

PSMMP PUBLICATIONS 2016

- *Dosimetric and radiobiological comparison of CyberKnife M6™ InCise multileaf collimator over IRIS™ variable collimator in prostate stereotactic body radiation therapy*, Vindu Kathriarachchi, Charles Shang, Grant Evans, Theodora Leventouri, and Georgios Kalantzis, *J Med Phys* **41**, 135-143 (2016).  
International/National Meetings  
AAPM 2016 July 31-August 4, 2016, Washington D.C.
- *Impact Of The Dosimetric Consequences From Minimal Displacements Throughout The Treatment Time In APBI With SAVI Applicators - S Chandrasekara<sup>1\*</sup>, S Pella<sup>2</sup>, M Hyvarinen<sup>3</sup>, J Pinder<sup>4</sup>*, (1) (2) 21st Century Oncology, Boca Raton, FL, (3) (4) Florida Atlantic University, Boca Raton FL.
- ACCELERATED PARTIAL BREAST IRRADIATION USING SAVI, MULTI LUMEN MAMMOSITE AND CONTURA APPLICATORS S. Pella, A. Kyriacou, M. Chilukuri 2016 AAPM annual, invited speaker.
- *The Importance of Immobilization Devices in Brachytherapy Treatments of Vaginal Cuff - M Shojaei<sup>1\*</sup>, N Dumitru<sup>2</sup>, S Pella<sup>3</sup>, A Bacala<sup>4</sup>*, (1) (2) Florida Atlantic University, Boca Raton, FL, (3) 21st Century Oncology, Boca Raton, FL, (4) Mindanao State University-Iligan Institute of Technology, Iligan City.
- *The Consistency Dosimetric Analysis of the Accelerated Breast Brachytherapy - J Pinder<sup>1\*</sup>, S Chandrasekara<sup>2</sup>, S Pella<sup>3</sup>, A Bacala<sup>4</sup>*, (1) Florida Atlantic University, Boca Raton, Florida, (2) (3) 21st Century Oncology, Boca Raton, FL, (4) Mindanao State University-Iligan Institute of Technology, Iligan City.
- *A Study of the Consistency of Brachytherapy Treatments for Vaginal Cuff* M Shojaei<sup>1</sup>, S Pella<sup>2</sup>, N Dumitru<sup>3\*</sup>, A Bacala<sup>4</sup>, (1) (3) Florida Atlantic University, Boca Raton, FL, (2) 21st Century Oncology, Boca Raton, FL, (4) Mindanao State University-Iligan Institute of Technology, Iligan City.
- *A Novel Test for Coincidence Between Light Fields and Electron Radiation Fields - G Gibbard<sup>1\*</sup>, C Shang<sup>2</sup>, S Khanal<sup>3</sup>*, (1) (3) Florida Atlantic University, Boca Raton, FL, (2) Boca Raton Regional Hospital, Boca Raton, FL.
- *A Technique for Modeling a Diode Array Into the TPS for Lung SBRT*

*Patient Specific QA* - C Curley<sup>1\*</sup>, Z Ouhib<sup>2</sup>, T Leventouri<sup>1</sup> , (1) Florida Atlantic University, Boca Raton, FL, (2) Lynn Regional Cancer Center, Delray Beach, FL

- *A Potential Real Time AQA for Cyberknife Cones and MLC Based Treatments* - C Shang<sup>1</sup> , G Gibbard<sup>2</sup> , J Cole<sup>3</sup> , A Schramm<sup>4</sup> , T Leventouri<sup>5</sup> , S Khanal<sup>6\*</sup>, (1) Boca Raton Regional Hospital, Boca Raton, FL, (2) (5) (6) Florida Atlantic University, Boca Raton, FL, (3) (4) Lynn Cancer Institute, Boca Raton, FL.

