Department of Radiation Oncology

The Department of Radiation Oncology (http://radonc.wustl.edu) was created on July 1, 2001, having been part of the Mallinckrodt Institute of Radiology for many decades. The department has a broad academic program that focuses on excellence in patient care and the development of new treatment paradigms; innovative research in each of the four divisions of clinical, physics, biology and bioinformatics; and teaching for residents in radiation oncology, medical students and allied health personnel. The department is one of the largest, most academically balanced and best equipped in the country, and is responsible for all radiation therapy procedures at Washington University Medical Center. Our faculty have gained international recognition for innovative technological advances in physics and treatment planning, biological research, computer applications and clinical investigation.

Milestones

- Implementation of novel respiratory gating algorithms
- Development of biomarkers of DNA repair capacity of tumors
- Demonstrated the use of proton therapy
- Implementation of first Mevion S250 single-room proton therapy system
- Implementation of real-time MRI guidance for radiation therapy treatment with the ViewRay system. Real-time MRI guidance provides the ability to see tumors move in real-time during a patient's entire treatment. This helps ensure that tumor targets are hit and health tissue is spared.
- Acquisition of high-intensity focused ultrasound (HIFU) with MRI thermometry mapping

The Department of Radiation Oncology currently occupies a large and convenient clinical facility on the lower level of the Center for Advanced Medicine. The downtown clinical facility includes nine treatment rooms, three simulator rooms, and a brachytherapy center with two high dose-rate treatment units. Furthermore, the facility houses the latest Gamma Knife, the ICON unit. We have advanced treatment planning computer systems for 3D conformal and intensity-modulated radiation therapy. We have six linear accelerators with on-board CT imaging capability. The brachytherapy suite includes capability for high dose-rate remote afterloading and for image-guided permanent prostate seed implants. Interstitial and external hyperthermia treatments are also available. In 2013, we implemented a new type of proton treatment facility, using a superconducting synchrocyclotron mounted on a gantry. In addition, we implemented the world's first MRI-guided radiation therapy treatment program in 2014. The department provides radiation therapy treatment at Siteman Cancer Center-South County, Siteman Cancer Center at Barnes-Jewish St. Peters Hospital, and Alton Memorial Hospital.

The Physics faculty have research laboratories and offices on the fourth floor of the Clinical Sciences Research Building plus designated areas adjacent to the clinical facility in the Center for Advanced Medicine (CAM) building. The Radiation Biology laboratory and faculty offices are housed at the 4511 Forest Park Building and Wohl Hospital Building.

Website: http://radonc.wustl.edu

Degrees & Requirements

The Department of Radiation Oncology works closely with the Department of Biomedical Engineering to jointly offer a post-PhD Graduate Certificate in Medical Physics. Further information about this program can be found in the Biomedical Engineering (http://bulletin.wustl.edu/prior/2018-19/grad/engineering/biomedical/#degreerequirements) section of this Bulletin.

While the Department of Radiation Oncology does not offer its own degree, some of the department's courses are open to students in the MD and MSTP (MD/PhD) programs. Further information about the MD and MSTP degrees can be found in the Degrees & Programs Offered (http://bulletin.wustl.edu/prior/2018-19/medicine/degrees) section of this Bulletin.

Research

Please visit the Department of Radiation Oncology website (http://radonc.wustl.edu/research) for more information about current research in the department.

Faculty

Department Head
Dennis Hallahan, MD

Clerkship Director
Maria Thomas, MD

Director of Education in Medical Physics
Rao Khan, PhD

Visit our website for more information about our faculty (https://radonc.wustl.edu/faculty) and their appointments.

Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
Christopher Abraham, MS, MD
Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
BS Medical College Georgia 2005
MS Washington Univ in St. Louis 2011
MD Saint Louis University 2006
Michael Bernard Altman, PHD  
Assistant Professor of Radiation Oncology (primary appointment)  
PHD University of Chicago 2010

Anthony John Apicelli III, MD, PHD  
Assistant Professor of Radiation Oncology (primary appointment)  
MD Washington Univ in St. Louis 2009  
BS Princeton University 1999  
PHD Washington Univ in St. Louis 2009

Abdelkareem Azab, PHD  
Assistant Professor of Radiation Oncology (primary appointment)  
PHD Hebrew University 2007

Shahed Nicholas Badiyan, MD  
Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)  
BS University of Texas Austin 2005  
MD University of Texas Austin 2009

Kathy Baglan  
Instructor in Clinical Radiation Oncology (primary appointment)

