Department of Radiation Oncology

The Department of Radiation Oncology (http://radonc.wustl.edu) was created on July 1, 2001, after 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 three divisions of clinical, physics and biology; 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 it 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 process. This helps to ensure that tumor targets are hit and that healthy tissue is spared.)
• Acquisition of high-intensity focused ultrasound 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 capabilities 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 that involves the use of 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 West County Hospital, Siteman Cancer Center at Christian Hospital, Siteman Cancer Center at Barnes-Jewish St. Peters Hospital, Siteman Cancer Center at Swansea and Alton Memorial Hospital.

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 building. The Radiation Biology laboratory and faculty offices are housed at the 4511 Forest Park Building, the Wohl Hospital Building and the BJC Institute of Health 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/grad/engineering/biomedical/#degreerequirements) section of this Bulletin.

Although 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 (http://bulletin.wustl.edu/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.

A

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

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)  
BS Princeton University 1999  
MD Washington Univ in St. Louis 2009  
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, MS, BE, PHS  
Associate Professor of Radiation Oncology (primary appointment)  
MS Washington Univ in St. Louis 1983  
BE Washington Univ in St. Louis 1980  
PHS Washington Univ in St. Louis 1990

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

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

Jochen Cammin, PHD  
Instructor in Radiation Oncology (primary appointment)  
PHD University of Bonn 2004

Douglas Ford Caruthers, MS  
Instructor in Radiation Oncology (Pending Dean's Approval) (primary appointment)

MS Univ Texas Health Science Ctr 2010

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

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  
MS Shahid Beheshti University 2007  
MS University of NC Charlotte 2011  
PHD University of Pennsylvania 2015

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

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

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

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)
MD University of Puerto Rico 2000
BS University of Puerto Rico 1996

Sreekrishna M Goddu, PHD, MS
Professor of Radiation Oncology (primary appointment)
PHD Andhra University 1991

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

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

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

H

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

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

Jiayi 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

Vaishali Kapoor, MS, PHD

Instructor in Radiation Oncology (primary appointment)
MS All-India Inst of Medical Sci 2008
BA Delhi University 2006
PHD All-India Inst of Medical Sci 2013

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

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)
BS University of California 2006
MD University of Pittsburgh 2012

Taeho Kim, PHD
Associate Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)
PHD Washington Univ in St. Louis 2007

