA repair: a proof of principle in non-oncogene addiction”, MGH Neuro-Oncology Conference
- 2009 Lecture, “Genome-wide and small scale siRNA screens in glioblastoma therapeutic development”, MGH
- 2009 Lecture, “Molecular predictors of PARP1 sensitivity in glioblastoma therapy”, Neuro-Oncology Conference, BWH
- 2009 Lecture, “PSMA1, a novel prognostic factor in glioblastoma patients”, Neuro-Oncology conference, BWH
- 2010 Lecture, “A prognostic DNA repair signature for proneural glioblastoma patients”, Neuro-Oncology Conference, MGH
- 2010 Lecture, “Scrutiny of MGMT promoter methylation as a prognostic/predictive biomarker in glioblastoma therapeutics”, Neuro-Oncology Conference, BWH
- 2010 Seminar, “micro-RNA regulating MGMT”, Clowes research seminar, BIDMC
- 2011 Lecture, “What can power outage teach us about glioblastoma therapeutic development”, Brain Tumor Conference, University of California, San Diego
- 2011 Grand Rounds, “An update on radiosurgery in the treatment of cerebral metastasis”, Division of Neurosurgery, University of California, San Diego
- 2011 Grand Rounds, “5-ALA (Aminolevulinic acid): towards improved resection of glioblastoma”, Department of Surgery, University of California, San Diego
- 2011 Student Seminar, “Neurosurgery: personal reflections”, Medical School, University of California, San Diego
- 2012 Neurosurgery Didactic Rounds, “Management of global and focal hydrocephalus”, Division of Neurosurgery, University of California, San Diego
- 2012 Neurosurgery Didactic Rounds, “Management of pituitary lesions”, Division of Neurosurgery, University of California, San Diego
- 2012 Medical Scientist Training Program (MSTP) symposium, “Unique opportunities for MD PhD candidates -- a neurosurgeon’s perspective”, University of California, San Diego

- 2012 Grand Rounds, “Neurosurgical trials in oncology”, Division of Neurosurgery, University of California, San Diego
- 2013 General Surgery Didactic Rounds, “Learning Neurosurgical Principles through Case Vignettes”, Department of Surgery, University of California, San Diego
- 2013 Neurosurgery Grand Rounds, “UCSD Neurosurgical Oncology: A Comprehensive Overview”, Division of Neurosurgery, University of California, San Diego
- 2013 UCSD-Mexico National Institute of Neurosurgery Symposium, “Advances in Neurosurgical Oncology”, University of California, San Diego
- 2013 Grand Rounds, “Intracranial delivery of oncolytic viruses: a surgical treatment paradigm for glioblastoma”, Department of Surgery, University of California, San Diego
- 2014 General Surgery Resident Didactic, “Management of head and spinal trauma”, Department of Surgery, University of California, San Diego
- 2014 General Surgery Resident Didactic, “Traumatic peripheral nerve injuries”, Department of Surgery, University of California, San Diego
- 2014 Moores Cancer Center Symposium, “Therapeutic insights from functional and genomic characterization of glioblastomas”, University of California, San Diego
- 2014 Neurosurgery Grand Rounds, “MRI-guided neurosurgery”, University of California, San Diego
- 2014 Surgery Grand Rounds, “Operating on the inoperable through surgical innovation”, University of California, San Diego
- 2014 Neurosurgery Grand Rounds, “Natural history and treatment options for acoustic neuroma”, University of California, San Diego
- 2015 Neurosurgery Interest Group, “Neurosurgery: Career considerations”, University of California, San Diego
- 2015 BioScholar Seminar, “Brain tumors, neurosurgery, and molecular biology”, University of California, San Diego
- 2015 Neurosurgery Grand Round, “The facts and myths of radiosurgery”, University of California, San Diego
- 2015 Invited Speaker, “Consideration for Medical School Applicants”, Muir Eventual Doctors (MED), University of California, San Diego
- 2015 Invited Speaker, “Molecular basis of tumorigenicity”, Cancer Cell Biology Seminar, University of California, San Diego
- 2015 Radiation Medicine Grand Rounds, “Molecular subtypes of glioblastoma: therapeutic and radiographic implications”, University of California, San Diego
- 2015 Invited Lecture, “miRNA as a therapeutic and diagnostic platform for glioblastomas”, Biochemistry Department, University of California, San Diego
- 2015 Invited Lecture, “Dynamic tumorigenic states in glioblastoma”, Moores Cancer Solid Tumor Program, University of California, San Diego
- 2016 Invited Lecture, “Becoming a neurosurgeon”, Neurosurgery Interest Group, University of California, San Diego
- 2016 Neurosurgery Grand Round, “Surgical Resection in Neuro-Oncology” University of California, San Diego
- 2016 Invited presentation, “Dynamic transition between glioblastoma tumorigenic states”, Research Symposium, Department of Surgery, University of California, San Diego
- 2016 Invited lecture, “Case based learning in neurosurgery”, Department of Surgery, University of California, San Diego

- 2016 Neuroscience Grand Round, “MRI-guided surgery in neuro-oncology”, University of California, San Diego
- 2017 Radiation Oncology Grand Round, “Cumulative intracranial tumor volume in stereotactic radiosurgery”, University of California, San Diego
- 2017 Invited lecture, “Molecular determinant of ‘exceptional’ response’ in glioblastoma”, Brain Tumor Program, University of Minnesota, Minneapolis
- 2017 Invited lecture, “Radiosurgery through LINAC platform”, Department of Radiation Oncology, University of Minnesota, Minneapolis
- 2018 Invited lecture, “Dynamic transition between stem cell and non-stem cell states in glioblastoma”, Stem Cell Institute, University of Minnesota, Minneapolis
- 2018 Invited participant, “Career Trajectory in Research”, Stem Cell Institute, University of Minnesota, Minneapolis
- 2018 Neurosurgery Grand Round, “Influence of medical academic genealogy on publication outcome”, University of Minnesota, Minneapolis
- 2018 American Medical Student Association, “Medicine as a career choice: perspective of a neurosurgeon”, University of Minnesota, Minneapolis
- 2018 Invited lecture, “Considerations in neurosurgery as a career choice”, University of Minnesota Neurosurgery Interest Group, Minneapolis
- 2018 Invited lecture, “Pertinence of stem cell biology in glioblastoma therapeutic development”, Stem Cell Biology 8181, University of Minnesota Stem Cell Institute
- 2019 Invited lecture, “Lessons learned from studying glioblastoma cancer stem cells”, T32 training grant, Department of Surgery, University of Minnesota
- 2019 Invited lecture, “Dynamic transition in stem- and non-stem cell states in glioblastoma”, Stem Cell Institute, University of Minnesota
- 2020 Invited lecture, “Extracellular-vesicle mediated release of microRNA: a novel mechanism of radiation resistance”, Microbiology, Immunology, and Cancer Biology Graduate Program
- 2020 Invited presentation, “Modulating electric field as brain tumor therapy”, Abbot research showcase, University of Minnesota
- 2020 Invited lecture, “Modulation of stem-cell state through extracellular-vesicle mediated release of microRNA”, University of Minnesota Stem Cell Institute
- 2021 Invited lecture, “Deep brain stimulator as a therapeutic platform for glioblastoma”, University of Minnesota Department of Biomedical Engineering
- 2021 Invited Lecture, “Randomized control study comparing stereotactic radiosurgery and GammaTile brachytherapy as treatment for brain metastases”, University of Minnesota Department of Hematology, Oncology, and Transplantation
- 2024 Invited Presentation, “5 ALA-florescence guided surgery”, peri-operative service, Rhode Island Hospital

***Regional Invited Presentations and Courses***

- 2004 Plenary talk, “The use of involved field-radiation in Primary Central Nervous System Lymphoma (PCNSL)”, New England Neurosurgical Society
- 2005 Plenary talk, “Integrity of the Fanconi Anemia (FA) pathway in glioblastoma multiforme cell lines – a novel molecular target for cancer therapy”, New England Neurosurgical Society

- 2005 Plenary talk, “A high-throughput microscopy-based screen for the identification of small molecules that potentiate BCNU therapy in glioblastoma multiforme treatment”, New England Neurosurgical Society
- 2006 Plenary talk, “Using siRNAs to identify genes required for radiation resistance”, New England Neurosurgical Society
- 2006 Plenary talk, “Multiple DNA repair pathways contributing to TMZ and BCNU resistance in malignant gliomas”, New England Neurosurgical Society
- 2007 Plenary talk, “Two unusual cases from the Massachusetts General Hospital Spine Service: a posterior cervical spine dermal sinus tract and a case of osseous sarcoid”, New England Neurosurgical Society
- 2008 Plenary talk, “Proteasome inhibition in the treatment of malignant glioma”, New England Neurosurgical Society
- 2009 Grand Rounds, “Management of brain cancer”, Jordan Hospital, Department of Medicine, MA
- 2009 Grand Rounds, “Brain metastasis: disease of the upcoming century”, St. Anne’s Hospital, Department of Medicine, MA
- 2009 Lecture, “Emerging evidence in treatment strategies for glioblastoma”, Merrimack Hospital Continuing Medical Education, MA
- 2009 Lecture, “Management of brain metastasis”, St. Luke Hospital Continuing Medical Education, MA
- 2009 Lecture, “Therapeutic strategies for glioblastoma”, Milton Hospital Continuing Medical Education, MA
- 2009 Grand Rounds, “Management of glioblastoma, an update”, St. Vincent Hospital, Worcester, MA
- 2009 Lecture, “Management of spinal metastasis”, Beverly Hospital, Northshore, MA
- 2010 Lecture, “Surgical resection in brain cancer treatment”, Saint Medical Center, Lowell, MA
- 2010 Lecture, “Resection versus biopsy in brain cancer treatment”, St. Luke Medical Center, New Bedford, MA
- 2011 Biomedical and Clinical Research Seminar, “RNAi screening for genetic determinants of radiation sensitivity in glioblastoma, Hillcrest Hospital, CA
- 2012 Lecture, “Indication for surgery in patients with cerebral metastases”, Brain Tumors: 2<sup>nd</sup> Annual Collaborative Care Conference, San Diego, CA
- 2012 Lecture, “Individualized management of acoustic neuroma”, Acoustic Neuroma Society, San Diego, CA
- 2012 Seminar presentation, “Stereotaxis in modern neuro-oncology”, San Diego Academy of Neurosurgery, San Diego
- 2012 Seminar presentation, “Indications for Neuro-endoscopy”, Workshop on neuro-endoscopy, University of California, San Diego
- 2013 Lecture, “Radiosurgery, Perspective of a Neurosurgeon”, Radiosurgery Seminar, Chico, California
- 2013 Lecture, “Clinical Specimens in Brain Tumor Research”, Sanford Consortium, San Diego, California
- 2013 Invited discussant, “Partnerships for a cure: industry-academic collaborations”, Accelerated Brain Cancer Cure, San Diego, California
- 2013 Lecture, “Driving personalized cancer care by minimally invasive biomarkers “, San Diego Chinese American Science and Engineering Association Annual Meeting, San Diego California

- 2013 Lecture, “Translational opportunities in glioma research“, Salk Institute, San Diego, California
- 2014 Lecture, “Neurosurgical research at UCSD”, Surgical Research Annual Symposium, San Diego, California
- 2014 Invited panelist, “Collaborating to drive brain cancer research in San Diego”, ABC2 Science Salon, San Diego, California
- 2014 Invited Lecture, “Fundamental Stereotactic Neurosurgery”, 2014 Senior Society of Neurosurgeon Junior Resident Course, San Diego, CA
- 2014 Lecture, “Radiosurgery for Neurosurgeons”, Mercy Cancer Institute, Sacramento CA
- 2014 Lecture, “Retroviral delivery of miRNAs”, Tocagen, San Diego, CA
- 2014 Invited Lecture, “Natural history and treatment options for acoustic neuromas and brain metastasis”, 2014 California Society of Radiation Technologists Annual Meeting, San Diego, CA
- 2015 Invited Lecture, “Stereotaxis in Neurosurgery”, 2015 Senior Society of Neurosurgeon Junior Resident Course, San Diego, CA
- 2015 Invited Lecture, “Viral mediated delivery of microRNA”, Tocagen, San Diego, CA
- 2015 Invited Lecture, “Neurologic Procedures in MRI”, Critical Care Summer Session, San Diego, CA
- 2016 Invited Lecture, “Evolution of neurosurgical research”, University of California San Diego, School of Medicine, San Diego, CA
- 2016 Invited Lecture, “Advances in modern radiosurgery”, Riverside, CA
- 2017 Invited Lecture, “MRI-guided neurosurgery”, Eisenhower Medical Center, Rancho Mirage, CA
- 2017 Invited Lecture, “No heavier burden than...”, Minnesota Neurosurgical Society, Rochester, MN
- 2018 Invited Lecture, “Neuronal activity and brain cancer”, Association of Minnesota Chinese Physicians, Bloomington, MN
- 2018 Invited Lecture, “Brain tumor update”, Annual Updates in Neurology for Primary Care, Bloomington, MN
- 2018 Invited Lecture, “Oncolytic viral therapy”, Masonic Cancer Center Research Symposium, Minneapolis, MN
- 2018 Invited Lecture, “Oncolytic virus as immunotherapy for glioblastoma”, Viral Immunotherapy Symposium, Minneapolis, MN
- 2018 Invited Lecture, “MicroRNA and genomic instability”, Symposium on Genetics Mechanisms of Cancer, Minneapolis, MN
- 2018 Invited Lecture, “Minimally invasive surgery for brain tumors”, Minnesota Academy of Medicine, St. Paul, MN
- 2019 Invited Lecture, “Extracellular Vesicles (EV) as a glioblastoma diagnostic platform”, University of Minnesota/Mayo Clinic Workshop on Cell Communication and Signaling, Rochester, MN
- 2020 Invited Lecture, “Non-cell autonomous role of microglia IL11 in glioblastomas”, Institute of Translational Neuroscience, Minneapolis, MN
- 2021 Invited Lecture, “Update on brain tumor treatment”, Chinese American Academic and Professional Association of Minnesota, Minneapolis, MN
- 2021 Invited Lecture, “Technical advances in brain tumor surgery”, Association of Surgical Technologists, Minneapolis, MN



- 2022 Invited Lecture, “Laser interstitial thermal therapy (LITT): a minimally invasive surgical technique”, Monteris Medical, Minneapolis, MN
- 2022 Invited Lecture, “Indications of laser thermal ablation in neuro-oncology”, Monteris Medical, Minneapolis, MN

***National Invited Presentations and Courses***

- 1992 Plenary talk, “Murine intestinal mucins inhibit rotavirus replication”, American Gastroenterological Association Annual Meeting
- 1997 Plenary talk, “*Saccharomyces cerevisiae pol30* (PCNA) mutations impair replication fidelity and mismatch repair”, Cold Spring Harbor Eukaryotic DNA Replication Meeting
- 2004 Plenary talk, “Rationale for selective use of proton and photon irradiation in brain tumor treatment”, American Association of Neurological Surgeons/Congress of Neurological Surgeons, Section on Tumors Annual Meeting
- 2005 Mini-symposium talk, “The Fanconi Anemia (FA) pathway confers cellular resistance to the chemotherapeutic agent 1,3-Bis(2-Chloroethyl)-1-Nitrosourea (BCNU)”, American Association for Cancer Research Annual Meeting
- 2006 Symposium talk, “A siRNA-based analysis of cellular response to ionizing radiation revealed novel therapeutic targets for cancer therapy”, American Association for Cancer Research Annual Meeting
- 2006 Symposium talk, “Functional analysis of brain tumor resistance to radiation therapy”, Congress of Neurological Surgeons Annual Meeting
- 2007 Plenary talk, “Radiosurgery for Primary Central Nervous System Lymphoma (PCNSL)”, International Stereotactic Radiosurgery Society Bi-Annual Meeting
- 2007 Symposium talk, “Targeting EGFR over-expression in glioblastoma multiforme by inhibition of DNA repair”, Congress of Neurological Surgeons Annual Meeting
- 2007 Symposium talk, “Selective sensitization of glioma cells with EGFR hyperactivity”, Academy of Neurological Surgeons Annual Meeting
- 2007 Grand Rounds, “Strategies for augmenting the efficacy of radiation and chemotherapy therapy in the treatment of high-grade glioma”, City of Hope, Department of Neurosurgery
- 2007 Grand Rounds, “Mechanism of glioblastoma resistance to Temozolomide”, Emory University, Department of Neurosurgery
- 2007 Grand Rounds, “Proton radiosurgery”, Emory University, Department of Neurosurgery
- 2007 Invited lecture, “Applications of siRNA screening”, Rockefeller University, New York
- 2008 Invited lecture, “Clinical applications of RNAi screening”, Applications of RNAi and MicroRNAs, Boston
- 2008 Symposium talk, “siRNA screen reveals novel strategies for malignant glioma therapy”, Congress of Neurological Surgeons Annual Meeting
- 2009 Invited discussant, forum for glioblastoma therapeutic development, Accelerated Brain Cancer Cure
- 2009 Symposium talk, “Combined physiological targeting for stereotactic biopsies in tumors after combined anti-angiogenesis treatment”, American Association of Neurological Surgeons Annual Meeting