Brian Christopher Baumann, MD  
Assistant Professor of Radiation Oncology (primary appointment)  
BA Princeton University 2003  
MD University of Pennsylvania 2012

Walter R Bosch, BE, MS, PHS  
Associate Professor of Radiation Oncology (primary appointment)  
BE Washington Univ in St. Louis 1980  
MS Washington Univ in St. Louis 1983  
PHS Washington Univ in St. Louis 1990

Jeffrey D Bradley, MD  
S. Lee Kling Professor of Radiation Oncology (primary appointment)  
BA Drury College 1989  
MD University of Arkansas 1993

Bin Cai, PHD  
Assistant Professor of Radiation Oncology (primary appointment)  
PHD Ohio University 2011

Jochen Cammin, PHD  
Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)  
PHD University of Bonn 2004

Aadel Ahmed Chaudhuri, MD  
Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)  
BS Massachusetts Inst of Technology (MIT) 2004  
MD Stanford University 2013

David T Curiel, PHD, MD  
Distinguished Professor of Radiation Oncology (primary appointment)  
Professor of Medicine  
Professor of Obstetrics and Gynecology  
BA West Georgia College 1978  
PHD University of Groningen 2000  
MD Emory University 1982

Mackenzie Daly, MD  
Assistant Professor of Radiation Oncology (primary appointment)  
MD University of MO Kansas City 2005

Arash Darafsheh, MS, MS, PHD, PHD  
Assistant Professor of Radiation Oncology (primary appointment)  
BS University of Tehran 2004  
MS University of NC Charlotte 2011  
MS Shahid Beheshti University 2007  
PHD University of Pennsylvania 2015  
PHD University of NC Charlotte 2013

Carl J. DeSelm, MD, PHD  
Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)  
BS Dartmouth College 2004  
MD Washington Univ in St. Louis 2012  
PHD Washington Univ in St. Louis 2016

Venkata Rao Devineni, MD  
Associate Professor of Clinical Radiation Oncology (primary appointment)  
MD Osmania Medical College 1973

Igor Dmitriev, PHD  
Assistant Professor of Radiation Oncology (primary appointment)  
PHD SRC Vector 1994

H Michael Gach, PHD  
Associate Professor of Radiation Oncology (primary appointment)  
Associate Professor of Radiology  
PHD University of Pittsburgh 1998

Jose L Garcia, MS  
Assistant Professor of Radiation Oncology (primary appointment)  
BS University of Puerto Rico 1995  
MS Finch Univ of Health Sciences 1997

Hiram Alberto Gay, MD  
Associate Professor of Radiation Oncology (primary appointment)  
BS University of Puerto Rico 1996  
MD University of Puerto Rico 2000

Sreekrishna M Goddu, MS, PHD  
Professor of Radiation Oncology (primary appointment)  
PHD Andhra University 1991
Olga Leonidovna Green, MS, PHD
Assistant Professor of Radiation Oncology (primary appointment)
MS Washington Univ in St. Louis 2004
BS Washington Univ in St. Louis 2002
PHD Washington Univ in St. Louis 2008

Perry W Grigsby, MD, MS, MBA
Professor of Radiation Oncology (primary appointment)
Professor of Obstetrics and Gynecology
Professor of Radiology
MD University of Kentucky 1982
MS University of Kentucky 1978
MBA Washington Univ in St. Louis 1990
BS University of Kentucky 1974

Yuxing Gu, PHD
Assistant Professor of Radiation Oncology (primary appointment)
PHD University of MO St Louis 2014

H

Lannis Hall, MD, M PH
Assistant Professor of Clinical Radiation Oncology (primary appointment)
MD Howard University 1992
BA University of Michigan 1988
M PH Saint Louis University 1995

Dennis E Hallahan, MD
Professor of Radiation Oncology (primary appointment)
Elizabeth H and James S McDonnell III Distinguished Professor of Medicine
Head of the Department of Radiation Oncology
Professor of Biomedical Engineering
Professor of Cell Biology and Physiology
Professor of Molecular Microbiology
Professor of Pathology and Immunology
BS University of Illinois 1980
MD Rush University 1984

Joayi Huang, MD
Assistant Professor of Radiation Oncology (primary appointment)
MD University of Massachusetts 2007

Geoffrey Douglas Hugo, PHD
Professor of Radiation Oncology (primary appointment)
PHD University of CA Los Angeles 2003

K

James Alexander Kavanaugh, MS
Instructor in Radiation Oncology (primary appointment)
MS Louisiana St University 2011
BS University of Saint Thomas 2008

Rao Fawwad Khan, PHD, MD
Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Biomedical Engineering
PHD McMaster University 2003

