IRPA 2022 in Review

TABLE OF CONTENTS

First North American Regional Congress a Success ........................................................................................................ 2
Plenary Session .................................................................................................................................................................. 3
Associate Societies Forum ............................................................................................................................................... 5
Tuesday Sessions .......................................................................................................................................................... 7
Wednesday Sessions .................................................................................................................................................... 9
Professional Enrichment Program .................................................................................................................................. 11
Continuing Education Lectures and Refresher Courses .............................................................................................. 13
Activities ...................................................................................................................................................................... 14
Awards ........................................................................................................................................................................... 17
CHP Part 2 Prep With Dr. Thomas Johnson .................................................................................................................. 20
Sponsors ......................................................................................................................................................................... 20
The 2022 IRPA North American Regional Congress—"Meeting the Challenges in the Practice of Radiation Protection"—was held 21–23 February, at the Union Station Hotel in St. Louis, Missouri.

Sponsored by the Health Physics Society (HPS), the Canadian Radiation Protection Association (CRPA), the Mexican Society of Radiation Protection (SMSR), the Mexican Society of Irradiation and Dosimetry (SMID), and the International Radiation Protection Association (IRPA), the congress was endorsed by the American Academy of Health Physics (AAHP), the American Association of Physicists in Medicine (AAPM), the National Council on Radiation Protection and Measurements (NCRP), the American Nuclear Society (ANS), and the Conference of Radiation Control Program Directors (CRCPD).

The HPS Program Task Force included Program Chair Chris Shaw, Task Force Chair Charles Wilson, Emily Caffrey, Jason Davis, Bill Hinchcliffe, Tim Kirkham, Rachel Pope, and Zach Tribbett.

The IRPA Congress Executive Committee included Congress President Nolan Hertel (HPS), President Scott Schwahn (AAHP), Congress Vice-President Ed Waller (CRPA), John Cardarelli (HPS), Eric Goldin (HPS), Matt McFee (HPS), Shaheen Dewji (HPS, ANS), Irina Popova (ANS), Kathy Held (NCRP), Richard Harr (SMSR), Hector R. Vega-Carrillo (SMID), Whitney Coulor (Dutch Society for Radiation Protection-Chapter Suriname and the Caribbean), and Christopher Clement (IRPA).

The IRPA Congress Organizing Committee included Chair Mike Mahathy (HPS), Vice-Chair Kendall Berry (HPS), Latha Vasudevan (HPS), Hannah Graham (CRPA), Jan Braun (HPS), Teodoro Rivera (Mexico), Elizabeth Brackett, Andy Miller, Rachel Pope, Charles Wilson, and Nicole Martinez. The congress was facilitated by Burk and Associates.

First North American Regional Congress a Success

Mike Mahathy, IRPA 2022 Organizing Committee Chair

On behalf of the Organizing Committee, I thank everyone who had a part in planning, organizing, and holding the first North American Regional Congress of the International Radiation Protection Association (IRPA 2022). Thank you! From all accounts, the meeting was a success.

Left to right, Congress President Nolan Hertel, IRPA President Bernard le Guen, and Organizing Committee Chair Mike Mahathy
Photo courtesy of Barbara Hamrick
Plenary Session

The plenary session on 20 February included talks and a panel discussion addressing the questions of (1) What end goals do we all agree would permit society to most beneficially harness the use of radiation technologies? (2) What new and exciting scientific discoveries and lessons learned have we encountered in the last decade that may revolutionize a paradigm shift in modernizing our interpretation of the practice and philosophy of radiation protection? (3) How will new scientific discoveries and communication strategies mold cultural and philosophical discussions about radiation protection? (4) Where do we still have hope? To quote Marie Curie, "I never see what has been done; I only see what remains to be done."

