

NETWORK

The newsletter of

**THE UNIVERSITY NETWORK OF EXCELLENCE
IN NUCLEAR ENGINEERING (UNENE)**



The future is now

At the University of Waterloo (above), robots are being designed to work side-by-side with humans on dangerous or highly repetitive tasks, freeing up their human colleagues to focus elsewhere. At UNENE's annual Research and Development Workshop, the future of nuclear, including plant modernization, was on the agenda as experts from universities, industry and government gathered virtually to talk about what's next.

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INSIDE THIS ISSUE

UNENE Research Chair receives the Order of Ontario



Governments invest in research and capacity building



Ontario Tech researcher explores COVID-19 prevention



PRESIDENT'S MESSAGE

Iceberg analogies come to mind as UNENE paddles hard under the water

This time of great industry change will bring both challenge and opportunity.

I feel the need to write this column quickly, because otherwise, times will have changed before I finish!

We do indeed live in changing times; the continuing, long-drawn out COVID-19 pandemic is the most obvious change in our world, but other far-reaching changes are also affecting the nuclear community – and in a beneficial direction in many cases. The common theme is the need to evolve and adapt to change. UNENE shares this imperative, and our newsletter is full of activities and events showing our pathway to positive change.

UNENE's mandate is a reliable constant and touchstone during these times. We continue to focus on our unique partnership between industry organizations and universities, and to work on our education programs (a focus in this newsletter), on research, and on outreach both between our members and stakeholders, and to the broader community. Our response to change is to look at how we can more fully fulfill our mandate. As this newsletter is written, we are working on further development of our UNENE Collaboration Hub initiative, central to business planning for the future.

Meanwhile, UNENE has had a busy agenda. Some highlights:

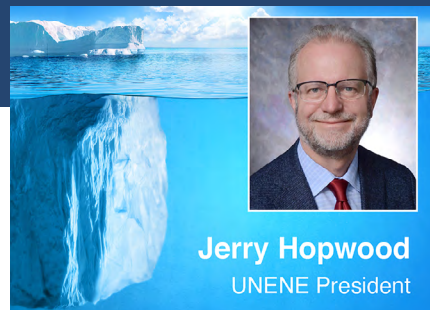
- Assisted in the development of two Research Chair program renewals, and in NSERC funding applications;
- Review of the latest round of UNENE Research Cooperative Projects;
- Partnership between COG and UNENE for coordination support to enable successful university participation in supplier-led COG R&D projects;
- Our Annual R&D Workshop, held fully on-line for the first time, with our highest-ever level of participation;
- UNENE-coordinated university Round Table providing feedback to the Canadian Government's Radioactive Waste Policy Review;
- Input to the International Panel on Climate Change; and
- A UNENE-moderated panel of universities as part of the Canada-Romania Virtual Trade Mission.

Coming up, UNENE will be working with our Board of Directors to finalize our three-year Business Plan, to bring together our work in research coordination, in outreach and in building collaborative relationships with other collaborators, all with the overarching commitment to provide added value to our members and to the nuclear community at large.

If you accessed this newsletter from our new digital news space, you are seeing just the beginning of our new digital space, with much more to come.

Stay tuned! We see a very positive future for UNENE. Here's hoping it will not be long before we can get out to our member locations and say hello to everyone in person.

— Jerry



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Publisher: Jerry Hopwood
Editor: Jacquie Hoorweg
Contributing Writer: Dan Zaiontz
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Stay up-to-date with the most recent nuclear university, industry and government news at <https://unene.ca/network-digital-news/>

Have a story to tell?

Send your submission to Jacquie at JHoorweg@QuerenciaPartners.com

Other contributing

UNENE team members:

Areti Vourinaris, Administrator
Ben Rouben, Treasurer and Secretary
Nik Popov, Program director, Education
Mike Soulard, Senior Advisor, Research and Development

UNENE Workshop opens a window to the future of nuclear

The show must go on and so it did. The COVID-19 pandemic didn't stop UNENE's annual R&D Workshop, a cornerstone of the organization's work in connecting academia with industry and government.

