Emerging Leaders

Symposium & Workshop / 2022

Science Symposium, Diversity, Mentoring & Visioneering Workshops
Thank you for attending the inaugural Emerging Leaders Symposium and Workshop of academic medical physics! The symposium and workshop aims to bring together scholarly-focused, early-career, diverse scientists with visionary leaders and mentors—all of whom are interested in shaping the future of academic medical physics.

The event includes a public science symposium of presentations from invited speakers and emerging leaders, and medical physics graduate students from the University of Wisconsin-Madison, as well as discussion panels, followed by task specific workshops to support the early career participants with mentoring and networking sessions.

Participants will advance a national network of junior and senior investigators who are shaping academic medical physics, providing intentional support for those who have a bold, inclusive vision of the future inventions and discoveries in this field. The participating emerging leaders will leave with an individual introduction to leadership in the science of medical physics, a broader self-determined mentor network, and increased potential to find and shape their own academic agenda. Emerging leader participants have qualified for travel support to attend and present their work in the field, as chosen through competitive review by the organizing committee.

All participants will be interacting with the invited speakers, extended faculty, researchers and graduate students of the University of Wisconsin-Madison Department of Medical Physics, as well as the Board of Visitors of the Department of Medical Physics.
CAMPUS WI-FI

Wireless Internet Options on the UW-Madison Campus

1. Open the Wi-Fi options for your device and select “UWNet.” Open a browser (Firefox, Chrome, etc.). You should be directed to a login page.

   On this login page, you will see two boxes: “NetID” and “Password.” Under these boxes is a small link that says “Create a Guest Account.” Click this link. It should redirect you to a page that asks you for an email address.

   Fill out the required fields and click “Create a Guest Account.” You will then be directed to a page that shows your information. Click the “Log in” button at the bottom of the page.

   If you have any problems logging in, you may contact the DoIT Help Desk at 608-264-HELP (4357) or help@doit.wisc.edu
8:15 **WELCOME** – Brian Pogue  
HSLC, Room 1306

8:30 **TECHNOLOGY INNOVATIONS** – Moderator: Carri Glide-Hurst

  *Creating Value Through Medical Physics*
  *Sasa Matic, Varian Medical Systems*

9:00 **Developments of technologies for FLASH radiotherapy**  
*Magdalena Bazalova-Carter*, University of Victoria

9:30 **The Future of Functional and Structural Ultrasound imaging**  
*Marvin Dooley*, University of Rochester

10:00 **INVITED PARTICIPANT PRESENTATIONS** – Moderator: Michael Speidel

  *Patient-specific tumor and kidney dosimetry of 177Lu-PSMA-617 in mCRPC patients*
  *Caffi Meyer*, Oregon Health & Science University

  *Virtual imaging trials: a framework to assess and optimize imaging technologies towards robust disease quantifications*
  *Ehsan Abadi*, Duke University

  *Advancements in Medical Physics for Improving Personalized Oncology*
  *Ibrahim Chamseddine*, Harvard Medical School

  *Afua York*, University of Washington

10:45 **BREAK**

11:15 **DATA SCIENCE & INFORMATION TECHNOLOGY** – Moderator: Diego Hernandez

  *Computer-Aided Decision Making in Medical Diagnosis and Therapy - The Need for Academic Domain-Expert Medical Physicists*
  *Maryellen Giger*, University of Chicago

11:45 **Re-wiring Academic Medicine for Integrated Computation and Prediction**  
*David Jaffray*, MD Anderson Cancer Center

12:15 **INVITED PARTICIPANT PRESENTATIONS** – Moderator: Wesley Culberson

  *Machine Learning for Background Parenchymal Enhancement from Breast DCE-MRI*
  *Lindsay Douglas*, University of Chicago

  *Toward point-of-care 3D ultrasound systems for screening breast cancer*
  *Claire Park*, Western University

  *Expert Augmented Machine Learning*
  *Gilmer Valdes*, University of California San Francisco

  *Big data for small children: Image-based data mining reveals correlations between radiation dose and cognitive effects in childhood cancer survivors*
  *Lydia Wilson*, St. Jude Children's Research Hospital

