

<b>Reported by (Name):</b>	Wesley Culberson
<b>Organization:</b>	University of Wisconsin - Madison
<b>Position Title:</b>	Associate Professor and UWADCL Director
<b>Activity:</b>	Council on Ionizing Radiation Measurements and Standards (CIRMS) Annual meeting
<b>Meeting Dates:</b>	April 11-13, 2022
<b>Meeting Location:</b>	Virtual
<b>Payment \$:</b>	None requested for 2022
<b>Reasons for Attending or not Attending</b>	I am a technical expert on radiation dosimetry representing the interests and needs of the AAPM.
<b>Issues from Previous Meetings or Year:</b>	A number of radiation dosimetry standards were discussed at the previous annual meeting at NIST in Spring, 2021. The outstanding issues include radiobiology standards for Flash dosimetry, radiobiological experiments, targeted radionuclide therapy, and electronic brachytherapy dosimetry.
<b>General Description of Activities of the Organization and/or Meeting:</b>	CIRMS is a multi-disciplinary non-profit organization which seeks to elevate the needs of all aspects in the field of ionizing radiation, drawing on the experience and knowledge of industry, academia, and government professionals. Through this collaborative group, the needs of our field are distributed to government agencies and potential funding sources.
<b>Issues for AAPM:</b>	CIRMS is working to create a Needs Report to present the needs for standardized dosimetry particularly in areas of radiation biology, targeted radionuclide therapy, and Flash therapy. There are also needs for more accurate radiation dosimetry in MRI environments, and updates to the clinical dose reporting methods for particle therapies such as RBE and LET.
<b>Budget Request (\$):</b>	N/A

## AGENDA – Last Updated 3/29/2022

### Council on Ionizing Radiation Measurements and Standards 2022 Annual Meeting Agenda

April 11-13, 2022

Virtual Meeting over WebEx

Meeting links will be provided to all registrants

#### Monday, April 11, 2022 (All times are EDT) – Meeting link will be provided

- 10:00 Welcome**
- 10:00 ***President's Welcome & Sponsor Introductions*** (5 min)  
Matthew Mille, PhD, President, CIRMS
- 10:05 ***Introduction to Needs Report*** (5 min)  
Spencer Mickum, PhD, 1<sup>st</sup> Vice President, CIRMS
- 10:10 Plenary Session**
- 10:10 ***Orthovoltage x-ray irradiator for preclinical FLASH radiotherapy: Design, dosimetry, and in vivo validation*** (20 min)  
Mohammad Rezaee, PhD, MSc  
Johns Hopkins University
- 10:30 ***Assessing air pollution with Spanish moss as a bioindicator in the low country of Savannah River basin*** (20 min)  
Christina Hall, BS  
University of Nevada, Las Vegas
- 10:50 ***Alanine/EPR dosimetry for kilovoltage x-ray applications*** (20 min)  
Florent Kuntz, PhD  
Aerial, France
- 11:10 5-minute break**
- Junior Investigator Award Symposium**  
Session Chair: Amitava Adhikary, PhD, 2<sup>nd</sup> Vice President, CIRMS
- 11:15 *A novel calorimeter design for synchrotron produced x-ray beams*** (15 min)  
Islam El Gamal, Carleton University, Ottawa, ON
- 11:30 *Development of a hybrid alanine-calorimetry absorbed dose standard for linac electron beams*** (15 min)  
Rodi Surensy, Carleton University, Ottawa, ON
- 11:45 *Radiation damage to DNA: From initial ionization events to final damage products*** (15 min)  
Samuel Ward, Oakland University, Rochester, MI
- 12:00 Poster session and socializing in Gather Town** (60 min)  
**to 1:00** Poster session link will be provided