“There is an opportunity every day as a community to capitalize on this and share the good news.”
--Shaheen Dewji

“As a profession we have to develop a better narrative on radiation. We have to get that narrative out there.”
--Roger Coates

“We have to be able to communicate in a unified way that we’re having this debate...”
--Craig Piercy

“There is a big disconnect between the science and the policy.”
--Gayle Woloschak
Plenary session panel members who answered questions from the in-person and virtual audience members, left to right, John Cardarelli, Craig Pearce, Gayle Woloschak, Saheen Dewji, and Brant Ulsh. Roger Coates and Ed Calabrese both participated in the panel remotely.

Photo courtesy of Barbara Hamrick
Associate Societies Forum

The Associate Societies Forum was held on the afternoon of 21 February and included talks by representatives from the International Radiation Protection Association (IRPA), Health Physics Society (HPS), Canadian Radiation Protection Association (CRPA), Sociedad Mexicana de Seguridad Radiológica (SMSR), and Pan American Health Organization. The talks were followed by an open forum that provided question-and-answer time with in-person and remote-participant panel members.

IRPA Executive Presentation by IRPA President Bernard Le Guen
Screenshot courtesy of Mary Walchuk

HPS President John Cardarelli, NIOSH
Screenshot courtesy of Mary Walchuk

CRPA President Emeritus Ed Waller, Ontario Tech University
Photo courtesy of Barbara Hamrick

Richard Harr, SMSR
Screenshot courtesy of Mary Walchuk
Open forum panel, left to right, Ed Waller (CRPA), Whitney Coulor-Rellum (Suriname), John Cardarelli (HPS), Bernard Le Guen (IRPA), and Mike Mahathy (HPS). Not pictured, remote participants Richard Harr (SMSR) and Ana Maria Bomben and Chris Clement (IRPA).

Photo courtesy of Barbara Hamrick

---

IRPA Executive Officer Ana Maria Bomben, Buenos Aires
Screenshot courtesy of Mary Walchuk

---

IRPA Vice President Chris Clement
Screenshot courtesy of Mary Walchuk

---

"I'm sandwiched between two different worlds."
--Whitney Coulor-Rellum

Whitney Coulor-Rellum, Pan American Health Organization – "Challenges in Establishing a Radiation Protection Infrastructure in Suriname"
Photo courtesy of Barbara Hamrick

---

"Please help IRPA. I will be in contact with you and please be in contact with me."
--Ana Maria Bomben

---

"A big priority with IRPA is looking at how to support associate societies and what they are doing."
--Chris Clement
Tuesday Sessions

This is a collection of photos of a small sampling of talks from the Tuesday sessions. These full talks and many more are available to view until 31 May 2022.

TAM-A1: Internal Dosimetry
Nolan Hertel, Georgia Institute of Technology, “Should Alpha-Neutron Emission Be Included in Internal Dosimetry: Is It an All Depends or It Doesn’t Matter?”
Screenshot courtesy of Mary Walchuk

TAM-A2: Space Radiation
David Dooley, MJW Corporation, “Space Radiation – The Human Perspective”
Screenshot courtesy of Mary Walchuk

TAM-B1: Controversies in Medical Health Physics
Kendall Berry and Ron Lattanze, “Understanding Extravasations Can Lead to Improved Patient Care”
Photo courtesy of Barbara Hamrick

TAM-B2: Environmental Health Physics and NORM
Vanessa Adriatico, Oregon State University, “Characterization of Radionuclide Resuspension via Aeolian Processes at the Ambrosia Lake West Mill Facility”
Photo courtesy of Barbara Hamrick
TAM-C: Meeting the Challenges in the Practice of Radiation Protection – Diversity and Inclusion
Panel members, left to right, Kathy Held (online), NCRP president; Angela Leek, Iowa Department of Public Health and CRCPD; Edward Waller, Ontario Tech University; Bernard Le Guen, IRPA president; Whitney Coulor-Rellum, Pan American Health Organization; and Nicole Martinez, Clemson University
Photo courtesy of Kendall Berry

