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CURRICULUM VITAE

Kristofer Kainz PhD

Associate Professor
Department of Radiation Oncology

OFFICE ADDRESS:

Froedtert Specialty Clinics
9200 W Wisconsin Ave
Milwaukee, WI 53226

EDUCATION:

08/1990 - 05/1994 B.A., Hamline University, St. Paul, MN
08/1994 - 05/1998 M.A., Rice University, Houston, TX
05/1998 - 01/2002 Ph.D., Rice University, Houston, TX

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

05/1993 - 05/1994 Research Assistant, Department of Physics, Hamline University, St. Paul, MN
06/1995 - 10/2001 Research Assistant, Ph.D. and M.A. Thesis Research, Department of Physics and Astronomy, Rice University, Houston, TX
03/2002 - 05/2004 Postdoctoral Fellowship, Radiation Physics, The University of Texas M. D. Anderson Cancer Center, Houston, TX
07/2004 - 12/2005 Resident, Department of Radiation Physics, The University of Texas M. D. Anderson Cancer Center, Houston, TX

FACULTY APPOINTMENTS:

01/2006 - 07/2007 Instructor, Department of Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI
07/2007 - 06/2015 Assistant Professor, Department of Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI
07/01/2015 - Present Associate Professor, Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI

EDUCATIONAL ADMINISTRATIVE APPOINTMENTS:

10/2009 - 10/2014 Associate Program Director, Medical Physics Residency Program, Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI
07/2013 - Present Program Director, Medical Physics Certificate Program, Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI
10/2014 - Present Prorgram Director, Medical Physics Residency Program, Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI

HOSPITAL STAFF PRIVILEGES:

01/2006 - Present Froedtert Hospital, Milwaukee, WI
01/2006 - 06/2012 United Hospital Systems, Incorporated, Pleasant Prairie, WI
01/2006 - Present Froedtert Hospital, Menomonee Falls, Menomonee Falls, WI
2012 - Present Froedtert Hospital, West Bend, West Bend, WI

SPECIALTY BOARDS AND CERTIFICATION:

Board Certified	Issue Date	Expiration
American Board of Radiology,	06/2007	None

Therapeutic Radiologic
Physics

AWARDS AND HONORS:

1990 - 1994 Achievement Scholarship, Hamline University
1990 - 1998 Marshall H. and Nellie Alworth Memorial Scholarship, for undergraduate and graduate studies in natural science
1991 Hamline University Freshman Physics Award
1992 - 1994 Lindgren Scholarship, Hamline University for high achievement in mathematics studies at Hamline University
1992 - 1994 Robert Morris Page Scholarship, Hamline University for high achievement in physics studies at Hamline University
1994 Phi Beta Kappa, Zeta Chapter, Hamline University
2005 Farrington Daniels Award, for the best paper on radiation dosimetry published in Medical Physics in 2004

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

2000 - Present American Physical Society
2003 - Present American Association of Physicists in Medicine
2006 - Present American Society for Radiation Oncology
2013 - Present Society of Directors of Academic Medical Physics Programs

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Journal Review
Medical Physics
Physics in Medicine and Biology
International Journal of Radiation Oncology*Biology*Physics
Medical Dosimetry
Journal of Applied Clinical Medical Physics
Plasma Physics and Controlled Fusion
Practical Radiation Oncology
Radiotherapy and Oncology

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2012 - Present Item Writer and Item Reviewer, Maintenance of Certification (MOC) Exam Development Committee -Therapeutic Radiological Physics, American Board of Radiology (ABR)
2021 - Present Member, Radiation Oncology Medical Physics Education Subcommittee, American Association of Physicists in Medicine (AAPM)

