STEVEN WANG, PhD. DABR. RSO
Curriculum Vitae

Name and Contact: Steven J. Wang, Ph.D., DABR, RSO
Chief Medical Physicist and Radiation Safety Officer
UPMC Hillman Cancer Center at Erie
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Education and Training:

2003-2005	Medical Physics Residency: The University of Chicago Medical Center Department of Radiation and Cellular Oncology (CAMPEP/AAPM Accreditation)
2001-2003	Post-Doc/Research assistant: Department of Radiation Oncology, The University of Chicago
1997-2001	Ph.D.: Nuclear Engineering with Radiological Engineering and Biophysics University of Illinois at Urbana-Champaign
1988-1991	M.S.: Radiochemistry Institute of High Energy and Physics (IHEP), Chinese Academy of Science, Beijing, China
1984-1988	B.Sc.: Nuclear Science Fudan University, Shanghai, China

Employment History:

2020-current	Chief Medical Physicist and Radiation Safety Officer, UPMC Hillman Cancer Center at Erie, Erie, PA
2017-2019	Radiation Safety Officer, Southern Illinois University School of Medicine (SIU Med), Springfield, IL
2014-2020	Senior Medical Physicist, Memorial Medical Center, Springfield, IL
2007-2014	Chief Medical Physicist/Director of Medical Physics/RSO, Cancer Institute, St. John's Hospital, Springfield, IL
2005-2007	Associates / Staff Medical Physicist, Arete Medical Physics Consulting, Main coverage hospital: Regional Cancer Care Center, Provena Saint Joseph Hospital, Elgin, IL; other hospitals covered in Chicago, Indiana, California and Michigan
2003-2005	Medical Physics resident, Department of Radiation Oncology, The University of Chicago Cancer Center. Rotation at: LaGrange Memorial Hospital, Lagrange, IL University of Illinois at Chicago Health Center, Chicago, IL
2001-2003	Post-Doc/Research assistant, Department of Radiation Oncology, The University of Chicago, IL
1999-2001	Graduate Teaching Certificate, University of Illinois at Urbana-Champaign.
1997-2001	Research and Teaching assistant, University of Illinois at Urbana-Champaign.

Clinical Experience, Systems and Equipment Proficiencies:

Management:

- Chief of Medical Physics: 2020 to current: UPMC Hillman Cancer Center @ Erie
- Director of Radiation Physics, 2007-2014 HSHS St. John's Hospital
- Chief Medical Physicist: 2007-2014 HSHS St. John's Hospital
- Senior Medical Physicist / Radiation Therapy: 2014-2020 Memorial Cancer Center
- Annual Budget: Capital and Operational:2007-
- Radiation Safety Officer: Comprehensive Healthcare Center; Research/Teaching University Medical School 2007: HSHS St. John's Hospital, 2017: Southern Illinois University School of Medicine

External Beam Treatment Planning:

- RapidArc 2007-, IMRT, Eclipse 2003; CMS-XiO 2005; CORVUS Nomos 2003; SmartArc 2007-, Pinnacle P3 RTP 2007-
- 3D conformal, PLUNC: 2003-2005
- SRS/SRT treatment planning and QA, XKnife Radionics 2003-2005 U. Chicago, BrainLab mMLC/cone 2005- Arete Medical Physicist; HSHS St. John's Hospital; Memorial Medical Center.
- TBI (Total body irradiation), TSE (Total skin electron therapy) 2003- U. Of Chicago Medical Center
- Superficial treatment unit, Therapax 3, 2003
- MUCheck 2007-St. John's Hospital; RadCal 2003-current UPMC Hillman Cancer Center @ Erie; IMSure 2014-2018 Memorial Medical Center; Mobius 3D 2019-2020 Memorial Medical Center:

Brachytherapy:

- Prostate implant, ^{125}I, VariSeed 2003-2020 U Chicago; HSHS St. John's Hospital; Memorial Medical Center, 2003-2005 In-house software at UChicago Hospital,
- LDR, Intracavitary GYN, ^{137}Cs; Rectal and GYN ^{192}Ir ribbon implant 2003-2005 U. Chicago
- I-125 Lung seeds implant 2007-2020 HSHS St. John's Hospital, Memorial Medical Center
- HDR treatment planning, QA and delivery, Oncentra 2007-2020 HSHS St. John's Hospital, Memorial Medical Center
- VariSource 2003-2005 U. Chicago Medical Center; MammoSite/and GYN Nucletron microSelectron HSHS St. John's Hospital, Memorial Medical Center
- Ophthalmic plaque: 2003-2005 U. Chicago Medical Center
- IVBT, Novoste Beta-Cath 2007-2009 HSHS St. John's Hospital;
- Guidant GALILEO 2003-2005 U. Chicago Medical Center