- 2009 Symposium talk, “Increased reliance on DNA repair in malignant gliomas with hyperactive EGFR: a proof of principle in targeting non-oncogene addiction”, American Society for Microbiology Conference on DNA repair
- 2009 Symposium talk, “Functional mapping for detection of tumor recurrence after anti-angiogenic therapy”, The 6<sup>th</sup> Annual World Congress for Brain Mapping and Image Guided Therapy
- 2009 Session chair, “Brain mapping in psychiatry”, The 6<sup>th</sup> Annual World Congress for Brain Mapping and Image Guided Therapy
- 2009 Grand Rounds Speaker, “Stereotaxis in neuro-oncology”, Division of Neurosurgery, University of California, San Diego
- 2009 Invited Speaker, “Targeting EGFR induced oxidative stress by PARP1 inhibition in glioblastoma therapy”, Neuro-oncology conference, University of California, San Diego
- 2009 Invited discussant, Forbeck forum for glioblastoma therapeutic development
- 2010 Symposium talk, “Synthetic lethality and DNA repair”, American Association for Cancer Research Annual Meeting
- 2010 Neurosurgical Forum presentation, “Assessment of sub-clonal heterogeneity in glioblastomas using COLD PCR”, Congress of Neurological Surgeons Annual Meeting
- 2010 Neurosurgical Forum presentation, “Identification of glioblastoma predisposing single nucleotide polymorphisms (SNPs) in the TP53 gene”, Congress of Neurological Surgeons Annual Meeting
- 2010 Symposium talk, “Image guided stereotactic third ventriculostomy”, The 7<sup>th</sup> Annual World Congress for Brain Mapping and Image Guided Therapy
- 2010 Session chair, “New Horizons in neuro-oncology”, The 7<sup>th</sup> Annual World Congress for Brain Mapping and Image Guided Therapy
- 2010 Invited Speaker, “An integrative genomic approach to glioblastoma therapy”, Neuro-oncology conference, University of California, San Diego
- 2010 Invited discussant, forum for glioblastoma therapeutic development, Accelerated Brain Cancer Cure
- 2010 Symposium talk, “miRNA regulating MGMT”, Forbeck Scholar Retreat, Forbeck Foundation
- 2010 Grand Rounds, “Base excision repair in glioblastoma therapeutic development”, University of Texas Medical Branch Comprehensive Cancer Center
- 2010 Visiting Professorship, “History and future of stereotactic surgery”, Division of Neurosurgery, University of Texas Medical Branch
- 2010 Symposium talk, “*in vitro* derived gene signatures to predict survival in glioblastoma patients” 15<sup>th</sup> Annual Meeting of the Society for Neuro-Oncology
- 2011 Symposium talk, “Development and validation of a robust predictive/prognostic gene signature for glioblastoma patients” 2011 American Association of Neurological Surgeons Annual Meeting
- 2011 Symposium talk, “Post-transcriptional regulation of MGMT: Implication on the prognostic/predictive value of MGMT promoter methylation” 2011 American Association of Neurological Surgeons Annual Meeting
- 2011 Symposium talk, “c-Myc modulates the dynamic transition between tumor initiating states in glioblastoma” 2011 American Association of Neurological Surgeons Annual Meeting
- 2011 Plenary talk, “Cyberknife hypofractionated stereotactic radiosurgery of large resection cavity – efficacy and safety of an 800cGy x 3 daily fractions regimen” 2011 IBMISPS Annual Meeting

- 2011 Neurosurgical Forum presentation, “A prognostic and predictive microRNA (miRNA) that down-regulate MGMT in glioblastoma”, Congress of Neurological Surgeons Annual Meeting
- 2011 Invited discussant, forum for glioblastoma therapeutic development, Accelerated Brain Cancer Cure
- 2011 Symposium talk, “microRNA in glioblastoma”, Forbeck Scholar Retreat, Forbeck Foundation
- 2011 Symposium talk, “miR-181d: a predictive glioblastoma biomarker that down regulates MGMT expression”, 16<sup>th</sup> Annual Meeting of the Society for Neuro-Oncology
- 2011 Invited grand round lecture, “Genome-wide shRNA screen for identification of novel targets in glioblastoma therapeutics”, Ohio State University Comprehensive Cancer Center
- 2011 Invited grand round lecture, “Internal shunting in the oncologic population”, Ohio State University, Department of Neurosurgery
- 2012 Lecture, “Exosomal micro-RNA as a diagnostic tool”, Exosome Diagnostics, New York
- 2012 Lecture, “Caveats of shRNA screens”, Kyowa Hakko Kirin Inc., California
- 2012 Lecture, “Radiosurgery for Neurosurgeons”, Radiosurgery Workshop, Reno, Nevada
- 2012 Lecture, “Predictive and prognostic miRNA signatures for glioblastoma”, Regulus, California
- 2012 Lecture, “MiRNA based biomarkers for therapeutic response”, Tocagen, California
- 2012 Lecture, “Spontaneous fluctuation in c-myc expression dictate capacity for tumor initiation”, Forbeck Foundation, Wisconsin
- 2012 Symposium talk, “The Bromodomain Protein Brd4 Insulates Chromatin from DNA Damage Signaling”, Society of Neuro-Oncology, Washington D. C.
- 2013 Invited presentation, “Molecular Biomarker: a Surgical Perspective”, Preuss Symposium, San Diego
- 2013 Symposium talk, “Post-transcriptional regulation of O6-methylguanine-DNA methyltransferase (MGMT) by miR-603: a step toward personalized glioblastoma treatment”, AANS/CNS 10<sup>th</sup> Biennial Satellite Tumor Symposium, New Orleans, Louisiana
- 2013 Symposium talk, “Quantitation of miRNAs in Extracellular Vesicles (EVs) Derived from Glioblastoma patients”, International Society for Extracellular Vesicles, Boston, Massachusetts
- 2013 Symposium talk, “RapidArc Radiosurgery Treatments with Surface Guided Frameless SRS”, 2013 American Association for Neurological Surgeons Annual Meeting, New Orleans, Louisiana
- 2013 Symposium talk, “Surface Real-Time Image-Guided Frameless SRS: The UCSD Experience”, 2013 American Association for Neurological Surgeons Annual Meeting, New Orleans, Louisiana
- 2013 Plenary talk, “Post-transcriptional Regulation of O6 Methyl-Guanine DNA Methyl Transferase (MGMT) by miR-603: A Step Toward Personalized Glioblastoma Treatment”, 2013 Bi-Annual AANS/CNS Joint Tumor Section Meeting, New Orleans, Louisiana
- 2013 Symposium talk, “Application of tractography to operative planning”, Institute of Medical Education, Chicago, Illinois
- 2013 Invited presentation, “Targeting non-oncogene addiction through PLK1 inhibition”, Forbeck Foundation, Milwaukee, Wisconsin
- 2013 Invited participant, “Improving the treatment of glioblastoma”, Invitation-only Symposium Sponsored by NCI and ABC2, Washington DC

- 2013 Invited lecture, “Difficult cases in CNS cancer”, American Society for Radiation Oncology (ASTRO) 2013 Annual Meeting, Atlanta, Georgia
- 2013 Invited lecture, “ExRNA biomarkers for human glioma”, NIH Extracellular RNA Communication Program 2013, Washington DC
- 2013 Invited commentator, “Neurosurgery innovation”, Congress of Neurological Surgeons 2013 Annual Meeting, San Francisco
- 2013 Invited lecture, “Impact of whole brain radiation therapy on neuro-cognition”, Congress of Neurological Surgeon, 2013 Annual Meeting, San Francisco
- 2013 Invited lecture, “Comparative gene signature analysis reveals differential Ras/RTK signaling by G-CIMP status in glioblastomas”, Congress of Neurological Surgeons 2013 Annual Meeting, San Francisco
- 2013 Invited lecture, “Clearpoint: Application in Neuro-Oncology”, Congress of Neurological Surgeons 2013 Annual Meeting, San Francisco
- 2013 Invited presentation, “miR-21 in the Extracellular Vesicles (EVs) of Cerebrospinal Fluid (CSF): a Platform for Glioblastoma Biomarker Development”, Congress of Neurological Surgeons 2013 Annual Meeting, San Francisco
- 2013 Invited discussant, “Resistance Mechanisms”, Forbeck Foundation, 2013, Hiltonhead
- 2013 Invited presentation, “Genome-wide shRNA screen revealed synthetic lethal interaction between Dopamine Receptor D2 (DRD2) and Epidermal Growth Factor Receptor (EGFR) inhibition in glioblastoma “, World Federation for Neuro-Oncology, 2013 Meeting, San Francisco
- 2014 Invited presentation, “Electrophysiologic monitoring in neurosurgery: opportunities for medical engineering“, 2014 Institute of Electrical and Electronic Engineers Radio& Wireless Week Annual Meeting, San Diego
- 2014 Invited presentation, “Radiosurgery for the treatment of brain”, Emerging Technologies Clinical Forum, Philadelphia, Pennsylvania
- 2014 Invited presentation, “An overview of extracellular vesicles”, Forbeck Focus Meeting, San Diego, California
- 2014 Invited presentation, “Molecular subtypes of glioblastoma”, American Association of Neurological Surgeons, San Francisco, California
- 2014 Invited presentation, “Radiosurgery with precise temporal tracking of key skull-base targets”, Radiosurgery Society 2014 Meeting, Minneapolis, Minnesota
- 2014 Invited presentation, “miRNA contents of cerebrospinal fluid extracellular vesicles in glioblastoma patients”, 2014 NIH Extracellular RNA Communication Consortium Meeting, Bethesda, Maryland
- 2014 Visiting professorship, “MRI-guided neurosurgery: Application to Neuro-Oncology”, University of California, Irvine
- 2014 Visiting professorship, “MRI-guided minimally neurosurgery”, University of Wisconsin, Madison, Department of Neurosurgery
- 2014 Invited lecture, “Dynamic epigenetic regulation of MYC expression: a hybrid model for glioblastoma tumorigenicity”, University of Wisconsin, Madison, Carbone Cancer Center
- 2014 Invited lecture, “miR-181d as a master regulator of DNA repair in glioblastoma”, Forbeck Scholar Forum, Lake Geneva, Wisconsin
- 2014 Invited lecture, “Surgical treatment of low-grade gliomas”, 2014 ASTRO annual meeting
- 2014 Invited lecture, “miRNA contents of CSF extracellular vesicles (EVs) derived from glioblastoma patients, 2014 American Society for Exosomes and Microvesicles, Monterey, CA

- 2014 Invited lecture, “Laser thermal ablation through Clearpoint navigation”, Monteris, 2014 Congress of Neurological Surgeons, Boston MA
- 2014 Invited lecture, “Laser thermal ablation: applications in neuro-oncology”, 2014 Congress of Neurological Surgeons, Boston MA
- 2014 Invited presentation, “Localizing seizure-susceptible brain regions in low-grade gliomas using voxel-based lesion–symptom mapping”, 2014 Congress of Neurological Surgeons, Boston, MA
- 2014 Invited lecture, “Bypassing glioblastoma resistance to EGFR inhibitors by synthetic lethality”, 2014 CNS Anti-cancer drug discovery and development conference, Miami, FL
- 2014 Invited lecture, “Multi-orthogonal targeting of EGFRvIII expression”, 2014 Society of Neuro-Oncology Annual Meeting, Miami, FL
- 2014 Invited lecture, “Epigenetic regulation of glioblastoma tumorigenicity: a hybrid model”, 2014 Society of Neuro-Oncology Annual Meeting, Miami, FL
- 2014 Invited lecture, “Prognostic factors for SRS-treated patients with cerebral metastasis: implications on randomized control trial design and inter-institutional collaborative efforts”, 2014 Society of Neuro-Oncology Annual Meeting, Miami, FL
- 2014 Invited lecture, “Restriction Spectrum Imaging: Application in Neuro-Oncology”, Medtronic, Denver, CO
- 2015 Invited lecture, “Dynamic epigenetic regulation of glioblastoma tumorigenicity through a LSD1-MYC-OLIG2 axis”, AACR Special Conference on Myc, La Jolla, CA
- 2015 Invited lecture, “Clinical work-flow of laser thermal ablation”, Monteris Conference, La Jolla, CA
- 2015 Invited lecture, “Case review of laser thermal ablation in neuro-oncologic patients”, Monteris Conference, La Jolla, CA
- 2015 Invited lecture, “Expanded indications of intra-MRI stereotaxis”, MRI Intervention Conference, La Jolla, CA
- 2015 Invited lecture, “Laser thermal ablation for treatment of cerebral metastasis: a perspective”, Neuroblate Network Annual Meeting, Orlando, MI
- 2015 Invited lecture, “EGFR: from genomics to therapy”, Sontag Foundation, Jacksonville, MI
- 2015 Invited lecture, “Extracellular vesicles: biomarker platform for glioblastoma”, Society of Brain Mapping and Therapeutics 2015 Annual Meeting, Los Angeles, CA
- 2015 Invited lecture, “Extracellular vesicle microRNA signature as a biomarker for glioblastoma tumor burden”, Exosomes and Microvesicles as Biomarkers and Diagnostics Meeting, Boston, MA
- 2015 Session Chairman, Exosomes and Microvesicles as Biomarkers and Diagnostics, Boston, MA
- 2015 Invited lecture, “miRNA in Extracellular Vesicles (EVs) derived from cerebrospinal fluid of glioblastoma patients”, International Society for Extracellular Vesicles 2015 Annual Meeting, Washington DC
- 2015 Invited lecture, “Blood-derived extracellular vesicle mRNA analysis of glioblastoma and healthy controls”, International Society for Extracellular Vesicles 2015 Annual Meeting, Washington DC
- 2015 Invited lecture, “Promises and pitfalls of Extracellular Vesicles (EVs) as a glioblastoma liquid biopsy platform”, International Society for Extracellular Vesicles 2015 Annual Meeting, Washington DC
- 2015 Invited lecture, “Subtype biology in glioblastoma”, American Association of Neurological Surgeons 2015 Annual Meeting, Washington DC

