



Cynthia Chuang

Clinical Professor, Radiation Oncology - Radiation Physics

Bio

BIO

Education:

1990-B.S., Bioelectrical Engineering (6-1B), Massachusetts Institute of Technology, Cambridge, MA

1992-M.S., Bioengineering, University of Pennsylvania, Philadelphia, PA

1994-M.S., Nuclear Engineering (NMR Spectroscopy), Massachusetts Institute of Technology, Cambridge, MA

1999-Ph.D., Nuclear Engineering (Boron Neutron Capture Therapy), Massachusetts Institute of Technology, Cambridge, MA

2001-Postdoctoral Fellowship (Peregrine Project), Lawrence Livermore National Laboratory

2003-Medical Physics Residency, University of California, San Francisco (joint 3.5-year postdoctoral and residency program)

Academic Appointments:

2003 - 2005-Clinical Instructor, Radiation Oncology, University of California, San Francisco, San Francisco, California

2005 - 2009-Assistant Adjunct Professor, Radiation Oncology, University of California, San Francisco, San Francisco, California

2009 - 2013-Assistant Professor In Residence, Radiation Oncology, University of California, San Francisco, San Francisco, California

2013 - 2017-Associate Professor In Residence, Radiation Oncology, University of California, San Francisco, San Francisco, California

2017 - 2018-Associate Professor of Clinical Radiation Oncology, University of California, San Francisco, San Francisco, California

2019 - 2023-Clinical Associate Professor, Department of Radiation Oncology, Clinical Educator Line, Stanford University, Stanford, CA

2023- Present-Clinical Professor, Department of Radiation Oncology, Clinical Educator Line, Stanford University, Stanford, CA

ACADEMIC APPOINTMENTS

- Clinical Professor, Radiation Oncology - Radiation Physics

HONORS AND AWARDS

- The Fairchild Award for Young Researchers, International Society for Neutron Capture Therapy (1998)
- Travel Grant Award Recipient, AAPM (2004)
- Best of Physics presentation (2nd author), 54th Annual AAPM Meeting (2012)
- AAPM Fellow, AAPM (2024)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Nuclear Society (1993 - 1999)
- Member, American Association of Physicists in Medicine (1999 - present)
- Member, American Society of Radiation Oncology (2006 - present)
- Medical Physics Co-Chair, NRG HN-008, NRG (2020 - present)
- Chair, AAPM Practice Environment Subcommittee (CCGSC), American Association of Physicists in Medicine (2023 - present)
- Chair, AAPM Quality Assurance and Outcome Improvement Subcommittee (QASC), Member, American Association of Physicists in Medicine (2023 - present)

Teaching

COURSES

2025-26

- Medical Physics Seminar: BMP 256, RADO 256 (Aut, Win, Spr)

2024-25

- MEDICAL PHYSICS SEMINAR: BMP 256, RADO 256 (Sum)

Publications

PUBLICATIONS

- **Vertebral fracture following primary stereotactic body radiation therapy for spinal bone metastases: a decade of experience.** *Journal of neurosurgery. Spine*
Chou, K. N., Park, D. J., Sanker, V., Ye, X., Hori, Y. S., Persad, A. R., Chuang, C., Emrich, S. C., Ustrzynski, L. P., Tayag, A., Kumar, K. A., Usoz, M., Mendoza, et al
2025: 1-11
- **Primary Stereotactic Body Radiation Therapy for Breast Cancer Spinal Metastases.** *Clinical breast cancer*
Chou, K. N., Park, D. J., Hori, Y. S., Emrich, S. C., Ustrzynski, L., Tayag, A., Chuang, C., Pollom, E., Lo, C. H., Chang, S. D.
2025
- **Single- versus multi-fraction spine stereotactic radiosurgery (ALL-STAR) for patients with spinal metastases: a randomized phase III trial protocol.** *BMC cancer*
Pratapneni, A., Klebaner, D., Soltys, S. G., Rahimy, E., Gibbs, I. C., Chang, S. D., Li, G., Hayden Gephart, M., Veeravagu, A., Szalkowski, G. A., Gu, X., Wang, L., Chuang, et al
2025; 25 (1): 323

