# Kevin T. Murphy, M.D.

Founder, PeakLogic, Inc & Mindset San Diego, PC. 16918 Dove Canyon Road, Suite 102, San Diego, CA 92127

#### Education

 1998 M.D. University of Chicago, Pritzker School of Medicine, Chicago, Illinois
1994 M.S. Neurophysiology Purdue University, Indianapolis, Indiana
1989 B.S. Biological Sciences/Philosophy University of Notre Dame, Notre Dame, Indiana

#### **Post-Graduate Training**

Residency Radiation Oncology Department of Radiation and Cellular Oncology University of Chicago Hospitals, Chicago, Illinois July 1, 1999 - June 30, 2003 Internship Transitional Internship McNeal Hospital, Berwyn, Illinois July 1, 1998 - June 30, 1999

#### Licensure/Certification

2003 - Present	Certification, American Board of Radiology, Radiation Oncology
2003 - Present	Licensed, Physician and Surgeon, State of California
2003 - Present	DEA, Controlled Substance Registration Certificate

# **Academic Appointments**

Assoc. Diplomate	Department of Radiation Medicine and Applied Sciences University of California San Diego, La Jolla, CA July 1, 2019- present
Professor	Department of Radiation Medicine and Applied Sciences University of California San Diego, La Jolla, CA July 2015 – June 30, 2019
Vice Chairman	Director of Pediatric Radiation Oncology Program June 2012 - June 2016
Associate	Department of Radiation Medicine and Applied Sciences
Professor	University of California San Diego, La Jolla, CA July 2009 - June 2015
Medical Director	Department of Radiation Medicine and Applied Sciences University of California San Diego, Southbay Eastlake, Chula Vista, CA June 2010 - June 2012
Chief	CNS/Stereotactic Radiosurgery Service Department of Radiation Medicine and Applied Sciences University of California San Diego, La Jolla, CA November 2005 – 2015

Medical Director	Department of Radiation Medicine and Applied Sciences University of California San Diego, La Jolla, CA November 2005 - March 2008
Assistant Professor	Department of Radiation Medicine and Applied Sciences University of California San Diego, La Jolla, CA November 2005-July 2009
U.S. Naval Officer	U.S. Navy, Operation Desert Storm Engineering Division, U.S.S. Ranger 1989 - 1992

### **Society Memberships**

2005 - Present	San Diego County Medical Society www.sdcms.org
2000 - June 2017	American College of Radiation Oncology (ACRO) <u>www.acro.org</u>
1999 - Present	American Society for Therapeutic Radiology and Oncology (ASTRO) www.astro.org
2005 - May 2018	Children's Oncology Group (COG) www.childrensoncologygroup.org
2009 - 2017	Pediatric Radiation Oncology Society (PROS) www.intpros.org
2005 - 2017	UCSD Moores Cancer Center <u>www.cancer.ucsd.edu</u>
2005 - 2006	American Medical Association (AMA) www.ama-assn.org
2005 - 2006	American College of Radiology (ACR) www.acr.org
2005 - 2006	Radiologic Society of North America (RSNA) www.rsna.org

# **Awarded Research Funding**

2017	\$100k from the David Wells Foundation
	http://www.sandiegouniontribune.com/sports/columnists/bryce-miller/sd-sp-miller-
	wellsdonation-20180213-story.html
2016	\$10M from the Kreutzkamp Foundation, Research Award for the Development of
	PrTMS <sup>TM</sup> for neurocognitive and behavioral disorders
2012	\$1M from the Allon Toylor Foundation, Possoarch Award for the Dovelonment of N

2013 \$1M from the Allen Taylor Foundation, Research Award for the Development of Novel Therapies for Diseases of the Central Nervous System

#### Recognition

 2016 Best Doctors in America 2015-2016 Recognition, Best Doctors Inc., San Diego Metro Magazine
2010 Award for Service to the Community, Bi-National Emergency Committee
2000 Resident Research Award, University of Chicago, Department of Radiation and Cellular Oncology
1995 Summer Research Forum Award, University of Chicago

#### Committees

2011 - 2016	Member, UCSD Proton Center Development Committee
2006 - 2009	Member, Quality Improvement Committee (QIC), Director for Radiation Oncology
2005 - 2009	Member, Moores Cancer Center Committee

Rady Children's Hospital, San Diego

2006 – 2016 Member, Cancer Committee

#### **Press Releases**

- 1. "Is Radiosurgery the Right Treatment for Trigeminal Neuralgia?" <u>www.auntminnie.com</u>, Press Release, December 2007. <u>http://radonc.ucsd.edu/whatsnew/presentations/auntminnie.pdf</u>
- 2. "Moores UCSD Cancer Center Seeks to Develop <u>Proton/Particle Treatment and Research Center</u>." UCSD press release, September, 2007.
- 3. "Physicians at University of California San Diego Deliver Non-Invasive Neurosurgery Using Image-Guidance Tools from Varian Medical Systems." San Diego, CA, September, 2007.
- "Physicians at the University of California San Diego <u>Treat Trigeminal Neuralgia Using Trilogy</u> <u>Technology</u> for Image-Guided Radiosurgery from Varian Medical Systems." Wireless News- July, 2007.

# **News Stories/Interviews**

- 1. *Interview with Dr. Kevin Murphy Introducing PrTMS<sup>TM</sup>, Notre Dame Day*, April 2018. <u>https://www.youtube.com/watch?v=Nv0QkmKdU0M</u>
- 2. "Electrical stimulation treatment helps PTSD patients", The American Legion, Indianapolis, IN, April 2018. https://www.legion.org/veteranshealthcare/241722/electrical-stimulation-treatment-helps-ptsd-patients
- 3. "Boomer" donates \$100,000 to help U.S. Military Veterans, Kusi News, San Diego, CA, February 2018. http://www.kusi.com/boomer-donates-100000-help-u-s-military-veterans/
- 4. Former MLB star and San Diego native David "Boomer" Wells donates 100k for veterans' treatment, ABC 10News, San Diego, CA, February 2018. https://www.10news.com/news/david-wells-donates-100k-for-veterans-treatment
- 5. *Magnetic Resonance Therapy: A Novel Approach in the Treatment of Chemobrain*, Stupid Cancer Show, New York, NY, April 2015. http://stpdcn.cr/scs342.
- 6. 'Brain Zapping': Veterans Say Experimental PTSD Treatment has Changed Their Lives. Washington Post, Washington, D.C.
- 7. UCSD Frameless Radiosurgery Guided by Optical Surface Imaging. The Beam. 38thASRT Radiation Therapy Conference. September, 2014.
- 8. *Ofrecen Grupo de Apoyo para Enfermos de Cancer*, Frontera Newspaper, Tijuana, Mexico, September 6, 2011.
- 9. *Mejora UCSD la Vida de Tania*; Tiene Cancer. Frontera Newspaper, Tijuana, Mexico, September 2, 2011.

- 10. Advances in Modern-day Radiotherapy and Radiosurgery. San Diego People, KUSI Studios, San Diego, September, 2011. http://www.kusi.com/video?clipId=6212641&autostart=true
- 11. *Clinica Ayuda a Hispanas a Detectar y Combatir el Cancer*. Enlace, Una Edicion Del San Diego Union Tribune, San Diego, California, August 27, 2011.
- 12. UCSD Southbay Cancer Centers Offers Screening Services for Breast and Cervix Cancer, La Frontera Newspaper, Tijuana, Mexico, July, 2011.
- 13. UCSD Southbay Cancer Center Offers Screening Programs for Breast and Cervix Cancer, KUSI San Diego Television Interview, June, 2011.
- 14. UCSD Southbay Cancer Center Offers Advanced Cancer Care, Telemundo Channel 20 TV Interview, May, 2011.
- 15. UCSD Southbay Cancer Center Offers Advanced Cancer Care, Campestre Magazine, April, 2011.
- 16. UCSD Southbay Cancer Center, TV Commercial on Telemundo, April, 2011.
- 17. UCSD Southbay Cancer Centers Offers Screening Services for Breast and Cervix Cancer, Channel 12 XEWT, Cristina Covarrubias, March, 2011.
- 18. UCSD Southbay Cancer Centers Offers Screening Services for Breast and Cervix Cancer, Mujer Magazine, Tijuana, Mexico, March, 2011.
- 19. UCSD Southbay Cancer Center Offers Advanced Cancer, El Latino Newspaper, Tijuana, Mexico. February, 2011.
- 20. Expert Foresees Viral Therapy for Cancer, Dhamaka News, Hyderabad, India, February, 2011.
- 21. El Milagro de Juan Diego, Al Dia, Newspaper Interview, Tijuana Mexico, February, 2011.
- 22. *Video Blog for MedScape on Pediatric Radiotherapy*. UC San Diego Health Sciences Marketing and Communications. January, 2011 http://www.medscape.com/
- 23. Radiotherapy in Emerging Markets, Televisa Interview, June, 2010.
- 24. Comparison of Stereotactic Radiosurgery Systems for Varian and Accuracy. CIBC Worlds Markets, February 2007. http://conferences.cibcwm.com/hour/ViewCall.aspx? CONF\_CALL\_ID=59
- 25. Moores UCSD Cancer Center Seeks to Develop Proton/Particle Treatment and Research Center. FreshNews.com, San Diego/Orange County, September 2007. http://www.freshnews.com/cgibin/jsi\_news/print.cgi?article\_ID=39724
- 26. Physicians at the University of California, San Diego Treat Trigeminal Neuralgia Using Trilogy Technology for Image-Guided Radiosurgery for Varian Medical Systems. Forbes Magazine, July 2007.
- 27. *Tumors Treated with Ease Thanks to New Method*, Channel 10 News Story, San Diego, CA, January 2007. http://www.10news.com/health/10715999/detail.html

