



Lei Xing

Jacob Haimson Professor and Professor, by courtesy, of Electrical Engineering
Radiation Oncology - Radiation Physics

CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

Dr. Xing is currently the Jacob Haimson 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 medical imaging, artificial intelligence in medicine, 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, DOD, RSNA, ACS and corporate grants. He is a fellow of AAPM (American Association of Physicists in Medicine) and AIMBE (American Institute for Medical and Biological Engineering). He is a recipient of Google Faculty Scholar Award. He is also on the editorial boards of a number of journals in medical physics and medical imaging.

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, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Associate Editor, Medical Physics Journal, (2003-2008)
- Member of international advisory board, Physics in Medicine and Biology, (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

- Cervical Nodal Mets in Squamous Cell Carcinoma of H&N - MRI, FDG-PET, & Histopathologic Correlation, Not Recruiting
- Endoscopic Capillary Oximetry for Tumor Diagnosis in Head and Neck Cancer, Not Recruiting
- Indirect Magnetic Resonance Lymphangiography of the Head and Neck Region Using Conventional Gadolinium-based Contrast, Not Recruiting
- Phase I Dose Escalation of Stereotactic Radiosurgical Boost for Locally Advanced Esophageal Cancer, Not Recruiting
- Real-Time kV Imaging vs. Real-Time 3D Patient Surface Tracking for Head & Neck Cancer, Not Recruiting
- Real-Time MV/kV Image Guided Radiation Therapy, Not Recruiting

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Yizheng Chen, Xiao Jia, Yusuke Nomura, Shengtian Sang, Kathyayini Sivasubramanian, Shujun Wang, Zhicheng Zhang, Zixia Zhou

Doctoral Dissertation Advisor (AC)

Charles Huang, Liyue Shen, Varun Vasudevan, Rui Yan

Postdoctoral Research Mentor

Yizheng Chen, Kathyayini Sivasubramanian, Yuyin Zhou

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biomedical Informatics (Phd Program)
- Biomedical Informatics (Masters Program)