- **Use of Carbon Fiber Implants to Improve the Safety and Efficacy of Radiation Therapy for Spine Tumor Patients.** *Brain sciences*
Lam, F. C., Guru, S., AbuReesh, D., Hori, Y. S., Chuang, C., Liu, L., Wang, L., Gu, X., Szalkowski, G. A., Wang, Z., Wohlers, C., Tayag, A., Emrich, et al
2025; 15 (2)
- **Efficient and accurate commissioning and quality assurance of radiosurgery beam via prior-embedded implicit neural representation learning.** *Medical physics*
Liu, L., Chang, C., Wang, L., Gu, X., Szalkowski, G., Xing, L.
2025
- **Primary Stereotactic Body Radiotherapy for Spinal Bone Metastases From Lung Adenocarcinoma** *CLINICAL LUNG CANCER*
Chou, K., Park, D. J., Hori, Y. S., Persad, A. R., Chuang, C., Emrich, S. C., Ustrzynski, L., Tayag, A., Kumar, K., Usoz, M., Mendoza, M., Rahimy, E., Pollom, et al
2024; 25 (7): e337-e347
- **Stereotactic body radiotherapy for painful spinal metastases: a decade of experience at a single institution.** *Journal of neurosurgery. Spine*
Chou, K. N., Park, D. J., Hori, Y. S., Persad, A. R., Chuang, C. F., Emrich, S. C., Ustrzynski, L., Tayag, A., Kumar, K. A., Usoz, M., Mendoza, M., Rahimy, E., Pollom, et al
2024: 1-9
- **Primary Stereotactic Body Radiotherapy for Spinal Bone Metastases From Lung Adenocarcinoma.** *Clinical lung cancer*
Chou, K. N., Park, D. J., Hori, Y. S., Persad, A. R., Chuang, C., Emrich, S. C., Ustrzynski, L., Tayag, A., Kumar, K., Usoz, M., Mendoza, M., Rahimy, E., Pollom, et al
2024
- **Where Does Auto-Segmentation for Brain Metastases Radiosurgery Stand Today?** *Bioengineering (Basel, Switzerland)*
Kim, M., Wang, J. Y., Lu, W., Jiang, H., Stojadinovic, S., Wardak, Z., Dan, T., Timmerman, R., Wang, L., Chuang, C., Szalkowski, G., Liu, L., Pollom, et al
2024; 11 (5)
- **A time- and space-saving Monte Carlo simulation method using post-collimation generative adversarial network for dose calculation of an O-ring gantry Linac.** *Physica medica : PM : an international journal devoted to the applications of physics to medicine and biology : official journal of the Italian Association of Biomedical Physics (AIFB)*
Shi, M., Cui, S., Chuang, C., Oderinde, O., Kovalchuk, N., Surucu, M., Xing, L., Han, B.
2024; 119: 103318
- **Angular correction methodology and characterization of a high-resolution CMOS array for patient specific quality assurance on a robotic arm linac.** *Journal of applied clinical medical physics*
Ashraf, M. R., Krimmer, J., Zalavri, L., Gu, X., Wang, L., Chuang, C. F.
2023: e14110
- **Stereotactic Radiosurgery for Contrast-Enhancing Satellite Nodules in Recurrent Glioblastoma: A Rare Case Series From a Single Institution.** *Cureus*
Park, D. J., Persad, A. R., Yoo, K. H., Marianayagam, N. J., Yener, U., Tayag, A., Ustrzynski, L., Emrich, S. C., Chuang, C., Pollom, E., Soltys, S. G., Meola, A., Chang, et al
2023; 15 (8): e44455
- **Physics of Stereotactic Radiosurgery and Stereotactic Body Radiotherapy** *Handbook of Evidence-Based Stereotactic Radiosurgery and Stereotactic Body Radiotherapy*
Perez-Andujar, A., Descovich, M., Chuang, C.
Springer Cham.2023; 2
- **Stereotactic radiosurgery for trigeminal neuralgia secondary to tumor: a single-institution retrospective series.** *Neurosurgical focus*
Hall, J. C., Ung, T. H., McCleary, T. L., Chuang, C., Gibbs, I. C., Soltys, S. G., Hayden Gephart, M., Li, G., Pollom, E. L., Chang, S. D., Meola, A.
2022; 53 (5): E3
- **Mitigating the uncertainty in small field dosimetry by leveraging machine learning strategies.** *Physics in medicine and biology*
Zhao, W., Yang, Y., Xing, L., Chuang, C. F., Schüler, E.
2022
- **Implicit neural representation for radiation therapy dose distribution.** *Physics in medicine and biology*