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

L

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

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

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

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

Zhi Hong Lu, PHD
Assistant Professor of Radiation Oncology (Pending Dean's Approval) (primary appointment)
<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Appointment Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stephanie Markovina, MD</td>
<td>Assistant Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>MD University of Wisconsin-Madison 2010</td>
</tr>
<tr>
<td>Thomas Rolf Mazur, PHD</td>
<td>Instructor in Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>PHD University of Texas Austin 2014</td>
</tr>
<tr>
<td>Jeff Michael Michalski, MBA, MD</td>
<td>Carlos Perez Distinguished Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>Vice Chairman of Radiation Oncology</td>
</tr>
<tr>
<td></td>
<td>MBA Washington Univ in St. Louis 2001</td>
</tr>
<tr>
<td></td>
<td>BS Univer Wisconsin Madison 1982</td>
</tr>
<tr>
<td></td>
<td>MD Univer Wisconsin Madison 1986</td>
</tr>
<tr>
<td>Timothy John Mitchell, MS, PHD, PHD</td>
<td>Instructor in Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>BS John Carroll University 2005</td>
</tr>
<tr>
<td></td>
<td>MS Washington Univ in St. Louis 2007</td>
</tr>
<tr>
<td></td>
<td>PHD University of MO St Louis 2014</td>
</tr>
<tr>
<td></td>
<td>PHD Washington Univ in St. Louis 2011</td>
</tr>
<tr>
<td>Daniel F Mullen, MS, DDENT</td>
<td>Assistant Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>BS University of Missouri 1972</td>
</tr>
<tr>
<td></td>
<td>MS University of Missouri 1984</td>
</tr>
<tr>
<td></td>
<td>DDENT University of Missouri 1977</td>
</tr>
<tr>
<td>Sasa Mutic, PHD, MS</td>
<td>Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>Vice Chair Medical Physics and Clinical Strategy in Radiation Oncology</td>
</tr>
<tr>
<td></td>
<td>BS Cameron University 1994</td>
</tr>
<tr>
<td></td>
<td>PHD University of MO Columbia 2011</td>
</tr>
<tr>
<td></td>
<td>MS University of Colorado Boulder 1996</td>
</tr>
<tr>
<td>Robert J Myerson, MD, PHD</td>
<td>Professor Emeritus of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>BA Princeton University 1969</td>
</tr>
<tr>
<td></td>
<td>MD University of Miami 1980</td>
</tr>
<tr>
<td></td>
<td>PHD University of California 1974</td>
</tr>
<tr>
<td>Chunjoo Park, BE, ME, PHD</td>
<td>Assistant Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>BE Hanyang University Hospital 2007</td>
</tr>
<tr>
<td></td>
<td>ME The Catholic Unv of Korea 2009</td>
</tr>
<tr>
<td></td>
<td>PHD University of CA Berkeley 2013</td>
</tr>
<tr>
<td>Stephanie Mabry Perkins, MD</td>
<td>Associate Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>MD University of Tenn Memphis 2005</td>
</tr>
<tr>
<td></td>
<td>BS Union University 2001</td>
</tr>
<tr>
<td>James Vernon Piephoff, MD</td>
<td>Instructor in Clinical Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>MD University of South Carolina 1989</td>
</tr>
<tr>
<td></td>
<td>BS Citadel 1985</td>
</tr>
<tr>
<td>James A Purdy, PHD, MA</td>
<td>Emeritus Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>PHD University of Texas Austin 1971</td>
</tr>
<tr>
<td></td>
<td>MA University of Texas Austin 1969</td>
</tr>
<tr>
<td></td>
<td>BS Lamar University 1967</td>
</tr>
<tr>
<td>Francisco Javier Reynoso, PHD, MS</td>
<td>Instructor in Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>PHD Georgia Tech 2014</td>
</tr>
<tr>
<td></td>
<td>MS Georgia Tech 2008</td>
</tr>
<tr>
<td>Clifford Grant Robinson, MD</td>
<td>Associate Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td></td>
<td>BS University of Pittsburgh 2000</td>
</tr>
<tr>
<td></td>
<td>MD Case Western Reserve Univ 2004</td>
</tr>
<tr>
<td>Buck Edward Rogers, MA, PHD</td>
<td>Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>Adjunct Professor of Chemistry (Courtesy Affiliation)</td>
</tr>
<tr>
<td></td>
<td>Professor of Radiology</td>
</tr>
<tr>
<td></td>
<td>MA Washington Univ in St. Louis 1991</td>
</tr>
<tr>
<td></td>
<td>BS Loyola University Chicago 1989</td>
</tr>
<tr>
<td></td>
<td>PHD Washington Univ in St. Louis 1995</td>
</tr>
<tr>
<td>Tapan Roy, MS</td>
<td>Instructor in Clinical Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>MS Baroda Medical College 1974</td>
</tr>
<tr>
<td>Julie K Schwarz, PHD, MD</td>
<td>Associate Professor of Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>Associate Professor of Cell Biology and Physiology</td>
</tr>
<tr>
<td></td>
<td>BS Duke University 1995</td>
</tr>
<tr>
<td></td>
<td>PHD Washington Univ in St. Louis 2004</td>
</tr>
<tr>
<td></td>
<td>MD Washington Univ in St. Louis 2004</td>
</tr>
<tr>
<td>Christopher Spencer, BAS, MD, MA</td>
<td>Adjunct Instructor in Radiation Oncology (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>BAS Truman State University 2005</td>
</tr>
<tr>
<td></td>
<td>MD Saint Louis University 2010</td>
</tr>
<tr>
<td></td>
<td>MA Truman State University 2006</td>
</tr>
<tr>
<td>Matthew Benjamin Spraker, MD</td>
<td>Assistant Professor of Radiation Oncology (Pending Executive Faculty Approval) (primary appointment)</td>
</tr>
<tr>
<td></td>
<td>MD University of Illinois 2013</td>
</tr>
</tbody>
</table>
William L Straube, MEE
Associate Professor of Radiation Oncology (primary appointment)
BS University of Illinois 1983
MEE Washington Univ in St. Louis 1992

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

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

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

Dinesh Thotala, MS, PHD
Assistant Professor of Radiation Oncology (primary appointment)
MS Bangalore University 1993
BS Bangalore University 1990
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)
BS John Abbot College 1990
MD McGill University 1995

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

Bruce J Walz, MD
Associate Professor of Clinical Radiation Oncology (primary appointment)
BA Washington Univ in St. Louis 1962
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
PHD University of Minnesota 1982
BA St Olaf College 1974

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 (primary appointment)
BS Tianjin University 2005
PHD University of Connecticut 2012
MS Tianjin Polytech University 2008

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

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 page of this Bulletin.

MD/MSTP Programs

For course information, please visit the Radiology page of this Bulletin.