

# Tania De La Fuente Herman, Ph.D., DABR

Department of Radiation Oncology

Stephenson Cancer Center

The University of Oklahoma Health Sciences Center (OUHSC)

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Tania-DeLaFuente-Herman@ouhsc.edu

## EDUCATION & TRAINING

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### Clinical Medical Physics Residency

Dec 2010

Department of Radiation Oncology  
University of Oklahoma Health Sciences Center  
Oklahoma City, OK

### Ph.D. in Radiological Sciences

Dec 2008

Department of Radiological Sciences  
University of Texas Health Science Center  
San Antonio, Texas

### B.S. in Electronic Engineering Technology / Physics

May 2001

The University of Texas and Texas Southmost College  
Brownsville, Texas

## PROFESSIONAL EXPERIENCE

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### Associate Professor and Clinical Medical Physicist

Since July 2017

Department of Radiation Oncology, OUHSC, Oklahoma City, USA 73104

### Assistant Professor and Clinical Medical Physicist

Jan 2011- June 2017

Department of Radiation Oncology, OUHSC, Oklahoma City, USA 73104

### Adjunct Assistant Professor

Since Apr 2011

Department of Radiological Sciences, OUHSC, Oklahoma City, USA 73104

## BOARD CERTIFICATION

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American Board of Radiology

2014

## PUBLICATIONS

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### Peer Reviewed Journals

1. Chance Matthiesen, **Tania De La Fuente Herman**, Hardev Singh, Anthony Mascia, Michael Confer, Hilarie Simpson, Christine Higby, Abeer Arain, Sameer Keole, Terence Herman, Carl Bogardus, Yan D. Zhao, and Salahuddin Ahmad, A Dosimetric and Radiobiologic Comparison of 3D Conformal, IMRT, Rapid Arc VMAT,

and Proton Therapy for the Treatment of Early Stage T1/T2 Glottic Laryngeal Cancer, Journal of Medical Imaging and Radiation Oncology (2015) 221-228

2. **Tania De La Fuente Herman**, Erich Schnell, Julie Young, Kim Hildebrand, Özer Algan, Elizabeth Syzek, Terence Herman, and Salahuddin Ahmad, Dosimetric comparison between IMRT delivery modes: step-and-shoot, sliding window and volumetric modulated arc therapy - for whole pelvis radiation therapy of intermediate to high risk prostate adenocarcinoma, Journal of Medical Physics 38 (2013) 165-172
3. Chance Matthiesen, Spencer Thompson, **Tania De La Fuente Herman**, Salahuddin Ahmad and Terence Herman, The Use of Stereotactic Body Radiation Therapy (SBRT) for Medically Inoperable Multiple Primary Lung Cancer, Journal of Medical Imaging and Radiation Oncology 56 (2012) 561-566
4. **Tania De La Fuente Herman**, Kerry Hibbitts, Terence Herman, Salahuddin Ahmad, Evaluation of pencil beam convolution and anisotropic analytical algorithms in stereotactic lung irradiation, Journal of Medical Physics Vol. 36, No. 4 (2011) 234-238
5. **Tania De La Fuente Herman**, Salahuddin Ahmad, and Maria T. Vlachaki, Intensity modulated radiation therapy versus three dimensional conformal radiation therapy for treatment of high grade glioma: A radiobiological modeling study, Journal of X-Ray Science and Technology 18 (2010) 393-402
6. **Tania De La Fuente Herman**, Heather Gabrish, Terence S. Herman, Maria T. Vlachaki, and Salahuddin Ahmad, Impact of tissue heterogeneity in stereotactic body radiation therapy treatment plans for lung cancer, Journal of Medical Physics 35 (2010) 170-173
7. **Tania de La Fuente Herman**, Maria T. Vlachaki, Terence S. Herman, Kerry Hibbitts, Julie A. Stoner and Salahuddin Ahmad, Stereotactic Body Radiation Therapy (SBRT) and Respiratory Gating in Lung Cancer: Dosimetric and Radiobiological Considerations, Journal of Applied Clinical Medical Physics 11 (2010) 158-169
8. M. Vlachaki, I. Castellon, C. Leite, **T. Perkins** and S. Ahmad, Impact of Respiratory Gating Using 4-Dimensional Computed Tomography (4D-CT) on the Dosimetry of Tumor and Normal Tissues in Patients with Thoracic Malignancies, American Journal of Clinical Oncology 32 (2009) 262-268