From CANDU plant modernization through digital technologies and artificial intelligence to the use of small modular reactors for new kinds of energy systems to the harvest of isotopes for nuclear medical diagnostics and treatments, there is a vast frontier of nuclear innovation right in front of us.

At its annual R&D Workshop, the UNENE network of academia, industry and government came together to explore these and many more innovations, as well as the need for enablers to future nuclear like advances in nuclear decommissioning and waste management, human performance and a response to pandemic conditions, cyber and nuclear supply chain security.

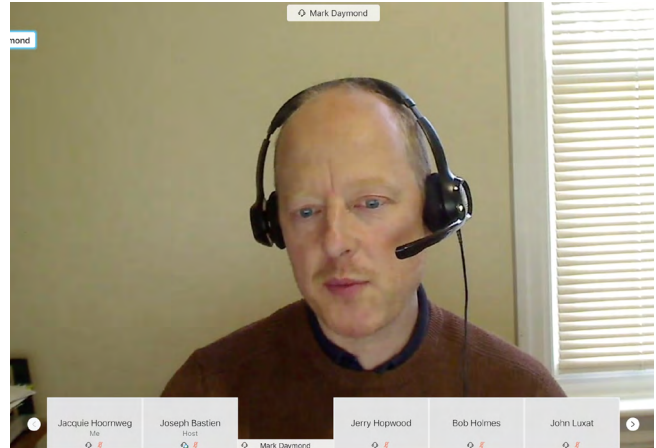
The workshop, held Dec. 14-17, was held online as a result of the pandemic but that didn't prevent the exchange of information across the various aspects of the sector with expert guest speakers presenting the latest research and industry trends.

Gathering input for future R&D focus areas

The annual workshop serves a critical role in connecting academia with industry and government to understand emerging needs and interests for research programming. Conversely, it offers industry an opportunity to learn about the most current research underway at the UNENE network of universities.

In addition to Canadian participants from academia and industry, Kostadin Ivanov of North Carolina State University provided an international perspective of recent trends and collaboration opportunities.

Capacity building is one of the fundamental objectives of UNENE. A panel of academic and industry



Queen's University's Mark Daymond was one of several academics who contributed to the UNENE R&D Workshop panels that explored how to adapt to the transitions in today's nuclear industry and the environmental forces driving change.

speakers discussed the vital and unique role of the the university community in capacity building in developing young scientists and engineers. Other topics of this discussion included university facilities and program continuity as well as the opportunities that exist within relationships between universities, the industry and civil society in strengthening understanding of the role of nuclear within clean energy systems. The panel included a student perspective, provided by Jacy Conrad, a 2020 R&D Workshop award winner.

Student participation

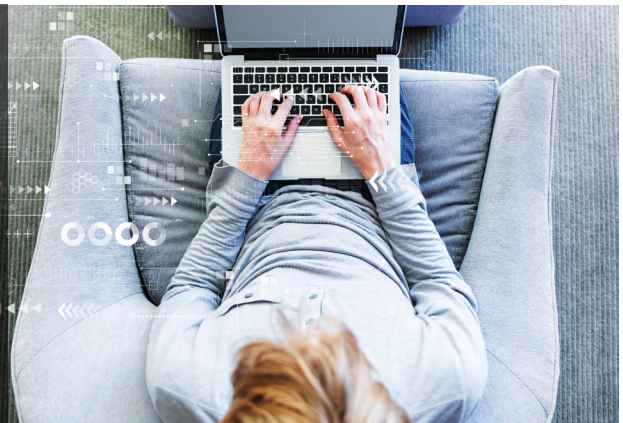
As has been the practice at the last several UNENE R&D Workshops, one session featured student presentations and provided an opportunity for students to highlight and present, orally, their research work to all session participants (about 80 people).

The session featured eight student speakers from four universities (three from Queen's University, two from Ontario Tech University, two from McMaster University, and one from University of Toronto).

There were seven impartial judges, all active in the Canadian nuclear industry, unrelated to any of the student presenters or their research projects.