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

Local

Kainz K, Ks Measurement in the E896 DDC, E896 Collaboration Meeting, Lawrence Berkeley National Laboratory, Berkeley, CA, 09/29/1995
Kainz K, Ks Reconstruction using Time of Flight, E896 Collaboration Meeting, University of Texas-Austin, Austin, TX, 02/08/1996
Kainz K, ECD Analysis Status, E896 Collaboration Meeting, Brookhaven National Laboratory, Upton, NY, 07/18/1997
Kainz K, TOF Analysis Software Status, E896 Collaboration Meeting, Brookhaven National Laboratory, Upton, NY, 08/02/1998
Kainz K, TOF Analysis Progress, E896 Collaboration Meeting, Lawrence Berkeley National Laboratory, Berkeley, CA, 11/21/1998
Kainz K, TOF Analysis Progress, E896 Collaboration Meeting, University of California-Los Angeles, Los Angeles, CA, 03/12/1999
Kainz K, TOF Analysis Progress, E896 Collaboration Meeting, Brookhaven National Laboratory, Upton, NY, 07/23/1999
Kainz K, TOF Analysis Progress, E896 Collaboration Meeting, Brookhaven National Laboratory, Upton, NY,

03/24/2000

Kainz K, TOF Analysis Progress, E896 Collaboration Meeting, Brookhaven National Laboratory, Upton, NY, 12/09/2000

Kainz K, Laser Acceleration of Electrons and Prospects for Radiotherapy Applications, Medical Physics Seminar, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 01/21/2003

Kainz K, Variation of lung DVH during respiration, Radiation Oncology Research Conference, Medical College of Wisconsin, Milwaukee, WI, 05/31/2006

Kainz K, Investigation of helical tomotherapy for breast irradiation, Radiation Oncology Research Conference, Medical College of Wisconsin, Milwaukee, WI, 02/28/2007

Kainz K, Image-guided helical tomotherapy for advanced-stage skin cancer, Radiation Oncology Research Conference, Medical College of Wisconsin, Milwaukee, WI, 10/28/2009

Kainz K, Rotational IMRT: a planning and delivery study, Radiation Oncology Research Conference, Medical College of Wisconsin, Milwaukee, WI, 03/30/2011

Kainz K, Plan quality of proton versus photon IG-IMRT, Radiation Oncology Research Conference, Medical College of Wisconsin, Milwaukee, WI, 11/18/2012

Kainz K, A dose tracking tool for adaptive re-planning and QA during tomotherapy delivery, Radiation Oncology Research Conference, Medical College of Wisconsin, Milwaukee, WI, 03/29/2017

Regional

Kainz K, Laser Acceleration of Charged Particles for Medical Application, Southwest Chapter of the American Association of Physicists in Medicine Fall Meeting, Austin, TX, 11/01/2002

Kainz K, Dependence of total-lung DVH upon respiratory phase-specific lung volume, North Central Chapter of the American Association of Physicists in Medicine Fall Meeting, Pewaukee, WI, 10/13/2006

National

Kainz K, Dosimetric Capabilities of Therapeutic Electron and X-ray Beams from LWFA, Application of Laser Particle Accelerators to Radiology Workshop, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 02/13/2004

Kainz K, Investigation of helical tomotherapy for prone breast irradiation, Radiation Oncology Physics Seminar, Mary Bird Perkins Cancer Center, Baton Rouge, LA, 04/26/2007

PEER REVIEWED WORKSHOPS/PRESENTATIONS:

National

Kainz K for the E896 Collaboration, Time-of-Flight Analyses of 11.5 GeV/c/N Au+Au collisions in BNL-AGS Experiment 896, April Meeting of the American Physical Society, Washington, D.C., 04/28/2001

Kainz K, Hogstrom K, Almond P, Antolak J, Bloch C, Chiu C, Fomytskyi M, Raischel F, Downer M, Dose Properties of Electron Beams from a Laser Wakefield Accelerator, American Association of Physicists in Medicine, San Diego, California, 08/10/2003 - 08/14/2003

Kainz K, Hogstrom K, Almond P, Antolak J, Bloch C, Design of Scattering Foils for Laser-Accelerated Electron Beams, American Association of Physicists in Medicine, San Diego, California, 08/10/2003 - 08/14/2003

Kainz K, Beddar A, Briere T, Tsunashima Y, Pan T, Prado K, Crane C, Mohan R, Gillin M, Krishnan S, Correlation Between External Abdominal and Internal Liver Fiducial Motion in 4D-CT, American Association of Physicists in Medicine, Orlando, Florida, 07/30/2006 - 08/03/2006