#### **Publications**

- 1. Lau,S, Pat el K, Kim T, Knipprath E, Kim GY, Cervino LI, Lawson JD, **Murphy KT**, Sanghvi P, Hattangadi-Gluth JA, Carter BS and Chen CC. *Clinical efficacy and safety of surface imaging guided radiosurgery (SIG-RS) in the treatment of benign skull base tumors*. J Neurooncol. 2017 Apr;132(2):307-312. PMID: 28120301
- 2. Taghva A, Silvetz R, Ring A, Kim KY, **Murphy KT**, Liu CY, Jin Y. *Magnetic Resonance Therapy Improves Clinical Phenotype and EEG Alpha Power in Posttraumatic Stress Disorder*. Trauma Mon. 2015 Nov;20(4):e27360. PMID: 26839865
- Lau SK, Zakeri K, Zhao X, Carmona R, Knipprath E, Simpson DR, Nath SK, Kim GY, Sanghvi P, Hattangadi-Gluth JA, Chen CC, Murphy KT. Single-Isocenter Frameless Volumetric Modulated Arc Radiosurgery for Multiple Intracranial Metastases. Neurosurgery. 2015 Aug;77(2):233-4. PMID: 25856109
- 4. Rahn, DA, Mundt, AJ, Murphy JD, Schiff D, Adams J, **Murphy KT**. *Clinical Outcomes of Palliative Radiation Therapy for Children*. Pract Radiat Oncol. 2015 May-Jun;5(3):183-7. PMID: 25413394
- Hesselink JR, Barkovich MJ, Seibert TM, Farid N, Muller KA, Murphy KT, Kesari S. Bevacizumab – Radiation Combination Produces Restricted Diffusion on Brain MRI. CNS Oncol. 2014;3(5):329-35. PMID: 25363005
- 6. Paravati AJ, Manger R, Nguyen JD, Olivares S, Kim GY, **Murphy KT**. *Initial clinical experience with surface image guided (SIG) radiosurgery for trigeminal neuralgia*. Transl Cancer Res 2014;3(4):333-337. doi: 10.3978/j.issn.2218-676X.2014.07.03
- Pham N, Reddy P, Murphy J, Sanghvi P, Hattangadi-Gluth J, Grace G, Cervino L, Pawlicki T, Murphy KT. Frameless, Real-time, Surface Imaging-Guided Radiosurgery: Update on Clinical Outcomes for Brain Metastases. Transl Cancer Res 2014;3(4):351-357. doi: 10.3978/j.issn.2218-676X.2014.07.08.
- Lau SK, Zhao X, Carmona R, Knipprath E, Simpson DR, Nath SK, Kim GY, Hattangadi JA, Chen CC, Murphy KT. Frameless single-isocenter intensity modulated stereotactic radiosurgery for simultaneous treatment of multiple intracranial metastases. Transl Cancer Res. 2014 Aug 1;3(4):383-390. PMID: 25821723
- 9. McDuff SG, Taich ZJ, Lawson JD, Sanghvi P, Wong ET, Barker FG 2nd, Hochberg FH, Loeffler JS, Warnke PC, **Murphy KT**, Mundt AJ, Carter BS, McDonald CR, Chen C. *Neurocognitive assessment following whole brain radiation therapy and radiosurgery for patients with cerebral metastases*. J Neurol Neurosurg Psychiatry. 2013 Dec;84(12):1384-91. PMID: 23715918
- Waters JD, Rose B, Gonda DD, Scanderbeg DJ, Russell M, Alksne J, Murphy K, Carter BS, Lawson J, Chen CC. *Immediate Post-Operative Brachytherapy Prior to Irradiation and Temozolomide for Newly Diagnosed Glioblastoma*. J Neurooncol. 2013 Jul;113(3):467-77. PMID: 23673513
- 11. Wang JZ, Rice R, Mundt, AJ, Sandhu AJ, **Murphy KT**. *Feasibility and advantages of using flattening filter-free mode for radiosurgery of multiple brain lesions*. Pract Radiat Oncol. 2012 Oct-Dec;2(4):e165-e171. PMID: 24674180.

- 12. Pan H, Cervino LI, Pawlicki T, Jiang SB, Alksne J, Detorie N, Russell M, Carter B S, **Murphy KT**, Mundt AJ, Chen C, Lawson JD. *Frameless, Real-Time Surface Imaging-Guided Radiosurgery: Clinical Outcomes for Brain Metastases*. Neurosurgery. 2012 Oct;71(4):844-51. PIMD: 22989959
- 13. Jia X, Pawlicki T, **Murphy KT**, Mundt AJ. *Proton Therapy Dose Calculations on GPU: Advances and Challenges*. Transl Cancer Res 2012;1(3):207-216. DOI: 10.3978/j.issn.2218-676X.2012.10.03
- Pan H, Alksne J, Mundt AJ, Murphy KT, Cornell M, Kesari S, Lawson JD. Patterns of Imaging Failures in Glioblastoma Patients Treated with Chemoradiation: A Retrospective Study. Med Oncol. 2012 Sep;29(3):2040-5. PMID: 2210884
- 15. Cervino LI, Detorie N, Taylor M, Lawson J, Henry T, **Murphy KT**, Mundt, AJ, Jiang SB, Pawlicki TA. *Initial Clinical Experience with a Frameless and Maskless Stereotactic Radiosurgery Treatment*. Pract Radiat Oncol. 2012 Jan-Mar;2(1):54-62. PMID: 24674037
- 16. Wang JZ, Pawlicki T, Rice R, Mundt AJ, Lawson J, Sandhu A, **Murphy KT**. *Intensity-Modulated Radiosurgery for Multiple Brain Metastasis Using RapidArc Technique and Comparison with the Static Approach*. Med Dosim. 2012 Spring;37(1):31-6. PMID: 21705211
- 17. Scanderbeg D. Alskne JF, Lawson JD, **Murphy KT**. *Novel Use of the Contura for High Dose Rate Cranial Brachytherapy*. Med Dosim. 2011 Winter;36(4):344-6. PMID: 21144735
- 18. Nath SK, Carmona R, Rose BS, Simpson DR, Russell M, Lawson JD, Mundt AJ, **Murphy KT**. *Observed magnetic resonance imaging changes in pediatric patients treated with stereotactic radiosurgery for intracranial tumors*. Childs Nerv Syst. 2011 Mar;27(3):399-406. PMID: 20927529
- Alksne J, Mundt AJ, Murphy KT. Single-Isocenter Frameless Intensity-Modulated Stereotactic Radiosurgery for Multiple Brain Metastasis. Int J Radiat Oncol Biol Phys. 2010 Sep 1;78(1):91-7. PMID: 20096509
- Nath SK, Lawson JD, Simpson DR, Vanderspek L, Wang JZ, Alksne JF, Ciacci J, Mundt AJ, Murphy KT. Single-isocenter frameless intensity-modulated stereotactic radiosurgery for simultaneous treatment of multiple brain metastases: clinical experience. Int J Radiat Oncol Biol Phys. 2010 Sep 1;78(1):91-7. PMID: 20096509
- 21. Wang JZ, Rice R, Pawlicki T, Mundt AJ, Sandhu A, Lawson J, **Murphy KT**. *Evaluation of patient setup uncertainty of optical guided frameless system for intracranial stereotactic radiosurgery*. J Appl Clin Med Phys. 2010 Apr 17;11(2):3181. PMID: 20592701
- Lawson JD, Wang JZ, Nath SK, Rice R, Pawlicki T, Mundt AJ, Murphy K. Intracranial Application of IMRT Based Radiosurgery to Treat Multiple or Large Irregular Lesions and Verification of Infra-Red Frameless Localization System. J Neurooncol. 2010 Mar;97(1):59-66. PMID: 19693438
- Nath SK, Lawson JD, Wang JZ, Simpson DR, Newman B, Alksne J, Mundt AJ, Murphy KT. Optically-Guided Frameless Stereotactic Radiosurgery for Brain Metastasis: Clinical Experience. J Neurooncol. 2010 Mar;97(1):67-72. PMID: 19701719
- 24. Vanderspek L, Bauman G, Wang JZ, Yartsev S, Ménard C, Cho YB, Mundt AJ, Lawson JD, Murphy KT. Dosimetric comparison of intensity-modulated radiosurgery and helical tomotherapy for the treatment of multiple intracranial metastases. Technol Cancer Res Treat. 2009 Oct;8(5):361-