#### Peer Reviewed Conference Proceedings and /or Book Chapters

1. Dosimetric quality of partially loaded I-125 COMS eye plaques for practical placement on posterior tumors, Clara Ferreira, Chance Matthiesen, Brian Firestone, Salahuddin Ahmad, and **Tania De La Fuente Herman**, XIV Mexican Symposium on Medical Physics, Mexico City, Mexico, March 18-21, 2016, AIP Conf. Proc. 1747, 020002 (2016); <http://dx.doi.org/10.1063/1.4954089>.
2. Commissioning of a relative stopping power to Hounsfield unit calibration curve for a Mevion proton radiation treatment unit, Erich Schnell, Salahuddin Ahmad, and **Tania De La Fuente Herman**, XIV Mexican Symposium on Medical Physics, Mexico City, Mexico, March 18-21, 2016, AIP Conf. Proc. 1747, 110004 (2016); <http://dx.doi.org/10.1063/1.4954148>.
3. E. Schnell, **Tania De La Fuente Herman**, J. Young, K. Hildebrand, O. Algan, E. J. Syzek, T. S. Herman and S. Ahmad, Dosimetric Comparison of Volumetric Modulated Arc Therapy (VMAT), Step and Shoot and Sliding Window IMRT for Prostate Cancer, Oral presentation at the XII Mexican Symposium on Medical Physics, Oaxaca, Mexico, March 16-19, 2012, American Institute of Physics, AIP Conf Proc. 1494, 23-26, Melville, New York (2012).
4. Hardev Singh, **Tania De La Fuente Herman**, Barry Showalter, Spencer Thompson, Elizabeth Syzek and Salahuddin Ahmad, Dosimetric Evaluation of PLATO and ONCENTRA Treatment Planning Systems for High Dose Rate (HDR) Brachytherapy Gynecological Treatments, Proc. Of the XII Mexican Symposium on Medical Physics, Oaxaca, Mexico, March 16-18, 2012, American Institute of Physics, AIP Conf Proc. 1494, 70-72, Melville, New York (2012).

#### Conference Abstracts, Posters, and Oral Presentations (\*presenter)

1. E. Schnell, S. Ahmad, S. Thompson, O. Algan, C. Bogardus, T. Herman and **T. De La Fuente Herman**, A Comparison of VMAT and IMRT Treatment Plans for Four Clinical Sites at a Mixed-machine Cancer Center, Poster presentation (SU-I-GPD-T-377) at the 59th Annual meeting of the American Association of Physicists in Medicine (AAPM), Denver, Colorado, July 30-Aug 03, 2017, Medical Physics, Vol. 44, No. 6