Machine QA**:**

- Linear Accelerator commission: Varian TrueBeam 2017 Memorial Medical Center, Varian Trilogy 2007 HSHS St. John's Hospital, Varian iX 2006 Arete Medical Physicist, Elekta Infinity 2009 WW Medical Physics Consulting
- Output calibration, TG-51 & TG-21 for Varian TrueBeam 2014-2020 /Trilogy 2005-2020 /Clinic 2100 EX 2003- / Clinic 2100 CD 2003-; Annual/Monthly All Sites
- Mechanical/Dosimetry, TG-142, TG-40, annual/monthly All machine types All Sites

- IMRT QA, RapidArc and SmartArc QA 2007-2020, phantom and film analysis, ion chamber measurements, All Sites
- CT sim QA, annual/monthly
- EPID 2003, CBCT 2003-
- Ultrasound localization: BAT 2003-, SonArry 2005-
- MLC 2003-
- Other treatment machine: Tomotherapy 2006, CyberKnife 2006
- RSO duty: Comprehensive and Site specific, State and Federal regulations 2007-

Teaching Experience:

- Adjunct Instructor for medical residents in Radiology Department, SIU (Southern Illinois University) Medical School 2007-
- Lecturer on topics in Radiology and Radiation Therapy as part of requirement in Residency training 2003-2005
- Teaching for dosimetry and therapy students 2007-
- Mentor for Junior medical physicist 2007-

Professional Membership:

- AAPM (The American Association of Physicists in Medicine) Full member: Active
- AAPM Chapter member: Midwest, Active
- Board Member: State of Illinois: Radiologic Technologist Accreditation Advisory Board (RTAAB)

Certification and license status:

- ABR (American Board of Radiology) Certification: P4357; Status: Active
- AAPM (American Association of Physicists in Medicine) ID: 27723, Status: Active
- State of Illinois Therapeutic Radiological Physicist identification number:1167 Status: Active
- State of Illinois: Authorized Medical Physicist: Material, HDR, IVB Status: Active
- State of Illinois: Radiation Safety Officer for St. John's Hospital; SIU Medical School
- AAPM/CAMPEP accredited Residency program in Radiation Oncology Physics

Publications and Selected Work:

1. Tanvir Baig, Christian Langmack, **Steven Wang**, Saiful Huq, Naveed Islam "Infection Control FEMA for HDR Brachytherapy Workflow" AAPM 65th Annual Meeting & Exhibition ePoster 2023
2. N. Islam, S. Wadi-Ramahi, R. Lalonde, T. Baig, M. diMayorca, **S. Wang**, D. Clump, M.S. Huq "Balancing Infectious Disease Control and Radiotherapy Risk Management using a Novel Analytic Approach" ASTRO 64th Annual Meeting ePoster 2022
3. S Gill, R Wynn, M Huq, **S Wang "**Effect of Gantry angle on Portal Dosimetry vs Ion Chamber array dosimetry of Linac based IMRT QA" PO-GePV-P-48 AAPM ePoster 2021