Jursinic P, Kainz K, Ahunbay E, Albano K, Use Of A 2D Array Of Diodes To Test The Accuracy Of MLC Leaf Position And Gap Width, American Association of Physicists in Medicine, Orlando, Florida, 07/30/2006 - 08/03/2006

Kainz K, Liu H, Balter P, Tutt T, Hunjan S, Prado K, Liao Z., Feasibility of a Feedback-Guided Breath-Hold Technique for Thoracic Radiation Therapy, American Association of Physicists in Medicine, Orlando, Florida, 07/30/2006 - 08/03/2006

Kainz K, Stepaniak C, Gore E, Li XA, Variation of Lung DVH During Respiration, American Society for Therapeutic Radiation Oncology, Philadelphia, Pennsylvania, 11/05/2006 - 11/09/2006

Qi SX, Kainz K, Brammer B, Olivera G, Ruchala K, Schultz C, Wilson JF, Ranking Complex IMRT Plans Using an EUD-Based Figure-of-Merit Index, American Society for Therapeutic Radiation Oncology, Philadelphia, Pennsylvania, 11/05/2006 - 11/09/2006

Kainz K, White J, Herman J, England M, Li XA, Exploring helical tomotherapy for simultaneously

irradiating breast and regional nodes in the prone position, 29th Annual San Antonio Breast Cancer Symposium, San Antonio, Texas, 12/14/2006 - 12/17/2006

Peng C, Kainz K, Lawton C, Li XA, A Comparison of Daily Megavoltage CT and Ultrasound Imaging Guided Radiation Therapy for Prostate Cancer, American Association of Physicists in Medicine, Minneapolis, Minnesota, 07/22/2007 - 07/26/2007

Kainz K, Wilson JF, Schultz C, Jursinic P, X. Li XA, Image-Guided Helical Tomotherapy to Treat Advanced Cancers of the Scalp: Prospects for Dose Conformity and Clinical Outcome, American Association of Physicists in Medicine, Minneapolis, Minnesota, 07/24/2007

Kainz, K, Simultaneous Irradiation of Prone Breast and Regional Lymph Nodes Using Helical Tomotherapy., American Association of Physicists in Medicine, Minneapolis, MN, 07/25/2007 - 07/24/2007

Peng C, Kainz K, Lawton C, Li XA, CT Versus Ultrasound Image Guided Prostate Cancer Radiotherapy: Dosimetric Impacts, American Society for Therapeutic Radiation Oncology, Los Angeles, California, 10/28/2007 - 11/01/2007

Kainz K, White J, Herman J, Li XA, Investigation of Helical Tomotherapy for Partial-Breast Irradiation of Prone-Positioned Patients, American Society for Therapeutic Radiation Oncology, Los Angeles, California, 10/28/2007 - 11/01/2007

Kainz K, MVCT-Guided Partial-Breast Irradiation in Prone Position: Daily Setup Uncertainty and Dose Verification", American Association of Physicists in Medicine, Houston, TX, 07/29/2008

Qi S, Semenenko V, Kainz K, Li XA, Improved Critical Structure Sparing with Biologically-Based Treatment Planning Systems, American Association of Physicists in Medicine, Houston, Texas, 07/29/2008

Faught SR, Firat SY, Lawton CA, Kainz K, A Dosimetric Comparison of Conventional Radiotherapy and Helical Tomotherapy (HT) for Total Body Irradiation (TBI), American Society for Therapeutic Radiation Oncology, Boston, Massachusetts, 09/21/2008 - 09/25/2008

Kainz K, Firat S, Li XA, Organ Growth modeling for radiation treatment planning of pediatric patients, American Society for Therapeutic Radiation Oncology, Boston, Massachusetts, 09/21/2008 - 09/25/2008

Hu B, Kainz K, Rooney J, Li XA, Can Lung Dose-Volume Criteria Derived From 3D Era Be Safely Used for 4D Planning?, American Association of Physicists in Medicine, Anaheim, California, 07/28/2009

Kainz K, White J, Chen G Li XA, Dosimetric Comparison of Helical Tomotherapy with Conventional Techniques for Simultaneous Irradiation of Prone Breast and Regional Lymph Nodes, American Association of Physicists in Medicine, Anaheim, California, 07/28/2009

