

Council on Ionizing Radiation Measurements and Standards
“Trusting Radiation Science: Measuring what cannot be seen”

2022 Annual Meeting Agenda

April 11-13, 2022

Virtual meeting held on Zoom

Monday, April 11, 2022 (All times are EDT)

- 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, 1st 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)
Abbas Nasreddine, PhD
Aerial, France
- 11:10** **5-minute break**
- Junior Investigator Award Symposium**
Session Chair: Amitava Adhikary, PhD, 2nd 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** (60 min)
to 1:00 Interactive poster session in Gather or view the abstracts and posters on our meeting content website

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

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

Wednesday, April 13, 2022 (All times are EDT)

- 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**
to ?? Interactive session in Gather

Poster Session

The poster session will be conducted in Gather: <https://bit.ly/cirms2022-gather>

You may also view the abstracts and poster files on our meeting content website: <https://cirms.org/2022-cirms-meeting-content/>.

Poster #	Abstract Title/Presenting Author
1	"Deep Learning Based Image Prediction for Abdominal Organ Motion During MR-Guided Radiotherapy" Jingxi Weng, University of Florida, jweng1@ufl.edu
2	"Toughening of Borosilicate Glass by Neutron Irradiation" Luke Gilde, UMD, lgilde@umd.edu
3	"Calibration coefficients in terms of absorbed dose to water for two ionization chambers Standard Imaging A12 and A19 exposed to low-energy x-rays from 20 kV – 150 kV" Adriana Moreno-Ramírez, Universidad Nacional Autónoma de México, adriana.fisica.medica@gmail.com
4	"Investigation of Low and Medium Energy X-Ray Calibrations for Survey Meters" Sean Jollota, University of Wisconsin-Madison, jollota@wisc.edu
5	"XPS measurements of organic molecule degradation after exposure to MeV ion irradiation" Noel Guardala, George Washington University, nguardala76@gwu.edu
6 abstract only, no poster file	"Pencil Beam Scanning Proton vs Photon Stereotactic Body Radiotherapy for Ventricular Tachycardia: A Comparative Planning Study" Matthew Ruth, University of Pennsylvania, Matthew.Ruth@Pennmedicine.upenn.edu
7 abstract only, no poster file	"Biokinetics and dosimetry of 99mTc-iFAP of healthy male volunteers" Luis Coria-Domínguez, Universidad Autónoma del Estado de México, COORIAD_95@hotmail.com
8	Automatic segmentation for the evaluation of cardiac substructure dose in support of epidemiological research on cardiovascular morbidity after breast radiotherapy" Matthew Mille, National Cancer Institute/NIH, matthew.mille@nih.gov
9	"Reducing the uncertainties in modelling results through better understanding of the impact of physical uncertainties" Nicolas Mary, TRAD Tests & Radiations, Nicolas.Mary@trad.fr
10	"A Novel Calorimeter Design for Synchrotron Produced X-ray Beams" Islam El Gamal, Carleton University, IslamElGamal@cmail.carleton.ca
11	"Development of a hybrid alanine-calorimetry absorbed dose standard for linac electron beams" Rodi Surensy, Carleton University, rodi.srnsy@gmail.com
12	"Radiation Damage to DNA: From Initial Ionization Events to Final Damage Products" Samuel Ward, Oakland University, smward2@oakland.edu
13 abstract only, no poster file	"Sensitivity Study of Accelerator Placement in a Shielded Radiation Therapy Vault for a Preclinical FLASH Radiotherapy System" Andrew Rosenstrom, Georgia Institute of Technology, arosenstrom@gatech.edu
14	"The use of repeat image analysis in radiation therapy as a continuous quality improvement tool" Daniella Chee, University of Toronto, dchee@toh.ca
15	"EGS_Mesh: accurate radiation transport simulations in CAD meshes with EGSnrc" Max Orok, University of Ottawa, morok028@uottawa.ca
16	"Out-of-field organ dose reconstruction for pediatric patients undergoing proton therapy" Keith Griffin, Georgia Institute of Technology, keith.griffin@nih.gov
17 abstract only, no poster file	"Low-Cost Semiconductor Perovskite Radiation Detectors for Medical Imaging and Security Applications" Ryan Tan, University of Tennessee, Knoxville, rtan3@vols.utk.edu
18	"Radiological Implications of Selected Fertilizers (0-0-60)" Ben Billa, Porters Chapel Academy, Vicksburg, MS (high school), kiranbilla@yahoo.com