Evaluation criteria included the quality of the abstract, presentation, and explanations provided by the students in their presentation and in response to participants' questions. The judges were impressed by all presentations. Collation of the judges' numerical evaluations identified the winner of the Best Student Presentation (and recipient of a \$500 prize) as Desmond Williams, who presented his research at Queen's but who is now at the University of Toronto.

UNENE brings the nuclear university network to students through programs geared to working professionals



For almost 20 years, UNENE has been helping people take the next step in their nuclear education and in their careers through programs that offer the best of Canadian and soon, international education.

Education and development of highly qualified personnel is one of UNENE's principal objectives. For almost 20 years, this objective has been fulfilled through graduate level education at participating universities and professional development by university professors.

UNENE uses a three-prong approach in delivering its educational services to Canadian industry:

1. Traditional industrial-oriented graduate degrees in nuclear-related disciplines, through the UNENE Graduate Degree (M.Eng.) program in Nuclear Engineering, jointly offered by member universities with UNENE overall coordination and support.
2. Single course graduate education program, in which students can select a specific UNENE graduate course of their interest.
3. Professional development education using training and refresher courses for industry organizations, tailored to specific industrial and organizational needs.

Online Education

UNENE has used synchronous interactive distance education routinely since our inception. Every course is given in class by an instructor and delivered by Webex in parallel. Webex recordings provide students an opportunity for reviewing the material during study, assignments and projects, and preparation for exams.

During the pandemic, all UNENE courses were successfully given remotely using Webex. UNENE

is exploring the practicality of delivering courses completely online using distance-education tools and e-lecture modules. This could improve education flexibility and allow students to better plan their time.

Nuclear Graduate Degree Program

The UNENE graduate program is an attractive career-building option, offering unique opportunities and benefits to industry employees, including:

Courses from five universities in Ontario selecting top-ranked instructors in their fields;

Lectures over four weekends in each term, minimizing disturbance to students in full-time employment;

Development of teamwork by encouraging students from different industry organizations to work in groups on assignments and projects;

Flexibility to allow students to register for graduate courses at the most convenient pace for them; and

Allowing for industry input to course classroom location.

UNENE's fundamental education building blocks are the graduate courses for the M.Eng. degree. UNENE also uses these as the basis for courses for professional development. UNENE has delivered several courses of this nature at the customer site. We are looking at further extending this education program mode with courses tailored to industry needs. Watch for more on this in the months ahead.

International Perspective

One of UNENE's most recent collaborations, with the International Atomic Energy Agency, CANDU Owner Group will bring the IAEA Nuclear Energy Management program to Canada. As well, UNENE is collaborating with other nuclear education networks worldwide to explore collaboration opportunities.

Continued on Page 5



UNENE Education Update

In 2020, UNENE continued its track record of successful educational program delivery to the nuclear industry, despite an abundance of new initiatives and challenges.

These included development of new delivery methods (distance-education, online education, and e-lecturing),

in response to the pandemic limitations, and our once-in-seven-years preparation of the Self-Study report for the UNENE program review (Institutional Quality Assurance Process (IQAP) review).

The IQAP review guidance was provided by the MacPherson Institute for Leadership, Innovation and Excellence in Teaching at McMaster University. The review was conducted over 10 months by a team of UNENE staff. The IQAP included review of the UNENE program and requirements, curriculum, teaching delivery, resources to meet program requirements, quality indicators, program quality enhancement, UNENE system of governance, academic services, and others.

We collected key inputs via stakeholder surveys conducted with the UNENE students and alumni, the professors, the industry organizations, and university administration staff. This was followed by focused workshops organized with students and professors separately on specific topics.

The IQAP review identified several opportunities and challenges in the UNENE program. UNENE continues to meet the three major objectives of the M.Eng. education program:

- Provide an opportunity to nuclear employees in Canada to get an M.Eng. degree, and thus enhance their career; and
- Deliver a graduate program aimed at helping people apply their knowledge to their career, and thus help nuclear companies in Canada meet their capability development objective; and
- Deliver flexible synchronous distance education (combined classroom and online delivery) which allows students at remote nuclear sites to participate in the class.