- 2015 Invited lecture, “Orthogonal targeting of EGFRvIII expressing glioblastomas through simultaneous EGFR and PLK1 inhibition”, American Association of Neurological Surgeons 2015 Annual Meeting, Washington DC
- 2015 Invited lecture, “Subventricular localization of glioblastomas by molecular subtype”, American Association of Neurological Surgeons 2015 Annual Meeting, Washington DC
- 2015 Invited lecture, “Extracellular Vesicles (EVs): a novel diagnostic platform for brain cancer”, Biomarkers & Diagnostics World Congress 2015, Philadelphia, PA
- 2015 Invited lecture, “Fusion proteins as critical glioblastoma therapeutic targets”, American Association of Neurological Surgeons 2015 Annual Meeting, Washington DC
- 2015 Invited lecture, “Survival patterns of patients with cerebral metastases who underwent multiple rounds of stereotactic radiosurgery SRS”, North America Gamma Knife Society, Cleveland, Ohio
- 2015 Invited lecture, “Epigenetic regulation of glioblastoma tumorigenicity”, University of Chicago, Chicago
- 2015 Invited lecture, “Key principles of neuro-oncology: a case-based approach”, University of Chicago, Chicago
- 2015 Invited lecture, “Local therapies for glioblastomas”, Practical Course, Congress of Neurological Surgeons Annual Meeting, New Orleans, Louisiana
- 2015 Invited lecture, “Cumulative intracranial tumor volume thresholds for predicting survival after SRS varies by tumor histology”, Neurosurgical Forum, Congress of Neurological Surgeons Annual Meeting, New Orleans, Louisiana
- 2015 Invited lecture, “Isocitrate Dehydrogenase (IDH) Mutation and Methyl-Guanine Methyl Transferase (MGMT) Promoter Methylation Status as Independent Glioblastoma Biomarkers”, Neurosurgical Forum, Congress of Neurological Surgeons Annual Meeting, New Orleans, Louisiana
- 2015 Invited lecture, “LINAC radiosurgery: a neurosurgical perspective”, Noon Seminar, Congress of Neurological Surgeons Annual Meeting, New Orleans, Louisiana
- 2015 Invited lecture, “Cerebrospinal Fluid Extra-cellular Vesicle as a biomarker platform for glioblastoma”, American Society of Exosomes and Microvesicles (ASEMV) Annual Meeting, Marco Island, Florida
- 2015 Invited lecture, “Molecular determinants of tumorigenic states in glioblastoma”, The Stem Cell and Regenerative Medicine Seminar Series, City of Hope, Pasadena, California
- 2015 Invited lecture, “Management of radiosurgical resistant brain metastases and the role of LITT”, 17<sup>th</sup> Annual Brain Tumor Update, Las Vegas, Nevada
- 2015 Invited lecture, “Patients with cerebral metastases who underwent multiple rounds of stereotactic radiosurgery”, Society of Neuro-Oncology 20<sup>th</sup> Annual Meeting, San Antonio, Texas
- 2015 Invited lecture, “Superior efficacy of gross total resection in anaplastic astrocytoma patients relative to glioblastoma patients”, Society of Neuro-Oncology 20<sup>th</sup> Annual Meeting, San Antonio, Texas
- 2015 Invited lecture, “Quantitation of glioblastoma localization reveals associations with genomic subtypes and subventricular zone”, Society of Neuro-Oncology 20<sup>th</sup> Annual Meeting, San Antonio, Texas
- 2015 Invited lecture, “Improved survival of low-grade glioma patients (1999-2010) despite decreased utilization of radiation therapy: A SEER-based analysis”, Society of Neuro-Oncology 20<sup>th</sup> Annual Meeting, San Antonio, Texas

- 2015 Invited lecture, “Gross total resection is not associated with improved overall survival relative to subtotal resection in patients with anaplastic oligodendrogliomas”, Society of Neuro-Oncology 20<sup>th</sup> Annual Meeting, San Antonio, Texas
- 2015 Invited lecture, “Dynamic epigenetic modulation of glioblastoma tumorigenicity by inhibition of lysine-specific demethylase 1 (LSD1)”, Society of Neuro-Oncology 20<sup>th</sup> Annual Meeting, San Antonio, Texas
- 2015 Invited lecture, “Extra-cellular miRNA as a glioblastoma biomarker platform”, Society of Neuro-Oncology 20<sup>th</sup> Annual Meeting, San Antonio, Texas
- 2016 Invited lecture, “Case review in laser thermal ablation”, Neuroblate Network Meeting, Orlando, Florida
- 2016 Invited lecture, “Dynamic Epigenetic Regulation of Glioblastoma Tumorigenicity through LSD1 Modulation of MYC Expression”, Nuclear Reprogramming and the Cancer Genome, San Diego, California
- 2016 Invited lecture, “Molecular understanding of glioblastoma Magnetic Resonance Imaging”, Sontag Foundation, Palm Springs, California
- 2016 Invited lecture, “Cerebrospinal fluid microRNA as a glioblastoma biomarker platform”, Circulating Biomarker World Congress, Boston, Massachusetts
- 2016 Invited lecture, “Management of cerebral metastasis“, Congress of Neurological Surgeon Oral Board Review, San Diego, California
- 2016 Invited lecture, “Value of surgical resection in the management of glial tumors”, Department of Neurosurgery, University of California, Irvine, California
- 2016 Invited lecture, “Principles of neuro-navigation”, Senior Neurosurgery Society Junior Resident Course, University of California, San Diego, California
- 2016 Keynote lecture, “MRI guided neurosurgery”, Association of Surgical Technologist 2016 Annual Meeting, San Diego, California
- 2016 Invited Speaker, “SRS for oligometastases & repeat oligometastases with OSMS tracking at UCSD”, the Radiation Society Annual Meeting, Orlando, Florida
- 2016 Invited lecture, “The benefit of gross total resection across glioma subtypes: a comparison of grade II/III/IV gliomas in the Surveillance, Epidemiology, and End Results (SEER) Database”, 2016 AANS/CNS Tumor Section Satellite Symposium, San Diego, California
- 2016 Invited lecture, “Diagnostic accuracy of PET, SPECT, and Arterial Spin-Labeling in differentiating tumor recurrence from necrosis in cerebral metastasis after stereotactic radiosurgery”, 2016 AANS/CNS Tumor Section Satellite Symposium, San Diego, California
- 2016 Invited lecture, “A cerebrospinal fluid microRNA signature for glioblastoma detection”, 2016 AANS/CNS Tumor Section Satellite Symposium, San Diego, California
- 2016 Invited lecture, “Emerging technologies monitoring for recurrence/progression”, 2016 AANS/CNS Tumor Section Satellite Symposium, San Diego, California
- 2016 Invited presentation, “A functional screen identifies miRs that induce radioresistance in glioblastomas”, 2016 Congress of Neurological Surgeons Annual Meeting, San Diego, California
- 2016 Invited presentation, “Comparative Prognostic Value of the Cumulative Intracranial Tumor Volume (CITV) and Score Index for Radiosurgery (SIR) in Brain Metastasis”, 2016 Congress of Neurological Surgeons Annual Meeting, San Diego, California
- 2016 Invited lecture, “CSF biomarkers for glioblastoma tumor burden”, Select Biosciences 3<sup>rd</sup> Annual Liquid Biopsies and Minimally-Invasive Diagnostics Conference, San Diego, California

- 2016 Invited lecture, “Clinical translation of EV based biomarkers: consideration for multi-platform integration”, American Society for Exosomes and Microvesicles, 2016 Annual Meeting, Asilomar, California
- 2016 Invited lecture, “Extracellular vesicles as glioblastoma biomarkers”, 2016 CDW Seminar on Exosome Biology, San Diego, California
- 2016 Invited lecture, “The Future of Departments of Neurosurgery in Academic Medical Centers”, University of Minnesota, Minneapolis, Minnesota
- 2016 Invited lecture, “Modulation of glioblastoma tumorigenicity by tumor microenvironment”, CNS Anticancer Drug Discovery and Development, Scottsdale, Arizona
- 2016 Invited lecture, “Stereotactic laser ablation (SLA) as treatment for brain metastases that recur after stereotactic radiosurgery: a multi-institutional experience”, Society of Neuro-Oncology 2016 Annual Meeting, Scottsdale, Arizona
- 2016 Invited lecture, “Superior prognostic value of cumulative intracranial tumor volume (CITV) relative to largest intracranial tumor volume (LITV) for stereotactic radiosurgery treated brain metastasis patients”, Society of Neuro-Oncology 2016 Annual Meeting, Scottsdale, Arizona
- 2016 Invited lecture, “Optimal radiosurgery dose for treatment of melanoma and renal cell carcinoma metastases”, Society of Neuro-Oncology 2016 Annual Meeting, Scottsdale, Arizona
- 2016 Invited lecture, “microRNA inhibition of endothelial DNA ANGI-09 repair capacity as a glioblastoma therapeutic strategy”, Society of Neuro-Oncology 2016 Annual Meeting, Scottsdale, Arizona
- 2016 Invited lecture, “microRNA inhibition of endothelial DNA ANGI-09 repair capacity as a glioblastoma therapeutic strategy”, Society of Neuro-Oncology 2016 Annual Meeting, Scottsdale, Arizona
- 2016 Invited lecture, “DNA repair in glioma”, Society of Neuro-Oncology 2016 Annual Meeting, Scottsdale, Arizona
- 2017 Invited lecture, “Laser thermal ablation of cerebral metastasis”, Neuroblate Network Educational Session 2017, Orlando, Florida
- 2017 Invited lecture, “Ablation of cerebral metastasis: a literature review”, Neuroblate Network Educational Session 2017, Orlando, Florida
- 2017 Invited lecture, “Stereotactic laser ablation as treatment for brain metastases that recur after stereotactic radiosurgery: value of multi-institutional collaborations”, Neuroblate Network Annual Meeting 2017, Orlando, Florida
- 2017 Invited lecture, “Microglia influence glioblastoma survival”, Sontag Foundation Retreat 2017, Jacksonville, Florida
- 2017 Invited lecture, “Inhibition of microglial PI3K $\alpha$  suppresses glioblastoma tumorigenicity by disrupting IL11-STAT3-MYC signaling”, Translational Oncology Symposium 2017, La Jolla, California
- 2017 Invited lecture, “Evolving roles of stereotaxis in neuro-oncology”, Grand Round, Massachusetts General Hospital, Boston, Massachusetts
- 2017 Invited lecture, “A cerebrospinal fluid microRNA signature as biomarker for glioblastoma”, Global Technology Community Sixth Annual Biomarker Seminar, La Jolla, California
- 2017 Invited lecture, “Surface imaging guided (SIG) radiosurgery for treatment of benign skull base tumors”, Varian Seminar on Radiosurgery, Portland, Oregon



- 2017 Invited lecture, “Glioblastoma subtype as a biomarker platform for therapeutic response”, Society for Brain Mapping and Therapeutics (SBMT) 14<sup>th</sup> Annual Conference, Los Angeles, California
- 2017 Invited lecture, “Clinical applications of laser thermal ablation in the treatment of brain metastasis”, Society for Brain Mapping and Therapeutics (SBMT) 14<sup>th</sup> Annual Conference, Los Angeles, California
- 2017 Invited lecture, “Radiographic parameterization of subventricular zone distance reveals associations with survival and gene expression in glioblastoma”, American Association of Neurological Surgeons 2017 Annual Meeting, Los Angeles, California
- 2017 Invited lecture, “Curing the incurable”, Peyton Society of Neurological Surgeons Meeting, Minneapolis, Minnesota
- 2017 Invited lecture, “IL11 secretion by glioblastoma microglia defines ‘exceptional responders’”, The American Academy of Neurological Surgery Annual Meeting, Santa Barbara, California
- 2017 Invited lecture, “Neuronal activity and glioblastoma”, Chinese American Academic & Professional Association in Minnesota, Annual Meeting, St. Paul, Minnesota
- 2017 Invited lecture, “Primary and secondary glioblastomas are driven by distinct forms of fusion oncoproteins”, Congress of Neurological Surgeons 2017 Annual Meeting, Boston, Massachusetts
- 2017 Invited lecture, “LITT for brain tumors”, Congress of Neurological Surgeons 2017 Annual Meeting, Boston, Massachusetts
- 2017 Invited lecture, “Procedural Safety of Stereotactic Laser Ablation (SLA) and Associated Hospital Stay: Outcome from the First Hundred Patient from LAANTERN Prospective Registry”, Congress of Neurological Surgeons 2017 Annual Meeting, Boston, Massachusetts
- 2017 Invited lecture, “Evolving Patterns in Clinical Utilization of Stereotactic Laser Ablation (SLA): An Analysis of the Multi-center Prospective Registry LAANTERN”, Congress of Neurological Surgeons 2017 Annual Meeting, Boston, Massachusetts
- 2017 Invited lecture, “Microglia and glioblastoma clinical response”, Massachusetts General Hospital, Boston Massachusetts
- 2017 Invited lecture, “Durable responses observed in recurrent high-grade glioma (rHGG) with Toca 511 & Toca FC treatment”, AACR-NCI-EORTC Molecular Targets and Cancer Therapeutics, Philadelphia, Pennsylvania
- 2017 Invited lecture, “LITT in the management of brain metastasis”, Symposium on Brain and Spine Metastasis, Las Vegas, Nevada
- 2017 Invited lecture, “PI3 $\alpha$  inhibition as a novel glioblastoma therapeutic paradigm”, Society of Neuro-Oncology Annual Meeting, San Francisco, California
- 2018 Invited lecture, “Immunological activation in recurrent high-grade glioma patients with durable complete response following treatment with Toca 511 and Toca FC”, AACR Special conference on immunobiology of primary and metastatic CNS cancer: multidisciplinary science to advance cancer immunotherapy, San Diego, California
- 2018 Invited lecture, “Laser thermal ablation as treatment for brain metastasis: challenges and opportunities”, Medtronic, Colorado
- 2018 Invited lecture, “Quantification of glioblastoma mass effect by lateral ventricle displacement”, American Association of Neurological Surgeons 2018 Annual Meeting, New Orleans, Louisiana
- 2018 Invited lecture, “Microglia-glioblastoma interactions influence clinical survival”, American Association of Neurological Surgeons 2018 Annual Meeting, New Orleans, Louisiana

- 2018 Invited lecture, “Stereotactic laser ablation as treatment for malignant and benign intracranial lesions: an iMRI application”, 3<sup>rd</sup> IMRIS Global User’s Symposium, Tampa, Florida
- 2018 Invited lecture, “miR-603 mediates acquired temozolomide and radiation resistance by suppression of Methyl-Guanine Methyl Transferase expression and Insulin Growth Factor (IGF) Signaling”, Tumor Section Symposium, Congress of Neurological Surgeons 2018 Annual Meeting, Houston, Texas
- 2018 Invited lecture, “Cystic formation after stereotactic radiosurgery of brain metastasis”, Tumor Section Symposium, Congress of Neurological Surgeons 2018 Annual Meeting, Houston, Texas
- 2018 Invited lecture, “Modern applications of stereotactic radiosurgery for brain metastasis”, Practical course, Congress of Neurological Surgeons 2018 Annual Meeting, Houston, Texas
- 2018 Invited lecture, “Interface between laboratory medicine and clinical trials”, 2018 Forbeck Foundation Annual Meeting, Lake Geneva, Wisconsin
- 2018 Invited lecture, “Grants unfunded”, 2018 NRCDP, Salt Lake City, Utah
- 2018 Invited lecture, “PARP inhibition: lessons from synthetic lethality”, 2018 Society of Neuro-Oncology Annual Meeting, New Orleans, Louisiana
- 2018 Invited lecture, “microRNA degradation mediated genetic heterogeneity as a novel mechanism for temozolomide resistance in glioblastoma”, 2018 Society of Neuro-Oncology Annual Meeting, New Orleans, Louisiana
- 2018 Invited lecture, “Risk factors for adverse radiation effects (ARE) after Stereotactic Radiosurgery (SRS) for brain metastases”, 2018 Society of Neuro-Oncology Annual Meeting, New Orleans, Louisiana
- 2018 Invited lecture, “Journey untraveled”, Mayo Clinic, Rochester, Minnesota
- 2018 Invited lecture, “Stereotactic surgery in neuro-oncology”, Mayo Clinic, Rochester, Minnesota
- 2019 Invited panelist, Sontag Foundation Annual Meeting, Jacksonville, Florida
- 2019 Invited lecture, “Stereotactic laser ablation as treatment for brain metastases that recur after stereotactic radiosurgery: value of multi-institutional collaborations”, Medtronic, Phoenix, Arizona
- 2019 Invited lecture, “Molecular landscape of high grade glioma”, Tocagen Advisory Board Meeting, Dallas, Texas
- 2019 Invited lecture, “CD200 inhibition enhanced the anti-glioblastoma effects of autologous tumor vaccination for *in vivo* murine and canine glioblastoma models”, American Association of Neurological Surgeons 2019 Annual Meeting, San Diego, California
- 2019 Invited lecture, “Targeting MGMT promoter unmethylated glioblastomas through microRNA delivery”, American Association of Neurological Surgeons 2019 Annual Meeting, San Diego, California
- 2019 Invited lecture, “Initial experience with HyperArc radiosurgery for cranial targets”, American Association of Neurological Surgeons 2019 Annual Meeting, San Diego, California
- 2019 Invited lecture, “HyperArc radiosurgery: principles and practice”, American Association of Neurological Surgeons 2019 Annual Meeting, San Diego, California
- 2019 Invited lecture, “Neurapheresis for leptomeningeal carcinomatosis”, Neurapheresis Research Consortium, Durham, North Carolina
- 2019 Invited lecture, “Immuno-stimulatory effects of mechanical and thermal high intensity focused ultrasound”, Congress of Neurological Surgeons, San Francisco