MD Quaid-Azam University 1997

Hyun Kim, MD
Assistant Professor of Radiation Oncology (primary appointment)
MD University of Pittsburgh 2012
BS University of California 2006

Nels C Knutson, PHD, MS
Instructor in Radiation Oncology (primary appointment)
PHD Univ of Massachusetts Lowell 2016
BS University of Montana Missoula 2009
MS Louisiana St University 2012

Susan Joy Laduzinsky, MD
Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
MD University of Illinois 1983

Jason Dole Lee, PHD, MD
Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
PHD Duke University 2009
MD Duke University 2010

Hua Li, PHD
Assistant Professor of Radiation Oncology (primary appointment)
BS Huazhong University of Science 1994
PHD Huazhong University of Science 2001

Hui Li, PHD, MS
Professor of Radiation Oncology (primary appointment)
PHD Friedrich-Alexander Universit 2001
BS Huashong University of Science 1992
MS Chinese Academy of Sciences 1995

Hsiu-San Lin, PHD, MD
Professor Emeritus of Radiation Oncology (primary appointment)
PHD University of Chicago 1968
MD National Taiwan University 1960

Zhi Hong Lu, PHD
Assistant Professor of Radiation Oncology (Pending Dean’s Approval) (primary appointment)
BS Fudan University 1990
PHD University of Mississippi Med 1999

Stephanie Markovina, MD
Assistant Professor of Radiation Oncology (primary appointment)
MD University of Wisconsin-Madiso 2010

Thomas Rolf Mazur, PHD
Instructor in Radiation Oncology (primary appointment)
BS Union College New York 2007
PHD University of Texas Austin 2014

Jeff Michael Michalski, MD, MBA
Carlos Perez Distinguished Professor of Radiation Oncology (primary appointment)
Vice Chairman of Radiation Oncology
BS Univ of Wisconsin Madison 1982
MD Univ of Wisconsin Madison 1986
MBA Washington Univ in St. Louis 2001

Timothy John Mitchell, MS, PHD, PHD
Instructor in Radiation Oncology (primary appointment)
MS Washington Univ in St. Louis 2007
PHD Washington Univ in St. Louis 2011
BS John Carroll University 2005
PHD University of MO St Louis 2014

Daniel F Mullen, MS, DDENT
Assistant Professor of Radiation Oncology (primary appointment)
BS University of Missouri 1972
MS University of Missouri 1984
DDENT University of Missouri 1977

Sasa Mutic, PHD, MS
Professor of Radiation Oncology (primary appointment)
Vice Chair Medical Physics and Clinical Strategy in Radiation Oncology
PHD University of MO Columbia 2011
BS Cameron University 1994
MS University of Colorado Boulder 1996

Robert J Myerson, PHD, MD
Professor Emeritus of Radiation Oncology (primary appointment)
PHD University of California 1974
BA Princeton University 1969
MD University of Miami 1980

Chunjoo Park, ME, BE, PHD
Assistant Professor of Radiation Oncology (primary appointment)
ME The Catholic Univ of Korea 2009
BE Hanyang University Hospital 2007
PHD University of CA Berkeley 2013

Stephanie Mabry Perkins, MD
Associate Professor of Radiation Oncology (primary appointment)
BS Union University 2001
MD University of Tenn Memphis 2005

James Vernon Piephoff, MD
Instructor in Clinical Radiation Oncology (primary appointment)
MD University of South Carolina 1989
BS Citadel 1985

James A Purdy, MA, PHD
Emeritus Professor of Radiation Oncology (primary appointment)
MA University of Texas Austin 1969
PHD University of Texas Austin 1971
BS Lamar University 1967

Francisco Javier Reynoso, PHD, MS
Instructor in Radiation Oncology (Pending Dean’s Approval) (primary appointment)
PHD Georgia Tech 2014
MS Georgia Tech 2008

Michael Charles Roach, MD
Assistant Professor of Radiation Oncology (primary appointment)
MD Duke University 2011
BS Vanderbilt University 2007

Clifford Grant Robinson, MD
Associate Professor of Radiation Oncology (primary appointment)
MD Case Western Reserve Univ 2004
BS University of Pittsburgh 2000

Buck Edward Rogers, PHD, MA
Professor of Radiation Oncology (primary appointment)
Adjunct Professor of Chemistry (Courtesy Affiliation)
Professor of Radiology
BS Loyola University Chicago 1989
PHD Washington Univ in St. Louis 1995
MA Washington Univ in St. Louis 1991

Tapan Roy, MS
Instructor in Clinical Radiation Oncology (primary appointment)
MS Baroda Medical College 1974