One of the most important challenges of the UNENE program is attracting a full slate of students. It is vital to the success of the UNENE program to attract enough students to benefit from collaboration and networking, as well as ensuring a strong financial base. UNENE management continues discussions with the key industry organizations in Ontario to ensure we can respond as the sector evolves.

Another related challenge is strengthening company management recognition of the UNENE students' achievement and knowledge enhancement. Students tell us they expect a UNENE M.Eng. degree to provide the basis for career progression.

Continued from Page 4... UNENE helps nuclear professionals advance their careers

Welcoming member input on education programming

UNENE works directly with industry through meetings of the Educational Advisory Committee, the UNENE Board of Directors, and through issue-specific working groups. This helps us keep our programs relevant and valuable to our industry stakeholders.

Learn more...

Interested in more information about the UNENE Education Program?

Whether you are a nuclear professional looking to make the next step in your education, an industry member with a training need to fill or a university faculty member looking to get involved, connect with us to learn more about what UNENE offers. Email us at UNENE@McMaster.ca.

UNENE COLLABORATION



Advancing nuclear collaboration internationally

UNENE network participates in Canada-Romania virtual nuclear trade mission with a seven-university panel hosted by UNENE President Jerry Hopwood

Leading academics from Canadian and Romanian universities explored avenues for collaborative research and talent development, as part of the virtual “Canada-Romania Partnership in Nuclear Technologies” trade mission event, March 2 and 3.

UNENE President Jerry Hopwood hosted the panel, which highlighted the existing areas in which Canadian and Romanian universities collaborate, as well as future opportunities to work together on shared areas of research interest building on already strong academic ties.

Hopwood discussed Canada and Romania’s extensive history and continuing academic collaboration. He said it pre-dates the commissioning of Romania’s CANDU nuclear plant, Cernavoda, in 1996 and culminates in Polytechnica University of Bucharest’s addition as UNENE’s first international university member in 2019.

“It’s an important time for us to be discussing cooperation in the education and university research areas,” says Hopwood. “There’s a tremendous amount of exciting activity going on between Romania and Canada and the universities are very much a part of building up our capabilities for the future.”

Driving the mission in part are plans by Societatea Nationala Nuclearelectrica (SNN, Romania) for refurbishment of their existing Cernavoda CANDU units, as well as new build of two more units on the site. This is coupled with promising developments globally in small modular reactor (SMR) development, which both countries have been actively engaged in.

In 2020, a United States-Romania finance deal to support the refurbishment at Cernavoda and additional CANDU-6 new build was announced. At the same time, it was announced AECOM will lead the US \$8-billion project to build two new reactors and refurbish the existing reactor at Cernavoda.

The event was organized by the Organization of Canadian Nuclear Industries (OCNI), ROMATOM (the Romanian Atomic Forum), Energynomics, SNN and the Embassy of Canada to Romania. It included industry leaders from other organizations, including the CANDU Owners Group.

The conference also featured a two-day virtual industry match-making event, which took place March 9 and 10, and featured suppliers from both countries.

Academic panelists included:

Akira Tokuhiko, Ontario Tech University
Cristian Dincă, Polytechnica University of Bucharest
Dave Novog, McMaster University
Dumitru Chirlesan, University of Pitesti
Eden Mamut, Ovidius University Constanta
Nicolae Mărginean, Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering
Willy Cook, University of New Brunswick

[Click here](#) to read the OCNI event announcement.

[Click here](#) and [here](#) for videos from both days of the virtual trade mission.

Long-time industry leader lends his expertise to UNENE

Mike Soulard is connecting industry needs with university R&D capabilities



Mike Soulard is working with UNENE on a joint initiative with the CANDU Owners Group.

Mike Soulard brings approximately 40 years of experience with Atomic Energy of Canada and Candu Energy.

In November 2020, Mike Soulard joined UNENE with a primary focus on enhancing research collaboration and coordination between CANDU utilities, CANDU Owners Group and UNENE member universities.

One of the objectives of his work is to bridge the gap between common industry issues and university capabilities while improving R&D roadmaps.

Soulard recently retired after nearly 40 years with Atomic Energy of Canada Limited and Candu Energy, working in technical, marketing, product development and project management.