TAM-D: Homeland Security and Emergency Response (Part 1)
Angela Leek, Iowa Department of Public Health and CRCPD, "Health Physics and Radiation Protection Expertise Across the US States—Filling the Gaps"
Screenshot courtesy of Mary Walchuk

TPM-A Nonionizing Radiation
Ramona Gaza, NASA JSC/Human Health & Performance, "From ISS to the Moon and Beyond: Non-Ionizing Radiation Risks Mitigation"
Screenshot courtesy of Mary Walchuk

TPM-B Veterinary Health Physics
Rachel Pope Nichols, University of Missouri, "Comparison of RAM and X-Ray Uses in Veterinary Medicine Programs Across the United States"
Screenshot courtesy of Mary Walchuk

TPM-C: Meeting Challenges in the Practice of Radiation Protection
Kathryn Higley, Oregon State University, "Lessons Learned From COVID-19 Response Efforts"
Screenshot courtesy of Mary Walchuk

Return to Table of Contents
Wednesday Sessions

This is a collection of photos of a small sampling of talks from the Wednesday sessions. These full talks and many more are available to view until 31 May 2022.

WAM-A1: Nuclear Facilities
Jake Nichols, University of Missouri Research Reactor, "Cleanout and Decontamination of Iodine-131 Production Hot Cells at the University of Missouri Research Reactor Facility" Screenshot courtesy of Mary Walchuk

WAM-A2: Classic Films in Health Physics and Radiation Protection
William Uhland, Curium, "Classic Films in Health Physics and Radiation Protection" Photo courtesy of Rachel Pope Nichols, Screenshot courtesy of Mary Walchuk

TPM-D1: Homeland Security and Emergency Response Part 2
David Stuenkel, US Environmental Protection Agency, "A Simple but Useful Transport Model for Calculating Radionuclide Concentrations in Drinking Water During the Intermediate Phase of a Nuclear Incident" Screenshot courtesy of Mary Walchuk

TPM-D2: Reasonableness
Charles Wilson, University of Missouri, "Norms in Dosimetry Management" Photo courtesy of Barbara Hamrick
WAM-B: Disasters in Health Physics (Part 1)
Luiz Bertelli, Los Alamos National Laboratory, "The Radiological Accident in Goiania"
Screenshot courtesy of Mary Walchuk

"You get really engaged when things start going from numbers to faces."
--Luiz Bertelli

WAM-C: Medical Health Physics (Part 1)
Abdallah Mirza, Texas A&M, "Polymersomes as a Delivery Mechanism to Enhance Targeted Alpha Therapy"
Screenshot courtesy of Mary Walchuk

"More work is needed to increase the specificity of polymersomes to tumor sites."
--Abdallah Mirza

WAM-D1: Regulatory Issues
Megan Shober, Wisconsin Department of Health Services, "Radiation Safety Regulatory Considerations for Alpha Therapeutics"
Screenshot courtesy of Mary Walchuk

"We need to reacquaint ourselves with radium and its legacy."
--Megan Shober

WAM-D2: Environmental and Wildlife Dosimetry
Annelise Gonzales, Clemson University, "Response of Lemna Minor (Common Duckweed) to Multiple Contaminant Exposure"
Screenshot courtesy of Mary Walchuk

"Lemna minor is a model organism."
--Annelise Gonzales

WPM-A: Instrumentation and Measurements
Ryan Charrette, North Carolina State University, "Initial Evaluation of a Portable Continuous Air Monitor"
Screenshot courtesy of Mary Walchuk

"Radiophobia can be defined as a deep fear of radiation."
--Ryan Charrette

WPM-B: Disasters in Health Physics (Part 2)
William Dorsife, Consultant, "TMI Accident: What Really Happened"
Screenshot courtesy of Mary Walchuk

"Probably the biggest untold story is the rapid mobilization of the nuclear industry to assist in response efforts."
--William Dorsife
Professional Enrichment Program

The virtual and in-person Professional Enrichment Program (PEP) courses were held on Sunday, 20 February, and covered a wide range of topics.