2016 ASTRO Annual Meeting, September 25-28, Boston MA

- THE IMPORTANCE OF LOCALIZATION AND IMMOBILIZATION IN TREATMENT FOR ENDOMETRIAL CANCER WITH HDR BRACHYTHERAPY USING MULTI LUMEN CYLINDERS, N. Dumitru, M. Hyvarin, S. Pella, M. Shoajei.

ABS World Annual Congress, June 27-28, 2016, San Francisco, CA

- IMPACT OF THE DOSIMETRIC CONSEQUENCES FROM MINIMAL DISPLACEMENTS THROUGHOUT THE TREATMENT TIME IN APBI WITH SAVI APPLICATORS S. Chandrasekara, S. Pella, M. Hyvarin.
- DOSIMETRIC IMPLICATIONS OF THE ORGANS AT RISK IN ADJUVANT VAGINAL CUFF BRACHYTHERAPY WITH MULTI LUMEN CYLINDER APPLICATORS, N. Dumitru, M. Hyvarin, S. Pella, M. Shoajei.

2016 AAMD Annual Meeting, June 12-16, Atlanta GA

- A DOSIMETRIC/BIOLOGICAL COMPARISON OF IMRT VERSUS RAPID ARC OPTIMIZATION IN WHOLE BREAST WITH AXILLARY NODE IRRADIATION S. Pella, N. Moshiri, invited speaker.

2016 RAMP Annual Meeting, Moscow

- A DOSIMETRIC COMPARISON OF IMRT VERSUS VMAT OPTIMIZATION FOR EARLY STAGE WHOLE BREAST CANCER, S. Pella, N. Moshiri, T. Constantion, D. Littlejohn, T. Leventouri.

2016 ESTRO Annual Meeting April 29-May 3, Turin, Italy

- DOSIMETRIC CONSEQUENCES FROM MINIMAL DISPLACEMENTS IN APBI BRACHYTHERAPY USING THE SAVI APPLICATOR S. Chandrasekara, S. Pella, J. Pindel.
- THE IMPORTANCE OF IMMOBILIZATION AND LOCALIZATION OF GYNECOLOGICAL APPLICATORS IN HIGH DOSE RATE BRACHYTHERAPY TREATMENTS N. Dumitru, S. Pella, M. Hyvarin, C. Curley.

## PSMMP PUBLICATIONS 2015

- *Evaluation of surface dose outside the treatment area for five breast cancer irradiation modalities using thermo-luminescent dosimeters*, Suraj P. Khanal, Zoubir Ouhib, Rashmi K Benda, Th. Leventouri, Intern. J. Cancer Therapy and Oncology, **3**, 2015 ISSN 2330-4049.
- *A computational study on different penalty approaches for constrained optimization in radiation therapy treatment planning with a simulated annealing algorithm*, Sadegh Mohamadi, Charles Shang, Zoubir Ouhib, Th. Leventouri, Georgios Kalantzis, 16th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/ Distributed Computing (SNPD) June 1-3, 2015, Takamatsu, Japan DOI:10.1109/SNPD.2015.7176174.
- *A GPU-based Pencil Beam Algorithm for Dose Calculations in Proton Radiation Therapy*, Georgios Kalantzis, Th. Leventouri, Hidenobu Tachibana, Charles Shang, Int. J. of Networked and Distributed Computing, **3** 243-249, 2015 ISSN: 2211-7946.
- *A computational tool for patient specific dosimetry and radiobiological modeling of selective internal radiation therapy with <sup>90</sup>Y microspheres*, Georgios Kalantzis, Th. Leventouri, Aditiya Apte, Charles Shang, Appl. Radiation and Isotopes, **105**, 123-129, 2015 DOI: 10.1016/j.apradiso.2015.08.009.
- *Dosimetric Evaluations Due to Minimal Displacements in Gynecological High Dose Rate Brachytherapy*, Nicolae Dumitru, Silvia Pella, Mikko Hyvarinen, Samantha Long, Th. Leventouri, Brachytherapy, **14**, 102, 2015.
- *Will CyberKnife M6™ Multileaf collimator offer advantages over IRIS™ collimator in prostate SBRT?* Kathriarachchi V, Shang CY, Kalantzis G, Leventouri Th., Med. Phys. **42**, AAPM Spring Clinical Meeting, St. Louis MO, March 7-10, 2015.
- *Should We Use RapidArc (VMAT) for Breast Treatments? A Dosimetric Comparison of IMRT Versus VMAT Optimization in Whole Breast Irradiation of Early Stage Breast Cancer*, SU-E-T-693:N Moshiri Sedeh, S Pella, T Leventouri, D Littlejohn and T Costantino Med. Phys. **42**, 3496 (2015); <http://dx.doi.org/10.1118/1.4925057>
- *A GPU-Based Pencil Beam Algorithm for Dose Calculations in Proton Radiation Therapy*, G Kalantzis, T Leventouri, H Tachibana and C Shang, Med. Phys. **42**, SU-E-T-373339 (2015); <http://dx.doi.org/10.1118/1.4924398>
- *Variations of Cardiac Dose at Different Respiratory Status in CyberKnife M6 Treatment Plans for Accelerated Partial Breast Irradiation (APBI)*, S Long, C Shang, G Evans and T Leventouri, Med. Phys. **42**, SU-E-T-797: 3521 (2015); <http://dx.doi.org/10.1118/1.4925161>.