His work experience includes activities related to system & piping design, stress analysis and heat transport system thermal-hydraulics. While with AECL's R&D team, he managed the process systems and equipment branch and supported the project execution plan for the Point Lepreau Refurbishment Project.

Later, Soulard became technical marketing manager for AECL's Advanced CANDU Reactor (ACR-700) in the United States. He also held roles

as engineering manager for the ACR-1000 Nuclear Steam Plant Development Program and served as project director responsible for the EC6 Nuclear Steam Plant Definition and Development Program.

Soulard has a bachelor and master's degree, applied science in mechanical engineering from the University of Toronto as well as a master's degree in business administration. As well, Soulard has worked in project management with the U.K. Nuclear Decommissioning Authority and supported Holtec's SMR-160 development through Candu Energy.

Gain visibility for your R&D work

As part of his new role, Mike will be working with universities and industries to find common interests in research and development and connect the needs with the capabilities.

The University Nuclear Directory, currently under development, will help industry members to access experts in the academic sphere. The directory will include listings of experts, programs, facilities and contacts.

A subsequent directory will focus on capabilities related to Small Modular Reactors (SMR).

To learn more...

Contact Mike Soulard at

Michael.Soulard@Sympatico.ca.

Preserving Canada's nuclear heritage

Rediscover Canada's nuclear history in person, online and watch for future webinars

Since 2017, a charitable organization in Deep River, Ontario has been meticulously collecting artefacts from Canada's 75-year nuclear history.

The Society for the Preservation of Canada's Nuclear Heritage (SPCNHI) has the goal to preserve and communicate Canada's nuclear heritage through the collection, safeguarding and promotion of documents, artefacts, memorabilia and knowledge from the history of the Canadian nuclear industry.

The organization has both a physical and a virtual museum.

At the physical site in Deep River, there is an eventual plan

to host educational programs, workshops, and historical researchers. Currently, interested members of the public can visit the museum by appointment. The virtual museum contains historic articles and images accessible through the SPCNH website.

UNENE and SPCNHI are currently planning a webinar organized by SPCNHI to celebrate Canada's nuclear heritage, to which UNENE members will be invited. The date for this webinar will be shared in a future communication.

Learn more about SPCNHI and its historical collection, [here](#).

Register for SPCNHI membership (\$20 annually). Complete the form, [here](#).

FUNDING ANNOUNCEMENTS

Working together, post-secondary, industry, governments and students build a strong Canadian nuclear future



Ontario supports hands-on training opportunities for post-secondary students

On March 10, the Ontario government announced it is providing \$39.5 million to help Mitacs — an organization that builds partnerships between post-secondary talent and industry — create up to 8,000 paid innovative internships and upskilling opportunities for post-secondary students, post-doctoral fellows and recent graduates.

Mitacs is a national non-profit organization that builds partnerships between post-secondary talent and industry to facilitate high-quality internships in various fields, including technology, health, advanced manufacturing, agriculture, environment, business, and law. In its release, Mitacs referred to Ontario Tech University interns who worked on a project that conducted wastewater-based community testing to predict the local spread of COVID-19 and help with long-term planning for disease prevention. In another project, interns at Myant Inc. supported the development of reusable surgical masks and N95 respirators.

Investing in experiential learning opportunities for students and recent graduates is part of the government's plan to ensure it is building a skilled workforce that will help Ontario's economy recover from the effects of COVID-19, the release said.

For more information, visit the Mitacs website at [Mitacs.ca](https://www.mitacs.ca)

Major investments in nuclear research through Canadian Innovation Foundation and NSERC include big awards to nuclear programming

Largest single-project funding awarded to McMaster for nuclear-related technology project

On March 3, Prime Minister Justin Trudeau announced funding for 102 projects at 35 post-secondary institutions and research hospitals across the country for a total of more than \$518 million through the Canadian Innovation Foundation (CIF).

McMaster's *Building a Future for Canadian Neutron Scattering* project, led by physicist Bruce Gaulin was awarded more than \$14.2 million, the most funding received for any single project. The funding will be used to construct three new neutron beamlines at the university's nuclear reactor.