12:45 **LUNCH** (with Keynote Speaker)  
HSLC – ILC 2nd Floor

1:15 **KEYNOTE LUNCH SPEAKER** – Moderator: Brian Pogue

  *NIH and the Pandemic Response: New Opportunities for Accelerating Innovation from In Vitro Diagnostics to Medical Imaging*
  *Bruce Tromberg*, Director, National Institutes of Biomedical Imaging & Bioengineering.
2:15 **INVITED PARTICIPANT PRESENTATIONS** – Moderator: Haley Whitson

- Proton specific challenges of online plan adaption
  Lena Nenoff, Harvard Medical School

- Pair production tomography imaging
  Qihui Lyu, University of California Los Angeles

- Evolutionary modeling optimization & in-silico combining molecular targeted therapies with radiotherapy for hampering acquired drug resistance
  David (Bo) McClatchy, Harvard Medical School

- Image-Guided Radiotherapy and Immunotherapy Strategies for Cancer
  Matthew Scarpelli, Purdue University

3:00 **MOLECULAR IMAGING & THERAPY** – Moderator: Robert Jeraj

- Molecular Imaging & Theranostics in Academic Medical Physics
  Zaver Bhujwala, Johns Hopkins University

- Envisioning a Career in Molecular Therapies of the Future
  Tayyaba Hasan, Harvard Medical School, Massachusetts General Hospital

4:00 **INVITED PARTICIPANT PRESENTATIONS** – Moderator: Reinier Hernandez

- Hippocampal Multimodal MRI after Severe TBI
  Jose Guerrero Gonzalez, University of Wisconsin-Madison

- Polarization imaging to enable accurate Cherenkov-based dose measurements
  Emily Cloutier, Université Laval

- FLASH vs conventional radiotherapy long-term toxic effects driven by early microvascular response
  Valentin Demidov, Dartmouth College

- Single-Pixel Hyperspectral Macroscopic Fluorescence Lifetime Imaging Unmixed with Deep Learning
  Marien Ochoa, Rensselaer Polytech Institute

4:45 **END OF DAY**

6:00 **RECEPTION & POSTER PRESENTATIONS**
Wisconsin Institutes for Discovery (WID) – 330 N Orchard Street

Hors D’oeuvres & Drinks – Poster Discussions & Awards
THURSDAY, SEPTEMBER 1, 2022

8:30  WELCOME & WORKSHOP INTRODUCTIONS – Brian Pogue & Tom Grist  
HSLC, Room 1306

8:45  PANEL: HAVING IMPACT IN MEDICAL IMAGING & THERAPY - Moderator: Robert Jeraj  
Magdalena Bazalova-Carter, Department of Physics & Astrology, University of Victoria  
David Jaffray, Radiation Physics, MD Anderson Cancer Center  
Ryan Flynn, Department of Radiation Oncology, University of Iowa  
Zaver Bhujwalla, Department of Radiology, Johns Hopkins University  
Marina Emborg, Department of Medical Physics, University of Wisconsin-Madison  
Tom Grist, Department of Radiology, University of Wisconsin-Madison

10:15  BREAK (Group Photo)

10:45  KEYNOTE PRESENTATION - Moderator: Wally Block  
Academic Leadership and Medical Physics  
Beth Meyerand, University of Wisconsin-Madison

11:15  PANEL: ACADEMICS, DIVERSITY & MENTORING - Moderator: Wally Block  
Naomi Takahaski, University of Wisconsin-Madison, UW Health  
Marvin Doyley, Department of Electrical Computer Engineering, University of Rochester  
Tayyaba Hasan, Department of Health Sciences & Technology, Harvard Medical School  
Maryellen Giger, Department of Radiology, University of Chicago  
Paul Campagnola, Department of Biomedical Engineering, University of Wisconsin-Madison

12:30  LUNCH (Optional Tours of WIMR Research Spaces)  
HSLC Atrium

1:45  KEYNOTE PRESENTATION - Moderator: Kevin Eliceiri  
Academia & Industry Translation & Relationships  
Rock Mackie, University of Wisconsin-Madison

2:15  PANEL: ACADEMIC, INDUSTRY & VENTURE SYNERGIES - Moderator: Kevin Eliceiri  
Rock Mackie, University of Wisconsin-Madison  
Sasa Matic, Varian Medical Systems  
Thomas Foo, GE Global Research  
Michelle Svatos, Palette Life Sciences  
Kevin Royalty, Global Strategic Marketing; Johnson & Johnson  
Stephanie Whitehorse, Wisconsin Alumni Research Foundation