WPM-C1: Medical Health Physics (Part 2)
Screenshot courtesy of Mary Walchuk

WPM-D: External Dosimetry
David Boozer, Oregon State University, “Tissue Dose-Rate Kernels for Bremsstrahlung Exposure From Internal Electron Emitters”
Screenshot courtesy of Mary Walchuk

PEP 1A: “ICRU/ICRP Recommendations Applied to Medical Radiation Protection”
Cari Borràs, The George Washington University School of Medicine and Health Sciences

PEP 1B: “Inhalation Dose Assessments and Effect of Particle Size Assumptions”
Jason Davis, ORAU-REAC/TS

PEP 2A: “Role of the Radiation Safety Officer in Patient Safety”
Thomas Morgan, Versant Medical Physics

PEP 2B: “Where Did This Come From? Lessons Learned From High-Routine Bioassay Investigations”
Eugene Carbaugh, Retired, HPS Emeritus
PEP 2C: "The Case Against LNT"
Alan Fellman, NV5 Dade Moeller

"The answer to the question "Are low doses safe?" is yes."
--Alan Fellman

Special thanks to Society for Nuclear Information (SNI) colleagues Robert Hargraves, NV5

PEP 3A: "Integration of Health Physics Into Emergency Response"
Steve Sugarman, Summit Exercises and Training

"We're going to talk about applying common sense during HP support of rad emergencies."
--Steve Sugarman

PEP 3C: "Statistics, Uncertainty, and Detection Decisions - A Practical Review for Health Physics Practitioners"
Doug Van Cleef, Oak Ridge National Laboratory

"Statistics can be a very helpful tool for comparing measurement results."
--Doug Van Cleef

PEP 4A: "Radiation in Flight"

"I argue the US aircrew deserve the same protections as the EU or other radiation workers."
--Joseph Shonka

"The focus here is basically operational health physics but a lot of it also deals with how that folds over into emergency response."
--Robert Hayes

PEP 4B: "Radon Physics"
Robert Hayes, North Carolina State University

"PEP 4B: Radon Physics"
--Robert Hayes, North Carolina State University
Continuing Education Lectures and Refresher Courses

The virtual and in-person continuing education lectures and refresher courses were held throughout the week and were pertinent to the current practice in the wide field of radiation safety and protection, medical health physics, or research.

CEL-1: “Techniques to Communicate Program Activities, Trends, and Drivers”
Janet Gutiérrez, UTHealth, Houston, Texas

CEL-2: “Management of Generally Licensed Devices”
Mike Lewandowski, 3M Company

Robert Emery, University of Texas Health Science Center at Houston

REF-1: “Health Physics Considerations in the Planning and Operation of Proton Therapy Facilities”
Nisy Ipe, Consulting Radiation Physicist

REF-2: "Case Study: The 1976 Hanford Americium Accident and the Atomic Man"
Eugene Carbaugh, Retired, HPS Emeritus

REF-3: “Lu-177 Therapies, Things You Should Know”
Kendall Berry, Fox Chase Cancer Center

Return to Table of Contents
Activities

The 2022 IRPA North American Regional Congress—"Meeting the Challenges in the Practice of Radiation Protection"—was held 21–23 February, in St. Louis, Missouri, and included many activities in addition to the technical sessions and courses.

Poster Session: Konstantinos Georgiou, Columbia University, right, presented "Control of Contamination From Patient Urine During Y-90 Microsphere Procedures"
Photo courtesy of Rachel Pope Nichols
Exhibitor Reception  
Photo courtesy of Barbara Hamrick

Games in the exhibit hall  
Photo courtesy of Rachel Pope Nichols

The Greater St. Louis Chapter  
Photo courtesy of Rachel Pope Nichols

BAI Secretariat Staff  
Photo courtesy of Mike Mahathy

The trivia night on Monday, hosted by Rachel Pope Nichols and Charles Wilson, included even more virtual participants than in-person  
Photo courtesy of Charles Wilson

Trivia was played by in-person and virtual participants on the game app Kahoot!  
Screenshot courtesy of Mary Walchuk
Free professional headshot photos were sponsored by the George W. Woodruff School of Mechanical Engineering at the Georgia Institute of Technology. Photo courtesy of Rachel Pope Nichols.

