Stanford



Lei Xing

Jacob Haimson and Sarah S. Donaldson Professor and Professor, by courtesy, of Electrical Engineering

Radiation Oncology - Radiation Physics

CONTACT INFORMATION

- **Alternate Contact**

  Niki DeGeorge - Division Manager

  Email nikid@stanford.edu

  Tel (650) 725-4020

Bio

BIO

Dr. Xing is currently the Jacob Haimson & Sarah S. Donaldson Professor of Medical Physics and Director of Medical Physics Division of Radiation Oncology Department at Stanford University. He also holds affiliate faculty positions in Department of Electrical engineering, Bio-X and Molecular Imaging Program at Stanford. Dr. Xing's research has been focused on artificial intelligence in medicine, medical imaging, treatment planning, image guided interventions, nanomedicine, and applications of molecular imaging in radiation oncology. He has made unique and significant contributions to each of the above areas. Dr. Xing is an author on more than 400 peer reviewed publications, a co-inventor on many issued and pending patents, and a co- investigator or principal investigator on numerous NIH, NSF, DOD, RSNA, ACS and many corporate grants. He is a fellow of AAPM (American Association of Physicists in Medicine), ASTRO (American Society for Radiation Oncology), and AIMBE (American Institute for Medical and Biological Engineering). He has received numerous awards, such as Google Faculty Scholar Award and E. H. Quimby Lifetime Achievement Awards from AAPM.

ACADEMIC APPOINTMENTS

- Professor, Radiation Oncology - Radiation Physics
- Professor (By courtesy), Electrical Engineering
- Member, Bio-X
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Institute for Computational and Mathematical Engineering (ICME)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Associate Editor, Medical Physics Journal, (2022- present)
- Associate Editor, Medical Physics Journal, (2003-2008)
- Member of international advisory board, Physics in Medicine and Bilogy, (2008- present)
- Member of Clinical Research and Cancer Epidemiology (CCE) Committee, American Cancer Society, (2006- present)

- Member of ZRG1 (Quick Trials on Imaging and Image-Guided Intervention) section, National Institute of Health, (2008- present)
- Director of Medical Physics Division, Department of Radiation Oncology, Stanford University, (2009- present)
- Director of Radiation Physics Division, Department of Radiation Oncology, Stanford University, (2010- present)
- Member of Senior Editorial Board, American Journal of Nuclear Medicine and Molecular Imaging, (2010- present)
- Member of Editorial Board, Journal of Gastrointestinal Oncology, (2010- present)

HONORS AND AWARDS

- Best of Medical Physics in Imaging, AAPM (2017)
- Basic Science Award, ASTRO (2013)
- Fellow, American Association of Physicists in Medicine (AAPM) (2012)
- Best of Physics, American Association of Physicists in Medicine (2015)
- Fellow, American Institute for Medical and Biological Engineering (AIMBE) (2016)
- Google Faculty Research Award, Google Inc. (2016)
- Concept Award for Breast Cancer Research, Department of Defense (2001)
- Research Scholar Award, American Cancer Society (2001)
- Basic Science Investigator Award, American Society of Therapeutic Radiology (ASTRO). (2002)
- Research Scholar of 2005, American Cancer Society (2005)

PROFESSIONAL EDUCATION

- PhD, Johns Hopkins University , Physics (1992)

COMMUNITY AND INTERNATIONAL WORK

- Clinical implementation of intensity modulated radiation therapy

LINKS

- Xing Lab: http://xinglab.stanford.edu/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Artificial intelligence in medicine

Medical imaging (instrumentation, image reconstruction and clinical applications)

Biologically conformal radiation therapy (BCRT)

Metabolic imaging (MRSI, PET/CT) for tumor delineation and assessment of therapeutic response;

Treatment planning and clinical decision-making

Radiobiology study using molecular imaging (small animal PET, CT, MRI, optical);

CLINICAL TRIALS

- Real-Time MV/kV Image Guided Radiation Therapy, Not Specified

Teaching

COURSES

2024-25

- Biological Principles and Medical Applications of Ionizing Radiation: BMP 253, RADO 253 (Spr)

2023-24

- AI and Data Driven Methods in Biomedical Imaging and Physics: BMP 254 (Aut)
- Biological Principles and Medical Applications of Ionizing Radiation: BMP 253, RADO 253 (Spr)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Sijie Chen, Yaxin Fang

Doctoral Dissertation Advisor (AC)

Lloyd Kamole Ghomsi, Qingyue Wei

Postdoctoral Research Mentor

Yaxin Fang

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biomedical Data Science (PhD Program)
- Biomedical Data Science (Masters Program)