Lakshmi Santanam, MS, PHD
Associate Professor of Radiation Oncology (primary appointment)
BS University of Madras 1993
BS University of Madras 1991
PHD Wayne State University 2003

Julie K Schwarz, MD, PHD
Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Cell Biology and Physiology
MD Washington Univ in St. Louis 2004
PHD Washington Univ in St. Louis 2004
BS Duke University 1995

Girdhar G Sharma, BS1, PHD1, MS1
Assistant Professor of Radiation Oncology (primary appointment)
BS1 Banaras Hindu University 1990
PHD1 Banaras Hindu University 2000
MS1 Banaras Hindu University 1992

Christopher Spencer, BAS, MA, MD
Adjunct Instructor in Radiation Oncology (primary appointment)
BAS Truman State University 2005
MA Truman State University 2006
MD Saint Louis University 2010
Matthew Benjamin Spraker, MD
Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
MD University of Illinois 2013

William L Straube, MEE
Associate Professor of Radiation Oncology (primary appointment)
MEE Washington Univ in St. Louis 1992
BS University of Illinois 1983

Baozhuo Sun, MS, PHD
Assistant Professor of Radiation Oncology (primary appointment)
BS Jilin Medical University 2000
MS College of William and Mary 2002
PHD College of William and Mary 2005

Maria A Thomas, PhD, MD
Assistant Professor of Radiation Oncology (primary appointment)
PHD Saint Louis University 2006
MD Saint Louis University 2008
BS Creighton University 2000

Wade L Thorstad, MD
Associate Professor of Radiation Oncology (primary appointment)
BS Trinity University 1986
MD University of Texas Austin 1991

Dinesh Thotala, MS, PHD
Assistant Professor of Radiation Oncology (primary appointment)
BS Bangalore University 1990
MS Bangalore University 1993
PHD Bangalore University 1998

Amaris Renee Tippey, PhD
Assistant Professor of Clinical Radiation Oncology (primary appointment)
PHD East Carolina University 2014

Christina Irene Tsien, MD
Professor of Radiation Oncology (primary appointment)
MD McGill University 1995
BS John Abbot College 1990

Gregory Riccardo Vlacich, MD, PHD
Assistant Professor of Radiation Oncology (primary appointment)
MD University of Chicago 2009
PHD University of Chicago 2007

Bruce J Walz, MD
Associate Professor of Clinical Radiation Oncology (primary appointment)
MD Washington Univ in St. Louis 1966

Xiaowei Wang, PHD
Associate Professor of Radiation Oncology (primary appointment)
PHD Tufts University 2000
BS Nankai University 1993

Jeffrey F Williamson, MS, PHD
Professor of Radiation Oncology (primary appointment)
MS University of Minnesota 1980
BA St Olaf College 1974
PHD University of Minnesota 1982

Deshan Yang, PHD, MS
Associate Professor of Radiation Oncology (primary appointment)
BS Tsinghua University, China 1992
PHD Univ of Wisconsin Madison 2005
MS Illinois Institute of Technol 2001

Qin Yang, MD, PHD
Associate Professor of Radiation Oncology (primary appointment)
MD West China University 1983
PHD Heidelberg University 1997

Jin Zhang, PhD, MS
Instructor in Radiation Oncology (Pending Dean's Approval)
(MD University of Connecticut 2012)
BS Tianjin University 2005
MS Tianjin Polytech University 2008

Tiezhi Zhang, PhD, MS
Assistant Professor of Radiation Oncology (primary appointment)
BS JiLin Medical University 2004
PHD Shanghai Jiao Tong University 2001

Tianyu Zhao, MS, PHD
Assistant Professor of Radiation Oncology (primary appointment)
MS Shanghai Jiao Tong University 2001
BS Shanghai Jiao Tong University 1998
PHD Washington Univ in St. Louis 2010

Imran Zoberi, MD
Professor of Radiation Oncology (primary appointment)
BS University of South Dakota 1992
MD Washington Univ in St. Louis 1996

Jacqueline Esthappan Zoberi, PHD
Professor of Radiation Oncology (primary appointment)
BA University of Chicago 1995
PHD University of Chicago 2000
Courses

Post-PhD Graduate Certificate in Medical Physics

For course information, please visit the Biomedical Engineering (http://bulletin.wustl.edu/prior/2018-19/grad/engineering/biomedical/#courses) page of this Bulletin.

MD/MSTP Programs

For course information, please visit the Radiology (http://bulletin.wustl.edu/prior/2018-19/medicine/departments/radiology/#courses) page of this Bulletin.