Vasudevan, V., Shen, L., Huang, C., Chuang, C. F., Islam, M. T., Ren, H., Yang, Y., Dong, P., Xing, L.
2022

- **Small field measurement and monte carlo model validation of a novel image-guided radiotherapy system.** *Medical physics*
Shi, M., Chuang, C. F., Kovalchuk, N., Bush, K. K., Zaks, D., Xing, L., Surucu, M., Han, B.
2021
- **Deep learning-enabled EPID-based 3D dosimetry for dose verification of step-and-shoot radiotherapy.** *Medical physics*
Jia, M., Wu, Y., Yang, Y., Wang, L., Chuang, C., Han, B., Xing, L.
2021
- **Medical Physics Practice Guideline (MPPG) 11.a: Plan and chart review in external beam radiotherapy and brachytherapy.** *Journal of applied clinical medical physics*
Xia, P., Sintay, B. J., Colussi, V. C., Chuang, C., Lo, Y., Schofield, D., Wells, M., Zhou, S.
2021
- **The Stanford stereotactic radiosurgery experience on 7000 patients over 2 decades (1999-2018): looking far beyond the scalpel.** *Journal of neurosurgery*
Fatima, N., Meola, A., Ding, V. Y., Pollom, E., Soltys, S. G., Chuang, C. F., Shahsavari, N., Hancock, S. L., Gibbs, I. C., Adler, J. R., Chang, S. D.
2021: 1–17
- **A robotically assisted 3D printed quality assurance lung phantom for Calypso.** *Physics in medicine and biology*
Capaldi, D. P., Skinner, L. B., Dubrowski, P. n., Zhang, H. n., Xing, L. n., Chuang, C. F., Loo, B. W., Bush, K. K., Fahimian, B. P., Yu, A. S.
2021
- **Cyberknife Image-Guided Hypofractionated Stereotactic Radiotherapy** *Image-Guided Hypofractionated Stereotactic Radiosurgery: A Practical Approach to Guide Treatment of Brain and Spine Tumors*
McGuinness, C., Descovich, M., Chuang, C.
CRC Press.2021; 2
- **ZAP-X: A Novel Radiosurgical Device for the Treatment of Trigeminal Neuralgia** *CUREUS*
Romanelli, P., Chuang, C., Meola, A., Bodduluri, R. M., Adler, J. R.
2020; 12 (5)
- **Clinical impact of the VOLO optimizer on treatment plan quality and clinical treatment efficiency for CyberKnife.** *Journal of applied clinical medical physics*
Schuler, E., Lo, A., Chuang, C. F., Soltys, S. G., Pollom, E. L., Wang, L.
2020
- **Technical Note: Performance of CyberKnife® Tracking Using Low-Dose CT and kV Imaging.** *Medical physics*
Nano, T. F., Capaldi, D. P., Yeung, T. n., Chuang, C. F., Wang, L. n., Descovich, M. n.
2020
- **Stereotaxis: Principles and Techniques** *Stereotactic Radiosurgery (SRS): Procedures, Results and Risks*
Ma, L., Perez-Andujar, A., Chuang, C.
2020
- **Successful Use of Frameless Stereotactic Radiosurgery for Treatment of Recurrent Brain Metastases in an 18 Month Old Child.** *The International journal of neuroscience*
Rahimy, E., Chuang, C., Spunt, S. L., Mahaney, K., Donaldson, S. S., Gibbs, I. C., Soltys, S. G., Pollom, E., Hiniker, S. M.
2019: 1–6
- **Optimizing beam models for dosimetric accuracy over a wide range of treatments.** *Physica medica : PM : an international journal devoted to the applications of physics to medicine and biology : official journal of the Italian Association of Biomedical Physics (AIFB)*
Chen, J., Morin, O., Weethee, B., Perez-Andujar, A., Phillips, J., Held, M., Kearney, V., Han, D. Y., Cheung, J., Chuang, C., Valdes, G., Sudhyadhom, A., Solberg, et al
2019; 58: 47-53
- **Fast calculation of nanodosimetric quantities in treatment planning of proton and ion therapy.** *Physics in medicine and biology*
Ramos-Méndez, J., Burigo, L. N., Schulte, R., Chuang, C., Faddegon, B.
2018; 63 (23): 235015