7. PMID: 19754212

- 25. **Murphy KT**, Rotmensch J, Yamada SD, Mundt AJ. *Outcome and patterns of failure in pathologic stages I-IV clear-cell carcinoma of the endometrium: implications for adjuvant radiation therapy*. Int J Radiat Oncol Biol Phys. 2003 Apr 1;55(5):1272-6. PMID: 12654437
- 26. Alksne JA, **Murphy KT**. *Trilogy Radiosurgery at the University of California San Diego*. Varian Centerline Magazine, July 2007.
- 27. Mundt AJ, Pawlicki T, **Murphy KT**, Goldman MS. *IGRT at an NCI-Designated Comprehensive Cancer Center*. Oncology Issues May/June, 2007.

# **Book Chapters**

- 1. **Murphy KT.** Single Isocenter, Single Fraction Stereotactic Radiosurgery for Multiple Brain Metastases. *In:* Mundt AJ, Roeske JC, Image-Guided Radiation Therapy: A Clinical Perspective, BC Decker, Toronto, PMPH-USA, Shelton, CT 2011
- 2. **Murphy KT.** Image-Guided Frameless Stereotactic Radiosurgery in the Pediatric Patient. *In:* Mundt AJ, Roeske JC, Image-Guided Radiation Therapy: A Clinical Perspective, BC Decker, Toronto, PMPH-USA, Shelton CT 2011.
- Joshua D. Lawson MD, Jia Zhu Wang, PhD, Kevin T. Murphy MD. Frameless Stereotactic Radiosurgical Treatment of a Patient with Multiple Brain Metastasis on the Varian Trilogy System. In: Mundt AJ, Roeske JC, Image-Guided Radiation Therapy: A Clinical Perspective, BC Decker, Toronto, 2010.
- 4. Joshua Lawson, J-Z Wang, **Murphy KT**. Optically-Guided Frameless Stereotactic Radiosurgery Using a Single Isocenter Technique in a Breast Cancer Patient with Multiple Brain Metastasis Treated on a Varian Trilogy System. In: Mundt AJ, Roeske JC, Image-Guided Radiation Therapy: A Clinical Perspective, BC Decker, Toronto, 2010.

#### Books

1. Naughton D, Fletcher R, **KT Murphy**. *I Need to Get Radiation Treatment*. A Book for Pediatric Cancer Patients Undergoing Radiation Therapy, San Diego, CA 2007.

# **Academic Meetings**

- 1. **Murphy, KT.** *Improved Cognition & Sleep Associated with Personalized repetitive Transcranial Magnetic Stimulation (PrTMS<sup>TM</sup>)*. Human Performance Enhancement Research Meeting, Pittsburgh, PA, December 2019.
- 2. **Murphy, KT.** *Personalized repetitive Transcranial Magnetic Stimulation (PrTMS<sup>TM</sup>) for Improved Congnition and Human Performance*, Special Operations Central Command (SOCCENT), MacDill AFB, Tampa, FL, October 2019.

- 3. **Murphy, KT**. *PrTMS<sup>TM</sup> for Improved Neurocognition and Human Performance*. Special Operations Medical Association (SOMA), SOCOM, Charlotte, NC, May 2019.
- 4. **Murphy, KT.** *Personalized repetitive Transcranial Magnetic Stimulation (PrTMS<sup>TM</sup>) for Improved Human Performance.* Special Operations Command, (SOCOM), Virgina Beach, VA, May 2018.
- 5. **Murphy KT**. *Stereotactic Radiosurgery for Brain in Pediatric Patients*. IV Congreso ALATRO, Cartagena, Colombia, July 2013.
- 6. **Murphy KT**. *Stereotactic Radiosurgery for Brain and Spine Tumors: A review of competing technologies*. XXIV International Symposium of Neurosurgery. Cartagena, Colombia, March 2013.
- 7. **Murphy KT**. *Modern Day Stereotactic Radiosurgery: Treating Brain Tumors in minutes without a fixed head frame*. XXIV International Symposium of Neurosurgery. Cartagena, Colombia, March 2013.
- 8. **Murphy KT**. *CNS SRS and Beyond: Radiosurgery Past, Present and Future the Challenges and Opportunities*. UCSD/VMS Strategic Retreat. Palm Desert, CA, January 2013.
- 9. **Murphy KT**. *Modern Advances in Radiotherapy and Stereotactic Radiosurgery: Evolution Towards TrueBeam and High Dose Rate Delivery*. Dokkyo Medical University, Japan, December 2012.
- 10. **Murphy KT**. *Conferencia Magistral, Clinica De Radioneurocirugia*, Centro Medico ABC, Mexico City, Mexico, December 2012.
- 11. **Murphy KT**. Evolution of Stereotactic Radiosurgery Towards RapidArc and Flattening Filter-Free Mode (FFF) Varian CME Symposium, Honolulu, HI, May 2012.
- 12. **Murphy KT**. *Evolution of Radiosurgery: Applications in Emerging Markets*. Vinmec Hospital, Hanoi, Vietnam. March 2012.
- 13. **Murphy KT**. Flattening Filter-Free Mode for Stereotactic Radiosurgery of Multiple Brain Metastases: Feasibility and Advantages. 12Th Varian Oncology Summit, Berlin, Germany, October 2011.
- 14. **Murphy KT**. *The Role of SRS & SRT in the Management of Brain Tumors*. 33rd Annual Conference of Association of Radiation Oncologists of India (AROICON), Jaipur, India, November 2011.
- 15. **Murphy KT**. *RapidArc Radiosurgery: Increased Treatment Delivery While Maintaining Radiosurgery Precision*. Beijing Cancer Hospital, Beijing China, October 2011.
- 16. **Murphy KT**. *Introducción a la radiocirugía pediátrico. III Congreso de Asociacion Latinoamericana de Terapia Radiante Oncologia* (ALATRO), Panama City, Panama, June, 2011.
- 17. **Murphy KT**. *Truebeam: The Present and Future of Radiotherapy*. Thai Oncologist Annual Meeting (THASTRO), Pattaya, Thailand, April, 2011.
- 18. **Murphy KT**. *Radiosurgery with Truebeam*. Chinese Academy of Medical Sciences, Beijing Cancer Institute, Beijing, China, April, 2011.
- 19. **Murphy KT**. *Modern-Day Radiosurgical Techniques*. Pan-Pearl-River Area (PPRA-RTOG) Radiation Therapy Oncology Group, Nanchang, China, April, 2011.

