A. Education:

1. University of Oklahoma Health Sciences Center
   Department of Radiological Sciences
   Medical Radiological Physics Graduate Program
   Oklahoma City, Oklahoma
   M.S. in Radiological Science, Dec. 2006
   Ph. D in Radiological Science, July 2013

2. University of Nebraska at Lincoln
   Department of Physics and Astronomy
   Lincoln, Nebraska
   Ph.D. Candidate, Aug. 2001-Jan. 2003
   Graduate Student, Jan. 2003-Dec. 2004

3. Western Illinois University
   Department of Physics
   Macomb, Illinois
   B.S. in Physics, May 2001
   Graduated *Cum Laude, Honors Scholar in Physics*

B. Positions and Honors:

Professional Experience

12/2006 - present Medical Physicist,
Department of Radiation Oncology,
OUHSC, Oklahoma City, OK

Certification

American Board of Radiology (ABR) – Therapeutic Radiologic Physics, Year 2010

Professional Affiliations

2006-2010 American Association of Physicists in Medicine (AAPM)

Honors and Awards

1997 Physics Freshman Scholarship
1998 Outstanding Freshman Physics Major Award
1999 Outstanding Sophomore Physics Major Award
1999 Morrow Scholarship
2000 Member $\Sigma\Pi\Sigma$
2010 The Varian- Editor in Chief Award of Excellence for an Outstanding General Medical Physics Article in 2010

C. Peer Reviewed Journal Publications:

1. N. Arvindan, R. Madhusoodhanan, S. Ahmad, **D. Johnson**, T. Herman, Curcumin inhibits NFkB mediated radioprotection and module apoptosis related genes in human neuroblastoma cells, Cancer Biology and Therapy, 2008 Apr: 7(4): 569-576

2. S. Ahmad, **D. Johnson**, J.R. Hiatt, D. T. Still, E. E. Furhang, D. Marsden, F. Kearly, D. A. Bernard, R. W. Holt, Comparison of tumor and normal tissue dose for accelerated partial breast irradiation using an electronic brachytherapy eBx source and an Iridium-192 source, Journal of Applied Clinical Medical Physics, 2010 March: 11(4): 155-161

3. **D. Johnson**, S. Ahmad, Clinical implementation of an empirical method for electron output factor determination, Journal of X-ray Science and Technology, 2010 Aug: 18(3): 309-318

4. J. P. Warrington, A. Csiszar, **D. Johnson**, T. Herman, S. Ahmad, Y. W. Lee, W. E. Sonntag, Cerebral microvascular rarefaction induced by whole brain radiation is reversible by systemic hypoxia in mice, American Journal of Physiology - Heart and Circulatory Physiology, 2011 March: 300(3): 736-744

D. Abstracts

1. N. Arvindan, R. Madhusoodhanan, S. Ahmad, **D. Johnson**, T. Herman, Curcumin disrupts radiation induced positive feedback (NFkB-TNFa-NFkB) cycle and inhibits NFkB mediated radio-adaptation in neuroblastoma cells, Poster presentation at the 13thInternational Congress of Radiation Research, San Francisco, California, July 8-12, 2007, (PS1189) page 97

2. **D. Johnson**, S. Ahmad, Determination of Electron Output Factors Using An Empirical, Mathematical Model, Accepted for poster presentation at the 49th Annual Meeting of the American Association of Physicists in Medicine (AAPM), Minneapolis, Minnesota, July 22-26, 2007

3. **D. Johnson**, I. Rutel, S. Ahmad, Xoft Axxent Electronic Brachytherapy System: A Clinical Implimentation Experience, Accepted for poster presentation at the 50th Annual Meeting of the American Association of Physicists in Medicine (AAPM), Houston, Texas, July 27-31, 2008

4. R. Madhusoodhanan, T. Herman, A. Jamgade, N. Singh, S. Ahmad, **D.Johnson** and N. Aravindan, Differential expression of radiation induced genes in human neuroblastoma cells after single (10Gy) and fractionated (2Gy x 5) dose irradiation, Accepted for poster presentation at the 54th Annual meeting of the Radiation Research Society (RRS), Boston, September 21-24, 2008, PS3487, page 74