- **Correcting TG 119 confidence limits.** *Medical physics*
Kearney, V., Solberg, T., Jensen, S., Cheung, J., Chuang, C., Valdes, G.
2018; 45 (3): 1001-1008
- **Non-local total-variation (NLTV) minimization combined with reweighted L1-norm for compressed sensing CT reconstruction** *PHYSICS IN MEDICINE AND BIOLOGY*
Kim, H., Chen, J., Wang, A., Chuang, C., Held, M., Pouliot, J.
2016; 61 (18): 6878–91
- **Performance variations among clinically available deformable image registration tools in adaptive radiotherapy - how should we evaluate and interpret the result?** *Journal of applied clinical medical physics*
Nie, K., Pouliot, J., Smith, E., Chuang, C.
2016; 17 (2): 328-340
- **Technical Note: Preferred dosimeter size and associated correction factors in commissioning high dose per pulse, flattening filter free x-ray beams.** *Medical physics*
Sudhyadhom, A., Kirby, N., Faddegon, B., Chuang, C. F.
2016; 43 (3): 1507-13
- **Physics of Stereotactic Radiosurgery and Stereotactic Body Radiotherapy** *Handbook of Evidence-Based Stereotactic Radiosurgery and Stereotactic Body Radiotherapy*
Perez-Andujar, A., Descovich, M., Chuang, C.
Springer Cham.2016; 1
- **Use of TrueBeam developer mode for imaging QA.** *Journal of applied clinical medical physics*
Valdes, G., Morin, O., Valenciaga, Y., Kirby, N., Pouliot, J., Chuang, C.
2015; 16 (4): 322–333
- **Physics of Stereotactic Body Radiotherapy - Commissioning, Quality Assurance, and Treatment Planning** *Stereotactic Body Radiotherapy : A Practical Guide*
Chuang, C. F., D'Souza, M. F., Rossman, J. A.
Springer London.2015; 1
- **Evaluation of ray tracing and Monte Carlo algorithms in dose calculation and clinical outcomes for robotic stereotactic body radiotherapy of lung cancers.** *Journal of radiosurgery and SBRT*
Braunstein, S. E., Dionisio, S. A., Lometti, M. W., Pinnaduwege, D. S., Chuang, C. F., Yom, S. S., Gottschalk, A. R., Descovich, M.
2014; 3 (1): 67-79
- **Site-specific deformable imaging registration algorithm selection using patient-based simulated deformations.** *Medical physics*
Nie, K., Chuang, C., Kirby, N., Braunstein, S., Pouliot, J.
2013; 40 (4): 041911
- **The need for application-based adaptation of deformable image registration.** *Medical physics*
Kirby, N., Chuang, C., Ueda, U., Pouliot, J.
2013; 40 (1): 011702
- **Management of vestibular schwannoma: focus on vertigo.** *CNS oncology*
Dayal, M., Perez-Andujar, A., Chuang, C., Parsa, A. T., Barani, I. J.
2013; 2 (1): 99-104
- **Comparison between prone and supine patient setup for spine stereotactic body radiosurgery.** *Technology in cancer research & treatment*
Descovich, M., Ma, L., Chuang, C. F., Larson, D. A., Barani, I. J.
2012; 11 (3): 229-36
- **7-Tesla Susceptibility-Weighted Imaging to Assess the Effects of Radiotherapy on Normal-Appearing Brain in Patients With Glioma** *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS*
Lupo, J. M., Chuang, C. F., Chang, S. M., Barani, I. J., Jimenez, B., Hess, C. P., Nelson, S. J.
2012; 82 (3): E493-E500
- **Stereotactic body radiotherapy as monotherapy or post-external beam radiotherapy boost for prostate cancer: technique, early toxicity, and PSA response.** *International journal of radiation oncology, biology, physics*