- 2019 Invited lecture, “Improving local tumor control through GammaTile”, GT Medical Advisory meeting, Congress of Neurological Surgeons, San Francisco
- 2019 Invited lecture, “Immuno-stimulation through surgically administered mechanical high intensity focused ultrasound”, 2019 Society of Neuro-oncology Annual Meeting, Phoenix, AZ
- 2019 Invited lecture, “Interim results of a phase II multi-center study of oncolytic adenovirus DNX-2401 with pembrolizumab for recurrent glioblastoma: CAPTIVE study (KEYNOTE-192), 2019 Society of Neuro-oncology Annual Meeting, Phoenix, AZ
- 2019 Invited lecture, “Clinical Application of GammaTile in Neuro-Oncology: Initial experience”, 2019 Society of Neuro-oncology Annual Meeting, Phoenix, AZ
- 2019 Invited lecture, “Interim Results of CAPTIVE study”, DNATrix Scientific Advisory Board Meeting, Phoenix, AZ
- 2019 Invited lecture, “Subgroup analysis of TocaV results”, Tocagen Scientific Advisory Board Meeting, Phoenix, AZ
- 2020 Invited panelist, “Insights into career development”, Sontag Foundation, St. Augustine, FL
- 2020 Virtual visiting professor, “Stereotaxis in neuro-oncology: principles, applications, and innovations”, Congress of Neurological Surgeons, webinar
- 2020 Invited lecture, “GBP2 as a novel promoter for glioblastoma invasion”, American Association of Neurological Surgeons 2020 Annual Meeting, webinar
- 2020 Invited presentation, “Toca 5 phase 3 trial immune and molecular patient profiles are associated with clinical outcomes and may inform patient selection for future trials of Toca 511 and Toca FC, American Association for Cancer Research 2020 Annual Meeting, webinar
- 2020 Invited lecture, “Brachytherapy for glioblastomas”, Congress of Neurological Surgeons, Webinar
- 2020 Invited lecture, “Considerations for number of brain metastasis in stereotactic radiosurgery”, Congress of Neurological Surgeons, Webinar
- 2020 Invited lecture, “Achieving local control with Gammatile therapy”, GT Medical, Webinar
- 2020 Invited presentation, “Focal radiation therapy for gliomas”, GT Medical, Webinar
- 2020 Invited presentation, “Treatment of central nervous system tumors: current and future directions”, University of Minnesota Neuro-Oncology Symposium
- 2020 Invited presentation, “Acquired radiation resistance through extracellular-vesicle mediated release of microRNA”, Bio-techne Seminar
- 2020 Invited presentation, “Structure and pitfalls of neurosurgery oral boards”, Virtual Visiting Professor Seminar, Congress of Neurological Surgeons, Webinar
- 2020 Invited presentation, “Integration of dopamine and epidermal growth factor signaling in glioblastoma”, Oncoceutics Investigator Meeting, 2020 Society of Neuro-Oncology Annual Meeting (virtual)
- 2020 Invited presentation, “Integrated analysis of intra-tumoral heterogeneity in glioblastomas through single nuclei ATAC-Seq and RNA-Seq”, 2020 Society of Neuro-Oncology Annual Meeting (virtual)
- 2020 Invited presentation, “PI3K-gamma inhibition suppresses accumulation of glioblastoma-associated microglia to recapitulate the microenvironment of exceptional responders”,
- 2020 Invited presentation, “Zika Virus Targets Glioblastoma Stem Cells through a SOX2-Integrin  $\alpha\beta 5$  Axis”, 2020 Society of Neuro-Oncology Annual Meeting (virtual)
- 2021 Invited lectureship, “MicroRNA mediated therapeutic resistance in glioblastoma”, Translational Medicine and Stem Cell Association of UC Berkeley

- 2021 Invited lectureship, “Surgical therapies for glioblastoma”, American Academy of Neurological and Orthopedic Surgeons (AANOS), 2021 Annual Meeting.
- 2021 Invited lectureship, “MicroRNA mediated acquired radiation resistance in glioblastomas”, Society of Brain Mapping and Therapeutics (SBMT), 2021 Annual Meeting.
- 2021 Invited lectureship, “GammaTile therapy for glioblastomas: revisiting brachytherapy”, Advent Health, Orlando, FL (virtual)
- 2021 Invited presentation, “Stereotactic Laser Ablation (SLA) followed by consolidation stereotactic radiosurgery (cSRS) for brain metastasis that recurred locally after initial radiosurgery (BMRS): A multi-institutional experience”, Society of Neuro-oncology conference on brain metastases (virtual)
- 2021 Invited presentation, “Comparable safety profile between LITT and stereotactic needle biopsy in 30-Day and 90-Day readmission: A National Readmissions Database Analysis”, Congress of Neurological Surgery Annual Meeting, Austin, TX
- 2021 Invited presentation, “Outcomes of GammaTile therapy in patients with recurrent glioblastoma”, 2021 Society of Neuro-Oncology Annual Meeting, Boston, MA
- 2021 Invited presentation, “ $\alpha 5\beta 1$  integrin targeting liposome delivery of miR-603 suppressed glioblastoma stem cell state and enhanced radiation sensitivity”, 2021 Society of Neuro-Oncology Annual Meeting, Boston, MA
- 2021 Invited presentation, “Consideration of Gammatile in brain metastasis patients”, 2021 Society of Neuro-Oncology Annual Meeting, Boston, MA
- 2021 Invited presentation, “First experience with maximal safe resection and Gammatile brachytherapy as treatment for recurrent glioblastoma”, 2021 Society of Neuro-Oncology Annual Meeting, Boston, MA
- 2021 Invited presentation, “Lactate Dehydrogenase A (LDHA) mediate novel crosstalk between metabolic glycolysis and chromatin remodeling”, 2021 Society of Neuro-Oncology Annual Meeting, Boston, MA
- 2022 Invited presentation, “Surgically targeted radiation therapy (STaRT) as salvage treatment in recurrent glioblastomas”, 2022 GT Forum, Scottsdale, AZ
- 2022 Invited presentation, “Multi-institutional collaboration in the study of intracranial brachytherapy”, 2022 GT Forum, Scottsdale, AZ
- 2022 Invited presentation, “Gammatile as surgically targeted radiation therapy (START) for recurrent glioblastomas”, Society of Brain Mapping and Therapeutics 2022 Annual Meeting, Los Angeles, CA
- 2022 Invited presentation, “Improving local control of glioblastomas”, University of California, Irvine, CA
- 2022 Invited presentation, “Radiosurgery of sellar and parasellar meningioma: promises and pitfalls”, American Association of Neurological Surgeons 2022 Annual Meeting, Philadelphia, PA
- 2022 Invited presentation, “Novel bipolar electric field therapy for the treatment of glioblastoma: preliminary in-vitro and in-vivo results”, American Association of Neurological Surgeons 2022 Annual Meeting, Philadelphia, PA
- 2022 Invited presentation, “Gammatile brachytherapy in the treatment of recurrent glioblastomas”, American Association of Neurological Surgeons 2022 Annual Meeting, Philadelphia, PA
- 2022 Invited lecture, “Revisiting brachytherapy for malignant brain cancer”, Subcortical Surgery Consortium, Boulder, CO

- 2022 Invited discussant, “Building a clinical practice”, Medtronic Cranial Consortium, Boulder, CO
- 2022 Invited lecture, “Technology integration in neuro-oncology”, Medtronic Cranial Consortium, Boulder, CO
- 2022 Invited lecture, “Value of tractography for surgical planning in neuro-oncology”, Medtronic Cranial Consortium, Boulder, CO
- 2022 Invited lecture, “Changing the paradigm of brain metastasis treatment through laser ablation”, Medtronic Cranial Consortium, Boulder, CO
- 2022 Invited lecture, “Integrated single-cell epigenomic analysis identified a core vulnerability despite glioblastoma heterogeneity”, American Academy of Neurological Surgeons Annual Meeting, Colorado Springs, CO
- 2022 Invited lecture, “iPSC-derived NK cells exhibit potent *in vitro* and *in vivo* tumoricidal activity against patient-derived glioblastoma stem cells (GSCs)”, Congress of Neurological Surgeons Annual Meeting, San Francisco, CA
- 2022 Invited lecture, “Stereotactic laser ablation for newly diagnosed brain metastasis, “Medtronic Research Symposium, San Francisco, CA
- 2022 Invited lecture, “Survival benefit of stereotactic laser ablation (SLA) in newly diagnosed glioblastoma patients: a matched cohort analysis”, Congress of Neurological Surgeons Annual Meeting, San Francisco, CA
- 2022 Invited lecture, “iPSC-derived NK cells exhibit potent *in vitro* and *in vivo* tumoricidal activity against patient-derived glioblastoma stem cells”, Society of Neuro-Oncology, Annual Meeting, Tampa, FL
- 2022 Invited lecture, “GBP3-STING interaction in glioblastoma coordinates autophagy, anti-oxidative, and DNA repair programs in response to temozolomide”, Society of Neuro-Oncology Annual Meeting, Tampa, FL
- 2022 Invited lecture, “Surgical resection of benign meningioma in the elderly population: Implications from a propensity-score matched analysis”, Society of Neuro-Oncology Annual Meeting, Tampa, FL
- 2022 Invited lecture, “Clinical application of Gammatile brachytherapy: Observations and opportunities”, GT Medical research seminar, Tampa, FL
- 2022 Invited panelist, “Brain Tumor Network: Commitment to connection”, Sontag Foundation, Tampa, FL
- 2022 Invited speaker, “Stereotactic laser ablation in neuro-oncology”, Monteris Medical, virtual meeting
- 2023 Invited speaker, “Resection newly diagnosed glioblastoma with GammaTile placement followed by modified Stupp protocol”, Annual meeting for CNS brachytherapy, GT Medical, Arizona
- 2023 Invited speaker, “Safety and efficacy of GammaTile therapy for rapidly proliferation brain metastasis”, 2023 Gammatile Practitioner Society, Scottsdale, AZ
- 2023 Invited lecturer, “A decade-long journey from a genome-wide screen to a clinical glioblastoma trial”, Saint John’s Cancer Center, Santa Monica, CA
- 2023 Invited speaker, “Radiosurgery of sellar and parasellar meningioma: treatment considerations”, American Association of Neurological Surgeons 2023 Annual Meeting, Los Angeles, CA
- 2023 Invited speaker, “Real-time MRI stereotaxis aided SmartFlow convection delivery of DNX-2401: a pilot safety study”, Tumor Section Symposium, Congress of Neurological Surgeons 2023 Annual Meeting, Washington D.C.

- 2023 Invited speaker, “Gammatile (GT) brachytherapy: considerations in the treatment of rapidly growing brain metastasis”, Congress of Neurological Surgeons 2023 Annual Meeting, Washington D.C.
- 2023 Invited speaker, “Modern stereotaxis in neuro-oncology: principles and innovations”, Brown University, Providence, RI
- 2023 Invited speaker, “Molecular profiling of glioblastomas: insights and impacts”, Brown University, Providence, RI
- 2023 Invited speaker, “Re-purposing deep brain stimulator as non-alternating electric field therapy (naEFT for treatment of glioblastomas”, American Academy of Neurological Surgeons, Jacksonville, FL
- 2023 Invited speaker, “microRNA metabolism and glioblastoma therapeutic resistance”, Forbeck Scholar Forum, Milwaukee, WI
- 2023 Invited Speaker, “Value of surgeon scientists in basic laboratory discovery”, Forbeck Scholar Forum, Milwaukee, WI
- 2023 Invited panelist, “Patient focused neuro-oncologic care”, AACR special conference in cancer research: brain cancer, Minneapolis, MN
- 2023 Invited speaker, “Laser interstitial thermal therapy (LITT) followed by consolidation stereotactic radiosurgery (SRS) as a treatment strategy for brain metastasis recurring after SRS (BMRS)”, Salt Lake City, UT
- 2023 Visiting professor, “A journey through neuro-oncologic surgery: An odyssey of discoveries”, Cleveland Clinic, Cleveland, OH
- 2023 Invited speaker, “Targeting a shared glioblastoma cell state through adaptive Natural Killer cells augmented with Trispecific Killer cell Engager (TriKE) immune-modulator against CD276”, 2023 Society of Neuro-Oncology Annual Meeting, Vancouver, Canada
- 2023 Invited speaker, “NNMT is a novel effector of EGFR-driven glioblastoma malignancy”, 2023 Society of Neuro-Oncology Annual Meeting, Vancouver, Canada
- 2023 Invited speaker, “Electric field therapy as a glioblastoma treatment platform”, 2023 Society of Neuro-Oncology Annual Meeting, Vancouver, Canada
- 2023 Invited speaker, “Neuro-imaging of surgical therapies”, 2023 Radiological Society of North America Annual Meeting, Chicago, IL
- 2024 Invited speaker, “Brachytherapy for rapidly growing brain metastasis”, 2024 Gammatile Practitioner Society, Scottsdale, AZ
- 2024 Invited speaker, “Combining focused ultrasound with immune therapy”, 2024 Focused Ultrasound Foundation, Washington DC

***International Invited Presentations***

- 1998 Invited lecture, “Chromosomal rearrangements in *Saccharomyces cerevisiae rfa1* mutator mutants”, EMBO workshop on genetic recombination, Paris, France
- 2008 Invited lecture, “Clinical applications of small-scale siRNA screens in cancer therapy”, Takeda Pharma, Japan
- 2008 Invited lecture, “siRNA screening for development of glioma therapy”, Astella Pharma, Japan
- 2008 Invited lecture, “Neurosurgical training in the U.S.”, National Taipei University Hospital Department of Neurosurgery, Taipei, Taiwan

- 2008 Visiting professorship, “Targeting cancer stem cells by proteasome inhibition”, Fudan University, China
- 2009 Invited lecture, “Lateral ventriculo-cisternostomy”, Chi Mei Medical Center Department of Neurosurgery, Tainan, Taiwan
- 2009 Invited lecture, “Anti-angiogenic therapy in the treatment of malignant gliomas: surgical implications”, Kaohsiung Medical University Department of Neurosurgery, Kaohsiung, Taiwan
- 2009 Invited lecture, “Proton radiosurgery in neurosurgery”, National Taipei University Hospital Department of Neurosurgery, Taipei, Taiwan
- 2009 Invited lecture, “Radiosurgery in the management of primary CNS lymphoma”, Neurological Institute of Taipei Veterans General Hospital, Taipei, Taiwan
- 2010 Invited lecture, “Neurosurgery: innovation through evolution”, Department of Neurosurgery, Kumamoto University, Kumamoto, Japan
- 2010 Invited lecture, “Update in neurosurgical oncology”, Department of Neurosurgery, Tokyo Women’s Medical University, Tokyo, Japan
- 2010 Invited lecture, “c-Myc modulates the dynamic transition between tumor initiating states in glioblastoma”, Keio University, Tokyo, Japan
- 2010 Invited lecture, “MutS and FANCM complexes function as redundant DNA damage sensors in the Fanconi Anemia pathway”, Keio University, Tokyo, Japan
- 2010 Keynote address, “History and modern application of stereotaxis”, Taiwanese Neurosurgical Society Annual meeting, Tainan, Taiwan
- 2010 Keynote address, “Novel predictive and prognostic factors in glioblastoma”, Taiwanese Neurosurgical Society Annual meeting, Tainan, Taiwan
- 2010 Invited lecture, “Oxidative stress: a lesson in non-oncogene addiction”, National Cheng Kung University, Tainan, Taiwan
- 2010 Invited lecture, “DNA repair: from bench to bedside”, National Health Research Institute, Taipei, Taiwan
- 2010 Invited lecture, “DNA repair as a platform for biomarker discovery in glioblastoma”, Academia Sinica, Taipei, Taiwan
- 2010 Invited lecture, “Biomarker discovery in glioblastoma”, Department of Neurosurgery, Beijing Tiantan Hospital, Beijing, China
- 2010 Invited lecture, “MicroRNA regulating MGMT as therapeutic strategy in glioblastoma”, Department of Neurosurgery, China West Hospital, Sichuan, China
- 2010 Visiting professorship, “Targeting cancer stem cells by proteasome inhibition”, Huashan Hospital, Shanghai, China
- 2011 Plenary talk, “Oncogene addiction and non-oncogene addiction”, Capital International Cancer Conference, Beijing, China
- 2011 Invited lecture, “Glioblastoma radiation resistance: insights from RNAi screening”, Chinese Academy of Sciences, Shanghai, China
- 2011 Surgical Grand Rounds, “Opportunities and pitfalls of clinical fellowships in the U.S.”, Chi-Mei Hospital Department of Surgery, Tainan, Taiwan
- 2011 Plenary talk, “Radiosurgery for cerebral metastasis, a fifteen year experience”, Second Annual Meeting for Stereotactic Functional Neurosurgery and Radiosurgery, Taipei, Taiwan
- 2011 Invited lecture, “Stereotactic internal shunting”, Neurological Institute of Taipei Veterans General Hospital, Taipei, Taiwan
- 2011 Invited lecture, “RNAi screening: insights into glioblastoma therapeutics”, Keio University, Tokyo, Japan

