Jake (Jiankui) Yuan, Ph. D.
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Department of Radiation Oncology
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EDUCATION:

Degrees:

2001 Ph. D Nuclear Engineering
University of Wisconsin-Madison, Wisconsin
2001 M.S. Computer Science
University of Wisconsin-Madison, Wisconsin
1993 M.S. Physics
Institute of Applied Physics and Computational Mathematics
Beijing, China
1991 B.S. Mathematics
Huazhong Normal Univeristy, China

Certificates:

2010 – present The ABR Board Certified: Therapeutic Radiologic Physics
2009 Varian Eclipse Administration and Physics, Las Vegas, Nevada

EXPERIENCE:

2011-present ***Medical Physicist***
University Hospitals Case Medical Center, Seidman Cancer Center, Department of Radiation Oncology, Cleveland, Ohio
2010 – 2011 ***Medical Physicist***
Radiation Oncology Associates, Albuquerque, NM
2007 - 2010 M***edical Physicist***
Northeast Radiation Oncology Center, Mercy Hospital, Scranton, PA
2006 - 2007 ***Fellowship/Resident***
James Cancer Hospital, Department of Radiation Medicine, The Ohio State University, OH
2003 - 2006 ***Assistant Scientist***
Department of Nuclear Engineering,
University of Wisconsin – Madison, WI
2001 - 2003 ***Research Associate***
Fusion Technology Institute, University of Wisconsin – Madison, WI
1996 - 1998 ***Research Scientist***
Institute of Physics, Chinese Academy of Science (CAS), Beijing, China

TEACHING:

2011 – present University Hospitals, Department of Radiation Oncology
Medical Physics Course for Radiation Oncology Residents.

Research Grants:

2002-2003 "JATBASE opacity computing tool and atomic database development", contract with Sandia National Laboratories, G. A. Moses, ***J. Yuan, PI.***

5/13/2003 – 12/31/2003 "Modeling and Analysis of HENEX Backlighter Development Experiments", G. A. Moses***, Jiankui Yuan, Co-PI..***

2001-2006 **"**DRACO Radiation Hydrodynamics Computer Code Development", G. A. Moses, ***Jiankui Yuan, Co-PI.***

HONORS AND AWARDS:

Scientific and Technology Advancement Award by Ministry of Science and Technology (Second Place), People's Republic of China, "*Opacity study in hot dense plasmas"*

PROFESSIONAL SOCIETY:

2006 - present American Association of Physicists (AAPM)
2001 – 2006 American Physical Society (APS)

PUBLICATIONS:

1. **Jiankui. Yuan** and W. Chen, "A γ dose distribution evaluation technique using the kd-tree for nearest neighbor searching", *Medical Physics, Vol 37, 9, 4868(2010);*
2. David Jette, **Jiankui Yuan**, and Weimin Chen. "Oblique incidence for broad monoenergetic proton beams", *Med. Phys. Vol 37, 11, 5683 (2010);*
3. **Jiankui Yuan**, D. Jette and W. Chen, "Deterministic photon kerma distribution based on the Boltzmann equation for external beam radiation therapy", *Medical Physics, Vol 35. 9, 4079(2008);*
4. **JiankuiYuan**, J. Wang, S. Lo, J. C. Grecula, M Ammirati, J. F. Montebello, H. Zhang, N. Gupta, W. T. C. Yuh and N. Mayer, **"**Hypofractionation regimens for stereotactic radiotherapy of large brain tumors", *Int. J. Radiation Oncology Biol Phys*. Vol. 72, 2, 392 (2008);
5. H. Zhang, J. Wang, N. Mayer, X. Kong, **Jiankui Yuan**, N. Gupta, S. Lo, J. Grecula, J. Montebello, D. Martin and W. Yuh, "Fractionated Grid Therapy in Treating Cervical Cancers: Conventional Fractionation or Hypofractionation?", *Int. J. Radiation Oncology Biol. Phys*. Vol. 70, 1, 280 (2008);
6. **Jiankui Yuan**, N. Mayer, J. Wang, H. Zhang, D. Martin and W. Yuh, "Effect of Tumor Motion on the Pixel-Based Analysis of DCE-MRI Data for Cervical Cancer", *Medical Physics*, Vol. 34, 2357(2007)
7. **Jiankui Yuan**, G. A. Moses and P. W. McKenty, "Monte Carlo charged particle tracking and energy deposition on a Lagrangian mesh", Phys. Rev. E, 72(4) 046706 (2005)
8. **Jiankui Yuan**, G.A. Moses, **"**YAC: A code using the detailed term accounting model for all-Z elements", Accepted by Journal of Quant. Spect. & Rad. Trans. (2005)
9. **Jiankui Yuan**, D.A. Haynes, R.R. Peterson and G. A. Moses, "Flexible Database-driven Opacity and Spectrum Calculations", Journal of Quant. Spect. & Rad. Trans, 81, 513-520(2003)
10. **Jiankui Yuan**, G. Rochau and G.A. Moses, "A Graphical Tool for Computing Opacities for ICF Applications", International Journal of Modeling and Simulation, Vol. 23, No. 4, 218, (2003)
11. Y.Z. Qu, J.G. Wang, **Jiankui Yuan**, J.M. Li, "Relativistic Dielectronic Recombination

Process", Phys Rev A 57, 1033(1998)
12. **Jiankui Yuan**, Y.S. Sun and S.T. Zheng, "Calculation of the Electrical Conductivity of Strongly Coupled Plasma", Phys. Rev. E, Vol.53, 1059(1996).
13. **Jiankui Yuan**, Y.S. Sun and S.T. Zheng, "Inelastic Electron-ion Scattering in Hot Plasmas", Journal of Physics B: Vol.29, 153(1996).
14. **Jiankui Yuan**, Y.S. Sun and S.T. Zheng, "Differential Cross Sections for the Elastic Scattering of Electrons", Journal of Physics B: Vol.28, 457(1995).
15. Y.S. Sun, **Jiankui Yuan** and S.T. Zheng, "Radiative Opacity For High Z elements", Chinese Journal of Computational Physics, Vol. 14, No. 6,767 (1997).
16. **Jiankui Yuan**, Y.S. Sun and S.T. Zheng, "Study of the electrical conductivity for hot dense plasmas", High Power Laser and Particle Beams, Vol.8, No.2,227(1996).
17. **Jiankui Yuan**, Y.S. Sun and S.T. Zheng, "Average Atom Model in Hot Plasmas", Journal of Atomic and Molecular Physics Vol.12,1118(1995).
18. Y.S. Sun, **Jiankui Yuan** and S.T. Zheng, "Bremsstrahlung Gaunt Factor using Partial Wave Method" , Journal of Computational Physics, Vol.12, 179 (1995).
19. Y.B.Qiu, **s**, "Charge Exchange and Ionization in A(Z+) – H (1s) Collisions", Journal of Atomic and Molecular Physics Vol.10, No.4(1993).

ABSTRACTS:

1. **Jiankui Yuan**, A toolkit for Automatic 2D/3D Medical Image Registrartion Using Graphic Processor Units, AAPM *abstract* 2011;
2. **Jiankui. Yuan** and W. Chen, "Implementation and evaluation of GPU-based digitally reconstructed radiograph algorithms for radiation therapy, AAPM *abstract* (2010);