



McMaster University

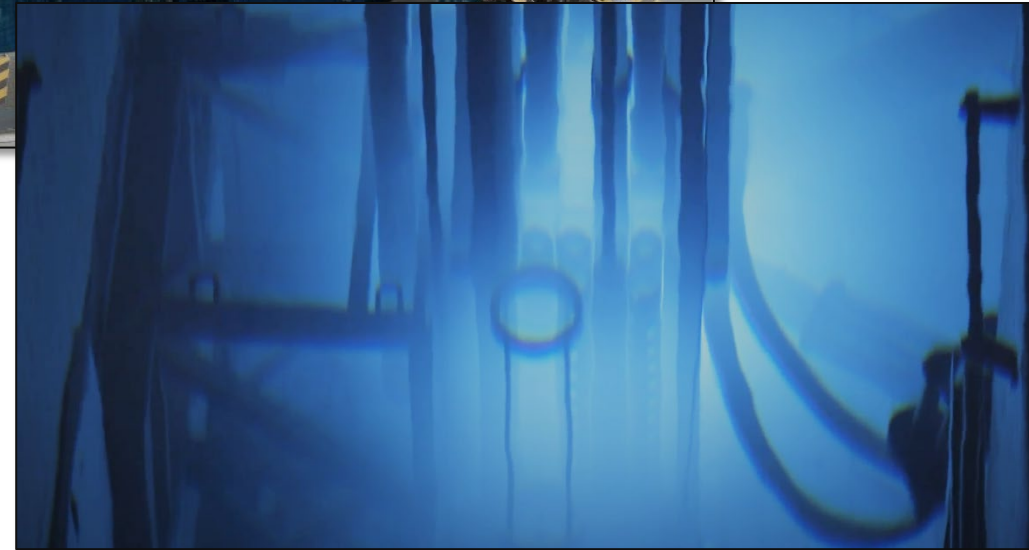
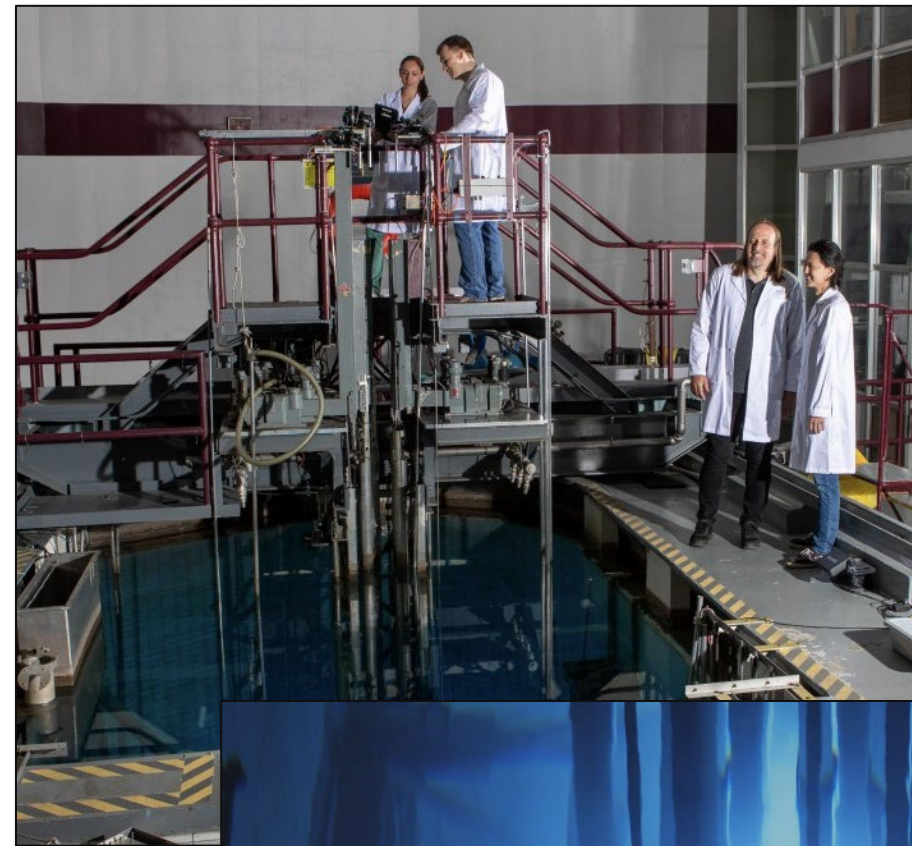
Canadian experience
in nuclear energy
education

Mike Welland, PhD, PEng, Professor Engineering Physics
4th International Nuclear Conference, Sofia, Bulgaria
April 10, 2025,



McMaster Nuclear Reactor

- 5MW research reactor
 - Highest powered research reactor in Canada
- Multipurpose, 25+ experiments
 - Isotope production for medical and tracer use
 - Pneumatic irradiation sites
 - Material testing
 - Neutron beam science
- Facilitates experiential training on nuclear operation and applications



World-class facilities

Staffed, managed and operated by Nuclear Operations and Facilities (NOF)



Centre for Advanced Nuclear Systems



McMaster Accelerator Laboratory



High Level Laboratory Facility



McMaster University Cyclotron Facility

McMaster is home to several facilities that provide experiential learning for the nuclear industry.



Nuclear research & education



Supported by 100+ Operations Staff

SMR Research & Development

We are proud contributors to
Canada's SMR Action Plan.



Researchers across disciplines are engaged in a **feasibility study** to assess the potential of hosting an SMR at the University.



Collaboration with the Canadian and international nuclear community

Strong partnership with Canadian industry

- CANDU Owners Group
- University Network of Excellence in Nuclear Engineering
- Canadian Nuclear Laboratories (AECL-owned)
- Nuclear power operators

McMaster's **Small Modular Advanced Reactor Training (SMART)** program is preparing the next generation of leaders in SMR research, deployment and safety.

McMaster is leading NEA's **NEST SMR Project**, which provides multi-disciplinary training opportunities to help build nuclear skills capacity in the US, EU and Canada and advance SMR research.

Partners in international initiatives

- IAEA Lise Meitner Program: Women leaders in nuclear from around the world
- Next Generation in Nuclear Medicine: partnership with King's College, London.
- SATURN Program: Partnership with UK Universities • Train for 4000 PhD students in Nuclear Energy skills



Building the future nuclear workforce



McMaster is invested in training the next generation of nuclear expertise, including reactor operators, nuclear engineers, radiochemists, nuclear technologists, clinical staff and more.



Thank you!

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