- 20. **Murphy KT**. *SRS in the Modern Era with New Technologies*, Keynote Address, Apollo Healthcare System Cancer Conference, Hyderabad, India, February 2011.
- 21. **Murphy KT**. *Radiosurgery in Cancers of the Central Nervous System*. Artemis Sloan Kettering, First Annual Joint International Oncology Conference on Head, Neck & Thoracic Oncology, Delhi, India, March 2010.
- 22. **Murphy KT**. *Application of Stereotactic Radiosurgical Techniques in India, Flourescent Vaccinia Virus as a Method of Tumor Targeting.* Tata Memorial Hospital, Mumbai, India, 2009.
- 23. **Murphy KT**. Stereotactic Radiosurgery in Pediatrics and Adults: Can Radiosurgery be Virally Guided? University of Tubingen, Tubingen Germany, 2009.
- 24. Nath SK, Lawson JD, Simpson DR, Newman B, Alksne J, Mundt AJ, **Murphy KT**. *Frameless Stereotactic Radiosurgery for the Treatment of Brain Metastasis*. Presented at the 1st Annual National Predoctoral Clinical Research Training Meeting, Washington University, St. Louis, 2009.
- 25. **Murphy KT**. *Trilogy Based, Frameless Stereotactic Radiotherapy of Both Intra and Extracranial Sites: A Practicum.* Presented at the 3rd Annual International Chinese Federation of Neurosurgical Sciences, Dongguan, China, 2008.
- 26. **Murphy KT**. *Trilogy Based, Frameless Stereotactic Radiotherapy of Both Intra and Extracranial Sites: A Practicum.* Presented at the 3rd Annual International Chinese Federation of Neurosurgical Sciences, Dongguan, China, 2008.
- 27. Vanderspek L, Bauman GS, Menard C, Wang J, Yartsev S, **Murphy KT**. Dosimetric Comparison of Intensity-Modulated Radiosurgery and Helical Tomotherapy for MULTIPLE Intracranial Metastases. Presented at the Canadian Radiosurgery Society (CRS), Mont Tremblant, Quebec 2008.
- VanderSpek L, Wang J, Murphy KT, Yartsev S, Menard C, Bauman G. Dosimetric Comparison of Intensity-Modulated Radiosurgery and Helical Tomotherapy for MULTIPLE Intracranial Metastases. Presented at the Canadian Association of Radiation Oncology (CARO), Montreal, Quebec, 2008.
- 29. VanderSpek L, Wang J, Alksne J, **Murphy KT**. *Single Fraction, Single Isocenter Intensity Modulated Radiosurgery for Multiple Brain Metastases: Dosimetric and Early Clinical Experience.* Presented at the Society for Neuro-Oncology, Dallas TX, 2007.
- 30. VanderSpek L, Wang J, Alksne J, **Murphy KT**. *Single Fraction, Single Isocenter Intensity Modulated Radiosurgery for Multiple Brain Metastases: Dosimetric and Early Clinical Experience*. Presented at the Canadian Association of Radiation Oncology (CARO), Toronto, Ontario, 2007.
- 31. Wang J, Rice R, Pawlicki T, Mundt A, **Murphy KT**. *Intracranial Applications of IMRT Based Stereotactic Radiosurgery to Treat Multiple or Large Irregular Lesions*. Presented at the 49th Annual Meeting of the American Association of Physicists in Medicine (AAPM), Minneapolis, MN, July, 2007.
- 32. VanderSpek L, Wang J, Alksne J, Murphy KT. Single Fraction, Single Isocenter Intensity Modulated Radiosurgery for Multiple Brain Metastases: Dosimetric and Early Clinical Experience. Presented at the 49th Annual Meeting of the American Society for Therapy Radiology and Oncology (ASTRO), Los Angeles, CA, October, 2007.

- 33. **Murphy KT**, Mundt AJ. *Outcome and Patterns of Failure in Pathologic Stage I-IV Clear Cell Carcinoma of the Endometrium*. Presented at the 43rd Annual Meeting of the American Society for the Therapy Radiology and Oncology (ASTRO), San Francisco, CA, November, 2001.
- 34. **Murphy KT**, Connell PP, McBride RB, Mundt AJ. *FIGO Stage IIIC Endometrial Cancer Patients Undergoing Surgery and Adjuvant Radiation Therapy*. Presented at the 42nd Annual Meeting of the American Society for Therapy Radiology and Oncology (ASTRO), Boston, MA, November, 2000.

#### Abstracts

- 1. McDuff SGR, Taich ZJ, Lawson JD, Sanghvi P, Wong ET, Hochberg F, Loeffler JS, Warnke PC, **Murphy KT**, Mundt AJ, Carter BS, MacDonald CR, Chen CC. *Neurocognitive Assessment Following Whole Brain Radiation Therapy and Radiosurgery for Patients with Cerebral Metastases*. Lancet Oncology (submitted).
- 2. Pan H, Alksne J, Mundt AJ, **Murphy KT**, Cornell M, Kesari S, Lawson J. *Patterns of Imaging Failures in Glioblastoma Patients Treated with Chemoradiation: A Retrospective Study*. Med Oncology, 2011.
- 3. Wang JZ, Pawlicki T, Rice R, Mundt AJ, Sandhu A, Lawson J, **Murphy KT**. *Intensity-Modulated Radiosurgery with Rapidarc for Multiple Brain Metastasis and Comparison with Statis Approach*. Med Dosim, 2011.
- 4. Wang JZ, Rice R, Pawlicki T, Mundt AJ, Sandhu A, Lawson J, **Murphy KT**. *Feasibility and Advantages Using Flattening Filter-Free Mode for Stereotactic Radiosurgery of Multiple Brain Metastases*, Published online PRO: Practical Radiation Oncology, April 2011.
- 5. Scanderbeg DJ, Alksne JF, Lawson JD, **Murphy KT**. *Novel Use of the Contura for High Dose Rate Cranial Brachytherapy*. Med Dosim, December 2010.
- J.Wang, T. Pawlicki, R. Rice, A.J. Mundt, J. Lawson, Murphy KT, Comparison Study of Rotational vs. Static Intensity Modulated Radiosurgery for Multiple Brain Metastases, Int JRadiat Oncol Biol Phy, 78:3, S789, 2010
- 7. Wang JZ, Rice R, Pawlicki T, Mundt AJ, Sandhu A, **Murphy KT**. *Patient Set-up Accuracy of Optical Guided Frameless System for Intracranial Stereotactic Radiosurgery*, Int J Radiat Oncol Biol Phys, 2009.
- 8. Nath SK, Lawson JD, Simpson DR, Newman B, Alksne JF, Wang JZ, Mundt AJ, **Murphy KT**. *Optically-Guided Frameless Linac-Based Stereotactic Radiosurgery for the Treatment of Intracranial Metastatic Disease: Clinical Experience and Outcomes*. ASTRO, Chicago, IL, 2009.
- 9. **Murphy KT**, Nath SK, Simpson DR, Vanderspek L, Alksne JF, Mundt AJ, Lawson JD. *A Single Isocenter Technique for Frameless Intensity Modulated Stereotactic Radiosurgery for Multiple Brain Metastasis: Clinical Experience and Outcomes*. ASTRO Chicago, IL, 2009.

# **Invited Lectures**

#### DOMESTIC

- 1. Low Amplitude, Personalized rTMS for symptoms of PTSD and Addiction Behavior Modification, Walter Reed Medical Center, Bethesda, Maryland, November 2018.
- 2. Evidence of Improved Human Performance, using Personalized rTMS (PrTMS<sup>TM</sup>), DOD NICoE, Walter Reed Medical Center, Bethesda, Maryland, November 2018.
- 3. *A Paradigm shift: Low Amplitude NeuroStimulation, a Review of the Results*, Scripps Neurology Rounds, La Jolla, California, November 2018.
- 4. The Use of Low Amplitude, Personalized Repetitive Trans-cranial Magnetic Stimulation (PrTMS™) in the Treatment of the Pediatric Population, Rady Children's Hospital Auxiliary, San Diego, California, October, 2018.
- 5. *The Use of Low Amplitude Brain Stimulation in the Treatment of Neurocognitive Disorders*, Barrow Neurological Institute, Phoenix, Arizona, October, 2018.
- 6. *Circadian Rhythms: affects of PrTMS<sup>TM</sup>*, Humans on Mars Sustainability Workshop, Kennedy Space Center, Florida, February 2018.
- 7. *Neuromodulation with PrTMS™ for Human Performance & Sleep*, US Special Operations Command, May 2017.
- 8. *SRS & SBRT Techniques Utilizing the TrueBeam System*, Benefits Medical Center Education Symposium, Bellevue, Washington, July 2016.
- 9. *TrueBeam Clinical Experiences Utilizing OSMS/VisionRT*, Trident Medical Center SRS Educational Seminar, Charleston, SC, November 2015.
- 10. SRS Clinical Experiences Utilizing OSMS/VisionRT, Trident Medical Center SRS Educational Seminar, Charleston, SC, November 2015.
- 11. SRS and SBRT Treatment Applications, Parkview Hospital & Comprehensive Cancer Center, Fort Wayne, IN, October 2015.
- 12. *Magnetic Resonance Therapy: A Novel Therapeutic Approach to Treating Neurocognitive Disorders*, Pediatric Grand Rounds, Rady Children's Hospital, San Diego, CA, September 2015.
- 13. *Introduction to Radiotherapy and Radiology in the Pediatric Population*, Medical Oncology Fellowship Lecture, Rady Children's Hospital, San Diego, CA, August 2015.
- 14. *Magnetic Resonance Therapy: A Novel Therapeutic Approach Using qEEG Guidance*, Summit Series, Powder Mountain, UT, August 2015.
- 15. *Advances in Modern-Day Radiosurgery*,3rd Annual Radiation Therapist Symposium, UCSD Moores Cancer Center, La Jolla, CA, June 2015.
- 16. *Magnetic Resonance Therapy: A Novel Approach in the Treatment of Neurocognitive Disorders*, Rockstars of Innovation, Sanford Consortium for Regenerative Medicine, La Jolla, CA, June 2015.

