**Course Description**

Radiation therapy is a mainstay treatment for cancer. Magnetic Resonance Imaging has been recently integrated into the treatment room, providing for the first time the advantages of real-time soft tissue imaging and concurrent radiation treatments. Benefits of MR-Guided Radiation Therapy (MRgRT) include superior soft tissue imaging, the ability to track tumors and gate treatment delivery, and the opportunity to adapt for inter- and intra-fraction anatomical variations. MRgRT also offers the potential for providing sophisticated biomarker guided treatments. As clinical adoption of MRgRT expands, there is a need to develop work flows and quality assurance techniques, innovate imaging science, and assess clinical outcome benefits. This course will update the status of MRgRT, examine clinical treatment scenarios, provide strategies to overcome implementation challenges, and review current research programs designed to explore the benefits of MRgRT.

**Target Audience**

Radiation oncologists, medical physicists, dosimetrist, radiation therapists, other allied health professionals, and trainees interested in exploring the benefits and challenges of MRgRT.

**Course Objectives**

At the conclusion of the course, participants should be better able to:

- List the benefits of MRgRT over conventional modern radiation therapy.
- Discuss the challenges and strategies of implementing MRgRT.
- Compare the benefits and limitations of the currently available MRgRT systems.
- Describe the adaptive radiation therapy work flow.
- Describe the application of MRgRT in clinical scenarios such as head and neck, pancreas, liver, and prostate cancers.
- Describe current research developing and integrating functional imaging for personalized radiation therapy prescriptions.
Faculty

COURSE DIRECTORS

Percy Lee, MD
Associate Professor & Vice Chair of Education
Chief, Thoracic Radiation Oncology
UCLA Radiation Oncology

Minsong Cao, PhD
Associate Professor
Associate Vice Chair of Education
UCLA Radiation Oncology

Ann Raldow, MD, MPH
Assistant Professor
Chief, Gastrointestinal Oncology
UCLA Radiation Oncology

Daniel Low, PhD
Professor & Vice Chair of Physics
UCLA Radiation Oncology

GUEST FACULTY

Michael Bassetti, MD
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University of Wisconsin School of Medicine & Public Health
Madison, Wisconsin

Olga Green, PhD
Assistant Professor
Chief of Service for Adaptive MR-Guided Radiotherapy Program
Washington University School of Medicine
St. Louis, Missouri

Allen Li, PhD
Professor & Chief of Medical Physics
Medical College of Wisconsin
Milwaukee, Wisconsin

UCLA FACULTY

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Peng Hu, PhD
Associate Professor
UCLA Radiology

Amar Kishan, MD
Assistant Professor
UCLA Radiation Oncology

James Lamb, PhD
Assistant Professor
UCLA Radiation Oncology

Ke Sheng, PhD
Professor
UCLA Radiation Oncology

Michael L. Steinberg, MD
Professor & Chair
UCLA Radiation Oncology

Yingli Yang, PhD
Assistant Professor
UCLA Radiation Oncology
Program

7:00  Breakfast & Registration
8:00  Welcome & Introduction  Percy Lee, MD

Session I: Introduction to MRgRT Basics
8:10  Introduction to Clinical MR Sequences  Peng Hu, PhD
8:40  MR Safety  James Lamb, PhD
9:10  QA/QC for MRgRT System  Olga Green, PhD
9:40  Break

MR-Guided RT Systems & Work Flow
Moderator: Percy Lee, MD
10:00  System Overview, Comparison & Debate  Allen Li, PhD and Daniel Low, PhD,

Session II: Technical Features and Benefits
11:00  Motion Management  Minsong Cao, PhD
11:30  Work Flow, Adaptive Planning & New Process of Care  Percy Lee, MD
12:00  Lunch

MR-Guided RT Systems & Work Flow
1:00  GI – Pancreas  Ann Raldow, MD, MPH
1:25  GI – Liver  Michael Bassetti, MD
1:50  GU/Prostate – Bladder  Amar Kishan, MD
2:15  Head & Neck  Robert Chin, MD, PhD
2:40  Break

Session III: Advanced MR Technologies
3:00  Functional MRI  Yingli Yang, PhD
3:30  Novel Contrast Imaging  Paul Finn, MD
4:00  Future of MRgRT  Ke Sheng, PhD
4:30  The Promise of MRgRT  Michael L. Steinberg, MD
5:00  Reception at UCLA Luskin Conference Center
Accreditation Statement

The Office of Continuing Medical Education, David Geffen School of Medicine at UCLA is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, designates this live activity for a maximum of 7 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This course will offer Medical Physics Continuing Education Credit (MPCEC) and Medical Dosimetry Certification Board Continuing Education Credit (MDCB).