3:30  BREAK

3:45  EMERGING LEADERS NETWORK & MENTOR BUILDING (Private - WIMR Conference Rooms)  
BOARD OF VISITORS MEETING (Private - Pyle Center, Room 320)

6:00  RECEPTION  
Pyle Center Rooftop - 702 Langdon Street

Prospective students attended the graduate program open house, in-person event this past March 2022 to learn more about the graduate program and opportunities on the UW campus.
The Department of Medical Physics is excited to welcome its newest graduate students, beginning in fall 2022, to the UW campus! This incoming class is the largest cohort of incoming students that the department has ever had - 25 students in total, with 16 being women! Students are joining us from across the nation and worldwide to begin their careers as the next medical physicists.

We are proud to continue to be leaders in the field of medical physics and attracting a diverse student population.

MEET THE EMERGING LEADERS

Ehsan Abadi
Duke University

Ibrahim Chamseddine
Harvard Medical School

Emily Cloutier
Universite Laval

Valentin Demidov
Dartmouth College

Lindsay Douglas
University of Chicago

Jose Guerrero Gonzalez
University of Wisconsin-Madison

Qihui Lyu
University of California Los Angeles

David (Bo) McClatchy
Harvard Medical School

Caffi Meyer
Oregon Health & Science University

Lena Nenoff
Harvard Medical School

Marien Ochoa
Rensselaer Polytechnic Institute

Claire Park
Western University

Matthew Scarpelli
Purdue University

Lydia Wilson
St. Jude Children's Research Hospital

Gilmer Valdes
University of California San Francisco

Afuja Yorke
University of Washington
#1 Largest medical physics graduate program in North America

97 Currently enrolled graduate students
34 Faculty in medical physics
36 Active affiliate faculty

#WiscMedPhys

POINTS OF PRIDE

$8 Million
Annually in extramural grants & contracts

488 master’s degrees completed

308 doctorate degrees completed

#1 Most recipients of the American Association of Physicists in Medicine (AAPM) William D. Coolidge Award

STUDENT INVOLVEMENT

- Women in Medical Physics program
- Recognizing Equity, Diversity & Inclusion in Medical Physics (REDI-MP) program
- Student Community Outreach committee

WELCOME TO OUR BOARD OF VISITORS

Paul DeLuca, Ryan Flynn, Tom Foo, Steven Goetsch, Michael Harsh, Jeff Kapatoes, Dee Khuntia, Andy Kirkpatrick, Rock Mackie, Greg Pieper, Kevin Royalty, Michael Schell, Michelle Svatos, Oliver Wieben.

The Department of Medical Physics Board of Visitors serve as ambassadors and advocates for the department, assisting with philanthropy, recruitment of high quality graduate students, and advising the department on the impact of new research endeavors. The board meets annually and is comprised of physicists with a broad array of experience and perspectives.

Medical Physics
UNIVERSITY OF WISCONSIN SCHOOL OF MEDICINE AND PUBLIC HEALTH

WE ARE HIRING!

ASSISTANT OR ASSOCIATE PROFESSOR DEPT. OF MEDICAL PHYSICS

For full position & application details:
HI THERE!
WELCOME TO MADISON!

680,796
POPULATION OF
GREATER MADISON

270 PARKS
6,000 acres of parkland and over
200 miles of off-road paths and trails

Home to the largest producer-only farmers’
market in the country

13
PUBLIC
BEACHES

Thousands of
Native American
effigy mounds, the
biggest
concentration in
the U.S., were built
along the shores of
Madison’s lakes.
Today, 23
preserved mounds
remain on public
land in Dane
County

Madison’s official
bird is the plastic
pink flamingo, a
homage to an
infamous 1979
prank where
students filled
Bascom Hill with
1,008
of the birds
overnight

Madison is one of only two major U.S. cities
built on an isthmus. It’s nestled between lakes
Mendota and Monona.

16 OFF-LEASH
DOG PARKS IN
GREATER MADISON

#1
BEST CITY
IN THE COUNTRY
FOR BIKING
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