2. L. Muller, D. Johnson, S. Ahmad and **T. De La Fuente Herman**, Dosimetric Evaluation of Available I-125 High Activity Seeds for COMS Eye Plaques, Poster presentation (SU-IGPD-T-26) at the 59th Annual meeting of the American Association of Physicists in Medicine (AAPM), Denver, Colorado, July 30-Aug 03, 2017, Medical Physics, Vol.44
3. K Harpool, H. Jin, E. Schnell, T. Herman, S. Ahmad and **T. Dela Fuente Herman**, Dosimetric Evaluation of Conventional Proton Plans Against IMRT and VMAT Photon Plans for Pancreatic Cancer, Poster presentation (SU-I-GPD-T-136) at the 59th Annual meeting of the American Association of Physicists in Medicine (AAPM), Denver, Colorado, July 30-Aug 03, 2017, Medical Physics, Vol. 44, No. 6
4. K. Harpool, E. Schnell, T. Herman, S. Ahmad and **T. De La Fuente Herman**, Dose calculation variations in AAA and Acuros-XB for pancreatic cancer treatment planning, Poster presentation (SU-I-GPD-T-427) at the 59th Annual meeting of the American Association of Physicists in Medicine (AAPM), Denver, Colorado, July 30-Aug 03, 2017, Medical Physics, Vol. 44, No. 6
5. K. Harpool, E. Schnell, S. Ahmad, **T. Herman and T. De La Fuente**, A Clinical Investigation to Determine the most Beneficial Radiation Therapy Technique for Pancreatic Cancer, Oral presentation by EK at the 42nd Annual Graduate Research Education and Technology (GREAT) Symposium, University of Oklahoma HSC, Oklahoma City, March 27-30, 2017, Abstract# 14, page 37; KH won GSA award; and a \$1,000 travel grant
6. K. Harpool, E. Schnell, T. Herman, S. Ahmad and **T. De La Fuente Herman**, A Trip to determine the Best Possible Radiation Therapy Treatment Technique for Pancreatic Cancer, Oral and Poster presentation by KH at the SWAAPM annual meeting held in Fort Worth, Texas, March 2017
7. C. Ferreira, E. Schnell, S. Ahmad and **T. De La Fuente Herman**, Investigation of Gafchromic EBT3 Film Energy Dependence Using Proton, Photon, and Electron Beams – General Poster at the 58th Annual meeting of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31 – August 4th, 2016.
8. C. Ferreira, M. Islam, S. Ahmad and **T De La Fuente Herman**, Clinical Implementation of Brachytherapy Planning System for COMS Eye Plaques – General Poster at the 58th Annual meeting of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31 – August 4th, 2016.
9. K Harpool, E Schnell, T Herman, S Ahmad, **T De La Fuente Herman**, Evaluation of Best Dosimetry Achievable with VMAT and IMRT Treatment Techniques Targeting Borderline Resectable Pancreatic Cancer – General Poster at the 58th Annual meeting of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31 – August 4th, 2016.
10. \*K Harpool, **T De La Fuente Herman**, S Ahmad, I Ali, Verification of dose distributions from high-dose-rate brachytherapy Ir-192 source using a multiple-array-diode-detector (MapCheck2) – SNAP Oral Presentation at the 58th Annual meeting of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31 – August 4th, 2016.
11. K Harpool, **T De La Fuente Herman**, S Ahmad, I Ali, Evaluation of the performance of a multiple-array-diode detector for quality assurance tests in high-dose-rate brachytherapy with Ir-192 source – General Poster at the 58th Annual meeting of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31 – August 4th, 2016.
12. E Schnell, C Ferreira, S Ahmad, **T De La Fuente Herman**, Verification of the accuracy of a relative stopping power (RSP) to Hounsfield unit (HU) calibration curve produced for proton treatment planning using EBT3-Gafchromic film dosimetry – General Poster at the 58th Annual meeting of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31 – August 4th, 2016.
13. \*Clara Ferreira, Chance Matthiesen, Brian Firestone, Salahuddin Ahmad and **Tania De La Fuente Herman**, Dosimetric Quality of Partially Loaded I-125 COMS Eye Plaques for Practical Placement on Posterior Tumors Oral Presentation at the XIV Mexican Symposium on Medical Physics, Mexico City, Mexico, March 18-21, 2016.
14. \*Erich Schnell, Salahuddin Ahmad, and **Tania de la Fuente Herman**, Commissioning of a Relative Stopping Power to Hounsfield Unit Calibration Curve for a Mevion Proton Radiation Treatment Unit, Oral Presentation at the XIV Mexican Symposium on Medical Physics, Mexico City, Mexico, March 18-21, 2016.
15. E. Schnell, S. Ahmad and **T. De La Fuente Herman**, Characterization and Validation of CT Simulator Hounsfield Units (HU) to Relative stopping Power (RSP) Values for Proton Treatment Planning, Poster presentation (SU-E-T-161) at the 57th Annual meeting of the American Association of Physicists in Medicine (AAPM), Anaheim, CA, July 12-16, 2015, Medical Physics, Vol.42, No. 6, June 2015, page 3368-3369.