- Jabbari, S., Weinberg, V. K., Kaprealian, T., Hsu, I. C., Ma, L., Chuang, C., Descovich, M., Shiao, S., Shinohara, K., Roach, M., Gottschalk, A. R. 2012; 82 (1): 228-34
- **Temporal compartmental dosing effects for robotic prostate stereotactic body radiotherapy.** *Physics in medicine and biology*
Shiao, S. L., Sahgal, A., Hu, W., Jabbari, S., Chuang, C., Descovich, M., Hsu, I. C., Gottschalk, A. R., Roach, M., Ma, L. 2011; 56 (24): 7767-75
 - **Physics strategies for sparing neural stem cells during whole-brain radiation treatments.** *Medical physics*
Kirby, N., Chuang, C., Pouliot, J., Hwang, A., Barani, I. J. 2011; 38 (10): 5338-44
 - **Erratum: "Report of AAPM TG 135: Quality assurance for robotic radiosurgery".** *Medical physics*
Dieterich, S., Cavedon, C., Chuang, C. F., Cohen, A. B., Garrett, J. A., Lee, C. L., Lowenstein, J. R., D'Souza, M. F., Taylor, D. D., Wu, X., Yu, C. 2011; 38 (9): 5264
 - **Report of AAPM TG 135: Quality assurance for robotic radiosurgery (vol 38, pg 2914, 2011)** *MEDICAL PHYSICS*
Dieterich, S., Cavedon, C., Chuang, C. F., Cohen, A. B., Garrett, J. A., Lee, C. L., Lowenstein, J. R., d'Souza, M. F., Taylor, D. D., Wu, X., Yu, C. 2011; 38 (9): 5264-5264
 - **A two-dimensional deformable phantom for quantitatively verifying deformation algorithms.** *Medical physics*
Kirby, N., Chuang, C., Pouliot, J. 2011; 38 (8): 4583-6
 - **A two-step optimization method for improving multiple brain lesion treatments with robotic radiosurgery.** *Technology in cancer research & treatment*
Ma, L., Sahgal, A., Hwang, A., Hu, W., Descovich, M., Chuang, C., Barani, I., Sneed, P. K., McDermott, M., Larson, D. A. 2011; 10 (4): 331-8
 - **Apparatus dependence of normal brain tissue dose in stereotactic radiosurgery for multiple brain metastases.** *Journal of neurosurgery*
Ma, L., Petti, P., Wang, B., Descovich, M., Chuang, C., Barani, I. J., Kunwar, S., Shrieve, D. C., Sahgal, A., Larson, D. A. 2011; 114 (6): 1580-4
 - **Impact of dose compartmentalization effect for Cyberknife prostate cancer SBRT** *Annual Cyberknife Society Summit Meeting*
Ma, L., Shiao, S. L., Jabbari, S., Hossain, S., Chuang, C., Descovich, M., Huang, K., Hsu, I., Gottschalk, A., Roach III, M. 2011
 - **A dosimetric comparison between Gamma Knife and CyberKnife treatment plans for trigeminal neuralgia.** *Journal of neurosurgery*
Descovich, M., Sneed, P. K., Barbaro, N. M., McDermott, M. W., Chuang, C. F., Barani, I. J., Nakamura, J. L., Lijun, M. 2010; 113 Suppl: 199-206
 - **Dose gradient near target-normal structure interface for nonisocentric CyberKnife and isocentric intensity-modulated body radiotherapy for prostate cancer.** *International journal of radiation oncology, biology, physics*
Hossain, S., Xia, P., Huang, K., Descovich, M., Chuang, C., Gottschalk, A. R., Roach, M., Ma, L. 2010; 78 (1): 58-63
 - **Equivalence in dose fall-off for isocentric and nonisocentric intracranial treatment modalities and its impact on dose fractionation schemes.** *International journal of radiation oncology, biology, physics*
Ma, L., Sahgal, A., Descovich, M., Cho, Y. B., Chuang, C., Huang, K., Laperriere, N. J., Shrieve, D. C., Larson, D. A. 2010; 76 (3): 943-8
 - **Functional Relationship between the Volume of a Near-Target Peripheral Isodose Line and Its Isodose Value for Gamma Knife® Radiosurgery**
Ma, L., Sahgal, A., Chuang, C., Descovich, M., Petti, P., Smith, V., Verhey, L., Barbaro, N., McDermott, M., Huang, K., Nakamura, J., Sneed, P., Larson, et al
edited by McDermott, M. W.
KARGER.2010: 75-83
 - **A treatment planning optimization technique for improving multiple metastatic brain lesion treatment with Cyberknife radiosurgery** *1st International Cyberknife Society Scientific Conference*
Ma, L., Sahgal, A., Hu, W., Descovich, M., Chuang, C., Barani, I., Sneed, P., McDermott, M., Larson, D. 2010