- 17. Stereotactic Radiosurgery: Evolution Towards Surface-Image Guide (SIG) Real-time Tracking, ASRT Department of Continuing Education, Denver, CO, May 2015.
- 18. *Optical Surface Monitoring Techniques*. Cape Fear Valley Medical Center, Fayetteville, NC, March 2015.
- 19. *EDGE System: Clinical Techniques for SRS/SBRT*. SRS/SBRT Educational Seminar, Washington, D.C. February 2015.
- 20. *Opportunities for Radiation Technology in Latin America*. University of California, San Diego, CA, Health Sciences International Ambassadors' Symposium, La Jolla, CA, October 2014.
- 21. *Modern Advances in Stereotactic Radiosurgery*. SAYAO, Second Annual Meeting of the Society for Adolescent and Young Adult Oncology, Irvine, CA, October 2014.
- 22. Chemobrain: A Novel Approach to Therapy Using qEEG-Guided Magnetic Resonance Therapy. SAYAO, Second Annual Conference of the Society for Adolescent and Young Adult Oncology: Irvine, CA, October 2014.
- 23. Post-Traumatic Stress Disorder: A Novel Therapeutic Approach Using q-EEG Guided Magnetic Resonance Therapy (MRT). Veterans Innovation Summit for Investing and Technology, Foothill Ranch, CA, September 2014.
- 24. *Radiation Therapy: State-of-the-Art Technology*. California Pacific Medical Center. San Francisco, CA. September, 2014.
- 25. *Stereotactic Body Radiotherapy: Highlighting New Technologies*. UC Irvine Radiation Oncology Grand Rounds, Irvine, CA, June 2014.
- 26. *Stereotactic Radiosurgery with Vision RT: UCSD Experiences*. Mercy Cancer Center Stereotactic Radiosurgery Symposium, Sacramento, CA, June 2014.
- 27. Frameless Radiosurgery-SRS/SBRT. SRS/SBRT Annual Scientific Meeting, Minneapolis, MN, May 2014.
- 28. *Current trends in Radiosurgery*. Emerging Technologies Clinical Forum, The Institute for Medical Education, New Orleans, LA, October 2013.
- 29. *Frameless Radiosurgery Clinical Experiences*. Frameless Radiosurgery Symposium, University of Chicago, Chicago, IL, October 2013.
- Clinical Outcomes of Single Isocenter Frameless Radiosurgery for Multiple Brain Metastases. American Society for Therapeutic Radiology and Oncology (ASTRO), Atlanta, Georgia, September 2013.
- 31. *Frameless Radiosurgery Using Real-Time Tracking*. American Society for Radiation Oncology Annual Meeting, Atlanta, GA, September 2013.
- 32. *Stereotactic Body Radiosurgery* Seminar. California Pacific Educational Seminar, California Pacific Medical Center, San Francisco, CA, September 2013.
- 33. Stereotactic Radiosurgery Intracranial Clinical Application. SRS Intracranial Symposium, Genesys

Hurley Cancer Institute, Flint, Michigan, April 2013.

- 34. *Stereotactic Radiosurgery Intracranial Clinical Application*. Stereotactic Radiosurgery Intracranial Symposium, University of Toledo Medical Center, Toledo, OH, April 2013.
- 35. *Stereotactic Frameless Radiosurgery: Clinical Application*. SRS Frameless Radiosurgery-Educational Forum, Andiamo, Livonia, MI, April 2013.
- 36. *Stereotactic Radiosurgery Intracranial Clinical Application*. Intracranial Symposium, Henry Ford Hospital, Detroit, Michigan, April 2013.
- 37. *Frameless, Real-Time, Surface Image-Guided Radiosurgery*. Radiosurgery Society Meeting- Varian Satellite Symposium, Carlsbad, CA, February 2013.
- 38. Radiosurgery Past, Present and Future. UCSD/VMS Retreat, Palm Desert, CA, February 2013.
- 39. *Stereotactic Radiosurgery: Past, Present and Future Directions*. Kaiser Permanente Education Seminar, Los Angeles, CA, January 2013.
- 40. Modern Advances in Radiotherapy and Stereotactic Radiosurgery: Evolution Towards TrueBeam and High Dose Rate Delivery. Pacific Cancer Institute of Maui, Maui, Hawaii, December 2012.
- 41. *Stereotactic Radiosurgery. Stereotactic Radiosurgery Educational Program*, Chico, CA, December 2012.
- 42. *Pediatric Frameless SRS Intracranial Motion Management*. Advances in Technological Clinical Forum, Boston, Massachusetts, October 2012.
- 43. *TrueBeam: SRS-SBRT w/Vision RT*, Community Health Network Campus, Indianapolis, Indiana, October 2012.
- 44. *TrueBeam: SRS-SBRT and Vision RT Localization*, Cancer Care Group Campus, Carmel Indiana, October 2012.
- 45. *Clinical Outcomes of Palliative Radiotherapy for Children: 5-year Institutional Data*. American Society for Therapeutic Radiology and Oncology (ASTRO), Boston, MA, October 2012.
- 46. *The Evolution of Stereotactic Radiosurgery for CNS Disease*. UCSD School of Medicine, Department of Surgery, Neurosurgery Grand Rounds, August, 2012.
- 47. *Radiosurgery Introduction: Applications in Pediatric Forum*, Rady Children's Hospital Oncology Fellows, San Diego, CA 92093, July 2012.
- 48. The Changing Face of Radiosurgery. AAPM Southern California Chapter, La Jolla, CA, July 2012.
- 49. *TrueBeam System: Clinical SRS and SBRT Capabilities*. Queens Medical Center, Honolulu, HI, May 2012.
- 50. *Clinical SRS Capabilities with Flattening Filter-Free Mode*, Department of Radiation Oncology, Rush Medical Center, Chicago, IL, May 2012.

- 51. *SRS Capabilities Utilizing the TrueBeam*, Department of Radiation Oncology, Loyola University Medical Center, Chicago, IL, May 2012.
- 52. Stereotactic Body Radiotherapy & Stereotactic Radiosurgery Utilizing a TrueBeam System: Clinical Experiences. St. Anthony's Medical Center, Crown Point, Indiana, May 2012.
- 53. Stereotactic Body Radiotherapy & Stereotactic Radiosurgery Utilizing a TrueBeam System: Clinical Experiences. Advocate Health Hospital, Oakbrook, IL, May 2012.
- 54. Stereotactic Radiosurgery and Radiotherapy Applications in India: A New Emerging Market Strategy. Consulate General to Mexico, Chula Vista, California, April, 2012.
- 55. *TrueBeam RapidArc Radiosurgery: A Radiation Oncologist and Neurosurgeon's Experience*. Tahoe Forest Cancer Center, Truckee, CA, March 2012.
- 56. *TrueBeam RapidArc Radiosurgery: A Radiation Oncologist and Neurosurgeon's Experience.* Renown Cancer Center, Reno, Nevada, March 2012.
- 57. *The Use of a Modified Vaccinia Virus for the Treatment of Pediatric Malignancies*, The Nicholas Conor Institute (TNCI) for Pediatric Cancer Research, San Diego, CA, July 2011.
- 58. *Deploying Modern-Day Radiotherapy in Tijuana, Mexico*. Secretary of Health, State of Baja California Norte, La Jolla CA, June 2011.
- 59. *Stereotactic Radiosurgery in the Pediatric Population* Rady Children's Hospital Fellows Board Review Series, San Diego, CA, June 2011
- 60. *Radiocirugía Estereotáctica y Radioterapia: Nuevos Avances*. Celebrando El Latina, San Diego, CA, May 2011.
- 61. Speeding-Up Radiotherapy: Can CT Simulation Be Performed Outside the Treatment Room. Oncology Medical Systems, La Jolla, CA, January 2011.
- 62. Stereotactic Radiosurgery in the Pediatric Population: Can Radiosurgery Be Virally Guided? Pediatric Cancer Research Foundation (PCRF), Irvine, CA, January 2011.
- 63. Difference in Number of Brain Metastases Detected Using 1.5T and 3T MRI in Patients Treated with Stereotactic Radiosurgery. American Society for Therapeutic Radiology and Oncology (ASTRO), Miami Beach, FL, October 2011.
- 64. Flattening Filter-Free Mode for Stereotactic Radiosurgery of Multiple Brain Metastases: Feasibility and Advantages. American Society for Therapeutic Radiology and Oncology (ASTRO), Miami Beach, FL, October, 2011.
- 65. Stereotactic Radiosurgery for Multiple Brain Metastases Using Flattening Filter-Free Beam and Comparison Study with the Regular 6MV. The American Association of Physicists in Medicine (AAPM), Vancouver, BC, March, 2011.
- 66. Evaluation of RapidArc versus Static Intensity-Modulated Radiosurgery in the Single Isocenter Approach for Multiple Brain Metastasis. American Society for Therapeutic Radiology and Oncology (ASTRO), San Diego, CA, November 2010.