This is a national project that will

enable research and innovation in areas such as materials for clean energy technology, materials for structural integrity of reliability-critical components of vehicles or nuclear power plants, biomaterials for understanding and combating disease and materials for information technology.

Carleton University's Mark Boulay, professor in the Department of Physics, and his partners at the University of Alberta, Laurentian University, Queen's University, Canadian Nuclear Laboratories, SNOLAB and TRIUMF received approximately \$6.9 million in CIF funding. Their work is enhancing Canada's leadership in dark matter searches by enabling next-generation liquid argon experiments at SNOLAB.



Liquid argon's unique properties allow strong background suppression, enabling very large and sensitive detectors.

[Click here](#) to see the full list of projects that received CIF funding.

[Click here](#) to learn more about McMaster University's CIF-funded projects.

[Click here](#) to learn more about Boulay's CIF-funded research at Carleton University.

NSERC funds approximately \$4 million in nuclear research

In January, the Government of Canada announced its investment of \$118 million in funding through the Natural Sciences and Engineering Research Council of Canada's (NSERC) inaugural Alliance grants program.

Approximately, \$4 million was granted to 10 projects at Canadian universities focused on improved nuclear plant performance, waste management and nuclear medicine.

UNENE institutions receiving funding included: McMaster University, Queen's University, University of Toronto and University of Waterloo.

Industry partners collaborating on funded projects include: Bruce Power, Canadian Nuclear Laboratories, CANDU Owners Group, Nuclear Waste Management Organization and Ontario Power Generation.

UNENE research chairs and the organization itself are involved with several of the projects that received funding.

Alliance grants encourage university researchers to collaborate with partner organizations, which can be from the private, public or not-for-profit sectors. These grants support research projects led by collaborative teams to accelerate the application of research results.

[Click here](#) to view the full list of this year's NSERC Alliance grants.

NSERC Alliance nuclear researchers who received grant funding

Karim Laurent Béland
Development of artificial neural networks to analyze micrographs of zirconium-based alloys and hydrides for nuclear power applications
Queen's University with Canadian Nuclear Laboratories
\$90,000

Hyun Soo Byun
Development and Validation of Physical and Biological Methods for Low Dose Radiation Protection
McMaster University with CANDU Owners Group
\$640,000

Mark Daymond
Mechanistic understanding of hydrided region overload cracking
Queen's University with Kinectrics
\$292,000

Tarik Kaya
Investigation of liquid metal heat pipes for cooling small modular nuclear reactors
Carleton University with Canadian Nuclear Laboratories
\$20,000

Derek Martin
The pore pressure behaviour of argillaceous formations subjected to induced shear
University of Alberta with NAGRA, Nuclear Waste Management Organization, Rocscience Inc.
\$300,000

Sriram Narasimhan
Digitization and asset information modelling to support nuclear power plant decommissioning
University of Waterloo with UNENE
\$212,295

Jovan Nedic
Mitigation of hydrodynamic instabilities in magnetized target fusion reactors
McGill University with General Fusion Inc.
\$240,000

Suraj Persaud
Corrosion Control and Materials Performance in Nuclear Power Systems

Queen's University with Bruce Power, Canadian Nuclear Laboratories, Ontario Power Generation and UNENE
\$1,436,000

Suraj Persaud
Advanced characterization and modelling of degradation in nuclear waste canister materials
Queen's University Nuclear Waste Management Organization
\$1,032,999

Andre Simpson
Tackling Sensitivity and Spectral Crowding: Establishing Portable Low-Field Nuclear Magnetic Resonance Spectroscopy (NMR) as an Essential Scientific Tool
University of Toronto Synex Medical
\$147,500

UNENE joins network of networks

A new agreement between a number of global universities will help strengthen connections between Canadian nuclear institutions and those abroad.

A number of global universities with a nuclear focus, including those within the UNENE community, will have more opportunities to collaborate, moving forward.

UNENE has joined other regional education networks from around the world, as members in the International Atomic Energy Agency's (IAEA) [Nuclear Education Networks](#) Collaboration Agreement.

A virtual signing ceremony was held on Feb. 25 featuring representatives from IAEA and signatories from the participating regional education networks.