Disclosure Statement

The FDA has issued a concept paper that classifies commercial support of scientific and educational programs as promotional unless it can be affirmed that the program is “truly independent” and free of commercial influence. In addition to independence, the FDA requires that non-promotional, commercially supported education be objective, balanced and scientifically rigorous. The policy further states that all potential conflicts of interest of the CME staff and faculty be fully disclosed to the program’s participants. In addition, Accreditation Council for Continuing Medical Education policy mandates that the provider adequately manages all identified potential conflicts of interest prior to the program. UCLA fully endorses the letter and spirit of these concepts.
General Information

Location
UCLA Luskin Conference Center
425 Westwood Plaza
Los Angeles, CA 90095
(855) 522-8252

Parking
From the 405 freeway, exit Wilshire Blvd. East toward Westwood. Turn left on Westwood Blvd., travel past Charles E. Young Dr. South and turn left on Parking Structure 8 Driveway. Proceed up the ramp to the rooftop level to park. Pay-by-plate machines are available on the rooftop level. Credit cards are accepted. A pedestrian walkway/bridge connects Parking Structure 8 to the Luskin Conference Center. Take the east stairs down one level (from Level 4 to Level 3) and cross over Strathmore Place. The entrance will be on your right-hand side.

Local Accommodations

UCLA Luskin Conference Center
425 Westwood Plaza
Los Angeles, CA 90095
Reservations: (855) 522-8252

Hotel Palomar
10740 Wilshire Blvd.
Los Angeles, CA 90024
Reservations: (310) 475-8711

W Los Angeles – Westwood Hotel
930 Hilgard Avenue
Los Angeles, CA 90024
Reservations: (310) 208-8765

Fees
Physicians and Physicists: $350
Dosimetrists, Therapists and Allied Health Professionals: $200
Trainees: $150

Enrollment

Online:
Go to www.cme.ucla.edu/courses and click on MR-Guided Radiation Therapy: The Next Frontier in Radiation Oncology. You may use your MasterCard, Visa, American Express or Discover card to register.

By Mail:
Mail the attached form to:
UCLA Office of Continuing Medical Education
David Geffen School of Medicine at UCLA
MR-Guided Radiation Therapy
10920 Wilshire Blvd., Suite 1060
Los Angeles, CA 90024-6512

By Fax:
Send the completed enrollment form with credit card information and authorizing signature to (310) 794-2624

By Phone:
Call (310) 794-2620

Refunds
Cancellations must be received in writing by Monday, May 6, 2019 and will be subject to a $50 processing fee. No refunds will be granted after that date. If, for any reason, the course must be cancelled, discontinued, or rescheduled by the Office of Continuing Medical Education, a full refund will be provided.
### Application for Enrollment

**Winter 2018**

(please print)

<table>
<thead>
<tr>
<th>Course Title and Number</th>
<th>Registration Fee</th>
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<tbody>
<tr>
<td><strong>MR-Guided Radiation Therapy:</strong> The Next Frontier in Radiation Oncology</td>
<td><strong>M189-26</strong></td>
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<tr>
<td>Physicists and Physicists: $350</td>
<td><strong>Total</strong></td>
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<td>Dosimetrists, Therapists and Allied Health Professionals: $200</td>
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<td>Trainees: $150</td>
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Last four digits of your Social Security Number

Name (First/Middle/Last)

Degree

Preferred Mailing Address

City / State / Zip

( ) ( ) Area Code Phone Area Code Fax

E-Mail Address

☐ Check enclosed payable to: The Regents of the University of California

Charge: ☐ MasterCard ☐ Visa ☐ Discover ☐ American Express

Card Number

Expiration Mo/Yr

Signature

**Mail to:** Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, MR-Guided Radiation Therapy, 10920 Wilshire Blvd., Suite 1060, Los Angeles, CA 90024-6512

**Fax:** (310) 794-2624 (must include charge card information and authorizing signature)

**Call:** (310) 794-2620

**Register online:** [www.cme.ucla.edu/courses/](http://www.cme.ucla.edu/courses/)
MR-Guided Radiation Therapy: The Next Frontier in Radiation Oncology

Friday, May 17, 2019
UCLA Meyer & Renee Luskin Conference Center
Los Angeles, CA