- 67. Observed Radiographic Changes in Pediatric Patients Treated with Frameless Stereotactic Radiosurgery for Intracranial Tumors. American Society for Therapeutic Radiology and Oncology (ASTRO), San Diego, CA, November 2010.
- 68. *Homogeneity and Conformity Comparison of RapidArc and IMRS Radiosurgery for Multiple Brain Metastasis.* The American Association of Physicists in Medicine (AAPM), Philadelphia, PA, July 2010.
- 69. Initial Clinical Experience with the High-Dose Rate Intracavitary Brachytherapy Using the MammoSite and Contura Devices for the Treatment of High Grade Glioma. American Brachytherapy Society (ABS), Atlanta, GA, April 2010.
- 70. Intracavitary Brachytherapy with the GliaSite or MammoSite Devices as a Component of the Initial Treatment of Glioblastoma Multiforme. American Brachytherapy Society (ABS), Atlanta, GA, April 2010.
- 71. Stereotactic Radiosurgery and Radiotherapy: Outcomes Observed by MRI, Rady Children's Neuro Oncology Tumor Board. Rady Children's Hospital, San Diego, CA, October 2010.
- 72. *Image-Guided Stereotactic Radiosurgery: Modern Advances Using Infrared Tracking Systems*, Omar Ishrak, President & CEO, GE Healthcare Systems, La Jolla, CA, September 2010.
- 73. *Introduction to Radiation Oncology,* Advances in Radiosurgery, University of Dokkyo Japan Visit, Doris A Howell, Services & Psycho Social Programs, Moores UCSD Cancer Center, La Jolla, CA, September 2010.
- 74. Radiotherapy and Radiosurgery Development in China. California Heart Centers (CHCGP), La Jolla, CA, September 2010.
- 75. *Radiosurgery in the Modern Era: Techniques and Sample Cases*, Medical Society of Baja, California, Tijuana, Mexico, August 2010.
- New Advances in Radiotherapy & Radiosurgery, Un Dia de Educacion y Esperanza/A Day of Education and Hope – The Latino Cancer Symposium, Moores UCSD Cancer Center, La Jolla, CA, May 2010.
- 77. Frame-Less Mask-Less Bite-Block-Less Stereotactic Radiosurgery Treatment with Real-Time Surface Imaging: A Phantom and Volunteer Study. American Society for Therapeutic Radiology and Oncology (ASTRO), Chicago, IL, November, 2009.
- 78. Retrospective Analysis on Patient Localization Accuracy for Linac-Based Intracranial Stereotactic Radiosurgery Using a Frameless System. The American Association of Physicists in Medicine (AAPM), Anaheim, CA, July, 2009.
- 79. Observed Radiographic Changes Following Stereotactic Radiosurgery in the Pediatric Population, Pediatric Neuro-Oncology Tumor Board, Rady Children's Hospital, San Diego, CA, December 2009.
- 80. *Radiosurgical Techniques: Can Radiosurgery be Virally Guided*? UCSD Moores Cancer Center, Neuro-Oncology Tumor Board, La Jolla, CA, October 2009.
- 81. Oncolytic Viruses Expressing Imaging Reporters, Eighth International Symposium and General

Assembly of the IS3R, San Diego, CA, August 2009.

- 82. *Radiosurgery in the Pediatric Patient*, Pediatric Neuro-Oncology Tumor Board, Rady Children's Hospital, San Diego, CA, January 2009.
- 83. Dosimetric Comparison of Intensity-Modulated Radiosurgery and Helical Tomotherapy for MULTIPLE Intracranial Metastases. American Society for Therapeutic Radiology and Oncology (ASTRO), November, 2008.
- 84. *Image-Guided Stereotactic Spinal Radiosurgery with a Conventional Linear-Accelerator*. The American Association of Physicists in Medicine (AAPM), Houston, TX, July 2008.
- 85. Dosimetric Comparison of Compensator and Multi-Leaf Collimator (MLC) Based Intensity Modulated Radiosurgery (IMRS). The American Association of Physicists in Medicine (AAPM), Houston, TX, July 2008.
- 86. Overview of Radiation Approaches to Cancer Patients, Nursing Grand Rounds, Moores UCSD Cancer Center, La Jolla, CA, September 2008.
- 87. *Introduction to Radiation Oncology*, University of Dokkyo Japan Visit, Doris A Howell, Services & Psycho Social Programs, Moores UCSD Cancer Center, La Jolla, CA, September 2008.
- 88. Frameless Infrared Optical Imaging for Real-Time Patient Tracking During Stereotactic Radiosurgery. Varian Medical Systems Midwest Users Meeting, Chicago, IL, April 2008.
- 89. Stereotactic Radiosurgery, Competing Technologies and a Review of Select Case Studies. Radiology Grand Rounds, UCSD Medical Center, San Diego, CA April 2008.
- 90. Intracranial Applications of IMRT Based Stereotactic Radiosurgery to Treat Multiple or Large Irregular Lesions. The American Association of Physicists in Medicine (AAPM) Minneapolis, MN, July, 2007.
- 91. Single Fraction, Single Isocenter Intensity-Modulated Radiosurgery (IMRS) for Multiple Brain Metastases: Dosimetric and Early Clinical Experience. Canadian Association of Radiology and Oncology, October 2007, American Society for Therapeutic Radiology and Oncology (ASTRO), November 2007 and The Society for Neuro-Oncology, November 2007.
- 92. *Radiation Oncology: Advancing Technologies*, University of Dokkyo Japan Visit, Doris A Howell, Services & Psycho Social Programs, Moores UCSD Cancer Center, La Jolla, CA, September 2007.
- 93. *Trilogy Image-Guided Radiosurgery; Intracranial and Extracranial Applications*, Congress on Neurological Surgeons, San Diego, CA, September 2007.
- 94. *Stereotactic Radiosurgery: Current Status, Future Directions*. The Peer Group Forum, Los Angeles, CA, July 2007.
- 95. *Trilogy Based Stereotactic Radiosurgery*, 8th Bi-Annual Congress of International Stereotactic Radiosurgery Society, San Francisco, CA June 2007.
- 96. Image-Guided Stereotactic Radiosurgery, The Peer Group Forum, Miami, FL, July 2007.
- 97. Radiation Oncology Technologies, University of Notre Dame, Notre Dame, IN, June 2007.

- 98. Competing Radiosurgery Technologies, The Peer Group Forum, Orlando, Florida, July 2007.
- 99. A Guide to the Future for Men Diagnosed with Prostate Cancer and their Families, The Men's Club, TimeWarner Studios, San Diego CA, March 2007.
- 100. Frameless Stereotactic Radiosurgery, The Peer Group Forum, New York, NY, July 2007.
- 101. Advances in Radiotherapy for Pediatric Patients, Medical Oncology Faculty Seminar, Rady Children's Hospital, San Diego CA October 2006.
- 102. *Advances in Frameless Stereotactic Radiosurgery*, Varian Investors Meeting, Varian Medical Systems, Philadelphia PA, October 2006.
- 103. *Principles of Radiation Therapy*, University of Dokkyo Japan Visit, Doris A Howell, Services & Psycho Social Programs, Moores UCSD Cancer Center, La Jolla, CA September 2006.
- 104. *Stereotactic Trilogy Radiosurgery*, Neurosurgery Grand Rounds, UCSD Medical Center, San Diego CA, September 2006.
- 105. *Radiotherapy of CNS Tumors*, Neurology Grand Rounds, Neurology Department, Moores UCSD Cancer Center, La Jolla CA, September 2006.
- 106. *Principles of Radiation Oncology*, Pediatric Nursing Seminar (APON), Department of Medical Oncology, Rady Children's Hospital, San Diego, CA, September 2006.
- 107. *Advances in Radiation Oncology*, National Foundation for Cancer Research Donor visit, Moore's UCSD Cancer Center, La Jolla, CA, August 2006.
- 108. *Radiation Oncology*, Cancer Survivorship San Diego Group, Annual Celebration of Life event, Spanish Landing, San Diego, CA, June 2006
- 109. *Advances in Lung Cancer Radiotherapy*, UCSD Lung Cancer Symposium, Moore's Cancer Center, La Jolla, CA, April 2006.
- 110. Local Therapy for Breast Cancer Surgery Followed by Partial Breast Irradiation, the Mammosite Technique 29th Annual San Diego Postgraduate Assembly in Surgery, San Diego, CA, March 2006.
- 111. *IMRT for Prostate Cancer* Media Presentation with Rocky Galgano, Producer of 2nd Star Films. Time Warner Studios, Los Angeles, CA, February 2006.
- 112. *Radiation Oncology for Prostate Cancer*, Current Status and New Advances, Informed Prostate Support Group, San Diego, CA, January 2006.