Enjoying the HPS/IRPA Night Out at the Broadway Oyster Bar, left to right, Jake Nichols, Rachel Pope Nichols, Peter Caracappa, Kendall Berry, Felicity Beckfield, Dawn Montgomery, Annelise Gonzales, and Jan Braun. Photo courtesy of Debbie Gilley.

A collection of IRPA organizers, participants, and attendees—back row, left to right, Glenn Sturchio, Gene Carbaugh, Mike Boyd, Bernard Le Guen, Matt McFee, Kevin Nelson, Steve King, Debbie Gilley, and Wade Morris; front row, left to right, Jan Braun, Latha Vasudevan, Nicole Martinez, Dawn Montgomery, Barbara Hamrick, and Mike Mahathy. Photo courtesy of Barbara Hamrick.

HPS Board meeting—back row, left to right, Executive Director Brett Burk, President John Cardarelli, Director Tim Taulbee, Director Mike Boyd, Director-elect Angela Leek, Parliamentarian Jan Braun, Student Support Committee Chair Dawn Montgomery, and Director Jama VanHorne-Sealy; front row, left to right, Treasurer-elect Kendall Berry, Director Latha Vasudevan, and Secretary Nicole Martinez. Photo courtesy of Barbara Hamrick.

The St. Louis Arch. Photo courtesy of Kendall Berry.

Outside the Union Station Hotel. Photo courtesy of Mike Mahathy.
Awards

G. William Morgan Lectureship Award

Gayle Woloschak
G. William Morgan Lectureship Award
Photo courtesy of Barbara Hamrick

Ed Calabrese
G. William Morgan Lectureship Award
Screenshot courtesy of Barbara Hamrick
A Young Scientists and Professionals Award (YSPA) competition was held as part of the Health Physics Society (HPS)/International Radiation Protection Association (IRPA) North American Regional Congress earlier this year. This award seeks to recognize the work done by early-career scientists and professionals to help promote interest and expertise of the new generation in the field of radiation protection.

The competition was a multistep process: candidates first had to be selected by their respective IRPA associate society from a pool of individuals based on abstracts submitted for the congress. Upon selection, all nominated candidates were required to submit a written paper and provide a presentation of that paper at the congress, either in person or virtually. Papers were independently reviewed and evaluated by three different judges for rigor, impact, and clarity. Presentations were evaluated for delivery, organization, and design. Combined scores from the paper and presentation were used to decide the winners.

The Grand Prize Winner was Rachel Pope Nichols from the HPS. Her paper was titled "Comparison of Veterinary Medicine Radiation Safety Programs Across the US." She will receive $1,000 and a registration to IRPA 16, both donated by MJW Corporation, and a registration to ICRP 2021+1, donated by the secretariat of the International Commission on Radiological Protection (ICRP). Rachel works as a health physicist for the University of Missouri and has experience in medical, veterinary, and university health physics applications. In her spare time, she enjoys throwing some pots on the potter's wheel and hanging out with her health physicist husband and their grumble of pugs.
The First Runner-up was Emily Caffrey from the HPS. Her paper was titled "Dose Assessment for Technologically Enhanced Naturally Occurring Radioactive Materials Disposals in Landfills." She will receive $500, donated by the Medical Section of the HPS. Emily is the editor in chief of the HPS website Ask the Experts feature, assistant professor and program director for the University of Alabama at Birmingham Health Physics MS Program, and scientific consultant to Risk Assessment Corporation. When not doing health physics, Emily spends her time riding bikes and baking. She also enjoys working with her crazy rescue pup, Atlas.