## BOOK CHAPTER

*A GPU-based pencil beam algorithm for dose calculations of proton therapy*  
G. Kalantzis, T. Leventouri, H. Tachibana, C. Shang, (Studies in Computational Intelligence Vol. **612**, Editor: Roger Lee, Springer, 2015).

## International/National Meetings

- *Will CyberKnife M6™ Multileaf collimator offer advantages over IRIS™ collimator in prostate SBRT?*, Kathriarachchi V, Shang CY, Kalantzis G, Leventouri Th. AAPM Spring Clinical Meeting, St. Louis MO, March 7-10, 2015
- *Dosimetric Consequences from Minimal Displacements in APBI with SAVI applicators* ABS Annual meeting – Orlando FL
- *Will CyberKnife M6™ Multileaf collimator offer advantages over IRIS™ collimator in prostate SBRT?*, Kathriarachchi V, Shang CY, Kalantzis G, Leventouri Th. FLAAPM Annual Meeting, Orlando FL, May 1-2, 2015.
- *A Dosimetric Study of a Heterogeneous Phantom for Lung Stereotactic Body Radiation Therapy Comparing Monte Carlo and Pencil Beam Calculations to Dose Distributions Measured with a 2-D Diode Array*, Casey Curley, Zoubir Ouhib, Th. Leventouri, FLAAPM Annual Meeting, Orlando FL, May 1-2, 2015.
- *Variations of Cardiac Dose at Different Respiratory Status in CyberKnife M6 Treatment Plans for Accelerated Partial Breast Irradiation (APBI)*, S Long, C Shang, G Evans and T Leventouri, FLAAPM Annual Meeting, Orlando FL, May 1-2, 2015.
- *Will CyberKnife M6™ Multileaf collimator offer advantages over IRIS™ collimator in prostate SBRT?* Kathriarachchi V, Shang CY, Leventouri Th., Kalantzis G, FLAAPM Annual Meeting, Orlando FL, May 1-2, 2015.