- 2011 Invited lecture, “Internal shunting in neuro-oncologic patients”, 13<sup>th</sup> Asian Australasian Congress of Neurological Surgeons, Taipei, Taiwan
- 2012 Invited lecture, “miRNA as novel glioblastoma biomarkers”, National Sun Yet-Sun University-University of California San Diego Joint Symposium, Kaohsiung, Taiwan
- 2012 Invited lecture, “Update on therapeutic advances in glioblastoma”, Chi-Mei Hospital Department of Surgery, Tainan, Taiwan
- 2012 Invited lecture, “Minimally invasive pituitary and brain tumor surgery and radiosurgery”, Aeromedevac Symposium, Guadalajara, Mexico
- 2012 Invited lecture, “Neurosurgical training in the U.S.”, Peking Union Medical Center, Beijing, China
- 2012 Invited lecture, “Radiographic features of pro-neural glioblastomas”, Tiantan Hospital, Beijing, China
- 2012 Invited lecture, “Neurosurgery-based therapeutic development”, Navy General Hospital, Beijing, China
- 2012 Invited lecture, “Novel therapeutic strategies: a neurosurgeon’s perspective”, Huashan Hospital, Shanghai, China
- 2012 Invited lecture, “CSF biomarkers in glioblastomas”, First Annual Meeting in Functional Imaging and Navigation, Shanghai, China
- 2012 Invited lecture, “Master regulating miRNAs of therapeutic resistance in glioblastomas”, Keio University, Tokyo, Japan
- 2012 Invited lecture, “New paradigms in glioblastoma biomarker development”, Tokyo Women’s Medical University – Waseda University Joint Institution for Advanced Biomedical Sciences, Tokyo, Japan
- 2012 Invited lecture, “Neurosurgical education”, Tokyo Women’s Medical University, Tokyo, Japan
- 2013 Invited lecture, “Minimally invasive neurosurgery”, Aeromed, Guadalajara, Mexico
- 2013 Invited Lecture, “Surface Real-Time Image-Guided SRS: A Precision Frameless Technique at UCSD”, 2013 International Stereotactic Radiosurgery Society (ISRS) Congress, Toronto, Canada
- 2013 Invited Lecture, “Neurosurgical Oncology: Glioblastoma Therapeutics and Diagnostics“, Department of Neurosurgery, Tokyo Women’s Medical University, Tokyo, Japan
- 2013 Invited Lecture, “An overview of neurosurgical oncology at the University of California San Diego”, Department of Neurosurgery, Taipei Veteran General Hospital, Taipei, Taiwan
- 2013 Invited Lecture, “An update on neurosurgical oncology: an UCSD experience“, Department of Neurosurgery, National Taipei University Medical Center, Taipei, Taiwan
- 2013 Invited Lecture, “A Neurosurgical approach to the developing new paradigms for glioblastoma therapy”, Department of Surgery, Chi-Mei Medical Center, Tainan, Taiwan
- 2013 Invited Lecture, “Dynamic transition in c-Myc chromatin state drives glioblastoma tumor initiating activities”, Shanghai Jiaotong University School of Medicine, Shanghai, China
- 2013 Invited Lecture, “Model derived pathway signature analysis”, Department of Neurosurgery, Hospital, Beijing, China
- 2013 Invited Lecture, “Challenging cases in skull base surgery: indications for surgical and non-surgical intervention”, Seventh Annual Meeting on Minimally Invasive Skull Base Surgery, Beijing, China
- 2013 Invited Lecture, “Overview of UCSD Neuro-oncology”, Seventh Annual Meeting on Minimally Invasive Neurosurgery, Beijing, China



- 2013 Invited Lecture, “Case based learning in neurosurgery”, Department of Neurosurgery, Peking Union Medical Center, Beijing, China
- 2014 Invited Lecture, “Glioma resection: insights into clinical benefits, publication patterns, and clinical practice”, Glioblastoma Symposium, Beijing China
- 2014 Invited lecture, “Prognostic factors for stereotactic radiosurgery treated patients with cerebral metastases”, Asian Gamma Knife Academy, Shanghai, China
- 2014 Invited lecture, “RNA contents of plasma and cerebrospinal fluid extracellular vesicles in glioblastoma patients”, International Society for Extracellular Vesicles (ISEV) 2014 Annual Meeting, Amsterdam, Netherlands
- 2014 Invited lecture, “Neurosurgical morbidity and mortality”, Taipei Medical University, Taipei, Taiwan
- 2014 Invited lecture, “Randomized clinical trial design for radiosurgery”, Taipei Veteran General Hospital, Taipei, Taiwan
- 2014 Invited lecture, “MRI-guided Neurosurgery”, National Taipei University Hospital, Taipei, Taiwan
- 2014 Invited lecture, “Opportunities in neurosurgical training”, Peking Union Medical Center, Beijing, China
- 2014 Invited lecture, “Minimally invasive neurosurgery in neuro-oncology”, Eight Annual Meeting on Minimally Invasive Neurosurgery, Beijing, China
- 2014 Invited lecture, “Selective Targeting of Inflammatory Response as a Strategy for Glioblastoma Therapy”, Merck Research Symposium, Beijing, China
- 2014 Invited lecture, “Prognostic radiographic biomarkers for glioblastoma”, Tiantan Medical Center, Beijing, China
- 2014 Invited lecture, “Clinical case-based neuroanatomy”, Peking Union Medical Center, Beijing, China
- 2015 Invited lecture, “Extracellular vesicles as a platform for glioblastoma biomarker development”, Shanghai Neurosurgery Society Annual Meeting, Shanghai, China
- 2015 Invited lecture, “Stereotactic Radiosurgery: an evolution toward efficiency and patient comfort”, Varium Edge Symposium, Beijing, China
- 2015 Invited lecture, “Clinical experiences with Surface Imaging Guided and Rapid Arc Radiosurgery: A Neurosurgical Perspective”, International Stereotactic Radiosurgery Society 2015 Annual Meeting, Yokohoma, Japan
- 2015 Invited lecture, “Cumulative Intracranial Tumor Volume (CITV) as a prognostic factor for brain metastases patients undergoing SRS”, International Stereotactic Radiosurgery Society 2015 Annual Meeting, Yokohoma, Japan
- 2015 Invited lecture, “Orthogonal targeting of EGFRvIII expressing glioblastomas through simultaneous inhibition of EGFR and PLK1”, Chi-Mei Medical Center, Tainan, Taiwan
- 2015 Invited lecture, “Dynamic epigenetic regulation of MYC expression: a hybrid model for glioblastoma tumorigenicity”, Ulsan National Institute for Science and Technology, Ulsan, Korea
- 2015 Invited lecture, “MRI-guided viral delivery and LITT for management of gliomas”, Siberian Association of Neurosurgeons, Novosibirsk, Russia
- 2015 Invited lecture, “Big data” research in glioma, Siberian Association of Neurosurgeons, Novosibirsk, Russia
- 2015 Invited lecture, “Dynamic properties of glioblastoma stem cells”, 301 PLA Army Hospital, Beijing, China
- 2015 Invited lecture, “Neurosurgical anatomy”, Peking Union Medical Center, Beijing, China

- 2015 Invited lecture, “Evidence based guideline for pituitary imaging”, Ninth Annual Meeting on Minimally Invasive Neurosurgery, Beijing, China
- 2015 Invited lecture, “Advances in neurosurgical oncology”, Hunan Tumor Center, Changsha, China
- 2015 Invited lecture, “Neurosurgical Oncology in the U.S.”, China South Medical Center, Hengyang, China
- 2015 Invited lecture, “LSD1 mediate dynamic transition between glioblastoma tumorigenic states”, Sichuan Neurosurgical Glioma Society, Chengdu, China
- 2015 Invited lecture, “Evolution of radiosurgery: towards precision, efficiency, and comfort”, Taiwanese Neurosurgical Society Annual Meeting, Taipei, Taiwan
- 2016 Invited lecture, “Molecular basis of long-term survivorship in glioblastoma”, Tiantan Medical Center, Beijing, China
- 2016 Invited lecture, “Management patterns of patients with cerebral metastases who underwent multiple stereotactic radiosurgeries”, BrainLab Radiosurgery Symposium, Sydney, Australia
- 2016 Invited lecture, “Survival patterns of patients with cerebral metastases who underwent multiple rounds of stereotactic radiosurgery SRS”, Melanoma Institute of Australia, Australia
- 2016 Invited lecture, “Evolution toward RapidArc® stereotactic radiosurgery: A neurosurgical perspective”, Australian Oncology Summit, Auckland, New Zealand
- 2016 Invited lecture, “Cerebrospinal fluid microRNA (CSF miRNA) signature as a biomarker for glioblastoma detection”, International Society for Extracellular Vesicles (ISEV) 2016 Annual Meeting, Amsterdam, Netherlands
- 2016 Invited lecture, “Microglia modulation of glioblastoma through MYC modulation”, The Centre for Cancer Research and Cell biology, Queen’s University Belfast, United Kingdom
- 2016 Invited lecture, “Advanced stereotaxis in neuro-surgical oncology”, Department of Neurosurgery, Karolinska University Hospital, Sweden
- 2016 Invited lecture, “Prognostic importance of cumulative intracranial tumor volume in brain metastasis patients treated with stereotactic radiosurgery”, Department of Neurosurgery, Karolinska University Hospital, Sweden
- 2016 Invited lecture, “Epigenetic MYC modulation and glioblastoma tumorigenicity”, Heidelberger Symposium, Moscow, Russia
- 2016 Invited lecture, “Novel applications of stereotactic neurosurgery in neuro-oncology”, School of Young Scientists, Moscow Russia
- 2016 Invited lecture, “Novel ‘liquid biopsy’ platforms for glioblastoma”, Biomarker India 2016, Bengaluru, India
- 2016 Invited lecture, “TMZ-induce miR-181d degradation: Implications on glioblastoma intra-tumoral heterogeneity and evolution of therapeutic resistance”, Indian Institute of Science, Bengaluru, India
- 2016 Invited lecture, “MGMT-regulating miRNA: A lesson in precision medicine”, 301 PLA Army Hospital, Beijing, China
- 2016 Invited lecture, “Precision surgery in Neuro-Oncology”, 301 PLA Army Hospital, Beijing, China
- 2016 Invited lecture, “Pearls and pitfall of anterior skull base surgery”, Sichuan Society of Skull Base Surgery, 2016 Annual Meeting, Chengdu, China
- 2016 Invited lecture, “Gross total resection in neuro-oncology”, National Taipei University Hospital, Taipei, Taiwan

- 2016 Invited lecture, “Glioblastoma subtype: diagnostic and therapeutic implications”, National Taipei University Hospital, Taipei, Taiwan
- 2016 Invited lecture, “Cumulative Intracranial Tumor Volume (CITV) in Radiosurgery”, Taipei Veteran General Hospital, Taipei, Taiwan
- 2016 Invited lecture, “Isocitrate Dehydrogenase (IDH) mutations: opportunities for personalizing oncologic care of glioblastoma patients”, Lihpao Life Science Corp, Taipei, Taiwan
- 2016 Invited lecture, “Value of gross total resection in glial tumors”, Chi-Mei Hospital, Tainan, Taiwan
- 2016 Invited lecture, “Precision medicine: paradigm in neuro-oncology”, 2016 Chinese Glioma Cooperative Group (CGCG) Annual Meeting, Lanzhou, China
- 2016 Invited lecture, “Laser thermal ablation in neuro-oncology”, 2016 Annual Chinese Neurosurgery Meeting, Lanzhou, China
- 2016 Invited lecture, “Deriving biologic insights into glioblastomas from neuro-imaging”, 2016 Annual Nanjing Neurosurgery Meeting, Nanjing, China
- 2016 Invited lecture, “Cumulative intracranial tumor volume as prognostic factor for treatment of brain metastasis”, 7<sup>th</sup> meeting of the Asian Gamma Knife Academy, Honolulu, Hawaii
- 2017 Invited lecture, “PI-3K $\gamma$  inhibition suppresses glioblastoma tumorigenicity through disruption of an IL11-STAT3-MYC signaling axis between microglia and glioblastoma”, World Federation of Neuro-Oncology Societies, Zurich, Switzerland
- 2017 Invited lecture, “Survival benefit associated with Gross Total Resection (GTR) in oligodendrogliomas and astrocytomas: a Surveillance, Epidemiology, and End Results Program (SEER) based analysis”, Zurich, Switzerland
- 2017 Invited lecture, “Pitfalls in surgical treatment of pituitary adenomas”, 2017 Beijing Congress of Pituitary Adenoma, Beijing, China
- 2017 Invited lecture, “Single cell analysis revealed cell-to-cell variations in physiologic state influence EV secretion”, International Society for Extracellular Vesicles (ISEV) 2017 Annual Meeting, Toronto, Canada
- 2017 Invited lecture, “In vivo characterization of EV miRNA secretion into cerebrospinal fluid (CSF) by glioblastoma”, International Society for Extracellular Vesicles (ISEV) 2017 Annual Meeting, Toronto, Canada
- 2017 Invited lecture, “Radiosurgery for Brain Metastasis”, International Society for Radiosurgery, 2017 Annual Meeting, Montreux, Switzerland
- 2017 Invited lecture, “Improving the prognostic value of disease specific graded prognostic assessment (ds-GPA) model for renal cell carcinoma by incorporation of cumulative intracranial tumor volume”, International Society for Radiosurgery, 2017 Annual Meeting, Montreux, Switzerland
- 2017 Invited lecture, “Improving the prognostic value of disease specific graded prognostic assessment (ds-GPA) model for melanoma by incorporation of cumulative intracranial tumor volume”, International Society for Radiosurgery, 2017 Annual Meeting, Montreux, Switzerland
- 2017 Invited lecture, “The role of metastasis number in the diagnosis specific graded prognostic assessment (ds-GPA) for lung, renal cell carcinoma (RCC), and melanoma”, International Society for Radiosurgery, 2017 Annual Meeting, Montreux, Switzerland
- 2017 Invited lecture, “Surface imaging guided (SIG) radiosurgery for treatment of benign skull base tumors”, International Society for Radiosurgery, 2017 Annual Meeting, Montreux, Switzerland