16. C. Ferreira, S. Ahmad, B. Firestone, D. Johnson, C. Matthiesen and **T. De La Fuente Herman**, Quantification of Dosimetric Uncertainty of I-125 COMS Eye Plaque, Poster presentation (SU-E-T-652) at the 57th Annual meeting of the American Association of Physicists in Medicine (AAPM), Anaheim, CA, July 12-16, 2015, Medical Physics, Vol.42, No. 6, June 2015, page 3486.
17. J-M. Taguenang, **T. De La Fuente Herman**, S. Ahmad and I. Ali, Investigation of the Accuracy of Two-Dimensional Dose Distributions Measurement From High-Dose-Rate Brachytherapy Ir-192 Source Using Multiple-Diode-Array Detector (MapCheck2), Poster presentation (SU-E-T-223) at the 56th Annual meeting of the American Association of Physicists in Medicine (AAPM), Austin, Texas, July 20 -24, 2014, Medical Physics, Vol.41, No. 6, June 2014, page 274.
18. J. Taguenang, **T. De La Fuente Herman**, J. Young, S. Ahmad and I. Ali, Quantitative Evaluation of Dosimetric Accuracy of a Multiple-Diode-Array Detector (MapCHECK2) for High-Dose-Rate Ir-192 Brachytherapy, Poster presentation (JT received the third prize) at the Oklahoma State Radiological Society (OSRS) Annual Meeting, held in Oklahoma City, March 28-29, 2014.
19. E. Schnell, **T. De La Fuente Herman**, J. Young, K. Hildebrand, O. Algan, E. Syzek, T. Herman and S. Ahmad\*, Dosimetric Comparison of Volumetric Modulated Arc Therapy, Step-And-Shoot, and Sliding Window IMRT for Prostate Cancer, Poster presentation at the 55th Annual Meeting of the American Association of Physicists in Medicine (AAPM), Indiana, August 04 - 08, 2013, SU-E-T-616, Medical Physics, Vol. 40, No.6, June 2013, page 347.
20. J. Taguenang, **T. De La Fuente Herman**, J. Young, S. Ahmad and I. Ali, Quantitative Evaluation of Dosimetric Accuracy of a Multiple-Diode-Array Detector (MapCHECK2) for High-Dose-Rate Ir-192 Brachytherapy, Poster presentation at the 55th Annual Meeting of the American Association of Physicists in Medicine (AAPM), Indiana, August 04 - 08, 2013, SU-E-T-113, Medical Physics, Vol. 40, No.6, June 2013, page 229.
21. **T. De La Fuente Herman**, C. Matthiesen, H. Singh, C. Higby, H. Ortega, C. Bogardus, J. Thompson, T. Herman and S. Ahmad\*, Dosimetric Evaluation of Radiation Therapy Techniques for Early Stage Glottic Squamous Cell Carcinoma (SCC): Three Dimensional Conformal Radiation Therapy (3D CRT), Step-And-Shoot Intensity Modulated Radiation Therapy (IMRT) and Volumetric Modulated Arc Therapy (VMAT), Poster presentation at the 54th Annual Meeting of the American Association of Physicists in Medicine (AAPM), July 29- Aug 02, 2012, SU-E-T-31, Medical Physics, Vol. 39, No.6, June 2012, page 3709.