5. J. P. Warrington, **D. Johnson**, S. Ahmad, T. Herman, W. Sonntag, Whole Brain Irradiation leads to Recruitment of Endothelial precursor cells, Presented at the 34th Annual Graduate

Research Education and Technology Symposium, University of Oklahoma Health Sciences Center, March 31-April 1, 2009, Abstarct # 88

6. J. P. Warrington, Y. W. Lee, **D. Johnson**, S. Ahmad, T. S. Herman and W. E. Sonntag, Effects of whole brain irradiation on the number of circulating endothelial precursor cells, Accepted for poster presentation at the Annual meeting for the society of Neuroscience; NEUROSCIENCE - 2009, Chicago, October 17 - 21, 2009

7. **D. Johnson**, S. Ahmad, Comparison of Source Dwell Position Configuration in Single Catheter Balloon Partial Breast Brachytherapy, Accepted for poster presentation at the 27th Annual Meeting of the American College of Medical Physics (ACMP), San Antonio, Texas, May 22-25, 2010

8. S. Ahmad, **D. Johnson**, J. Hiatt, D. Still, E. Furhang, D. Marsden, F. Kearly, D. Bernard and R. Holt, Comparison of Tumor and Normal Tissue Dose for Accelerated Partial Breast Irradiation Using an Electronic Brachytherapy EBx Source and Iridium-192 Source, Accepted for poster presentation at the 52nd Annual Meeting of the American Association of Physicists in Medicine (AAPM), Philadelphia, Pennsylvania, July 18-22, 2010

9. J. P. Warrington, A. Csiszar, **D. Johnson**, T. S. Herman, S Ahmad, Y. W. Lee, W. E. Sonntag, Systemic hypoxia reverses whole brain radiation-induced microvascular rarefaction, poster presentation at the Experimental Biology 2011 meeting of the American Physiological Society, Washington, DC, April 9-13, 2011. The FASEB Journal, 2011 25:636.15

10. J. P. Warrington, A. Csiszar, **D. Johnson**, T. S. Herman, S Ahmad, Y. W. Lee, W. E. Sonntag, Systemic hypoxia reverses whole brain radiation-induced microvascular rarefaction, poster presentation at the Experimental Biology 2011 meeting of the American Physiological Society, Washington, DC, April 9-13, 2011. The FASEB Journal, 2011 25:636.15

11. **D. Johnson** and S. Ahmad, A GEANT4 Simulation of Light-Ion Beams in Water, 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-706, Medical Physics, Vol. 38, No.6, June 2011 page 3652

12. **D. Johnson,** Y. Chen and S. Ahmad*, Secondary Light-Ions in Carbon-Ion Therapy: A GEANT4 Simulation of LET and Dose Contributions, Poster presentation at the 54th Annual Meeting of the American Association of Physicists in Medicine (AAPM), July 29- Aug 02, 2012, SU-E-T-281, Medical Physics, Vol. 39, No.6, June 2012, page 3768

13. **D. Johnson,** Y. Chen, E. Schnell and S. Ahmad*, A Preliminary Monte Carlo Simulation Study of the TrueBeam Linear Accelerator, Poster presentation at the 54th Annual Meeting of the American Association of Physicists in Medicine (AAPM), July 29- Aug 02, 2012, SU-E-T-498, Medical Physics, Vol. 39, No.6, June 2012, page 3820

14. **D. Johnson,** Y. Chen, E. Schnell, S. Ahmad*, A Monte Carlo Simulation Study of Photon Beam with Energies 6X, 10X, 6FFF, 10FFF from a TrueBeam Linear Accelerator, Poster

presentation at the 55th Annual Meeting of the American Association of Physicists in Medicine (AAPM), Indiana, August 04 - 08, 2013, SU-E-T-257, Medical Physics, Vol. 40, No.6, June 2013, page 263

15. **D. Johnson,** Y. Chen and S. Ahmad*, A Monte Carlo Simulation Study for Production and Subsequent Interaction of Secondary Particles From Carbon-Ion Radiation Therapy in Water, Poster presentation at the 55th Annual Meeting of the American Association of Physicists in Medicine (AAPM), Indiana, August 04 - 08, 2013, SU-E-T-726, Medical Physics, Vol. 40, No.6, June 2013, page 373