- 2017 Invited lecture, “Extent of Resection: When does it matter”, Beijing Tiantan International Forum of Neurosurgery, 2017 Annual Meeting, Beijing, China
- 2017 Invited lecture, “Genealogy and Journal Bias in Neurosurgery Literature”, China West Hospital, Chengdu, China
- 2017 Invited lecture, “miRNA and temozolomide resistance in glioblastoma”, Science Life Laboratory, Stockholm, Sweden
- 2017 Olivecrona lecture, “Stereotactic radiosurgery: insights and outcome”, Karolinska Hospital, Stockholm, Sweden
- 2017 Invited lecture, “Stereotactic radiosurgery as treatment for brain metastasis”, Chi Mei Hospital, Tainan, Taiwan
- 2017 Keynote lecture, “Applications of stereotaxis in modern neuro-oncology”, 8<sup>th</sup> Academic Congress of International Chinese Neurosurgical Sciences, Taipei, Taiwan
- 2018 Invited lecture, “Role of repeat-SRS and laser ablation in the treatment of brain metastasis”, 19<sup>th</sup> Leksell Gamma Knife Society Meeting, Dubai
- 2018 Invited lecture, “Insights into glioblastoma biology and therapeutics: convergence of epidemiology, molecular biology, and clinical imaging”, Department of Neurosurgery, National Seoul University, Seoul, Korea
- 2018 Invited lecture, “Surgical resection of gliomas: a journey from epidemiology to molecular biology”, Department of Neurosurgery, Third XiangYa Hospital of Central South University, Changsha, China
- 2018 Invited lecture, “Microglia and glioblastoma”, Chinese Society of Neuro-Oncology, Changsha, China
- 2018 Invited lecture, “Role of stereotaxis in modern neuro-oncology”, The First Hospital of China Medical University, Shenyang, China
- 2018 Invited lecture, “Insights into the pathogenesis and heterogeneity of glioblastomas through molecular imaging”, The First Hospital of China Medical University, Shenyang, China
- 2018 Invited lecture, “Master regulatory microRNAs in glioblastoma”, The First Hospital of China Medical University, Shenyang, China
- 2018 Invited lecture, “Gross total resection in gliomas”, Taipei International Neurosurgery Symposium, Taipei, Taiwan
- 2018 Invited lecture, “Role of microglia in glioblastoma prognostication”, Taipei International Neurosurgery Symposium, Taipei, Taiwan
- 2018 Invited lecture, “Stereotactic radiosurgery for brain metastasis”, Taipei International Neurosurgery Symposium, Taipei, Taiwan
- 2018 Invited lecture, “Novel technologies for neurosurgery of difficult to access brain tumor”, China West Medical Center, Chengdu, China
- 2018 Invited lecture, “Radiosurgery for brain metastasis: a modern update”, Chi-Mei Medical Center, Tainan, Taiwan
- 2018 Invited lecture, “microRNA mediated resistance mechanisms in glioblastoma”, 14<sup>th</sup> Asia-Oceanian Skull Base Societies Congress, Taichung, Taiwan
- 2018 Invited lecture, “Technical innovations in brain tumor surgery”, 14<sup>th</sup> Asia-Oceanian Skull Base Societies Congress, Taichung, Taiwan
- 2018 Invited lecture, “Laser thermal ablation in neuro-oncology”, 301 PLA Army Hospital, Beijing, China
- 2018 Invited lecture, “Opportunities for Medical Device Development in the Treatment of Brain Cancer”, Design of Medical Devices Conferences, Beijing, China

- 2018 Invited lecture, “Ultrasound platform for augmentation of immunotherapy”, Design of Medical Devices Conferences, Beijing, China
- 2018 Invited lecture, “MRI-based technology development in neuro-oncology”, Design of Medical Devices Conferences, Beijing, China
- 2018 Invited lecture, “microRNA metabolism and glioblastoma therapeutic resistance”, Huashan International Neurosurgical Conference, Huashan Medical Center, Shanghai, China
- 2018 Invited lecture, “Surgical advances in neuro-oncology”, Huashan International Neurosurgical Conference, Huashan Medical Center, Shanghai, China
- 2018 Invited lecture, “Dopamine receptor signaling as mitogenic engine for glioblastoma”, Department of Neurosurgery, Hong Kong University, Hong Kong
- 2018 Invited lecture, “Extent of resection in gliomas”, Department of Neurosurgery, Chinese University of Hong Kong, Hong Kong
- 2018 Invited lecture, “microRNA and therapeutic resistance in glioblastoma”, Department of Neurosurgery, Chinese University of Hong Kong, Hong Kong
- 2019 Invited lecture, “Advances in glioblastoma therapy”, Department of Neurosurgery, National Taipei University Hospital, Taipei, Taiwan
- 2019 Invited lecture, “Current understanding of glioblastoma pathogenesis”, Department of Neurosurgery, Chi-Mei Hospital, Tainan, Taiwan
- 2019 Invited lecture, “laser thermal ablation: advancing clinical application of the intra-operative MRI”, Chinese Society of Neuro-oncology 2019 Annual Meeting, Xi’an, China
- 2019 Invited lecture, “Mechanisms of cross-resistance in glioblastoma”, Chinese Society of Neuro-oncology 2019 Annual Meeting, Xi’an, China
- 2019 Invited lecture, “Innovative approaches in surgical neuro-oncology”, Chinese Society of Neuro-oncology 2019 Annual Meeting, Xi’an, China
- 2019 Invited lecture, “microRNA mediated cross-resistance in glioblastoma”, 2019 Taipei International Neuroscience Symposium, Taipei, Taiwan
- 2019 Invited lecture, “Surgical trials in neuro-oncology”, 2019 Taipei International Neuroscience Symposium, Taipei, Taiwan
- 2019 Invited lecture, “Cerebral edema after stereotactic radiosurgery for brain metastases: the influence of repeated treatment”, International Society for Radiosurgery, 2019 Annual Meeting, Rio de Janeiro, Brazil
- 2019 Invited lecture, “Molecular disease specific graded prognostic assessment (dsGPA) for melanoma brain metastasis”, International Society for Radiosurgery, 2019 Annual Meeting, Rio de Janeiro, Brazil
- 2019 Invited lecture, “Imaging guidelines for non-functioning pituitary macroadenomas”, Fourth Huaxi Skull Base Neurosurgery Forum, West China Hospital, Chengdu, China
- 2019 Invited lecture, “Minimally invasive surgical approaches in neuro-oncology”, East Asia Conference of Minimally Invasive Neurosurgery, Shenyang, China
- 2019 Invited lecture, “Clinical lessons learned from the Surveillance Epidemiology and End Results (SEER)”, 3<sup>rd</sup> Asia Neuroscience Conference, Shenyang, China
- 2019 Invited lecture, “microRNA regulation of radiation sensitivity in glioblastomas”, Chinese Association of Radiation Oncologists, Shenyang, China
- 2020 Invited lecture, “Robotic stereotaxis in neuro-oncology: looking to the future”, Medtronic Webinar
- 2020 Invited lecture, “IDH-mutated gliomas: clinical challenges and opportunities”, GliMaRS Network, Webinar

- 2020 Invited discussion, “Clinical translation of 2HG spectroscopy”, GliomaRS Network, Webinar
- 2020 Invited lecture, “Emerging Applications of ClearPoint in Neuro-Oncology”, ClearPoint Neuro, Webinar
- 2021 Invited lecture, “Glioblastoma multi-resistance: a novel extracellular vesicle mediated mechanism”, International Summit of Neurosurgery, West China Hospital, Sichuan University, China
- 2021 Invited lecture, “MicroRNA export through extracellular vesicles as a mechanism of multi-resistance in glioblastoma”, 4th International forum of Zhengzhou University for Medicine, Zhengzhou, China
- 2022 Keynote lecture, “Surgically Targeted Radiation Therapy (START) for brain cancers”, World Federation of Neuro-oncology Societies, Seoul, Korea
- 2022 Invited lecture, “Stereotactic Laser Ablation (SLA) followed by consolidation stereotactic radiosurgery (cSRS) as treatment for brain metastasis that recurred locally after initial radiosurgery (BMRS)”, 2022 International Stereotactic Radiosurgery Society Congress, Milan, Italy.
- 2022 Invited lecture, “Gammatile for recurrent glioblastomas: brachytherapy revisited”, International Summit of Neurosurgery, West China Hospital, Sichuan University, China
- 2022 Invited lecture, “Brain tumors: surgical resection and beyond”, Taipei Neuroscience Institute, Taipei Medical University, Taipei, Taiwan
- 2022 Invited lecture, “Innovating surgical neuro-oncology through magnetic resonance imaging”, China Medical University, Taichung, Taiwan
- 2022 Invited lecture, “Approaches to cranial surgery using Stealth Autoguide”, Neurosurgical Society of Australia Annual Scientific Meeting, virtual meeting.
- 2022 Invited speaker, “Treatment of recurrent brain metastasis after radiosurgery”, European Association of Neuro-oncology, virtual meeting.
- 2023 Invited speaker, “Robotic neuro-navigation”, Society of precision neurosurgery, Shanghai, China, virtual meeting
- 2023 Invited speaker, “An odyssey from a nine-dot puzzle to a spring of hope”, Peyton Society meeting, Seoul, Korea
- 2023 Invited speaker, “Molecular profiling of glioblastomas”, Ulsan National Institute of Science and Technology, Ulsan, Korea
- 2023 Invited speaker, “State of academic medical centers”, Chinese University of Hong Kong, Hong Kong, China
- 2023 Invited speaker, “Targeting glioblastoma heterogeneity”, Tzu Chi Medical Center, Hualien, Taiwan
- 2023 Invited speaker, “Neurosurgery focused neuro-radiology”, Chi-Mei Medical Center, Tainan, Taiwan
- 2023 Invited speaker, “Diagnosis and management of recurrent brain metastasis after stereotactic radiosurgery”, International Stereotactic Radiosurgery Society (ISRS), Istanbul, Turkey

## **GRANTS**

### ***Past***

- 2005-6 Inhibitors of the Fanconi Anemia (FA) pathway as chemo-sensitizing agents for glioblastoma treatment  
Accelerated Brain Cancer Cure  
PI (\$100,000)  
The goal of this study was to evaluate Inhibitors of the FA DNA repair pathway as a strategy for augmenting the therapeutic efficacy of Temozolomide and BCNU in the treatment of glioblastoma. I authored the grant as a post-doctoral fellow and was responsible for all work produced.
- 2005-6 A siRNA-based approach to characterize pathways essential for cellular resistance to ionizing radiation  
Joint Center for Radiation Research  
PI (\$50,000)  
The goal of this study was to utilize the siRNA technology to identify novel genes and pathways required for cellular response to ionizing radiation. I authored the grant as a post-doctoral fellow and was responsible for all work produced.
- 2006-7 Inhibition of ATM and CHK2 as treatment for glioblastoma  
Accelerated Brain Cancer Cure  
PI (\$160,000)  
The goal of this study was to assess the *in vivo* effect of ATM and CHK2 inhibition on glioblastoma growth. I authored the grant as a post-doctoral fellow and was responsible for all work produced.
- 2008-9 A genome-wide synthetic lethality screen targeting p53-deficient tumors  
Joint Center for Radiation Therapy  
PI (\$40,000)  
The goal of this study is to identify strategies for targeting tumors deficient in p53 using a shRNA based strategy. The study proposes a genome-wide shRNA screen to identify gene silencing that selectively triggers cell death in p53 deficient tumors.
- 2008-9 Promoter methylation in Glioblastoma Multiforme (GBM)  
National Brain Tumor Foundation  
PI (\$50,000)  
The goal of this study is to identify MGMT independent gene functions that are regulated by promoter methylation and affect glioblastoma response to DNA damaging agents
- 2008-10 Functional understanding of the glioblastoma genome: a large-scale RNAi screen  
NCI K12  
PI (\$200,000)  
The goal of this study is to identify new strategies for glioblastoma treatment by carrying out a genome-wide shRNA screen to identify genes required for tumor growth and survival.

- 2009-10 Functional profiling of glioblastoma  
Harvard Clinical and Translational Science Center, Harvard Catalyst Award  
PI (\$50,000)  
The goal of this study is to identify genes required for glioblastoma survival
- 2009-11 Understanding the genomic landscape of glioblastoma  
The Barr Foundation  
PI (\$183,798)  
The goal of this study is to establish a platform for discriminating “bystander” and “driver” mutations in the cancer genome using data derived from shRNA screens.
- 2011 Dopamine receptor 2 as a novel target for glioblastoma therapy  
American Brain Tumor Association  
PI (\$50,000)  
The goal of this study is to develop DRD2 antagonists as a therapeutic approach to glioblastomas
- 2011-13 Co-optation of G-protein coupled neurotransmitter receptor pathways in glioblastomas  
Kimmel Foundation  
PI (\$200,000)  
The goal of this proposal is to synthesize genomic profiles of glioblastoma with a genome-wide shRNA screen to identify novel therapeutic targets.
- 2014 Applications of radiosurgery in neurosurgery  
San Diego Gamma Knife Center  
PI (\$20,000)  
The goal of this proposal is to analyze the efficacy of radiosurgery in the treatment of the various neurosurgical lesions
- 2010-14 Identifying novel glioblastoma therapy by synthetic lethality  
Sontag Foundation  
PI (\$600,000)  
The goal of this proposal is to identify gene silencings that are synthetically lethal with Epidermal Growth Factor Receptor (EGFR) hyper-activation.
- 2010-15 Proteasome inhibition as subtype-specific therapeutic intervention in glioblastoma – a step toward personalized oncologic care  
Doris Duke Charitable Foundation  
PI (\$450,000), with no cost extension  
To test the clinical efficacy of proteasome inhibition in a glioblastoma subtype that over-expresses genes required for the Fanconi Anemia (FA) DNA damage response pathway
- 2012-15 Interdisciplinary research for early cancer diagnosis and clinical applications  
UCSD Chancellor’s Award  
PI (\$45,000)  
The goal of this proposal is to develop a microfluidic lab-on-a-chip design to extract and concentrate miRNAs from milliliters of patient serum and CSF.



- 2012-16 Porous Si-based therapeutic nano-platform for the treatment of penetrating brain injury  
Defense Advanced Research Projects Agency  
Multi-PI (\$6,500,00)  
The goal of this proposal is to develop nano-particles for the treatment of penetrating brain injury.
- 2013-15 Hydrogel as a vehicle for the delivery of glioblastoma therapy  
Nano-Pacific  
PI (\$160,000)  
The goal of this proposal is to develop the hydrogel platform as means of intracranial therapeutic delivery
- 2014-16 exRNA Biomarkers for Human Glioma  
NIH UH1/2 TR000931-01  
PI (\$999,998)  
The goal of this project is to establish exRNA as a biomarker platform for glioma diagnostics.
- 2014-17 Clinical Applications of Restriction Spectrum Imaging (RSI)  
Medtronic Research Foundation  
PI (\$100,000)  
The goal of this project is to establish radiographic-pathologic correlation of RSI based tractography
- 2008-17 The molecular basis and therapeutic implications of genome instability during brain tumor progression  
Burroughs Wellcome Fund, Career Awards for Medical Scientists  
PI (\$700,000), with no cost extension  
The goal of this study is to understand mechanisms by which oncogenes trigger genomic instability.
- 2015-17 CSF and plasma extracellular vesicle (EV) miRNA as a biomarker platform for glioblastoma diagnostics  
Accelerated Brain Cancer Cure  
PI (\$150,000)  
The goal of this project is to establish a miRNA signature in CSF and plasma to facilitate “liquid biopsy” in glioblastoma patients.
- 2015-17 Minimally invasive glioblastoma biomarkers  
International S&T Cooperation Program of China, 2014DFA31470  
PI (\$200,000)  
The goal of this project is to develop minimally invasive biomarkers for glioblastoma patients
- 2014-17 Minimally invasive biomarker development  
Department of Defense W81XWH-14-2-0192  
Multi-PI (\$1,871,874)  
The goal of the project is to develop novel biomarkers platforms for cancer

- 2016-19 exRNA biomarkers for human glioma  
NIH 4UH3TR000931-03  
Co-PI (\$3,040,850)  
The goal of this project is to develop minimally invasive exRNA biomarkers for detection of human glioma
- 2017-19 High-throughput single-cell sorting and kinetic analysis of secreted particles  
NIH 9R44GM128223-02  
Multi-PI (\$700,960)  
The goal of this project is to develop technology platforms that afford dynamic phenotypic tracking of single cells
- 2018-19 Tumor microenvironment modulation mediated glioblastoma therapy  
Shaver Foundation  
PI (\$25,000)  
The goal of this project is to develop PI3K $\alpha$  inhibitors as a glioblastoma therapy
- 2018-19 Evolution of acute and chronic effects on neuronal activity and morphology following mild cerebral cortical traumatic brain injury using multi-scale optical imaging  
Minnesota Spinal Cord Injury and Traumatic Brain Injury Research Grant Program  
Co-PI (\$200,000)  
The goal of this grant is to use multi-scale optical imaging to examine the impact of mild traumatic brain injury on neuronal activity
- 2017-20 Single cell epigenetic profiling of glioblastoma  
Celgene  
Multi-PI (\$1,021,066)  
The goal of this project is to provide single cell epigenetic profiling of the various cell populations in clinical glioblastoma specimens
- 2018-20 DBS as a multi-drug for brain tumors  
MN-REACH  
PI (\$50,000)  
The goal of this project is to develop electrostimulation as a platform for glioblastoma therapy
- 2016-23 Targeting mechanisms of acquired temozolomide resistance in glioblastoma  
NIH 1RO1NS097649-01  
PI (\$1,937,500)  
The goal of this project is to understand mechanisms underlying temozolomide resistance in glioblastoma and to develop therapeutic approaches targeting these mechanisms
- 2019-23 Resident memory T cell (Trm) activation for brain tumor treatment  
Masonic Cancer Center  
PI (\$200,000)  
The goal of this grant is to explore whether the reactivation of Trm would reverse immunosuppression related to the glioblastoma microenvironment