22. E. Schnell, **T. De La Fuente Herman**, O. Algan, L. Syzek, T. Herman, J. Young, K. Hildebrand and S. Ahmad, Dosimetric Comparison of Volumetric Modulated Arc Therapy (VMAT), Step and Shoot and Sliding Window IMRT for Prostate Cancer, Poster presentation at the 54th Annual Meeting of the American Association of Physicists in Medicine (AAPM), July 29- Aug 02, 2012, SU-E-T-577, Medical Physics, Vol. 39, No.6, June 2012
23. H. Singh, **T. De La Fuente Herman**, B. Showalter, S. Thompson, E. Syzek and S Ahmad, Dosimetric Evaluation of Plato and Oncentra TPS for HDR Brachytherapy Gynecological Treatments, Poster presentation at the Oklahoma State Radiological Society Annual Meeting, Oklahoma City, OK, March 24, 2012.
24. E. Schnell, **Tania De La Fuente Herman\***, J. Young, K. Hildebrand, O. Algan, E. J. Syzek, T. S. Herman and S. Ahmad, Dosimetric Comparison of Volumetric Modulated Arc Therapy (VMAT), Step and Shoot and Sliding Window IMRT for Prostate Cancer, Oral presentation at the XII Mexican Symposium on Medical Physics, Oaxaca, Mexico, March 16-19, 2012, American Institute of Physics, AIP Conf Proc. 1494, 23-26 (2012).
25. Hardev Singh, **Tania De La Fuente Herman**, Barry Showalter, Spencer Thompson, Elizabeth Syzek and Salahuddin Ahmad, Dosimetric Evaluation of PLATO and ONCENTRA Treatment Planning Systems for High Dose Rate (HDR) Brachytherapy Gynecological Treatments, Poster presentation at the XII Mexican Symposium on Medical Physics, Oaxaca, Mexico, March 16-18, 2012, Abstract Volume, Page 59.
26. **T. De La Fuente Herman\***, H. Ortega, S. Thompson, T. Herman and S. Ahmad, Delineation of Target Volume Based on FDG PET-CT Images and Its Effect on Tumor and Normal Tissue Doses, Oral presentation at the 53rd Annual Meeting of the American Association of Physicists in Medicine (AAPM) and 2011 Joint AAPM/COMP meeting, Vancouver, B. C., Canada July 31- Aug 04, 2011, SU-D-110-6.
27. **T. De La Fuente Herman**, K. Hibbitts, T. Herman and S. Ahmad, Evaluation of Pencil Beam Convolution and Anisotropic Analytical Algorithm in Stereotactic Lung Irradiation, Poster presentation at the 53rd Annual Meeting of the American Association of Physicists in Medicine (AAPM) and 2011 Joint AAPM/COMP meeting, Vancouver, B. C., Canada July 31- Aug 04, 2011, SU-E-Exhibit Hall-759T.
28. Heather Ortega, **Tania De La Fuente Herman\***, Spencer Thompson, Terence Herman and Salahuddin Ahmad, Utilization of FDG PET CT in target volume definition and its impact on tumor and normal tissue