E. **Thesis's**

1. "Temperature and well-width dependence of photoluminescence transitions in an AlGaAs/GaAs Multiple Quantum Well Sample", B.Sc., 2001
2. "Determination of clinical electron output factor using an empirical calculation method for Varian 21EX linear accelerator", M.S., 2006
3. "A Comparison and Evaluation of Emerging Technologies in Radiotherapy: Clinical and Simulated Investigations", Ph.D., 2013

F. Presentations in conferences

1. "Well-width and Temperature Dependence of Photoluminescence Energies in a Semiconductor Multiple Quantum Well Heterostructure", ISAAPT Meeting, Elsah, IL. 2001
2. "Varian TrueBeam Commissioning", SWAAPM Annual Meeting, Oklahoma City, OK 2012

G. Seminar Presentations

1. "LET and Dose distributions of Primary and Secondary Particles in Carbon Ion Radiotherapy: A GEANT4 Simulation Study", OUHSC, Dept. Radiological Science, Dec 2012
2. "The Varian TrueBeam Linear Accelerator: Flattening Filter Free Stereotactic Radiosurgery", OUHSC, Dept. Radiological Science, Sept 2011
3. "GEANT4 Simulations of Light Ion Radiotherapy: Particle Comparisons and Implications", OUHSC, Dept. Radiological Science, Nov. 2010
4. "Radioisotope Security and Control", OUHSC, Dept. Radiological Science, Oct 2009
5. "Single Catheter Accelerated Partial Breast Radiotherapy: Comparisons Between Electronic and Iridium Sources", OUHSC, Dept. Radiological Science, Nov. 2008
6. "Radiotherapy and Secondary Malignancies", OUHSC, Dept. Radiological Science, Dec 2007
7. "Electron Output Factor Determination: An Empirical Calculation Method", OUHSC, Dept. Radiological Science, Nov 2006

8. “IMRT: An Overview”, OUHSC, Dept. Radiological Science, Oct. 2005

H. Graduate Experience

- ***Oklahoma University Health Sciences Center***
  Department of Radiological Sciences
  - Research *Jan. 2008 – July 2013*
    - Dissertation: A Comparison and Evaluation of Emerging Technologies in Radiotherapy: Clinical and Simulated Investigations
      Advisor: S. Ahmad, Ph.D., DABR, FAAPM, FACMP
  - Research *May 2007 – Dec. 2007*
    - Development and calibration of linear accelerator based cellular irradiator
    - Development and calibration of rodent research irradiation method
  - Research *May 2005 – Dec. 2006*
    - Thesis: Clinical Electron Output Factor Determination Using an Empirical Calculation Method for Varian 2100 EX Linear Accelerators
      Advisor: S. Ahmad, Ph.D., DABR, FAAPM, FACMP
  - Graduate Assistantship *Aug. 2005 – Dec. 2006*
    - Medical physics clinical duties
      (As mentioned in the section: *Clinical Experience*)
  - Graduate Medical Physics Course work
    - Radiation Therapy Physics
    - Radiation Biology and Radiation Chemistry
    - Diagnostic Radiology Physics
    - Physics of Magnetic Resonance Imaging
    - Physics of Nuclear Medicine
    - Production and Absorption of Ionizing Radiation
    - Radiation Detection and Measurement

- ***University of Nebraska at Lincoln***
  Department of Physics and Astronomy
  - Teaching and Research Assistantships *Aug. 2001 – Aug. 2004*
    - Lab and Recitation instructor for *Elementary General Physics II*, *General Physics I* and *Elements of Physics*
    - Experimental Research in the following:
      - CrO_2 Magnetoresistance, electrostatic trapping of nano-colloidal gold, nanoscale point contacts fabrication via optical lithography, and laboratory equipment machining

I. Undergraduate Experience

- ***Western Illinois University***
  Department of Physics and Astronomy
  - Teaching & Research Assistantships *Aug 1998 – May 2001*

- Assistant Instructional Laboratory Manager, Teaching Assistant and Department Tutor
- Experimental Research in the following:
  - Spectroscopy laboratory creation and machining of equipment aiding for the completion of Honors Thesis: Temperature and well-width dependence of photoluminescence transitions in an AlGaAs/GaAs Multiple Quantum Well Sample