- **Comparisons of Novalis and CyberKnife® Spinal Stereotactic Body Radiotherapy Treatment Planning Based on Physical and Biological Modeling Parameters**
Sahgal, A., Chuang, C., Hossain, S., Petti, P., Larson, D. A., Shrieve, D. C., Ma, L.
edited by McDermott, M. W.
KARGER.2010: 366-377
- **Nonrandom intrafraction target motions and general strategy for correction of spine stereotactic body radiotherapy.** *International journal of radiation oncology, biology, physics*
Ma, L., Sahgal, A., Hossain, S., Chuang, C., Descovich, M., Huang, K., Gottschalk, A., Larson, D. A.
2009; 75 (4): 1261-5
- **Stereotactic body radiotherapy is effective salvage therapy for patients with prior radiation of spinal metastases.** *International journal of radiation oncology, biology, physics*
Sahgal, A., Ames, C., Chou, D., Ma, L., Huang, K., Xu, W., Chin, C., Weinberg, V., Chuang, C., Weinstein, P., Larson, D. A.
2009; 74 (3): 723-31
- **Effect of composite sector collimation on average dose fall-off for Gamma Knife Perfexion.** *Journal of neurosurgery*
Ma, L., Verhey, L., Chuang, C., Descovich, M., Smith, V., Huang, K., McDermott, M., Sneed, P.
2008; 109 Suppl: 15-20
- **Whole-procedure clinical accuracy of Gamma Knife treatments of large lesions**
Ma, L., Chuang, C., Descovich, M., Petti, P., Smith, V., Verhey, L.
WILEY.2008: 5110-5114
- **Simulated real time image guided intrafraction tracking-delivery for hypofractionated prostate IMRT** *MEDICAL PHYSICS*
Hossain, S., Xia, P., Chuang, C., Verhey, L., Gottschalk, A. R., Mu, G., Ma, L.
2008; 35 (9): 4041-4048
- **Split-volume treatment planning of multiple consecutive vertebral body metastases for Cyberknife image-guided robotic radiosurgery**
Sahgal, A., Chuang, C., Larson, D., Huang, K., Petti, P., Weinstein, P., Ma, L.
ELSEVIER SCIENCE INC.2008: 175-179
- **Intensity-modulated chemoradiation for treatment of stage III and IV oropharyngeal carcinoma - The University of California-San Francisco experience** *CANCER*
Huang, K., Xia, P., Chuang, C., Weinberg, V., Glastonbury, C. M., Eisele, D. W., Lee, N. Y., Yom, S. S., Phillips, T. L., Quivey, J. M.
2008; 113 (3): 497-507
- **Peripheral dose measurement for CyberKnife radiosurgery with upgraded linac shielding** *MEDICAL PHYSICS*
Chuang, C. F., Larson, D. A., Zytovicz, A., Smith, V., Petti, P. L.
2008; 35 (4): 1494-1496
- **Image-guided robotic stereotactic body radiotherapy for benign spinal tumors: The University of California San Francisco preliminary experience** *TECHNOLOGY IN CANCER RESEARCH & TREATMENT*
Sahgal, A., Chou, D., Ames, C., Ma, L., Lamborn, K., Huang, K., Chuang, C., Aiken, A., Petti, P., Weinstein, P., Larson, D.
2007; 6 (6): 595-603
- **Effects of residual target motion for image-tracked spine radiosurgery.** *Medical physics*
Chuang, C., Sahgal, A., Lee, L., Larson, D., Huang, K., Petti, P., Verhey, L., Ma, L.
2007; 34 (11): 4484-90
- **Peripheral dose in ocular treatments with CyberKnife and Gamma Knife radiosurgery compared to proton radiotherapy.** *Physics in medicine and biology*
Zytovicz, A., Daftari, I., Phillips, T. L., Chuang, C. F., Verhey, L., Petti, P. L.
2007; 52 (19): 5957-71
- **Patterns of recurrence analysis in newly diagnosed glioblastoma multiforme after three-dimensional conformal radiation therapy with respect to pre-radiation therapy magnetic resonance spectroscopic findings** *13th Annual Meeting of the International-Society-for-Magnetic-Resonance-in-Medicine*
Park, I., Tamai, G., Lee, M. C., Chuang, C. F., Chang, S. M., Berger, M. S., Nelson, S. J., Pirzkall, A.
ELSEVIER SCIENCE INC.2007: 381-89