dose variation. The 36th Annual Meeting of the American Association of Medical Dosimetrists (AAMD), St. Louis, June 12-16, 2011.

29. **De La Fuente Herman**, T. Herman, H. Gabrish, M. Vlachaki and S. Ahmad, Impact of Tissue Heterogeneity Corrections in Stereotactic Body Radiation Therapy Treatment Plans for Non-Small Cell Lung Cancer Patients, Poster presentation at the 51st Annual American Association of Physicists (AAPM) meeting, Anaheim, California, July 26- 30, 2009, Medical Physics, Vol. 36, No. 6, June 2009, p 2670.
30. **T. De La Fuente Herman**, T. Herman, K. Hibbitts, M. Vlachaki, J. Stoner and S. Ahmad, A Dosimetric Comparison as a Function of Respiration and Tumor Location in Stereotactic Body Radiation Therapy Treatment Plans for Patients with Non-Small Cell Lung Cancer, Presentation at the 51st Annual AAPM meeting, Anaheim, California, July 26- 30, 2009, Medical Physics, Vol. 36, No. 6, June 2009, p 2655.
31. Salahuddin Ahmad\*, **Tania De La Fuente Herman**, Kerry Hibbitts, Julie Stoner, Maria T. Vlachaki and Terence Herman, Radiobiologic Treatment Evaluation in Conventionally Fractionated and Stereotactic Body Radiation Therapy, Invited Presentation at the 34th Annual AAMD meeting, Scottsdale, Arizona, June 21-25, 2009, Abstract Book, page 89.
32. **Tania De La Fuente Herman\***, Terence Herman, Kerry Hibbitts, Maria Vlachaki, Julie Stoner and Salahuddin Ahmad, Radiobiologic Evaluations of Stereotactic Body Radiation Therapy (SBRT) Treatment Plans in Patients with Non-Small Cell Lung Cancer (NSCLC), Presented for the Young Investigator Competition at the 26th Annual meeting of the American College of Medical Physics (ACMP) held in Virginia Beach, VA from May 2-5, 2009. Journal of Applied Clinical Medical Physics Vol. 10 (3) (2009) 223-224
33. S. Ahmad\*, **T. De La Fuente Herman**, K. Hibbitts, J. Stoner, M.T. Vlachaki, Radiobiologic Treatment Plan Evaluation in Conventional and Stereotactic Body Radiation Therapy, Invited presentation at the International Conference on Medical Physics, Radiation Protection and Radiobiology ( ICMPPR2K9), Jaipur, India, 11-13 February, 2009 Abstract I-14.
34. S. Ahmad, **T. Perkins** and Maria T. Vlachaki, Impact of Respiratory Gating Using 4DCT on TCP, NTCP, TI, and UTCP in Patients with Thoracic Malignancies, Poster presentation at the 50th Annual American Association of Medical Physicists (AAPM) meeting in Houston, Texas, July 27-31, 2008, SU-GG-T-411, Medical Physics, Vol 35 No. 6 (208) p.2819.
35. H. Gabrish, **T. Perkins**, T. Herman, M. Vlachaki and S. Ahmad, Tissue Heterogeneity Corrections for Thoracic Malignancies: A Dosimetric Evaluation, Poster presentation at the 50th Annual American Association of Medical Physicists (AAPM) meeting in Houston, Texas, July 27-31, 2008, Session SU-GG-T-521, p.2844.
36. Heather Gabrish\*, **Tania Perkins**, Terence Herman, Maria T. Vlachaki and Salahuddin Ahmad, A Dosimetric Evaluation of heterogeneity Correction Algorithms for Thoracic Intensity Modulated Radiation Therapy ( IMRT), Oral presentation at the 33rd Annual AAMD meeting, Cleveland, Ohio, June 22-26, 2008, Abstract Volume Page 36.
37. **T. Perkins**, M. Vlachaki and S. Ahmad, Impact of Respiratory Gating Using 4DCT on Therapeutic Gain (TG) in Patients with Thoracic Malignancies, Poster discussion paper at the 25th Annual American College of Medical Physics (ACMP) meeting, Seattle, Washington, May 3-6, 2008.
38. **Tania Perkins**, Maria T. Vlachaki and Salahuddin Ahmad, Radiobiological Prediction of Tumor Control Probability (TCP), Normal Tissue Complication Probability (NTCP) and Therapeutic Gain (TG) for Dose Escalated treatment of High Grade Glioma (HGG) with IMRT and 3DCRT, Poster presentation at the 18th Annual American College of Radiation Oncology (ACRO) meeting in Miami, Florida, February 21-23, 2008.
39. Maria T. Vlachaki, Carlos Leite, **Tania Perkins** and Salahuddin Ahmad, Impact of Respiratory Gating Using 4-Dimensional Computed Tomography (4DCT) on the Dosimetry of Tumor and Normal Tissues in Patients with Thoracic Malignancies, Poster presentation at the 18th Annual American College of Radiation Oncology (ACRO) meeting in Miami, Florida, February 21-23, 2008.