The Second Runner-up was Amna Hassan from the Canadian Radiation Protection Association (Association Canadienne de radioprotection/CRPA). Her paper was titled "The Influence of Local Environment in Yeast-Based Biodosimetry Measurements." Amna is a second-year PhD student at Ontario Tech University. Outside of her research and professional work, her hobbies include cooking, rock climbing, and swimming. She will receive $250, donated by the Academic, Industrial, and Research Radiation Safety (AIRRS) Section of the HPS.

The three other candidates who were successful in making it to the final stage of the competition were Lekhnath Ghimire, Joeun Lee, and Deepesh Poudel.

Lekhnath, representing the CRPA, presented his work titled "A New Method for Measuring Low Doses in Deciduous Teeth Enamel Using EPR Spectroscopy for Retrospective and Accident Dosimetry." He is a PhD candidate at Ontario Tech University. Besides radiation dosimetry, he is also interested in nuclear forensics, nuclear chemistry, plasma physics (cold atmospheric plasma), remote detection systems, nuclear nonproliferation, and MCNP radiation transport modeling.

Joeun, representing the HPS, presented her work titled "Preliminary Risk Profile for PUR-1 Research Reactor." Joeun is a PhD student at Purdue University.

Deepesh, representing the HPS, presented his work titled "Regional Retention of Plutonium in the Respiratory Tract of Four Acutely-Exposed Workers Can Be Described Using Scar-tissue Compartments." Deepesh is an internal dosimetrist at Los Alamos National Laboratory. His research interests include internal dosimetry and biokinetic modeling, applied health physics, radiation instrumentation and counting statistics, and environmental health physics. Deepesh lives in Los Alamos, New Mexico, with his wife and one-year-old son. During their free time, they enjoy hiking and watching soccer together.

A jury of experienced professionals was convened to evaluate the papers and presentations as described above. The primary members of the jury were Christopher Clement (ICRP scientific secretariat), Dr. Bernard le Guen (IRPA president), Dr. Latha Vasudevan (Texas A&M University RSO, HPS director, and HPS AIRRS Section incoming president), Andy Miller (Cleveland Clinic RSO and HPS Medical Section incoming president), Tom Labone (MJW Corporation), and Dr. Nicole Martinez (HPS secretary and Clemson University associate professor).

In addition, due to scheduling conflicts during the congress, the following individuals assisted with evaluations of the presentations: Dr. Derek Jokisch (Francis Marion University professor and department chair), Dr. Nolan Hertel (congress president and Georgia Institute of Technology professor), and Dr. Dawn Montgomery (Clemson University assistant radiation safety officer).

A special thank you to all of our candidates, judges, and donors for making this such a successful and interesting event. And of course, a special congratulations to our winners!
CHP Part 2 Prep With Dr. Thomas Johnson

The 2022 IRPA North American Regional Congress—"Meeting the Challenges in the Practice of Radiation Protection"—was held 21–23 February, in St. Louis, Missouri. On 24 February, the Early Career Professionals Section of HPS hosted Dr. Tom Johnson as he provided a virtual four-hour course on preparing for Part 2 of the American Board of Health Physics Certification Exam. Johnson is a professor of health physics at Colorado State University.

"They say you need about 300 hours of studying to pass. So let’s get to it.”
--Thomas Johnson

Dr. Thomas Johnson, Colorado State University
Screenshot courtesy of Mary Walchuk

Sponsors

Thank you to the following sponsors of IRPA 2022 (click logo to go to sponsor's website):

Platinum

[Images of sponsors logos: Eckert & Ziegler Isotope Products, Mirion Technologies]

Gold

[Image of sponsor logo: Versant Medical Physics and Radiation Safety]
Silver

Bronze

Young Scientists and Professionals Award Donations

Grand Prize: $1,000 + IRPA 2024 registration (donated by MJW Corp) + ICRP 2021+1 registration (donated by the ICRP)
First runner up: $500 (donated by the medical section of the HPS)
Second runner up: $250 (donated by the AIRRS section of the HPS)