Kainz K, Firat S, Moulder J, Kalakota K, Bagley J, Li, XA, Correlations of Organ Growth with Age, Body Mass and Height for Pediatric Radiotherapy Treatment Planning, American Association of Physicists in Medicine, Anaheim, California, 07/28/2009

Prah D, Kainz K, Peng C, Li XA, Dosimetric and Delivery Advantages of a New 160-Leaf MLC, American Association of Physicists in Medicine, Anaheim, California, 07/28/2009

Kainz K, Wilson JF, Schultz C, Hu B, Bagley J, Li XA, Image-guided IMRT for Advanced-stage Skin Cancer Patients: Margin Reduction and Clinical Outcome, American Society for Radiation Oncology, Chicago, Illinois, 11/01/2009 - 11/05/2009

Kainz K, Morrow N, Erickson BA, Li XA, Organ-specific Margins to Account for Relative Organ Displacements in Abdomen and Pelvis for Soft-tissue Based IGRT, American Society for Radiation Oncology, San Diego, California, 10/31/2010 - 11/01/2010

Kainz, Wilson JF, Schultz C, Hu B, Bagley J, Wang D, Erickson B Li XA, Initial Experience with Using Image-Guided Helical Tomotherapy to Treat Cancers of the Scalp, American Radium Society, Palm Beach, Florida, 05/02/2011

Kainz K, Firat S, Wilson JF, Li XA, Optimal proton beam energy to treat adult CNS, adult head and neck, and pediatric cancers, American Association of Medical Physicists, Charlotte, NC, 07/29/2012 - 08/02/2012

Kainz K, Firat S, Schultz C, Wilson JF, Li XA, Plan quality of proton vs. photon IG-IMRT, American Society of Radiation Oncology, Boston, MA, 10/28/2012 - 10/31/2012

Dalah E, Liu F, Paulson E, Kainz K, Hellman R, Erickson B, Li XA, PET-guided dose escalation for pancreatic cancer: a treatment planning study, American Society of Radiation Oncology, Boston, MA, 10/28/2012 - 10/31/2012

Kainz K, Wang WA, Firat S, Wilson JF, Schultz C, Li XA, Plan quality of proton vs. photon IMRT for whole ventricle irradiation, American Association of Physicists in Medicine, Indianapolis, IN, 08/04/2013 - 08/08/2013

Dalah E, Yang C, Paulson E, Kainz K, Gore E, Hellman R, LI XA, Partial volume effect corrected

metabolically active tumor volume from PET for early stage lung cancer, American Society of Radiation Oncology, Atlanta, GA, 09/22/2013 - 09/25/2013

Kainz K, Prah D, Ahunbay E, Li XA, Fixed versus variable optimization points in combined-mode modulated arc therapy planning., American Association of Physicists in Medicine, Austin, TX, 07/20/2014 - 07/24/2014

International

Chen G, Hu X, Kainz K, Chang Y, Li XA, Static-gantry and rotational IMRT with flattening filter free versus flattening filtered beams., American Association of Physicists in Medicine Joint AAPM/COMP Meeting, Vancouver, British Columbia, 07/31/2011 - 08/04/2011

Kainz K, Chen G, Chang Y, Prah D, Qi XS, Shukla H, Stahl J, Li XA, A planning and delivery study of a rotational IMRT technique with burst delivery., American Association of Physicists in Medicine Joint AAPM/COMP Meeting, Vancouver, British Columbia, Canada, 07/31/2011 - 08/04/2011

MEDICAL COLLEGE TEACHING ACTIVITIES:

Resident and Fellow Education

2006 - Present Lecturer, Physics Education Course, for medical residents and physics postdoctoral fellows. This program served as the base in which the CAMPEP accredited Medical Physics Certificate Program was created.

2006 - Present Curriculum Development, Physics Education Courses which served as the base for the CAMPEP accredited Medical Physics Certificate Program.

2006 - Present Lecturer, Physics Education Course for Residents and Postdoctoral Fellows I and II, Department of Radiation Oncology

08/04/2009 Treatment Planning Conference, Gastric Cancer, Department of Radiation Oncology

08/04/2009 Treatment Planning Conference: Gastric Cancer

2009 - Present Clinical Rotation Preceptor, Department of Radiation Oncology

09/07/2010 Treatment Planning Conference: Radiation Therapy for Pancreatic Cancer.