#### INTERNATIONAL

- 1. *TrueBeam System: UCSD Clinical Techniques*, IMSS Medical Center, Guadalajara, Mexico, November 2016.
- 2. Clinical Seminar, Equiphos Clinic, Bogota, Colombia, February 2016.

- 3. *Impact of Radiation Therapy on Cancer Plans: Status and Future Trends*, Hospital San Jose, Bogota, Columbia, February 2016.
- 4. Best Practices Multidisciplinary Approach, Bogota, Colombia, February 2016.
- 5. ProBeam Updates, Hospital Santa Fe, Bogota, Columbia, February 2016.
- 6. *Magnetic Resonance Therapy: A Method of Transcranial Stimulation Using q-EEG Guidance*, Hotel Hilton, Santo Domingo, Dominican Republic, July 2015.
- 7. *Modern Day Advances in Radiotherapy and Stereotactic Radiosurgery*, Hotel Hilton, Santo Domingo, Dominical Republic, July 2015.
- 8. Clinical Experiences with SRS/SBRT, Punta Cuna, Dominican Republic, July 2015.
- 9. *Modern Advances in Radiation Therapy: SRS and SBRT*, Clinica Abreu Hospital, Santa Domingo, Dominican Republic, July 2015.
- 10. Stereotactic Radiosurgery in Adults: Evolution Towards Higher Dose Rate Delivery and Surface Image Guidance, Arkady Radiosurgery Center, St. Petersburg, Russia, May 2015.
- 11. Align RT, Arkady Radiosurgery Center, St. Petersburg, Russia, May 2015.
- 12. UCSD Clinical Experience Using Stereotactic Radiosurgery. Stereotactic Radiosurgery Society, Moscow, Russia, May 2015.
- 13. Align RT. Advanced Radiation Oncology Event, Swissotel Hotel, Quito, Ecuador, March 2015.
- 14. *Clinical Experience with RapidArc and SRS*. Sociedad Educatoriana De Oncologia-I Congreso Internacional De Oncologia 2015 Best of ASCO, Swissotel Hotel, Quito, Ecuador, March 2015.
- 15. *UCSD Clinical Experiences Utilizing Radiation Therapy*. Hospital Metropolitano Educational Seminar, Hospital Metropolitano, Quito, Ecuador, March 2015.
- 16. *Clinical Experience with RapidArc and SRS*. Sociedad Educatoriana De Oncologia-I Congreso Internacional De Oncologia 2015 Best of ASCO, Swissotel Hotel, Quito, Ecuador, March 2015.
- 17. Advantages and Benefits of Radiation Therapy. Sociedad Educatoriana De Oncologia-I Congreso Internacional De Oncologia 2015 Best of ASCO, Swissotel Hotel, Quito, Ecuador, March 2015.
- 18. Stereotactic Radiosurgery. SOLCA Congress, Quito, Ecuador, March 2015.
- 19. *Radiation Therapy: Clinical Experiences at UCSD*. Modern Advancements in Stereotactic Radiosurgery and Linear Accelerators, Kuala Lumpur, Malaysia, November 2014.
- 20. *Radiation Therapy: Clinical Experiences at UCSD*. Hoan My Saigon General Hospital Educational Seminar, Saigon, Vietnam, November 2014.
- 21. *Radiation Therapy: Clinical Experiences at UCSD*. Aliada Contra El Cancer 2014, Lima, Peru. August 2014.
- 22. *Radiation Therapy: State of the Art Technology*. 2014 Radiation Therapy Seminar, Lima, Peru, August 2014.

- 23. Radiation Therapy: New Techniques. 2014 Radiation Therapy Seminar, Lima, Peru. August 2014.
- 24. *Vision RT*. Republic of Kazakhstan Cancer Center Educational Seminar, Atsana, Kazakhstan, August 2014.
- 25. Radioterapia, Nuevas Tecnologias, Actualizaciones en Tratmientos Para Cancer. Plus Significa Mas, National Institute of Neoplastic Disease, Bogota, Columbia, June 2014.
- 26. *Neurosurgery and the Application of Stereotactic Radiosurgery*, Neurosurgery Association Annual Meeting, Neurosurgery Association Annual Meeting, Taipei, Taiwan, April, 2014.
- 27. Best Practices in Radiation Oncology & Childhood Cancers. Pan Pearl River Area Radiation Therapy Oncology Group Congress and International Symposium on Radiation Oncology, Kunming, China, April 2014.
- 28. *Applications for Stereotactic Body Radiation Therapy*. McGill University Health Centre, Montreal, Canada. November, 2013.
- 29. *Advanced Treatment Planning*. 2013 AMC Radiation Physics Dosimetry Symposium, Asian Medical Center, Seoul, Korea, October 2013.
- 30. *Stereotactic Body Radiosurgery Seminar*. SRS/SBRT Educational Symposium, Seoul National University, Seoul, Korea, October 2013.
- 31. *Applications for Stereotactic Body Radiation Therapy*, Cross Cancer Institute, Edmonton, AB, Canada, June 2013.
- 32. Cranial SRS & SRT, BCCA-SRS/SRT Educational Program, Vancouver, BC, Canada, June 2013.
- 33. SRS & SBRT New Techniques, BC Cancer Agency, Vancouver Island Centre, Vancouver, BC, Canada, June 2013.
- 34. *History and Current Trends in the Way SRS Techniques Have Evolved*, CCC-Centro De Control Del Cancer, Bogota, Colombia, May 2013.
- 35. *Radiation Oncology Updates: Varian Equipment and Utility at The University of San Diego*, Equiphos Company, Bogota, Colombia, May 2013.
- 36. *Current and New Radiation Oncology Techniques & Optimum Equipment Utility*, Santa Fe Hospital, Bogota, Colombia, May 2013.
- 37. *Modern Advances in Radiotherapy and Stereotactic Radiosurgery*. De la Trombosis Venosa Profunda a la Hipertension Troboembolica, Bogota, Colombia, May 2013.
- 38. *The Development of Modern Day Radiotherapy in an Emerging Marketplace*. Banorte Bank, Tijuana, MX, February 2013.
- 39. Radiotherapy and Radiosurgery Symposium, Shimotsuga, Tochigi, Japan, December 2012.
- 40. *TrueBeam: SRS & SBRT Clinical Applications*, Centro Medico Imbanaco, Cali, Colombia, October 2012.

- 41. *TrueBeam: SRS & SBRT Clinical Applications*, Hospital Universitario del Valle, Hospital Universitario del Valle, Cali, Colombia, October 2012.
- 42. *TrueBeam: Clinical Applications*, Fundacion Santafe de Bogota Hospital, Bogota, Colombia, October 2012.
- 43. *TrueBeam: Clinical Applications*, Centro Control de Cancer Hospital, Bogota, Columbia, October 2012.
- 44. *TrueBeam: Clinical Applications*, Instituto Nacional de Cancerologia, Bogota, Colombia, October 2012.
- 45. *Radiocirugia Estereotactica y Radioterapia: Nuevos Advances*, Bio Medical Center, Tijuana, Mexico, July 2012.
- 46. *The Introduction of Advanced Radiotherapy and Radiosurgery in Emerging Markets*, Han Phuc, Ho Chi Minh City, Vietnam, May 2012.
- 47. *The Introduction of Advanced Radiotherapy and Radiosurgery in Emerging Markets*, Exim Bank, Ho Chi Minh City, Vietnam, May 2012.
- 48. The Introduction of Advanced Radiotherapy and Radiosurgery in Emerging Markets, Hoan Cao, Ho Chi Minh City, Vietnam, May 2012.

49. Stereotactic Radiosurgery and Radiotherapy Applications in Mexico: A New Emerging Market Strategy, Tijuana, Mexico, March, 2012.