**Current**

- 2019-24 Natural Killer (NK) cells as a platform for glioblastoma therapy  
Ferris Foundation Research Fund  
PI (\$300,000)  
The goal of this grant is to test the efficacy of NK cells against glioblastoma
- 2019-24 Development of Quantitative Deuterium MRS Imaging for Human Brain Tumor Application at Ultrahigh Field  
NIH 1R01 CA240953-01  
Multi-PI (2,150,504)  
The goal of this study is to develop 7T deuterium MRS as a novel molecular imaging platform for glioblastoma
- 2022-27 Enhancing anti-cancer immunity through high intensity focused ultrasound (HIFU): a first-in-human clinical trial  
Rainwater Foundation  
PI (\$2,043,42)  
The goal of this study is to develop high intensity focused ultrasound (HIFU) as a novel glioblastoma therapeutic platform.
- 2019-24 Development of Quantitative Deuterium MRS Imaging for Human Brain Tumor Application at Ultrahigh Field  
NCI 1R01CA240953-01  
Multi-PI (\$1,806,998)  
The goal of this study is to molecularly profile glioblastoma samples derived from region of interest based on deuterium MRS
- 2023-24 Developing informatics tools for optimized MRS for brain cancer research  
NCI: 1U01CA269110-01  
Co-PI (\$1,142,013)  
The goal of this study is to develop informatics tools to automate MRS data acquisition methods including voxel placement, optimized acquisition sequences, and quantification methods.
- 2023-30 Targeting off-the-shelf iPSC-derived natural killer cells against solid tumors  
NCI: 1R35CA283892-01  
Co-PI (\$6,360,885)  
The goal of this study is to develop novel strategies to specifically target solid tumor malignancies by testing new iPSC edits that facilitate homing and migration, overcome hypoxia, and promote survival after adoptive transfer in patients with solid tumor malignancies.
- 2023-24 Towards intra-operative guidance in brain tumor surgery using real-time resting-state functional MRI  
STTR: 1R42NS134505-01  
Co-PI (\$378,233)

The goal of this study is to develop the technology platform to support real-time resting-state MRI for guiding brain tumor surgery

*Other research studies*

- 2008-11 SOM230C for recurrent or progressive meningioma  
DFCI#: 08-266  
Sponsor: Novartis  
Role: Co-Investigator
- 2008-11 Armodafinil (Nuvigil) for fatigue in glioma patients undergoing radiotherapy  
DFCI#: 07-341  
Sponsor: Cephalon  
Role: Co-Investigator
- 2008-11 Phase III study of radiation therapy with or without temozolomide for symptomatic or progressive low-grade gliomas  
DFCI#: 10-300  
Sponsor: ECOG  
Role: Co-Investigator
- 2008-11 Zactima ZD6474 (vandetanib) with radiation + Temodar for new GBM  
DFCI#: 06-377  
Sponsor: Astra Zeneca  
Role: Co-Investigator
- 2008-11 Phase I trial of Aflibercept (VEGF Trap) with radiation therapy and concomitant and adjuvant temozolomide in patients with malignant glioma  
DFCI#: 08-108  
Sponsor: DFCI  
Role: Co-Investigator
- 2008-11 A Phase I dose finding study of the safety and PK's of XL184 administered orally in combination with TMZ and RX therapy in the first line treatment of subjects with GBM  
DFCI#: 09-291  
Sponsor: Exelixis  
Role: Co-Investigator
- 2008-11 A Phase III double blind placebo controlled trial of conventional concurrent chemoradiation and adjuvant temozolomide plus bevacizumab versus conventional concurrent chemoradiation and adjuvant temozolomide in patients with newly diagnosed glioblastoma  
DFCI#: 09-256  
Sponsor: RTOG  
Role: Co-Investigator
- 2008-11 Phase III trial on concurrent and adjuvant temozolomide chemotherapy in non-1p/19q deleted anaplastic glioma. The CATNON Intergroup trial  
DFCI#: 10-174  
Sponsor: RTOG  
Role: Co-Investigator

- 2008-11 CT-322 Angiocept with or without Irinotecan for recurrent GBM  
DFCI#: 07-279  
Sponsor: Adnexus  
Role: Co-Investigator
- 2008-11 XL184-201 for progressive or recurrent GBM first or second relapse  
DFCI#: 07-400  
Sponsor: Exelixis  
Role: Co-Investigator
- 2008-11 A biomarker and Phase II study of GDC-0449 in patients with recurrent GBM  
DFCI#10-044  
Sponsor: Astra Zeneca (ABTC 0904)  
Role: Co-Investigator
- 2008-11 Metronomic Temodar for recurrent gliomas  
BIDMC#2006-93  
Sponsor: Schering  
Role: Co-Investigator
- 2008-11 Study of the treatment of recurrent primary or secondary CNS lymphoma with ALIMTA (Premetrexed), a novel anti-folate agent  
DFCI#06-097  
Sponsor: Eli Lilly  
Role: Co-Investigator
- 2011-17 Study Name: Randomized, Double-Blind, Controlled, Phase II Trial for Newly Diagnosed Patients with Stage IV Glioblastoma Multiforme (GBM) following Resection and Chemo-Radiation  
ITCL-107-201  
Sponsor: ImmunoCellular Therapeutics  
Role: Co-Investigator
- 2011-17 Cilengitide in subjects with newly diagnosed glioblastoma multiforme and unmethylated MGMT gene promoter – a multicenter, open-label Phase II study, investigating two cilengitide regimens in combination with standard treatment  
CORE EMD121974-012  
Sponsor: EMD Serono (Merck)  
Role: Co-Investigator
- 2011-17 Phase 2 study of Verubulin (MPC-6827) with radiation therapy and tomozolomide in newly diagnosed glioblastomas  
MPC-6827-021.02  
Sponsor: Myrexix  
Role: Co-Investigator

- 2011-17 A phase I/II study of PDGFR kinase inhibitor in biomarker-enriched recurrent malignant gliomas  
CAMN107DUS18T  
Sponsor: Novartis  
Role: Co-Investigator
- 2011-17 Neurologic Outcomes in Cancer  
NOC  
Sponsor: UCSD  
Role: Co-Investigator
- 2011-17 A Phase I ascending dose trial of the safety and tolerability of Toca511 in patients with recurrent glioblastoma  
TG511-08-01  
Sponsor: Tocagen  
Role: Co-Investigator
- 2012-17 DCVax-Brain (Autologous Dendritic cells and GBM tumor lysate)  
020221  
Sponsor: Northwest therapeutics  
Role: Co-Investigator
- 2015-17 Laser Ablation of Abnormal Neurological Tissue using Robotic Neuroplate System (LAANTERN). University of California site.  
150672  
Sponsor: Monteris  
Role: Primary Investigator
- 2018-19 A Phase 2/3 Randomized, Open-Label Study of Toca 511, a Retroviral Replicating Vector, Combined With Toca FC versus Standard of Care in Subjects Undergoing Planned Resection for Recurrent Glioblastoma or Anaplastic Astrocytoma  
Sponsor: Tocagen  
Role: Primary Investigator
- 2018-20 Exosome as biomarker platform for glioblastoma  
Sponsor: Investigator initiated  
Role: Primary Investigator
- 2018-23 Laser Ablation of Abnormal Neurological Tissue using Robotic Neuroplate System (LAANTERN). University of Minnesota site.  
Sponsor: Monteris  
Role: Primary Investigator

- 2018-20 A Phase II, Multi-center, Open-label Study of a Conditionally Replicative Adenovirus (DNX-2401) with Pembrolizumab (KEYTRUDA®) for Recurrent Glioblastoma or Gliosarcoma  
Sponsor: DNATrix therapeutics  
Role: Primary Investigator
- 2018-24 MEGA-PRESS in glioma  
Sponsor: Investigator initiated  
Role: Primary Investigator
- 2019-21 Phase I of Ad-RTS-hIL-12 in glioblastoma  
Sponsor: Ziopharm  
Role: Primary Investigator
- 2019-22 A phase II, open-label, multi-center study of ONC201 in adults with recurrent high-grade glioma  
Sponsor: Oncoceutics  
Role: Primary Investigator
- 2021-24 A Phase II, open label study of ONC201 in adults with EGFR-low glioblastoma  
Sponsor: Investigator initiated  
Role: Primary Investigator
- 2021-24 A multicenter observational study of Gammatile surgically targeted radiation therapy (StaRT) in intracranial brain neoplasms  
Sponsor: GT Medical  
Role: Primary Investigator
- 2021-24 A Phase 3 Randomized Controlled Trial of Post-Surgical Stereotactic Radiotherapy (SRT) versus Surgically Targeted Radiation Therapy (StaRT) with Gamma Tile for Treatment of Newly Diagnosed Metastatic Brain Tumors.  
Sponsor: GT Medical  
Role: Primary Investigator
- 2021-22 Expanded Access for Ad-RTS-hIL-12 and Veledimex  
Sponsor: Ziopharm Oncology, Inc.  
Role: Primary Investigator
- 2021-24 Expanded Access to ONC201 for patients with H3K27M-mutant  
Sponsor: Chimerix  
Role: Primary Investigator
- 2022-24 Expanded Access to DNX2401 for glioblastoma patients  
Sponsor: DNATrix  
Role: Primary Investigator



2022-24 Pilot Study of Resection and GammaTile® Followed by Concomitant External Beam Radiation Therapy (EBRT) and Temozolomide (TMZ) and Adjuvant TMZ in Newly Diagnosed Glioblastoma (GBM).  
Sponsor: GTMedical  
Role: Primary Investigator

## **UNIVERSITY TEACHING, ADVISING, AND MENTORING ROLES**

### ***Teaching of students in courses***

- 1995 Tutor, Genetics and Embryology, Harvard Medical School  
1<sup>st</sup> year HMS students (3-hr sessions per week for 4 weeks)
- 1996-7 Tutor, Pharmacology, Harvard Medical School  
1<sup>st</sup> year HMS students (3-hr sessions per week for 4 weeks)
- 2004-5 Neuroanatomy, Harvard Medical School  
2<sup>nd</sup> year HST students (3-hr sessions per week for 4 weeks)
- 2009-11 Introduction to head and spinal trauma, Beth Israel Deaconess Medical Center  
3<sup>rd</sup> year medical students (1-hr lecture, 3 lectures per year)
- 2009-11 Examiner, core general surgery clerkship final examination, Beth Israel Deaconess Medical Center, administer oral examination to third year medical students (4-hr commitment, 3 examinations per year)
- 2009-11 Neurosurgery preceptor, core general surgery clerkship, Beth Israel Deaconess Medical Center  
Supervise 3<sup>rd</sup> year medical students for the two-week elective neurosurgery rotation
- 2011-17 Neurosurgery preceptor, core general surgery clerkship, University of California, San Diego  
Supervise 3<sup>rd</sup> year medical students for the four-week neurosurgery rotation
- 2011-17 Neurosurgery preceptor, neurosurgery clerkship, University of California, San Diego  
Supervise 4<sup>th</sup> year medical students for the four-week neurosurgery rotation
- 2012-17 Introduction to Neurosurgery, University of California, San Diego  
Weekly tutorial for third year medical students
- 2013-17 Topics in Neurosurgery, University of California, San Diego  
Weekly tutorial for first year and second year medical students
- 2013-17 Fundamentals in Neurosurgery, University of California, San Diego  
Weekly tutorial for fourth year medical students with focused interest in neurosurgery
- 2014-17 Lecturer, BIMM110, Molecular Basis of Human Disease, University of California, San Diego
- 2015-17 Lecturer, BISP170, BioScholar Seminar, University of California, San Diego
- 2017-24 Faculty, BMEN 4002, Department of Biomedical Engineering, University of Minnesota
- 2017-24 Lecturer, Stem Cell Biology (SCB 8181, 1-hr lecture, three sessions per year), University of Minnesota

### ***Laboratory and research supervisory and training responsibilities***

- 2008- Supervision of post-doctoral research fellow and graduate student research  
Daily mentorship

### ***Supervised laboratory trainees***

- 2004-6 Yuko Hasegawa, M.S., mentored as laboratory technician (Dana Farber Cancer Inst.)  
Completed Ph.D. training, at Brown University, RI
- 2008-9 Grace Hsieh, B.S., mentored as medical student (Dana Farber Cancer Inst.)  
Current: Internist, Harvard Medical School

- 2008-10 Masayuki Nitta, M.D., Ph.D., mentored as post-doctoral fellow (Dana Farber Cancer Inst.)  
Current: Neuro-oncology neurosurgeon, Tokyo Women's Hospital
- 2008-10 David Kozono, M.D., Ph.D., mentored as radiation oncology resident (Dana Farber Cancer Inst.)  
Current: Assistant Professor, Department of Radiation Oncology, Brigham and Women's
- 2008-10 Dimitri Merzon, B.S., mentored as undergraduate student (Dana Farber Cancer Inst.)  
Completed D.D.S. training, Boston University Dental School
- 2009-10 Lydia Price, mentored as a summer student from the Continuing Umbrella of Research Experience (CURE) program – a cancer research training program for underrepresented minority students (Dana Farber Cancer Inst.)
- 2010-12 Che-Chuan Wang, M.D., mentored as a post-doctoral fellow (Dana Farber Cancer Inst.)  
Neurosurgery attending, Chi-Mei Medical Center, Tainan, Taiwan
- 2008-11 Kimberly Ng, B.S., mentored as a laboratory technical (Dana Farber Cancer Inst.)  
Completed M.D. training, Royal College of Surgeons, Ireland
- 2008-11 Pascal Zinn, M.D., mentored as post-doctoral fellow (Dana Farber Cancer Inst.)  
Current: completing neurosurgery residency, M.D. Anderson Medical Center
- 2009-11 Deepa Kushwaha, Ph.D., mentored as post-doctoral fellow (Dana Farber Cancer Inst.)  
Current: Scientific Director, Rare Genomics Institute
- 2009-11 Shan Zhu, Ph.D., mentored as post-doctoral fellow (Dana Farber Cancer Inst.)  
Current: Research Scientist, Massachusetts Eye and Ear Infirmary
- 2011-12 Jianguo Xu, M.D., mentored as post-doctoral fellow (University of California, San Diego)  
Current: Department Head, Neurosurgery, First China Hospital, China
- 2011-12 Wei Yan, M.D., mentored as post-doctoral fellow (University of California, San Diego)  
Current: Neurosurgery faculty, Tiantan Hospital, China
- 2012-13 Rui Liu, M.D., mentored as post-doctoral fellow (University of California, San Diego)  
Current: Vice-Chair, Neurosurgery, PLA Navy General Hospital, China
- 2011-13 Diahnn Futralan, B.S., mentored as laboratory technician (University of California, San Diego)  
Current: Ob/Gyn, Cedars-Sinai Medical Center
- 2011-13 Ying Shen, Ph.D., mentored as post-doctoral fellow (University of California, San Diego)  
Current: Assistant Professor, Shanghai Jiaotong University School of Medicine
- 2012-13 Zack Taich, M.D., mentored as undergraduate student (University of California, San Diego)  
Current: Internal Medicine resident, University of Colorado
- 2012-13 Amit Goyal, M.D., mentored as medical student (University of California, San Diego)  
Current: Instructor, Johns Hopkins Medical School
- 2012-13 Teddy Kim, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, Wake Forest
- 2012-13 Ashin Salehi, mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, Washington University
- 2011-17 Johnny Akers, Ph.D., mentored as post-doctoral fellow (University of California, San Diego)  
Current: Director, VisiCELL Medical Inc.
- 2011-12 Dawn Waters, M.D., mentored as neurosurgery resident (University of California, San Diego)  
Current: Neurosurgeon, Sierra Neurosurgery Group
- 2011-13 David Gonda, M.D., mentored as neurosurgery resident (University of California, San Diego)  
Current: Assistant Professor in Neurosurgery, University of California, San Diego