## Tuesday, April 12, 2022 (All times are EDT) – Three Concurrent Virtual Sessions

Time	Medical Applications	Radiation Protection & Homeland Security	Industrial Applications & Material Effects	
<b>Session Chairs</b>	Matthew Mille, PhD National Institutes of Health  Wesley Culberson, PhD University of Wisconsin-Madison	Stephanie Healey, PhD US Food and Drug Administration	Ileana Pazos, PhD National Institutes of Standards and Technology  Kim Morehouse, PhD	
<b>Meeting Link</b>	Will be provided	Will be provided	Will be provided	
10:00 am to 12:00 pm	<p><b>Welcome</b></p> <p>10:05 <b>TARGETED RADIONUCLIDE THERAPY</b> <i>Targeted Radionuclide Therapy – Current Status and Trends</i> Jacek Capala, PhD National Institutes of Health</p> <p>10:20 <b>Quantitative Imaging and Dosimetry in Targeted Radionuclide Therapy</b> Yuni Dewaraja, PhD University of Michigan</p> <p>10:35 <b>Recent Activities of the NIST Nuclear Medicine Program</b> Denis Bergeron, PhD National Institute of Standards and Technology</p> <p>10:50 5-minute break</p> <p>10:55 <b>MEDICAL DOSIMETRY</b> <i>Recent Developments in Intensity Modulated Brachytherapy with Partially-Shielded Applicators</i> Shirin Enger, PhD McGill University</p> <p>11:10 <b>Astronaut Biodosimetry at Health Canada</b> Lindsay Beaton, PhD Health Canada</p> <p>11:25 <b>PRISM-eBT: A European Metrology project on electronic Brachytherapy</b> Thorsten Schneider, PhD National Metrology Institute of Germany (PTB)</p> <p>11:40 <b>Needs Report Discussion</b></p>	<p><b>Welcome</b></p> <p>10:05 <b>FOOD IRRADIATION</b> <i>Detection of Alpha/Beta Activity in Food for Safeguarding the Nation's Food Supply</i> Zhichao Lin, PhD US Food and Drug Administration</p> <p>10:25 <b>Laboratory Proficiency Evaluation in Assessing Radioactive Contamination of Food</b> Clarence Rolle, PhD US Food and Drug Administration</p> <p>10:45 5-minute break</p> <p>10:50 <b>ANALYTICAL MEASUREMENTS</b> <i>Method Validation of the GammaVision Total Coincidence Correction Calibration Wizard</i> Jonathan Button, PhD Centers for Disease Control and Prevention</p> <p>11:10 <b>Molecular Plating of Mixed Alpha Radionuclides for Energy Calibration and Quality Assurance of CDC Alpha Spectrometer Instrument</b> Supriyadi Sadi, PhD Centers for Disease Control and Prevention</p> <p>11:30 <b>Needs Report Discussion</b></p>	<p><b>Welcome</b></p> <p>10:05 <b>MATHEMATICAL MODELING</b> Session Chair: Kevin O'Hara, Sterigenics <i>Using Mathematical Modeling to Improve Scheduling at Gamma Irradiator Facilities</i> Chris Howard, PhD Nordion</p> <p>10:20 <b>Modelling of electron beam and X-ray processes - status and outlook</b> Josef Mittendorfer High Tech Consulting</p> <p>10:40 5-minute break</p> <p>10:45 <b>EGS_Mesh: accurate radiation transport simulations in CAD meshes with EGSnrc</b> Max Orok University of Ottawa</p> <p>11:00 <b>E-beam dose mapping: What about modelling the "REAL product?"</b> Florent Kuntz and Abbas Nasreddine Aerial</p> <p>11:20 5-minute break</p> <p>11:25 <b>LOW ENERGY IRRADIATION</b> <i>Low energy e-beam at NIST</i> Fred Bateman, PhD National Institutes of Standards and Technology</p> <p>11:40 <b>Low Energy X-Ray (LEEX) Is Expanding</b> P. Michael P. Michael Fletcher, MS Ebeam Consulting</p>	
	12:00 pm to 1:00 pm	All three breakout sessions convene for posters and socializing in Gather Town Poster session link will be provided		

**Wednesday, April 13, 2022 (All times are EDT) - Meeting link will be provided**

- 10:00**     **Welcome** (20 min)  
Matthew Mille, PhD, President, CIRMS
- Award Presentations**  
*Presentation of 2022 Caswell Award to Kim Morehouse*  
*Presentation of 2022 CIRMS Leadership Award to Renata Freindorf*
- 10:20**     **Capstone Session** (45 min)  
***Radiotherapy Plan QA using Deep-CNN based Multi-OAR Auto segmentation and GPU-accelerated Monte Carlo Dose Check***  
X. George Xu, PhD  
University of Science and Technology of China (Hefei, China)
- 11:05**     **Summary of Identified Needs – Brief reports from the three CIRMS scientific subcommittees** (30 min)
- 11:35**     **Closing Remarks** (5 min)
- 11:40**     **Socializing in Gather Town**  
**to ??**     Meeting link will be provided