The objective of the agreement is to increase opportunities for the member institutions of the participating education networks to exchange information, work together on nuclear training and research as well as develop exchange opportunities for students, faculty and researchers.

Prior to the agreement, UNENE had been an informal participant in IAEA educational network meetings. Becoming formal members of the global network will open doors for the Canadian academic community to share nuclear expertise, knowledge and innovations while gaining an understanding of work being done at universities abroad by global peers.

The IAEA collaboration agreement includes:

- Asian Network for Education in Nuclear Technology (ANENT);
- Latin-American Network

for Education in Nuclear Technology (LANENT);

- African Network for Nuclear Education, Science and Technology (AFRA-NEST);
- European Nuclear Education Network Association (ENEN);
- Regional Network for Education and Training in Nuclear Technology (STAR-NET in Austria);
- Belgian Nuclear Higher Education Network (BNEN);

- Nuclear Technology Education Consortium (NTEC in the United Kingdom); and
- University Network of Excellence in Nuclear Engineering (UNENE).

The participating education networks, and their member universities, are invited to connect using the [ENER connect platform](#) to find out about virtual networking events, scholarly research and podcasts.

UNENE hosts NRCan radioactive waste roundtable



Academics from UNENE's member and other post-secondary institutions participated in a virtual roundtable, Feb. 16, to share their perspectives and feedback as part of Natural Resources Canada's (NRCan) radioactive waste management policy consultation process.

UNENE works as a secretariat for university input to the modernization effort. It is a connecting hub, representing and coordinating member university responses to the waste management policy review.

Institutions that participated in the roundtable include: McMaster, Northern Ontario School of Medicine, Ontario Tech University, Queen's, Royal Military College, University of Regina, University of Saskatchewan, University of Windsor and Western.

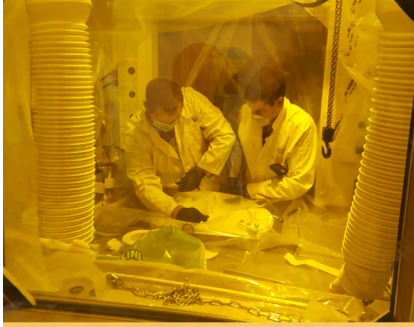
In November 2020, NRCan announced a plan to modernize Canada's radioactive waste policy to promote long-term management solutions, aligning with international standards and best practices.

UNENE is putting a letter together to provide as a written contribution to NRCan expressing and summarizing academic input to the policy review and possible thoughts on how the university community can further support policy development.

NRCan has launched a virtual Youth Corner to collect input and ideas from young Canadians about modernizing its waste management policies.

Visit the Youth Corner to take a survey or submit a video with questions or comments at:

<https://www.rncanengagenrcan.ca/en/content/youth-corner>



McMaster-Kinectrics research completes first phase

First phase of McMaster-Kinectrics collaboration focuses on surveillance monitoring

McMaster University, and nuclear supplier, Kinectrics, completed the first phase of a “first-of-its-kind” partnership focused on surveillance monitoring of components from Ontario Power Generation’s Darlington Nuclear Generating Station.

The outcome of their work ensures that equipment used during maintenance will perform to the industry’s exacting standards and provides the requisite data for decision-making on infrastructure renewal.

The work is being conducted at McMaster’s Centre for Advanced Nuclear Systems (CANS) – a unique regional research facility dedicated to the study of nuclear systems; created under the leadership of John Luxat, professor of engineering physics and NSERC/UNENE Senior Industrial Research Chair.

[Click here](#) to read the full story.

Want to read more University News?

Visit our Network Digital News at: www.UNENE.ca/network-digital-news/



Ontario Tech researcher explores COVID-19 prevention

A health physics and nuclear engineering researcher at Ontario Tech University is exploring a potential way to easily stop or control transmission of COVID-19.

Kirk Atkinson, an associate professor and NSERC/UNENE Industrial Research Chair, in the Faculty of Energy Systems and Nuclear Science (FESNS) says far-UVC lamps could potentially be a safe and inexpensive way of reducing airborne pathogens like coronavirus.