- 2011-14 Pouya Jamshidi, M.D., mentored as medical student (University of California San Diego)  
Current: Medical Student, Weill-Cornell Medical School
- 2011-15 Steed Tyler, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, Emory University Medical School
- 2012-16 Thien Nguyen, mentored as undergraduate student (University of California, San Diego)  
Current: Medical student at the University of California, Los Angeles
- 2013-15 Kunal Patel, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, University of California, Los Angeles
- 2013-14 Jiangfei Wang, mentored as post-doctoral fellow (University of California, San Diego)  
Current: Assistant Professor in Neurosurgery, Tiantan Medical Center, China
- 2013-14 Abraham Noorbakhsh, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Radiology, University of California, San Diego
- 2013-15 Grace Lai, M.D., mentored as medical student (University of California, San Diego)  
Current: Neurosurgery resident, Northwestern University
- 2013-15 Sean Lawless, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Cardiology, Tulane University School of Medicine
- 2013-15 Logan Marcus, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Radiation Oncology, Stanford University
- 2013-15 Brandon McCutcheon, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, Mayo Clinic
- 2013-15 Zhi Dong, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Anesthesia, University of California, Los Angeles
- 2014-16 Bianca Yang, mentored as undergraduate student (University of California, San Diego)  
Current: Undergraduate, California Institute of Technology
- 2014-16 Jeffrey Treiber, M.D., mentored as medical student, (University of California, San Diego)  
Current: Resident, Neurosurgery, Baylor College of Medicine
- 2014-16 Brian Hirshman, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, University of California, San Diego
- 2014-16 Justin Scheer, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, University of California, San Francisco
- 2014-16 Jessica Tang, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Head and Neck Surgery, Temple University
- 2014-16 Bayard Wilson, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, University of California, Los Angeles
- 2014-16 Deborah Wilson, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Radiation Oncology, University of California, San Diego
- 2014-16 Tianzan Zhou, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Neurosurgery, Georgetown University
- 2014-16 Jennifer Padwal, M.D., mentored as medical student (University of California, San Diego)  
Current: Resident, Orthopedic Surgery, University of California, San Diego
- 2014-16 Michael Brandel, M.D., medical student, University of California, San Diego
- 2014-16 Ali Alattar, medical student, University of California, San Diego
- 2011-17 Jie Li, Ph.D., post-doctoral fellow, University of California, San Diego
- 2011-17 Valya Ramakrishnan, Ph.D., post-doctoral fellow, University of California, San Diego
- 2017-24 Sanjay Dhawan, M.D., post-doctoral fellow, University of Minnesota

2017-24 Jun Ma, M.D., post-doctoral fellow, University of Minnesota  
 2017-21 Beibei Xu, Ph.D., post-doctoral fellow, University of Minnesota  
 2017-21 Shaoping Wu, Ph.D., project scientist, University of Minnesota  
 2017-20 Yuyu He, post-doctoral fellow, University of Minnesota  
 2018-24 Jiangfan Ning, Ph.D. assistant professor, University of Minnesota  
 2019-24 Tomoyuki Koga, M.D., Ph.D., assistant professor, University of Minnesota  
 2020-24 Ming Li, Ph.D., assistant professor, University of Minnesota  
 2020-24 Gatikrushna Singh, Ph.D., assistant professor, University of Minnesota  
 2021-24 Shan Zhu, Ph.D., assistant professor, University of Minnesota  
 2021-24 Ping Zhu, Ph.D., assistant professor, University of Minnesota  
 2021-22 Luca Vizioli, Ph.D, assistant professor, University of Minnesota  
 2021-23 Florina-Nicoleta Grigore, post-doctoral fellow, University of Minnesota

***Professional educational materials***

1996-7	Harvard Medical School Pharmacology course, course supplement	in house publishing for course	First year medical students
2004-5	Harvard Medical School Neuroanatomy course, course supplement	in house publishing for course	Second year medical students
2008-	Beth Israel Deaconess Medical Center Neurosurgery Rotation, course curriculum	In house publishing for course	Third year medical students
2009	Beth Israel Deaconess Medical Center, Needham Campus, Continuing Medical Education “Emerging evidence in the treatment of brain cancer”	Course material for CME	Medical Staff
2009	Jordan Hospital, Department of Medicine, MA, Continuing Medical Education	Course material for CME	Medical Staff

2009	<p>“Management of brain cancer” Cambridge Hospital, Department of Medicine, MA, Continuing Medical Education</p>	Course material for CME	Medical Staff
2009	<p>“Non-invasive and minimally invasive neurosurgery” St. Anne’s Hospital, Department of Medicine, MA, Continuing Medical Education</p>	Course material for CME	Medical Staff
2009	<p>“Brain metastasis: disease of the upcoming century” Course curriculum for Harvard Medical School clerkships in Neurosurgery (SU509M.5), Evidence based neurosurgery (SU524M.5), and Neurosurgical Oncology (SU515M.5)</p>	Course material	Third and fourth year medical student
2012	<p>Course curriculum for University of California, San Diego School Clerkships: Introduction to Neurosurgery (Surg-410), Surgical sub-specialty (Surg-401A), and Neurological Surgery (Surg-454)</p>	Course material	Third and fourth year medical student

2013	Course curriculum for University of California, San Diego Medical School Elective	Course material	First and second year medical student
2013	Course curriculum, University of California, San Diego Medical School, Radiation Oncology Department Learning Center “Stereotactic Radiosurgery: An evolution toward comfort and efficiency”	Webinar and course material	Radiation oncologists and physician assistants
2014	Webinar, tractography in neurosurgery	<a href="https://www.youtube.com/watch?v=2F4q190YVdA">https://www.youtube.com/watch?v=2F4q190YVdA</a>	University of California, San Diego
2014	Course curriculum, University of California, San Diego Medical School, Introduction to Neurosurgery (NEU224)	Course material	First year medical students
2014	Forbeck Focus Meeting Report	Forbeck Foundation	Foundation Newsletter
2015	Course curriculum, University of California, San Diego Medical School, Introduction to Neurosurgery (NEU226)	Course material	Second year medical students
2016	Course curriculum, University of California, San Diego Medical School, (Surg401A)	Course material	Third year medical students

2017	Webinar, International Society for Radiosurgery	Webinar presentation	CME for radiosurgery practitioners
2018	Contribution to course curriculum (Stem Cell Biology 8181)	Course material	University of Minnesota Stem Cell Institute
2018	Webinar, Masonic Cancer Center	<a href="https://www.youtube.com/watch?v=qWgOH9s4ohs">https://www.youtube.com/watch?v=qWgOH9s4ohs</a>	University of Minnesota
2019	Clinical practice guideline	Guideline ( <a href="https://www.cns.org/guidelines/guidelines-treatment-adults-metastatic-brain-tumors/chapter_8">https://www.cns.org/guidelines/guidelines-treatment-adults-metastatic-brain-tumors/chapter_8</a> )	Congress of Neurological Surgeons
2020	Webinar, tractography	<a href="https://www.youtube.com/watch?v=iBk6KXIagu4">https://www.youtube.com/watch?v=iBk6KXIagu4</a>	Bell Museum
2021	Webinar, neurosurgical stereotaxis	<a href="https://www.youtube.com/watch?v=GFtUMus8_Co">https://www.youtube.com/watch?v=GFtUMus8_Co</a>	ClearPoint Neuro, Inc
2022	Webinar, Interstitial brachytherapy	<a href="https://www.youtube.com/watch?v=_4wsrKVVWGEs">https://www.youtube.com/watch?v=_4wsrKVVWGEs</a>	Subcortical Surgery Group
2023	Webinar, laser interstitial thermal therapy	Webinar (open only to registered participants)	Monteris Medical
2023	Webinar, neurosurgical stereotaxis	<a href="https://www.youtube.com/watch?v=Spk1mLhEDUA">https://www.youtube.com/watch?v=Spk1mLhEDUA</a>	Congress of Neurological Surgeons



## **HOSPITAL TEACHING, ADVISING, AND MENTORING ROLES**

### ***Formal teaching of residents, clinical fellows and research fellows***

- 2007-8 Fundamentals of Neurosurgery, Massachusetts General Hospital  
Neurosurgery residents (1-hr didactic per week over a six month period)
- 2008-11 Management of Brain Cancer, Beth Israel Deaconess Medical Center  
Neurology residents (1-hr lecture, 1 lectures per year)
- 2009-11 Radiation resistance in glioblastoma stem cells, Dana Farber Cancer Institute  
Radiation oncology residents (1-hr lecture, a lecture per year)
- 2009-11 Management of cerebral metastasis, Beth Israel Deaconess Medical Center  
Medical oncology residents (1-hr lecture, 1 lectures per year)
- 2010-11 Spinal cord compression, Beth Israel Deaconess Medical Center  
Medical oncology residents and neurology residents (1-hr lecture, a lecture per year)
- 2010-11 Neurosurgical neurology, Beth Israel Deaconess Medical Center  
Neurology residents (1-hr lecture, ten lectures per year)
- 2011-17 Neurosurgery Lecture, University of California San Diego (1-hr session, three sessions per year)
- 2011-17 Neurosurgery Tutorial, University of California, San Diego (1-hr weekly sessions, thirty sessions per year)
- 2014-17 General Surgery Resident Didactic (1-hr weekly sessions, three sessions a year), University of California, San Diego
- 2017-24 Neurosurgery Lecture, University of Minnesota (1-hr session five sessions per year)
- 2017-24 Neurosurgery Tutorial for Medical Students, University of Minnesota (1-hr weekly sessions during the month long clerkship)

### ***Clinical supervisory and training responsibilities***

- 2001-8 Medical student preceptor, Neurosurgery clerkship, Massachusetts General Hospital  
Daily supervision of medical students for the duration of rotation
- 2003-8 Resident preceptor, Department of Neurosurgery, Massachusetts General Hospital  
Daily supervision of junior surgical and neurosurgery residents
- 2009-11 Medical student preceptor, Department of Surgery, Beth Israel Deaconess Medical Center  
Daily supervision of medical students during their neurosurgery rotation
- 2009-11 Resident preceptor, Department of Surgery, Beth Israel Deaconess Medical Center  
Daily supervision of surgery residents during their neurosurgery rotation
- 2011-17 Resident preceptor, Division of Neurosurgery, University of California San Diego  
Daily supervision of neurosurgery residents
- 2017-24 Resident didactic, Department of Neurosurgery, University of Minnesota, Daily supervision of neurosurgery residents

### ***Supervised clinical trainees***

- 2011-13 Dawn Waters, M.D.  
Neurosurgery Resident
- 2011-13 Jayant Mennon, M.D.  
Neurosurgery Resident

2011-14 Chiazio Amene, M.D.  
Neurosurgery Resident

2011-14 David Gonda, M.D.  
Neurosurgery Resident

2011-15 David Weingarten, M.D.  
Neurosurgery Resident

2011-16 Jayson Sack, M.D.  
Neurosurgery Resident

2011-16 Matthew MacDougall, M.D.  
Neurosurgery Resident

2011-17 Eric Curtis, M.D.  
Neurosurgery Resident

2011-17 Brandon Gabel, M.D.  
Neurosurgery Resident

2011-17 Gunjan Goel, M.D.  
Neurosurgery Resident

2011-17 Dustin Hatefi, M.D.  
Neurosurgery Resident

2012-17 Reid Hoshidi, M.D.  
Neurosurgery Resident

2012-17 Vincent Cheung, M.D.  
Neurosurgery Resident

2013-17 David Santiago-Dieppa, M.D.  
Neurosurgery Resident

2013-17 Jeffrey Steinberg, M.D.  
Neurosurgery Resident

2014-17 Robert Rennert, M.D.  
Neurosurgery Resident

2014-17 Joel Martin, M.D.  
Neurosurgery Resident

2015-17 Mihir Gupta, M.D.  
Neurosurgery Resident

2015-17 Daniel Clary, M.D.  
Neurosurgery Resident

2016-17 Brian Hirshman, M.D., Ph.D.  
Neurosurgery Resident

2016-17 Usman Khan, M.D., Ph.D.  
Neurosurgery Resident

2017-18 Amit Goyal, M.D.  
Neurosurgery Resident

2017-18 Akshay Gupte, M.D., MPH  
Neurosurgery Resident

2017-19 Molly Hubbard, M.D.  
Neurosurgery Resident

2017-19 Joshua Lim, M.D.  
Neurosurgery Resident

2017-20 David Darrow, M.D., MPH

2017-20 Neurosurgery Resident  
Coridon Quinn, M.D.  
2017-21 Neurosurgery Resident  
Adam Khan, M.D.  
2017-21 Neurosurgery Resident  
Jack Leschke, M.D.  
2017-22 Neurosurgery Resident  
Lauren Albert Sand, M.D.  
2017-22 Neurosurgery Resident  
David Freeman, M.D.  
2017-23 Neurosurgery Resident  
Samuel Cramer, M.D., Ph.D.  
2017-23 Neurosurgery Resident  
Bryan Ladd, M.D.  
2017-24 Neurosurgery Resident  
Huy Donguyen, M.D.  
2017-24 Neurosurgery Resident  
Youssef, Hamade, M.D., M.S.  
2018-24 Neurosurgery Resident  
Samuel Jones, M.D.  
2018-24 Neurosurgery Resident  
Maxwell Tran, M.D.  
2019-24 Neurosurgery Resident  
Dominic Gessler, M.D, Ph.D.  
2020-24 Neurosurgery Resident  
Ahmed Elbermawy, M.D.  
2020-24 Neurosurgery Resident  
Shiwei Huang, M.D.  
2020-24 Neurosurgery Resident  
Isabella Pena-Pino, M.D.  
2020-24 Neurosurgery Resident  
Birra Taha, M.D.  
2021-24 Neurosurgery Resident  
Sanjay Dhawan, M.D.  
2021-24 Neurosurgery Resident  
Crina Peterson, M.D.  
2022-24 Neurosurgery Resident  
Anudeep Yekula, M.D.  
2022-24 Neurosurgery Resident  
Hannah Wilson, M.D.  
2022-23 Neurosurgery Resident  
Jose Orenday Barraza, M.D.  
Preliminary Neurosurgery Fellow  
2023-24 Anant Naik, M.D.  
2023-24 Neurosurgery Resident  
James Baek, M.D, Ph.D.  
2023-24 Neurosurgery Resident

2023-24 Yagiz Yolcu, M.D.  
Preliminary Neurosurgery Fellow  
2024- Elias Shaaya, M.D.  
Neurosurgery Resident  
2024- Rohaid Ali, M.D.  
Neurosurgery Resident  
2024- Rahul Sastry, M.D.  
Neurosurgery Resident  
2024- Hael Abdulrazeq, M.D.  
Neurosurgery Resident  
2024- Belinda Shao, M.D.  
Neurosurgery Resident  
2024- Josh Feler, M.D.  
Neurosurgery Resident  
2024- Santos E. Santos Fontanez  
Neurosurgery Resident  
2024- Felicia Sun  
Neurosurgery Resident  
2024- Natalie Amaral-Nieves  
Neurosurgery Resident  
2024- Cody Doberstein  
Neurosurgery Resident  
2024- Tori Riccelli  
Neurosurgery Resident  
2024- Elina Wong  
Neurosurgery Resident  
2024- Carlin Chuck  
Neurosurgery Resident

**Formal teaching of peers (e.g., CME and other continuing education courses)**

2006 Lecture, “Mechanism of temozolomide resistance”, Neuro-Oncology Conference  
Harvard Medical School, Boston  
2007 Lecture, “DNA repair in glioma therapy”, Neuro-Oncology Conference  
Harvard Medical School, Boston  
2008 Lecture, “Tumor Cancer Genome Atlas (TCGA) project”, Neuro-Oncology Conference  
Harvard Medical School, Boston  
2009 Lecture, “High grade gliomas: resection versus biopsy”, Neuro-Oncology Conference  
Harvard Medical School, Boston  
2013-17 Instructor, Senior Neurosurgical Society, Annual Resident Training (Bootcamp), University of  
California, San Diego  
2013 Lecture, Continued Medical Education Seminar, “Tractography for surgical planning”,  
Institute of Medical Education, San Diego  
2013-17 Morbidity and Mortality, Division of Neurosurgery, University of San Diego

2017-24 Lecture, Continued Medical Education Seminar, “Multi-disciplinary brain tumor board”,  
Radiological Society of North America