## PRESENTATIONS

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### International

- International Day of Medical Physics: Better Medical Physics Equals Better Cancer Care in Radiation Oncology. Topic proposed by the International Organization of Medical Physics (IOMP) – Invited Talk. “The

Essential Role of Medical Physicists in Modern Days High-Tech Cancer Care". The National Institute of Neurology and Neurosurgery, México City. México. Sponsored by Mesa Directiva de la División de Física Médica-Sociedad Mexicana de Física and Coordinación de la RED Temática de Física Médica-CONACYT. November 7, 2015.

- XII Mexican Symposium on Medical Physics. "Dosimetric Comparison of Volumetric Modulated Arc Therapy (VMAT), Step and Shoot and Sliding Window IMRT for Prostate Cancer". Oaxaca, Mexico, March 16-19, 2012.
- 53rd Annual Meeting of the American Association of Physicists in Medicine (AAPM) and 2011 Joint AAPM/COMP meeting. "Delineation of Target Volume Based on FDG PET-CT Images and Its Effect on Tumor and Normal Tissue Doses". Vancouver, B. C., Canada July 31- Aug 04, 2011.

## National

- 36th Annual Meeting of the American Association of Medical Dosimetrists (AAMD). "Utilization of FDG PET CT in Target Volume Definition and its Impact on Tumor and Normal Tissue Dose Variation". St. Louis, June 12-16, 2011.
- 26th Annual meeting of the American College of Medical Physics (ACMP). "Radiobiologic Evaluations of Stereotactic Body Radiation Therapy (SBRT) Treatment Plans in Patients with Non-Small Cell Lung Cancer (NSCLC)". Virginia Beach, VA from May 2-5, 2009.

## ACADEMIC INVOLVEMENT

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### TEACHING:

#### **Didactic Activities in the Department of Radiological Sciences, University of Oklahoma HSC**

- **RADI 5824:** Production and Absorption of Ionizing Radiation- Graduate Core course (4 Credit hours). Teaching in collaboration with other faculty members Since 2011
- **RADI 6864:** Radiological Physics I (Therapy) - Graduate Core Course (4 Credit hours). Teaching in collaboration with other faculty members Since 2012
- **RADI 5102:** Radiation Protection and Shielding in Medical Installations - Graduate Core Course (2 Credit hours). Teaching in collaboration with other faculty members Since 2015
- **RADI 6960** – Directive Reading for Advanced Topics

#### **Didactic Activities in the Department of Radiation Oncology, University of Oklahoma HSC**

- **Radiation Oncology Residency:** Radiation Oncology Clinical Physics Lectures. Teaching collaboration with other faculty members

### MENTORING AND SUPERVISING:

#### **Graduate Supervisory Committee Membership**

Department of Radiological Sciences, The University of Oklahoma HSC, Oklahoma City

- Suresh Rana, Master of Science, (M.S.) Graduate of 2011
- Johnson Daniel, Doctor of Philosophy (Ph.D.) Graduate of 2013
- Any Lau, M.S., Doctor of Philosophy (Ph.D.) Graduate of 2014

#### **Graduate Student under my supervision**

Department of Radiological Sciences, The University of Oklahoma HSC, Oklahoma City

- Erich Schnell, Doctor of Philosophy (Ph.D.) Expected Graduate of 2018
- Kristyn Harpool, Master of Science, (M.S.) Expected Graduate of 2017
- Hardev Singh, Master of Science, (M.S.) Graduate of 2012

**CAMPEP Accredited Radiological Sciences Graduate Program Committees**

- Grievance Committee Member since 2011
- Recruiting & Promotion Committee Member since 2011
- Awards Committee Member since 2011, Chair 2013 - 2015

