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 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 Postdoctoral Medical Physics Certificate (http://bulletin.wustl.edu/grad/engineering/biomedical/certificate-medical-physics).

Starting in fall 2019, the physics division of the Department of Radiation Oncology is offering a Master's of Science in Medical Physics (http://bulletin.wustl.edu/medicine/departments/medical-physics).

In addition, the Department of Radiation Oncology offers two courses that are open to students in the MD and MSTP (MD/PhD) programs and one course for first-year medical students.

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

Michael Bernard Altman, PHD
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PHD University of Chicago 2010

Anthony John Apicelli III, PHD, MD
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PHD Washington Univ in St. Louis 2009
BS Princeton University 1999
MD Washington Univ in St. Louis 2009

Abdelkareem Azab, PHD
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PHD Hebrew University 2007

Shahed Nicolas Badiyan, MD
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MD University of Texas Austin 2009
BS University of Texas Austin 2005

Kathy Baglan
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Brian Christopher Baumann, MD
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MD University of Pennsylvania 2012
BA Princeton University 2003

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BE Washington Univ in St. Louis 1980
MS Washington Univ in St. Louis 1983
PHS Washington Univ in St. Louis 1990

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PHD Ohio University 2011

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

Douglas Ford Caruthers, MS
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MS Univ Texas Health Science Ctr 2010

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MD Stanford University 2013
David T Curiel, MD, PHD
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Professor of Medicine
Professor of Obstetrics and Gynecology
MD Emory University 1982
BA West Georgia College 1978
PHD University of Groningen 2000

Mackenzie Daly, MD
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MD University of MO Kansas City 2005

Arash Darafsheh, PHD, MS, MS, PHD
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PHD University of NC Charlotte 2013
MS University of NC Charlotte 2011
BS University of Tehran 2004
MS Shahid Beheshti University 2007
PHD University of Pennsylvania 2015

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MD Washington Univ in St. Louis 2012
PHD Washington Univ in St. Louis 2016
BS Dartmouth College 2004

Venkata Rao Devineni, MD
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MD Osmania Medical College 1973

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

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Associate Professor of Radiology
PHD University of Pittsburgh 1998

Jose L Garcia, MS
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BS University of Puerto Rico 1995
MS Finch Univ of Health Sciences 1997

Hiram Alberto Gay, MD
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BS University of Puerto Rico 1996
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Sreekrishna M Goddu, PHD, MS
Professor of Radiation Oncology (primary appointment)
PHD Andhra University 1991

Olga Leonidovna Green, PHD, MS
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BS Washington Univ in St. Louis 2002
PHD Washington Univ in St. Louis 2008
MS Washington Univ in St. Louis 2004

Perry W Grigsby, MBA, MD, MS
Professor of Radiation Oncology (primary appointment)
Professor of Obstetrics and Gynecology
Professor of Radiology
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BS University of Kentucky 1974
MD University of Kentucky 1982
MS University of Kentucky 1978

Yuxing Gu, PHD
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PHD University of MO St Louis 2014

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BA University of Michigan 1988
M PH Saint Louis University 1995
MD Howard University 1992

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
MD Rush University 1984
BS University of Illinois 1980

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PHD Univ of Massachusetts Lowell 2016
BS Shanxi Medical University 2004

Jiayi Huang, MD
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Geoffrey Douglas Hugo, PHD
Professor of Radiation Oncology (primary appointment)
Professor of Computer Science and Engineering
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K

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

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

Rao Fawwad Khan, MD, PHD
Associate Professor of Radiation Oncology (primary appointment)
Associate Professor of Biomedical Engineering
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BS University of California 2006
MD University of Pittsburgh 2012

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BS University of Montana Missoula 2009
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L

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MD Duke University 2010
PHD Duke University 2009

Hui Li, PHD, MS
Professor of Radiation Oncology (primary appointment)
PHD Friedrich-Alexander Univesit 2001
MS Chinese Academy of Sciences 1995
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

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BS Fudan University 1990
PHD University of Mississippi Med 1999

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MD University of Wisconsin-Madison 2010

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

Jeff Michael Michalski, MBA, MD
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Vice Chairman of Radiation Oncology
MBA Washington Univ in St. Louis 2001
MD Univ of Wisconsin Madison 1986
BS Univ of Wisconsin Madison 1982

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

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

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

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

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

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MD University of Tenn Memphis 2005
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MA University of Texas Austin 1969
BS Lamar University 1967
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MS Georgia Tech 2008
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Associate Professor of Medicine
BS University of Pittsburgh 2000
MD Case Western Reserve Univ 2004

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Professor of Radiology
MA Washington Univ in St. Louis 1991
PHD Washington Univ in St. Louis 1995
BS Loyola University Chicago 1989

Tapen Roy, MS
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MS Baroda Medical College 1974

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Associate Professor of Cell Biology and Physiology
PHD Washington Univ in St. Louis 2004
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BS Duke University 1995

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MS College of William and Mary 2002
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BS Creighton University 2000
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MD Saint Louis University 2008

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BS Trinity University 1986
MD University of Texas Austin 1991

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

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Assistant Professor of Clinical Radiation Oncology (primary appointment)
PHD East Carolina University 2014

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

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MD University of Chicago 2009
PHD University of Chicago 2007

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

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MS University of Minnesota 1980
BA St Olaf College 1974
PHD University of Minnesota 1982

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

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Assistant Professor of Radiation Oncology (primary appointment)
BS Jilin Medical University 1994
PHD Univ of Wisconsin Madison 2004
MS Drexel University 1999

Tianyu Zhao, MS, PHD
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MS Shanghai Jiao Tong University 2001
PHD Washington Univ in St. Louis 2010
BS Shanghai Jiao Tong University 1998

Courses
Post-PhD Graduate Certificate in Medical Physics

For course information, please visit the Biomedical Engineering (http://bulletin.wustl.edu/grad/engineering/biomedical/#courses) page of this Bulletin.
MD/MSTP Programs

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

M90 Radiol 740 Clinical Radiation Oncology Clerkship
The four-week clerkship in radiation oncology will provide students with the opportunity to participate in the evaluation and management of a broad range of patients referred for consideration of radiation therapy. Clerkship activities will take place at the Barnes-Jewish Hospital/Siteman Cancer Center complex and at our satellite facilities. Students will conduct patient evaluations under the supervision of radiation oncology department residents and faculty. Students will attend many conferences throughout this clerkship, with the workday starting between 7:00 a.m. and 7:30 a.m. Students will also have the opportunity to attend the appropriate multidisciplinary clinics, follow-up clinics, and conferences (e.g., pediatric neuro-oncology, cardiothoracic oncology, lymphoma, gynecological tumors) that pertain to their rotation schedule. Instructional materials are available for students on the rotation. (Students are not expected to purchase any curricular materials for this clerkship.) Student performance will be evaluated by both residents and faculty members who supervise the student over the course of the four-week clerkship. (Level: MS3)

M90 Radiol 840 Clinical Radiation Oncology Subinternship
The clinical division offers a four-week elective with emphasis on the evaluation, planning and administration of radiation therapy in patients with malignant tumors. The students have the opportunity to enhance their knowledge of the natural history of cancer and its pathological and biological features of cancer as well as to sharpen their clinical skills by participating in the management of patients. Applications from visiting students are accepted via VSAS only; these students should visit the School of Medicine website (https://md.wustl.edu/academics/visiting-students/how-to-apply) for instructions on how to apply. (Level: MS4)