09/07/2010 Treatment Planning Conference, Radiation Therapy for Pancreatic Cancer, Department of Radiation Oncology

2018 - Present Curriculum Development, Physiology Unit, Medical Physics Certificate Program

Continuing Medical Education

02/28/2006 Radiation Oncology Grand Rounds: Investigation of helical tomotherapy for breast irradiation.

05/31/2007 Radiation Oncology Grand Rounds: Variation of lung DVH during respiration.

10/28/2009 Radiation Oncology Grand Rounds: Image-guided helical tomotherapy for advanced-stage skin cancer.

03/30/2011 Radiation Oncology Grand Rounds: Rotational IMRT: a planning and delivery study.

11/28/2012 Radiation Oncology Grand Rounds: Plan quality of proton versus photon IG-IMRT.

01/31/2018 - Present Radiation Oncology Grand Rounds: Initial clinical experience with using Radixact PreciseART to verify dose delivery and trigger adaptive replanning.

02/27/2019 Radiation Oncology Grand Rounds: Evaluation of Iteratively Reconstructed MVCT Imaging for Adaptive Radiation Therapy.

11/18/2020 Radiation Oncology Grand Rounds: A Workflow for Dose Accumulation Quality Assurance.

EXTRAMURAL TEACHING:

Medical Student Education

03/1993 Hamline University, Teaching Assistant

1993 - 1994 Hamline University, Tutor, Study Resource Center

1993 - 1994 Hamline University, Research Assistant, Honors Thesis research

1995 - 1999 Rice University, Teaching Assistant

2002 - 2005 The University of Texas M. D. Anderson Cancer Center, Teaching Assistant

Continuing Medical Education

2006 - 2008 Froedtert Hospital, Training Medical Dosimetrists in TomoTherapy treatment planning system

2010 St. Catherine's Hospital, Medical Dosimetrist training and mentoring for Medical Dosimetrist

Certification Board

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Medical Students

Kapila Kalakota, Medical College of Wisconsin, 2006 Research Mentor, Interfractional anatomic change during the course of radiation therapy

Jack Ryan Bagley, Medical College of Wisconsin, 2007 Research Mentor, Exploring tomotherapy to conformally irradiate tumors and spare healthy tissues for breast, skin, and pediatric disease sites

Jessica Rooney, Medical College of Wisconsin, 2008 Research Mentor, Variation of lung volume and DVH during respiration

Wei-Gang Wang, Medical College of Wisconsin, 2012 - 2013 Research Mentor, PET application for thoracic radiation therapy planning Plan quality of proton versus photon IG-IMRT.

Clinical/Research Fellows

Sharon X. Qi, PhD, Medical College of Wisconsin, 2006 Research Mentor, Ranking Complex IMRT Plans Using an EUD- Based Figure-of-Merit Index.

Cheng Peng, PhD, Medical College of Wisconsin, 2007 - 2009 Research Mentor, 1. A Comparison of Daily Megavoltage CT and Ultrasound Imaging Guided Radiation Therapy for Prostate Cancer. 2. Dosimetric and Delivery Advantages of a New 160 Leaf MLC.

Cheng Peng, PhD, Medical College of Wisconsin, 01/2009 - 06/2009 Clinical Physics Training Preceptor, Siemens Artiste Linear Accelerator monthly QA

Andrew Godley, PhD, Medical College of Wisconsin, 07/2009 - 12/2009 Clinical Physics Training Preceptor, Siemens Artiste Monthly Machine QA

Bin Hu, PhD, Medical College of Wisconsin, 2010 - 2011 Clinical Physics Training Preceptor, Siemens Artiste Monthly Machine QA

Bin Hu, PhD, Medical College of Wisconsin, 2010 - 2011 Research Mentor, 1. Interfraction Geometric Variations of the Mandible and its Dosimetric Impact during Intensity. 2. Modulated Radiotherapy for Head and Neck Cancer.

Yu-Wen Chang, PhD, Medical College of Wisconsin, 2011 Research Mentor, A Planning and Delivery Study of a Rotational IMRT Technique with Burst Delivery.