- 50. Stereotactic Radiosurgery and Stereotactic Body Radiotherapy: Evolution Towards Flattening Filter Free Mode. Australian Oncology Summit, Wellington, New Zealand, February 2012.
- 51. Stereotactic Radiosurgery and Stereotactic Body Radiotherapy: Evolution Towards Flattening Filter Free Mode. Dunedin Hospital, Dunedin, New Zealand, February 2012.
- 52. Stereotactic Radiosurgery and Radiotherapy Applications in India: A New Emerging Market Strategy. Parkway & Khubchandani Healthcare System, Mumbai, India, February 2012.
- 53. Radiosurgery in the Modern Era. Global Hospital, Chennai, India, February 2012.
- 54. Stereotactic Radiosurgery and Stereotactic Body Radiotherapy: Evolution Towards Flattening Filter *Free Mode.* Varian Evening Symposium on Emerging Technologies and Advanced Clinical Applications, Chennai, India, February 2012.
- 55. Stereotactic Radiosurgery and Stereotactic Body Radiotherapy: Evolution Towards Flattening Filter Free Mode. Health Care Global (HCG), Bangalore, India, February 2012.
- 56. Modern Advances in Radiosurgery. Max Health Care, Delhi, India, November, 2011.
- 57. *Truebeam Radiosurgery: The Next Generation in Radiosurgery*. Continental Health Care, Hyderabad, India, November 2011.
- 58. Truebeam Radiosurgery: The Next Generation in Radiosurgery. Krishna Institute of Medical

Science (KIMS), Secunderabad, India, November, 2011.

- 59. Flattening Filter-Free Mode for Stereotactic Radiosurgery of Multiple Brain Metastasis: Feasibility and Advantages. 12th Varian Oncology Summit, Berlin, Germany, October 2011.
- 60. Bringing Radiosurgery and Advanced Radiotherapy to Baja California. Mexicali College of Surgeons, Mexicali, Baja California, Mexico, August, 2011.
- 61. *Modern-Day Radiotherapy and Radiosurgery Applications in Mexico*. Kundavi, LLC, Cabo San Lucas, Baja Mexico, May, 2011.
- 62. *Cardiac Radiosurgery: A Potential Therapy in the Treatment of Cardiac Arrhythmias*. Center for Health Care Innovations, Narayana Hrudayalaya Hospitals, Bangalore, India, May 2011.
- 63. *Truebeam: The Present and Future of Radiotherapy*. Chulalongkorn Hospital, Bangkok, Thailand, April, 2011.
- 64. Stereotactic Radiosurgery and Radiotherapy: An Evolution Towards RapidArc and Truebeam. Ruby Clinic, Pune, India, March 2011.
- 65. *Radiosurgery Using the Varian Truebeam Platform*. Yashoda Super Specialty Hospital, Secunderabad, India, March 2011.
- 66. *Radiosurgery Using the Varian Truebeam Platform*. Krishna Institute of Medical Sciences Ltd (KIMS), Secunderabad, India, March 2011.
- 67. *Cardiac Radiosurgery: A Potential Therapy in the Treatment of Cardiac Arrhythmias*, VP of Sales & Marketing Operations Europe for Varian Medical Systems, Hyderabad, India, March 2011.
- 68. *Stereotactic Radiosurgery and Radiotherapy: An Evolution Towards RapidArc and Truebeam.* Apollo Cancer Hospital, Hyderabad, India, March 2011.
- 69. Stereotactic Radiosurgery and Radiotherapy: An Evolution Towards RapidArc and Truebeam. Narayana Hrudayalaya, Bangalore, India, March 2011.
- 70. Stereotactic Radiosurgery and Radiotherapy: An Evolution Towards RapidArc and Truebeam. Kidwai Memorial Institute of Oncology, Bangalore, India, March 2011.
- 71. *Technique, Indications, Results and Tips for SRS / SBRT*, Apollo Hospitals Education and Research Foundation, Hyderabad, India, February 2011.
- 72. Radio*cirugía Estereotáctica y Radioterapia: Nuevos Avances,* Baja Medical Society, Tijuana, Mexico, November, 2010.
- 73. *Modern Day Techniques in Stereotactic Radiosurgery*. Reliance Hospital, Mumbai, India, November, 2010.
- 74. *Modern Day Techniques in Stereotactic Radiosurgery*. Mazumdar-Shaw Cancer Center, Bangalore, India, November 2010.
- 75. Stereotactic Radiosurgery Using an Infra-Red Real-Time Tracking System. Delhi State Cancer

Institute, Delhi, India, October 2010.

- 76. Stereotactic Radiosurgery: An Evolution Towards RapidArc Therapy. Peking Union Medical College, Beijing, China, July 2010.
- 77. Stereotactic Radiosurgery: An Evolution Towards RapidArc Therapy. Shanghai Tumor Hospital, Shanghai, China, July 2010.
- 78. Radiosurgery in Adult and Pediatric Cancers; Can Radiotherapy Be Virally Guided Using a Modified Vaccinia Virus? Artemis Sloan Kettering 2010, First Annual Joint International Oncology Conference, Delhi, India, March 2010.
- 79. *RapidArc Radiosurgery in Pediatric and Adult Brain Tumors*. ALATRO, Cancun, Quintana Roo, Mexico, November 2009.
- 80. *IMRT and IMRS in Children and Adults Using a Conventional Linear Accelerator*. ALATRO, Cancun, Quintana Roo, Mexico, November 2009.
- 81. Stereotactic Radiosurgery in Pediatrics and Adults: Can Radiosurgery Be Virally Guided Using a Modified Vaccinia Virus? University of Heidelberg, Heidelberg Germany, October 2009.
- 82. *RapidArc: Radiosurgical Techniques and Example Cases*. Varian User's Meeting, Sao Paulo, Brazil, April 2009.
- 83. *Varian Trilogy: Experience with Brain and Spine Radiosurgery*. Jornada Paulista de Radiologica, Sao Paulo, Brazil, April 2009.
- 84. *IMRT in CNS Tumors in Adults and Children*, Jornada Paulista de Radiologica, Sao Paulo, Brazil, April 2009.
- 85. *RapidArc: A Faster and More Efficient Approach to Radiosurgery*, Varian User's Meeting, Santiago, Chile, April 2009.
- 86. *Advances in Stereotactic Radiosurgery and Radiotherapy: Can Tumors be Virally Targeted?* Instituto Estatal de Colima, Colima, Mexico, March 2009.
- 87. Advances in Stereotactic Intracranial and Extracranial Radiosurgery, Varian User's Meeting, Nantou, Taiwan, December 2008.
- 88. *Adoption of Advanced Radiotherapy Technologies in Vietnam*, Choray Hospital, Ho Chi Minh City (Saigon), Vietnam, December 2008.
- 89. *Application of Advanced Radiotherapy Techniques in Mexico*, Secretary of Health and Director of Health Services, State of Colima, Mexico, November 2008.
- 90. *Stereotactic Radiosurgery, a Practicum and a Review of Clinical Case Studies*, 3rd Assembly of the International Chinese Federations of Neurosurgical Sciences (ICFNS), Dongguan, China, March 2008.
- 91. Stereotactic Radiosurgery a Practicum and a Review of Clinical Case Studies, Varian Roadshow, Beijing, China, March 2008.

- 92. Competing Technologies in Modern Day Radiosurgery, Varian Roadshow, Shanghai, China, March 2008.
- 93. *Emerging Technologies in Image-Guided Radiotherapy and Radiosurgery*, Organization of Clinics America (OCA) Hospitals, Monterrey, Mexico, March 2008.
- 94. Stereotactic Radiosurgery; Competing Technologies, London Clinic, London, United Kingdom, August 2007.
- 95. *Frameless Stereotactic Radiosurgery: A Practicum*. Stereotactic Radiosurgery Conference, Hokkaido University, Sapporo, Japan, July 2007.
- 96. *Radiosurgery: Principles and Practice*, 16th Annual Meeting of Japan 3-D Conformal External Beam Radiotherapy Group Meeting, Tokyo, Japan, July 2007.
- 97. Trilogy Radiosurgery, Stereotactic Radiosurgery Conference, Omiya, Japan, July 2007.
- 98. *Radiosurgery: Principles and Practice,* Varian Stereotactic Radiosurgery Symposium, Adelaide, Australia, April 2007.
- 99. *Stereotactic Radiosurgery: Competing Technologies*, Varian Stereotactic Radiosurgery Symposium, Melbourne, Australia, April 2007.
- 100. *Image-Guided Radiosurgery*, Varian Stereotactic Radiosurgery Symposium, Sydney, Australia, April 2007.
- 101. Stereotactic Radiosurgery: Principles and Practice, Stereotactic Radiosurgery Conference, Taipei, Taiwan, June 2006.
- 102. Stereotactic Radiosurgery: A Practicum, Stereotactic Radiosurgery Conference, Miaoli, Taiwan, June 2006.
- 103. *Trilogy Stereotactic Radiosurgery*, International Dynamic Targeting IGRT Clinical Solution Symposium, Tzu Chi Buddhist General Hospital Taipei, Taiwan, June 2006.