- **Potential value of MR spectroscopic imaging for the radiosurgical management of patients with recurrent high-grade gliomas.** *Technology in cancer research & treatment*
Chuang, C. F., Chan, A. A., Larson, D., Verhey, L. J., McDermott, M., Nelson, S. J., Pirzkall, A.
2007; 6 (5): 375-82
- **Boosting central target dose by optimizing embedded dose hot spots for gamma knife radiosurgery.** *Stereotactic and functional neurosurgery*
Ma, L., Larson, D., Petti, P., Chuang, C., Verhey, L.
2007; 85 (6): 259-63
- **The cyberknife: Practical experience with treatment planning and delivery**
Smith, V., Chuang, C. F.
edited by Meyer, J. L., Kavanagh, B. D., Purdy, J. A., Timmerman, R.
KARGER.2007: 143-161
- **Dose-guided radiation therapy with megavoltage cone-beam CT.** *The British journal of radiology*
Chen, J., Morin, O., Aubin, M., Bucci, M. K., Chuang, C. F., Pouliot, J.
2006; 79 Spec No 1: S87-98
- **Peripheral doses in CyberKnife radiosurgery.** *Medical physics*
Petti, P. L., Chuang, C. F., Smith, V., Larson, D. A.
2006; 33 (6): 1770-9
- **Calibration of an amorphous-silicon flat panel portal imager for exit-beam dosimetry.** *Medical physics*
Chen, J., Chuang, C. F., Morin, O., Aubin, M., Pouliot, J.
2006; 33 (3): 584-94
- **Magnetic Resonance Imaging for IMRT** *Image-Guided IMRT*
Verhey, L., Chuang, C., Pirzkall, A.
Springer Berlin, Heidelberg.2006; 1
- **Pretreatment Quality Assurance of Image-Tracked Lung Tumor Treatments**
Ma, L., Chuang, C., Huang, K., Petti, P., Sahgal, A., Larson, D., Verhey, L.
2006
- **A critical examination of the results from the Harvard-MIT NCT program phase I clinical trial of neutron capture therapy for intracranial disease.** *Journal of neuro-oncology*
Busse, P. M., Harling, O. K., Palmer, M. R., Kiger, W. S., Kaplan, J., Kaplan, I., Chuang, C. F., Goorley, J. T., Riley, K. J., Newton, T. H., Santa Cruz, G. A., Lu, X. Q., Zamenhof, et al
2003; 62 (1-2): 111-21
- **Patient Specific Quality Assurance in IMRT** *Intensity-Modulated Radiation Therapy: The State of the Art*
Xia, P., Chuang, C.
Medical Physics Publishing.2003; 1
- **Skin toxicity due to intensity-modulated radiotherapy for head-and-neck carcinoma.** *International journal of radiation oncology, biology, physics*
Lee, N., Chuang, C., Quivey, J. M., Phillips, T. L., Akazawa, P., Verhey, L. J., Xia, P.
2002; 53 (3): 630-7
- **Investigation of the use of MOSFET for clinical IMRT dosimetric verification.** *Medical physics*
Chuang, C. F., Verhey, L. J., Xia, P.
2002; 29 (6): 1109-15
- **Communication and sampling rate limitations in IMRT delivery with a dynamic multileaf collimator system.** *Medical physics*
Xia, P., Chuang, C. F., Verhey, L. J.
2002; 29 (3): 412-23
- **Pharmacokinetic Analysis and Modeling of BPA-F in Murine Glioma and Melanoma Models for NCT** *Tenth International Congress on Neutron Capture Therapy for Cancer*
Kiger, W. S., Chuang, C. F., Palmer, M. R., Zamenhof, R. G., Busse, P. M.
2002