**CAMPEP Accredited Radiation Oncology Clinical Medical Physics Residency Program**

- New Resident Selection Committee Member since 2011
- Curriculum and Rotations Committee Chair 2011 -2014, Member 2014-2016
- Physics Resident Search Committee Chair 2012 - 2013, Co-Chair 2014-2016
- Physics Residency Rotation Supervision
  - Rotation 2: CT simulations, physics of treatment planning with dose calculation models, Varian Eclipse treatment planning for 3D CRT, IMRT, IMAT, and ARIA Record and Verification Since 2011
  - Rotation 4 : High Dose Rate (HDR) and Low Dose Rate (LDR) brachytherapy treatment planning, quality assurance and other supports Since 2011
- Physics Resident Mentorship
  - Ethan Kendall, M.S. 2017
  - Leland Muller, M.S. 2016
  - Sven Ferguson, M.S. 2016
  - Steven Schultz, M.S. 2015
  - M. Rafiq Islam, Ph.D. 2015
  - Andy Lau, Ph.D. 2014
  - Maria Clara Ferreira, Ph.D. 2014
  - Vance Keeling, M.S. 2013
  - Frederick Jesseph, M.S. 2012
  - Erich Schnell, M.S. 2011
  - Yida Hu, Ph.D. 2011

**DEPARTMENTAL TRAINING:**

Lecturer: Annual Radiation Safety Review Course 2011 - 2015

**PROFESSIONAL SERVICE**

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**Journal Reviewer**

The Journal of Applied Clinical Medical Physics (JACMP)

**Memberships**

American Association of Physicists in Medicine (AAPM) Since 2004  
 American College of Medical Physics (ACMP) 2008-2011  
 American Society for Therapeutic Radiology and Oncology (ASTRO) Since 2008

**CLINICAL SERVICE**

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**Brachytherapy**

- Low dose Rate (LDR with I-125) Eye Plaque Preparation, Treatment Planning, and Procedure – Primary Physicist
- High Dose Rate (HDR with Ir-192) for GYN (Cylinder, Tandem& Ring with /without interstitial needles, Capri, Interstitial), Lung, and Partial Breast Irradiation (PBI) (single or multi-catheter applicator)

### **Daily, Monthly and Annual Quality Assurance and Commissioning**

- Varian Linear Accelerators
- GE Light Speed and Discovery CT Simulators
- Nucletron/Elekta HDR Treatment Delivery Unit

### **Additional Clinical Involvement**

- External Beam Radiation Therapy (EBRT)
  - Intensity Modulated Radiation Therapy (IMRT) Treatment Delivery Verification
  - Intensity Modulated Arc Therapy (IMAT) Treatment Delivery Verification
  - Electron Cutout Calibrations
- Total Body Irradiation (TBI) Patient Measurements, Treatment Planning, and In-Vivo Measurement Verification
- Stereotactic Body Radiation Therapy (SBRT) and Stereotactic Radiation Surgery (SRS) Treatment Verification
- Prostate Seed Implant (PSI)
- Xofigo HDR (Tandem and Ovoids for Cervical Cancer Treatment, intra-op breast irradiation)
- Post-planning and Weekly Chart Check Reviews
- Varian Eclipse Treatment Planning
- Oncentra and NPS Brachytherapy Treatment Planning Systems
- Varian Eclipse Record & Verify

### **Veterans Administration Department of Radiation Oncology Contractor**

May 2012 - March 2017

- External Beam Radiation Therapy (EBRT)
  - Intensity Modulated Radiation Therapy (IMRT) Treatment Delivery Verification
  - Intensity Modulated Arc Therapy (IMAT) Treatment Delivery Verification
  - Dosimetric Plan Review
  - Patient's Initial Chart Check
  - End of Treatment Chart Review and Closeout
  - Electron Cutout Calibrations
- Monthly Quality Assurance (QA)
  - Monthly mechanical QA on a Trilogy Varian Linear Accelerator
  - Monthly mechanical and image quality QA on GE Discovery Computed Tomography (CT) unit