Entesar Dalah, PhD, Medical College of Wisconsin, 2012 Research Mentor, PET-guided Dose-Escalation for Pancreatic Cancer: A Treatment Planning Study.

Sara Lim, PhD, Medical College of Wisconsin, 2016 Research Mentor, Automated Tracking of Fractional and Accumulated Doses for Triggering Adaptive Re-planning in Helical Tomotherapy.

Juan Garcia Alvarez, PhD, Medical College of Wisconsin, 2021 Research Mentor, Estimation of Uncertainty in Deformable Image Registration Based Daily Dose Accumulation for Head and Neck Cancer

Residents

Eric Paulson, PhD, Medical College of Wisconsin, 07/2008 - 06/2011 Associate Program Director, Medical Physics Residency

Douglas Prah, PhD, Medical College of Wisconsin, 07/2008 - 06/2011 Associate Program Director, Medical Physics Residency

S. Ryan Faught, MD, Medical College of Wisconsin, 2008 Research Mentor, A Dosimetric Comparison of Conventional Radiotherapy and Helical Tomotherapy (HT) for Total Body Irradiation (TBI)

Shannon Holmes, PhD, Medical College of Wisconsin, 07/2009 - 10/2010 Associate Program Director, Medical Physics Residency

Douglas Prah, PhD, Medical College of Wisconsin, 2009 Research Mentor, Dosimetric and Delivery Advantages of a New 160-Leaf MLC

Shannon Holmes, PhD, Medical College of Wisconsin, 01/2010 - 06/2010 Clinical Physics Training Preceptor, Siemens Artiste Machine Monthly QA

Eric Paulson, PhD, Medical College of Wisconsin, 07/2010 - 12/2010 Clinical Physics Training Preceptor, Siemens Artiste Monthly Machine QA

Phillip Prior, PhD, Medical College of Wisconsin, 07/2011 - 06/2014 Associate Program Director, Medical Physics Residency

Feng Liu, PhD, Medical College of Wisconsin, 07/2011 - 06/2014 Associate Program Director, Medical

Physics Residency

Carmen Bergom, MD, PhD, Medical College of Wisconsin, 2011 Research Mentor, Partial Breast Irradiation (PBI) in the Prone Position using Image-guided Intensity Modulated Radiation Therapy: Preliminary Results from a Phase II Study,

Phillip Prior, PhD, Medical College of Wisconsin, 01/2012 - 06/2012 Clinical Physics Training Preceptor, Siemens Artiste Monthly Machine QA

Cungeng Yang, PhD, Medical College of Wisconsin, 07/2012 - 06/2015 Program Director, Medical Physics Residency

Cungeng Yang, PhD, Medical College of Wisconsin, 07/2012 - 06/2015 Program Director, Medical Physics Residency

Entesar Dalah, PhD, Medical College of Wisconsin, 07/2013 - 07/2015 Program Director, Medical Physics Residency

Entesar Dalah, PhD, Medical College of Wisconsin, 07/2013 - 07/2015 Program Director, Medical Physics Residency

Slade Klawikowski, PhD, Medical College of Wisconsin, 07/2014 - 06/2017 Program Director, Medical Physics Residency

Slade Klawikowski, PhD, Medical College of Wisconsin, 07/2014 - 06/2017 Program Director, Medical Physics Residency

Xiaojian Chen, PhD, Medical College of Wisconsin, 07/2014 - 06/2017 Program Director, Medical Physics Residency

Victor Chen, PhD, Medical College of Wisconsin, 07/2014 - 06/2017 Program Director, Medical Physics Residency

George Noid, PhD, Medical College of Wisconsin, 07/2015 - 06/2018 Program Director, Medical Physics Residency

Xinfeng Chen, PhD, Medical College of Wisconsin, 08/2015 - 06/2018 Program Director, Medical Physics Residency

Sara Lim, PhD, Medical College of Wisconsin, 07/2017 - 06/2020 Program Director, Medical Physics Residency

Diane Schott, PhD, Medical College of Wisconsin, 07/2017 - 06/2020 Program Director, Medical Physics Residency

Yin Zhang, PhD, Medical College of Wisconsin, 07/2018 - Present Program Director, Medical Physics Residency