- **Creation of a reference image with Monte Carlo simulations for online EPID verification of daily patient setup** *SPIE Medical imaging*
Descalle, M. A., Chuang, C., Pouliot, J.
2002
- **Description and dosimetric verification of the PEREGRINE Monte Carlo dose calculation system for photon beams incident on a water phantom.** *Medical physics*
Hartmann Siantar, C. L., Walling, R. S., Daly, T. P., Faddegon, B., Albright, N., Bergstrom, P., Bielajew, A. F., Chuang, C., Garrett, D., House, R. K., Knapp, D., Wicczorek, D. J., Verhey, et al
2001; 28 (7): 1322-37
- **Selective tumor uptake of Boronophenylalanine-fructose (BPA-f) in animal model of hepatic colorectal metastases** *Frontiers in Neutron Capture Therapy: Vol. 2*
Chuang, C., Busse, P., Palmer, M., Thomas, P., Zamenhof, R.
Kluwer Academic/Plenum Publishers.2001; 1
- **Time-dependent biodistribution of BAP-f in normal and tumor brain tissues in mice** *Frontiers in Neutron Capture Therapy: Vol. 2*
Chuang, C., Palmer, M., Zamenhof, R., Busse, P.
Kluwer Academic/Plenum Publishers.2001; 1
- **Predicting boron-10 concentrations in normal brain and GBM from blood measurements** *Frontiers in Neutron Capture Therapy: Vol. 1*
Palmer, M. R., Chuang, C., Kiger, W. S., Busse, P. M., Zamenhof, R. G.
Kluwer Academic/Plenum Publishers.2001; 1
- **The Harvard-MIT BCNT Program: Overview of the clinical trials and translational research** *Frontiers in Neutron Capture Therapy: Vol. 1*
Busse, P. M., Zamenhof, R. G., Harling, O. K., Kaplan, I., Kaplan, J., Chuang, C., Goorley, J. T., Kiger, W. S., Riley, K. J., Tang, L., Solares, G. R., Palmer, M. R.
Kluwer Academic/Plenum Publishers.2001; 1
- **Computer simulated patient motion and setup uncertainties in intensity modulated radiotherapy** *XIII International Conference on the Use of Computers in Radiation Therapy*
Xia, P., Chuang, C., Nguyen-Tan, F., Fu, K. K., Verhey, L.
2000
- **A Phase-I clinical trial for cranial BNCT at Harvard-MIT** *the Ninth International Symposium on Neutron Capture Therapy for Cancer*
Busse, P. M., Harling, O. K., Palmer, M. R., Kaplan, I., Newton, T. H., Kaplan, J., Chuang, C. F., Kiger, W. S., Riley, K. J., Goorley, J. T., Zamenhof, R. G.
2000
- **The Harvard-MIT BNCT program: overview of the clinical trials and translational research** *the Eleventh International Congress of Radiation Research*
Busse, P. M., Zamenhof, R. G., Harling, O. K., Kaplan, I., Kaplan, J., Chuang, C. F., Goorley, J. T., Kiger, W. S., Riely, K. J., Tang, L., Solares, G. R., Palmer, M. R.
1999
- **Clinical follow-up of patients with melanoma of the extremity treated in a phase I boron neutron capture therapy protocol** *Advances in Neutron Capture Therapy: Vol. 1, Medicine and Physics*
Busse, P. M., Zamenhof, R., Madoc-Jones, H., Solares, G., Kiger, S., Riley, K., Chuang, C., Rogers, G., Harling, O.
Elsevier.1997; 1
- **Long-term clinical follow-up of subjects in a BNCT protocol** *American Nuclear Society Annual Meeting*
Busse, P. M., Zamenhof, R. G., Harling, O. K., Solares, G. R., Kiger, W. S., Riley, K. J., Chuang, C. F., Madoc-Jones, H.
1996