Atkinson’s paper, *Predicting airborne coronavirus inactivation by far-UVC in populated rooms using a high-fidelity coupled radiation-CFD* model*, was published in Nature Scientific Reports journal in November 2020.

Atkinson and his fellow researchers believe using far-UVC light, a safe type of ultraviolet light may be the answer to preventing COVID-19 transmission in enclosed spaces.

“Imagine if you could simply screw a far-UVC light bulb into a standard light fixture. Switching the light on will sterilize the air for everyone in the room... We discovered the effectiveness of far-UVC illumination in poorly ventilated spaces is as good as N95 masks in preventing transmission under some circumstances,” says Atkinson.

[Click here](#) to read the full story.



Western University’s Jing Jiang receives Order of Ontario

Western University’s Jing Jiang has been well recognized for his nuclear research and teaching, in Canadian and internationally.

This year, he added Ontario’s highest honour to his list of accomplishments when the 2020 appointees to the Order of Ontario were announced and Jiang was among 25 Ontarians recognized.

Jiang is one of the University of Western Ontario’s longest-serving NSERC-UNENE Senior Industrial Research Chairs (IRC), in the role since 2003. He has spent three decades with the university’s Department of Electrical and Computer Engineering.

During that time, Jiang established a world-class research program on instrumentation and control systems for nuclear power plants. He has also worked closely with Canadian nuclear organizations, through UNENE, and has helped prepare highly-qualified personnel (HQPs) for work in the nuclear industry.

“Jiang’s innovative research work has contributed to nuclear industries in Ontario and internationally,” the Order of Ontario announcement said. “As a research chair professor at Western University, he has also trained the next generation of Ontario’s leaders in safe utilization of nuclear energy for power generation.”

[Click here](#) to see the full story from the University of Western Ontario.

THE LAST WORDS

INDUSTRY NEWS



Canada's nuclear industry

Some of the latest news highlights you will find on the UNENE Network Digital News page include:

- Recent small modular reactor (SMR) developments
- CANDU refurbishment milestones
- Advancements in medical isotopes
- A “made-in-Ontario” hydrogen proposal and
- The record for the longest online run in the world achieved by Darlington’s own Unit 2 before it came offline for the last time ahead of refurbishment.

[Read more](#) on the *UNENE Network Digital News page*

RECENT POLICY



Government issues several policies relevant to nuclear sector

The nuclear academic community has participated in the development of Canada’s plans for a low-carbon, clean energy future.

The plans released in the past six months by the Canadian Government cover areas ranging from an overarching approach to climate change, development of a mobile hydrogen energy source and Canada’s Action Plan for the design and deployment of small modular reactors (SMRs).

Engagement on a review of Canada’s radioactive waste management policies is on-going now.

At the global level, the international community, including members of the UNENE network, are inputting to the Intergovernmental Panel on Climate Change reports in preparation for COP26.

[Read more](#) on policy matters on the *UNENE Network Digital News page*

BUILDING A UNENE HUB

UNENE MISSION 2024



Harness the strength of the UNENE network to fund and advance nuclear knowledge, build capacity and heighten visibility of Canada’s excellence as a global partner in nuclear science & technology

Strengthening our capability to serve the network better

Leading up to the May 28 Board meeting, UNENE will be reaching out to key stakeholders for input on the draft three-year business plan presented at the January 2021 Board Meeting. Facilitated sessions will be led by Jacquie Hoornweg, Querencia Partners Canada Ltd. who is working with Jerry Hopwood on UNENE’s strategy and planning development.

We’ve heard from our network that there is a greater role UNENE can play to connect the university sector to industry and government. Together, we can create stronger synergies in research and development, education and training, outreach and knowledge mobilization.

Excuse us while we renovate...

As we carry out our engagement, we are also working hard to prepare to serve our network better by updating and building new infrastructure.

One initiative is a new website that will launch in the Summer 2021. In the interim, we are currently refreshing the existing website starting with our new digital news page. So please bear with us as we make these changes.

[Bookmark the news site](#) to stay up-to-date and connected. Don’t be surprised if you hear from us looking for your own news or to get your feedback as we build the UNENE of tomorrow.