4. S Gill1, R Wynn, M Huq, **S Wang "**Clinical Evaluation of Portal Dosimetry Ion Chamber Array and Mobius 3D for FiF Breast IMRT QA" PO-GePV-P-47 AAPM ePoster 2021
5. Eric Taylor, Brandan Kramer, Thomas Frye, **Steve Wang**, Bradley Schwartz, Tobias Köhler "Ocular Radiation Exposure in Modern Urological Practice" The Journal of Urology, July 2013 Volume 190, Issue 1, Pages 139-143.
6. Media Release: First RapidArc within MOSAIQ environment, Google, Yahoo or Bing search: "**Steven Wang**" + "RapidArc"
7. Invited Speaker: Experience Safety: A Customer Account; Elekta (MOSAIQ) Radiation Oncology Users Meeting, **ASTRO Annual Meeting** 2010 via Skype
8. X Kong, P Meek, B Shevlin, and **S Wang "**First RapidArc Treatment Within the MOSAIQ Environment: Implementation, Procedure Time Frame and Clinic Flow" Med. Phys. Volume 36, Issue 6, pp. 2680-2680 (June 2009) SU-FF-T-676 51st AAPM annual meeting
9. X Kong and **S Wang** "Clinical Implementation of the First RapidArc Treatment Within MOSAIQ Environment: Dosimetric Validation and QA Considerations" Med. Phys. Volume 36, Issue 6, pp. 2573-2573 (June 2009) SU-FF-T-230 51st AAPM annual meeting
10. Chapter 18.9: Impact of prolonged treatment times: emerging technology. By SJ Chmura, KF Farrey, **S Wang**, MC Garofalo, JC Roeske, "Intensity Modulated Radiation Therapy-A Clinic Perspective" AJ Mundt, JC Roeske, 2005 BC Decker Inc.
11. Aydogan B, Mundt AJ, Smith BD, Mell LK, **Wang S**, Sutton H, Roeske JC." A dosimetric analysis of intensity-modulated radiation therapy (IMRT) as an alternative to adjuvant high-dose-rate (HDR) brachytherapy in early endometrial cancer patients." Int J Radiat Oncol Biol Phys. 2006 May 1;65(1):266-73.
12. Altman MB, **Wang SJ**, Whitlock JL, Roeske JC." Cell detection in phase-contrast images used for alpha-particle track-etch dosimetry: a semi-automated approach." Phys Med Biol. 2005 Jan 21;50(2):305-18.
13. Stinchcomb TG, **Wang SJ**, Roeske JC. "Simulation of binary methods for the microdosimetric analysis of cell survival after alpha-particle irradiation: ability to distinguish between different models." Radiat Res. 2004 Nov;162(5):585-91.
14. **Steven J. Wang**, Martin Brechbiel, Erik C. Wiener "Characteristics of a New MRI Contrast Agent Prepared from PolyPropyleneImine Dendrimers, Generation 2" Invest Radiol. 2003 Oct;38(10):662-8.
15. Wiener EC, Konda SD, **Wang S**, Brechbiel M. "Imaging folate binding protein expression with MRI." Acad Radiol. 2002 Aug;9 Suppl 2:S316-9.
16. Konda SD, **Wang S**, Brechbiel M, Wiener EC." Biodistribution of a 153 Gd-folate dendrimer, generation = 4, in mice with folate-receptor positive and negative ovarian tumor xenografts." Invest Radiol. 2002 Apr;37(4):199-204.
17. **Steven J. Wang**, Jenny L. Whitlock, Christina Soyland, Sindre P. Hassfjell, Thomas G. Stinchcomb, Jacob Rotmensch, Richard C. Reba, and John C. Roeske "Characterization of an Alpha-particle irradiator for individual cell dosimetry measurements" Cancer Biotherapy and Radiopharmaceuticals, 2003; 18(3): 437-444
18. Roeske JC, Soyland C, **Wang SJ**, Stinchcomb TG, Hassfjell SP, Whitlock JL, Reba RC, Rotmensch J." Image processing tools for alpha-particle track-etch dosimetry." Cancer Biother Radiopharm. 2003 Jun;18(3):425-30.
19. **Steven J. Wang**, et al. "An analysis of single cell dosimetry and response following alpha-particle irradiation" oral presentation, 44th American association of physicists in medicine annual meeting, July 14-18, 2002, Montreal, Quebec, Canada

20. **Steven Wang**, et al. “Characterization of an experimental system for individual cell measurements of ovarian cancer cells irradiated by alpha particles” oral presentation, 7th International Radiopharmaceutical Dosimetry Symposium, April 17-19, 2002 , Nashville, TN.
21. **Jianxin Wang**, Chifang Chai, etc. “The abundance of Os and it’s relation to that of Ir in some geological boundary samples” Chinese Science Bulletin 37(23) 1992, (Eng.) C.A. V.119.N14 1433145.
22. **Jianxin Wang**, Chifang Chai “A Radiochemical Neutron Activation Analysis method of Os and Ru in geological and environmental samples” J. Nuclear & Radiochemistry, Vol. 14, No. 4. Nov.,1992. C.A. V.120. 234935g.