## PSMMP PUBLICATIONS 2014

1. DOSIMETRIC CONSEQUENCES FROM MINIMAL DISPLACEMENTS IN APBS WITH SAVI APPLICATORS, M. Hyvarinen S. Pella, N. Dumitru, Th. Leventouri, Annual Radiation Safety International meeting, 2014 Varna Bulgaria.
2. PLANNING TECHNIQUES WITH RESULTS IN ECLIPSE AND BRAINLAB FOR SBRT LUNG TUMORS, B. Doozan, S. Pella, Bay Care Radiation Oncology 2014, invited speaker
3. MOTION CONTROL CHALLENGES IN HDR BRACHYTHERAPY FOR APBI TREATMENT USING THE SAVI APPLICATORS, M. Hyvarinen S. Pella, N. Dumitru, Th. Leventouri, AAPM, 2014 annual.
4. CHALLENGES IN MEASURING OUTPUT FACTORS FOR SMALL FIELDS UNDER 1 CM C. Smith, S. Pella, A. Bacala, Th. Leventouri, AAPM, 2014 annual.

5. IMPROVING MOTION CONTROL IN HDR BRACHYTHERAPY FOR MULTY LUMEN CYLINDERS, M. Hyvarinen S. Pella, N. Dumitru, Th. Leventouri, AAPM, 2014 annual.
6. PLANNING TECHNIQUES WITH RESULTS IN ECLIPSE AND BRAINLAN FOR SBRT LUNG TUMORS, S. Pella, B. Doozan, Bay Care Radiation Oncology, 2014 annual.
7. INVESTIGATION OF DOSE VARIATION WITH MINOR DISPLACEMENT IN HIGH DOSE RATE BRACHYTHERAPY, M. Hyvarinen, N. Dumitru, S. Long, C. Curley, S. Pella, Th. Leventouri, International RSNA, Varna, 2014
8. CHALLENGES IN COMMISSIONING SMALL FIELDS FOR SRS TREATMENT PLANNING SYSTEMS C. Smith, A. Bacala, S. Pella, AAPM Spring, 2014
9. THE IMPORTANCE OF MOTION CONTROL IN HIGH DOSE RATE BRACHYTHERAPY TREATMENTS, M. Hyvarinen, N. Dumitru, S. Long, S. Pella, Th. Leventouri, ABS, 2014 annual.
10. *Measuring Output Factors for Photon Fields Smaller than 10 cm × 10 cm*, B Doozan, S Pella, A Bacala, Th Leventouri, C Smith, J. Applied Clinical Medical Physics, **15**, No. 3, 2014.

Surgical treatment of recurrent endometrial cancer: time for a paradigm shift. *Ann Surg Oncol*. 2015 Dec. 22 (13):4204-10. [Medline].

Bendifallah S, Canlorbe G, Laas E, et al. A predictive model using histopathologic characteristics of early-stage type 1 endometrial cancer to identify patients at high risk for lymph node metastasis. *Ann Surg Oncol*. 2015 Dec. 22 (13):4224-32. [Medline]. Fotopoulou C, El-Balat A, du Bois A, et al. Systematic pelvic and paraaortic lymphadenectomy in early high-risk or advanced endometrial cancer. Treatment of endometrial cancer normally involves surgery to remove the womb, fallopian tubes (that connect the uterus to the ovaries) and ovaries (which produce eggs) (hysterectomy and bilateral salpingo-oophorectomy). This may cause the onset of menopausal symptoms in women diagnosed prior to the menopause, or women may already be suffering from menopausal symptoms when they are diagnosed. Hormone replacement therapy (HRT) is used to treat menopausal symptoms such as hot flashes, night sweats and vaginal dryness. HRT could potentially improve quality of life and long-term health, and women treated for endometrial cancer need to be able to balance the risks and benefits of HRT to decide about their treatment. The management of endometrial cancer generally involves surgical extirpation of tumor as a primary therapeutic endeavor. Following surgery, and in some cases in lieu of surgery (in medically... El Khoury C, Dumas I, Tailleux A et al (2015) Adjuvant brachytherapy for endometrial cancer: advantaged of the vaginal mold technique. *Brachytherapy* 14:51-55CrossRefPubMedGoogle Scholar. 16. Tuncell N, Toy A, Demiral AN, Cetingoz R et al (2009) Dosimetric comparison of ring and ovoid applicators. *J Buon* 14:451-454PubMedGoogle Scholar. 17.