Haidy Nasief, PhD, Medical College of Wisconsin, 07/2018 - Present Program Director, Medical Physics Residency

Hassan Jassar, PhD, Medical College of Wisconsin, 07/2020 - Present Program Director, Medical Physics Residency

Asma Amjad, PhD, Medical College of Wisconsin, 07/2021 - Present Program Director, Medical Physics Residency

PROGRAMMATIC DEVELOPMENTS:

Educational Programs

Fellow

2013 - Present Program Director, Medical Physics Certificate Program

Resident

2009 - 2014 Associate Program Director, Medical Physics Residency Program

2014 - Present Program Director, Radiation Oncology Medical Physics Residency Program

Research Programs

2007 - Present Principal Investigator, Medical College of Wisconsin Institutional Review Board-approved protocol,"Use of Helical Tomotherapy for Treating Skin Cancer"

2007 - Present Principal Investigator, Children's Hospital of Wisconsin Institutional Review Board-approved protocol, "Modeling of pediatric organ growth and its effect upon radiotherapy-dose distributions"

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. Caines H, Albergo S et al. for the BNL-AGS E896 Collaboration (**K. Kainz**, member and co-author), First results from the H0 di-baryon search and hyperon production measurements by the AGS Experiment 896, Nucl. Phys. A661 (1999) pp. 170c - 176c.
2. Lo Curto G, Albergo S et al. for the BNL-AGS E896 Collaboration (**K. Kainz**, member and co-author), Strange and multi-strange baryon measurement in Au+Au collisions at 11.6A (GeV/c) with the silicon drift detector array from the AGS experiment 896, Nucl. Phys. A661 (1999) 489c - 492c.
3. Llope WJ, Adams N, **Kainz K**. An electronic clock for correlated noise corrections, Nucl. Inst. Meth. A 443 (2000) pp. 451 - 463.
4. Albergo S, Bellwied R, Bennett M, Boemi D, Bonner B, Caines H, Christie W, Costa S, Crawford HJ, Cronqvist M, Debbe R, Engelage J, Flores I, Greiner L, Hallman T, Hijazi G, Hoffmann G, Huang HZ, Humanic TJ, Insolia A, Jensen P, Judd EG, **Kainz K**, Kaplan M, Kelly S, Kotov I, Kunde G, Lindstrom PJ, Ljubicic T, Llope W, LoCurto G, Longacre R, Lynn D, Madansky L, Mahzeh N, Milosevich Z, Mitchell JM, Mitchell JW, Nehmeh S, Nociforo C, Paganis S, Pandey SU, Potenza R, Russ DE, Saulys A, Schambach J, Sheen J, Sugarbaker E, Takahashi J, Tang J, Trattner AL, Trentalange S, Tricomi A, Tuvè C, Whitfield JP, Wilson K. Lambda spectra in 11.6A GeV/c Au-Au collisions. Phys Rev Lett. 2002 Feb 11;88(6):062301.
5. Bellwied R et al. for the BNL-AGS E896 Collaboration (**K. Kainz**, member and co-author), Distributed drift chamber design for rare particle detection in relativistic heavy ion collisions, Nucl. Inst. Meth. A 485 (2002) pp. 371-384.
6. Albergo S et al. for the BNL-AGS E896 Collaboration (**K. Kainz**, member and co-author), Light nuclei production in heavy-ion collisions at relativistic energies, Phys. Rev. C 65 (2002) pp. 034907-1 - 034907-7.
7. **Kainz KK**, Hogstrom KR, Antolak JA, Almond PR, Bloch CD, Chiu C, Fomytskyi M, Raischel F, Downer M, Tajima T. Dose properties of a laser accelerated electron beam and prospects for clinical application. Med Phys. 2004 Jul;31(7):2053-67.
8. **Kainz KK**, Hogstrom KR, Antolak JA, Almond PR, Bloch CD. Dose properties of x-ray beams produced by laser-wakefield-accelerated electrons. Phys Med Biol. 2005 Jan 07;50(1):N1-10.
9. **Kainz KK**, Antolak JA, Almond PR, Bloch CD, Hogstrom KR. Dual scattering foil design for poly-energetic electron beams. Phys Med Biol. 2005 Mar 07;50(5):755-67.
10. Beddar AS, **Kainz K**, Briere TM, Tsunashima Y, Pan T, Prado K, Mohan R, Gillin M, Krishnan S. Correlation between internal fiducial tumor motion and external marker motion for liver tumors imaged with 4D-CT. Int J Radiat Oncol Biol Phys. 2007 Feb 01;67(2):630-8.
11. Peng C, **Kainz K**, Lawton C, Li XA. A comparison of daily megavoltage CT and ultrasound image guided radiation therapy for prostate cancer. Med Phys. 2008 Dec;35(12):5619-28.
12. **Kainz K**, White J, Herman J, Li XA. Investigation of helical tomotherapy for partial-breast irradiation of prone-positioned patients. Int J Radiat Oncol Biol Phys. 2009 May 01;74(1):275-82.
13. Prah DE, **Kainz K**, Peng C, Li XA. The dosimetric and delivery advantages of a new 160-leaf MLC. Technol Cancer Res Treat. 2011 Jun;10(3):219-29.
14. **Kainz K**, Chen GP, Chang YW, Prah D, Sharon Qi X, Shukla HP, Stahl J, Allen Li X. A planning and delivery study of a rotational IMRT technique with burst delivery. Med Phys. 2011 Sep;38(9):5104-18.
15. **Kainz K**, White J, Chen GP, Hermand J, England M, Li XA. Simultaneous irradiation of the breast and regional lymph nodes in prone position using helical tomotherapy. Br J Radiol. 2012 Oct;85(1018):e899-905. PMCID: PMC3474030
16. Bergom C, Prior P, **Kainz K**, Morrow NV, Ahunbay EE, Walker A, Allen Li X, White J. A phase I/II study piloting accelerated partial breast irradiation using CT-guided intensity modulated radiation therapy in the prone position. Radiother Oncol. 2013 Aug;108(2):215-9.
17. **Kainz K**, Firat S, Wilson JF, Schultz C, Siker M, Wang A, Olson D, Li XA. Comparing the quality of passively-scattered proton and photon tomotherapy plans for brain and head and neck disease sites. Phys Med Biol. 2015 Mar 21;60(6):2167-77.
18. **Kainz K**, Lim SN, Li A. Automated Tracking of Fractional and Accumulated Doses for Triggering Adaptive Replanning. Int J Radiat Oncol Biol Phys. 2016 Oct 1;96(2S):E669.
19. **Kainz K**, Prah D, Ahunbay E, Li XA. Clinical experience with planning, quality assurance, and delivery of burst-mode modulated arc therapy. J Appl Clin Med Phys. 2016 Sep 08;17(5):47-59. PMCID:

PMC5874115

20. **Kainz K**, Allen Li X. Physics of hypofractionated whole breast irradiation Short Course Breast Radiotherapy: A Comprehensive Review of Hypofractionation, Partial Breast, and Intra-Operative Irradiation. 1 January 2015:137-152.
21. Bradley JA, **Kainz K**, Li XA, Wang D. The role of image guided radiotherapy in the treatment of soft tissue sarcoma Current Cancer Therapy Reviews. 2010;6(3):207-213.
22. **Kainz K**, Alvarez JG, Zhong H, Tai A, Ahunbay EE, Erickson BA, Li A. Consistency Check of Deformable Image Registration-Based Dose Summation for Off-Line Adaptive Re-Planning. Int J Radiat Oncol Biol Phys. 2021 Nov 01;111(3S):e150.
23. **Kainz K**, Garcia Alvarez J, Zhong H, Lim S, Ahunbay E, Tai A, Erickson B, Lawton C, Li XA. Use of a DVH overlay technique for quality assurance of deformable image registration-based dose accumulation. Med Phys. 2022 Jan;49(1):611-623.
24. **Kainz K**, Li XA, White J. Adaptive Radiation Therapy for Breast Cancer Adaptive Radiation Therapy. 1 January 2011:275-291.
25. Bradley JA, **Kainz K**, Li XA, DeLaney TF, Wang D. Adaptive Radiotherapy for Treatment of Soft-Tissue Sarcoma Adaptive Radiation Therapy. 1 January 2011:369-381.
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