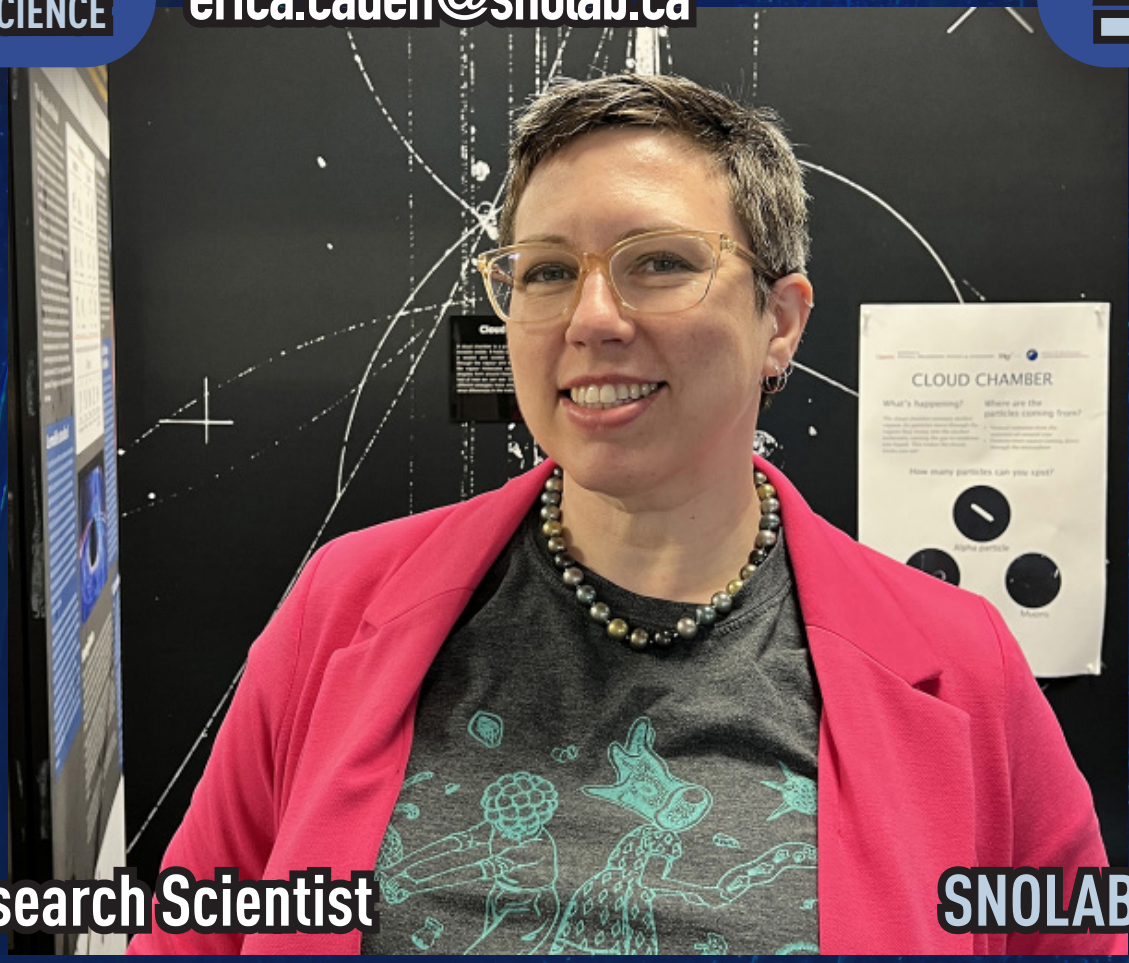
S
SCIENCE

Dr. Erica Caden (she/her)

erica.caden@snolab.ca

RP-5



Research Scientist — **SNOLAB**

I work on the SNO+ and nEXO experiments at SNOLAB searching for Neutrinoless Double Beta Decay. I am also passionate about improving Equity, Diversity, Inclusion, and Indigenization in the scientific community.

https://www.linkedin.com/in/erica-caden-12a6a81a2/

INSTRUMENTATION	ENGINEERING	OUTREACH	COLLABORATION
2	1	4	3

2026 REVISED EDITION

S
SCIENCE

Miriam Diamond (she/her)

mdiamond@physics.utoronto.ca

RP-5

Assistant Professor

University of Toronto

https://www.linkedin.com/in/miriam-diamond-95419356

Miriam's primary research area is low-mass dark matter searches, as a member of the SuperCDMS direct-detection experiment at SNOLAB. Her team at UofT focuses on Data acquisition, data quality management and low mass dark matter analysis.

THEORY	DATA	INSTRUMENTATION	OUTREACH
2	3	3	2

2026 REVISED EDITION

S
SCIENCE

David Gallacher (he/him)

david.gallacher@mail.mcgill.ca

RP-3

PhD Candidate — **McGill Univeristy**

https://www.linkedin.com/in/david-gallacher-0574ba126/

I work on the light detection system for the nEXO experiment at SNOLAB, focusing R&D of detectors with the LoLX experiment at McGill and simulations for nEXO. I'm also passionate about building community in physics.

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
4	2	1	1

2026 REVISED EDITION

S
SCIENCE

Cody O'Neill (he/him)

coneill@snolab.ca

RP-1

Undergraduate Student

SNOLAB

I work on the SNO+ experiment at SNOLAB on the calibration team.

www.linkedin.com/in/coneill03

INSTRUMENTATION	THEORY	ENGINEERING	OUTREACH
2	1	1	2

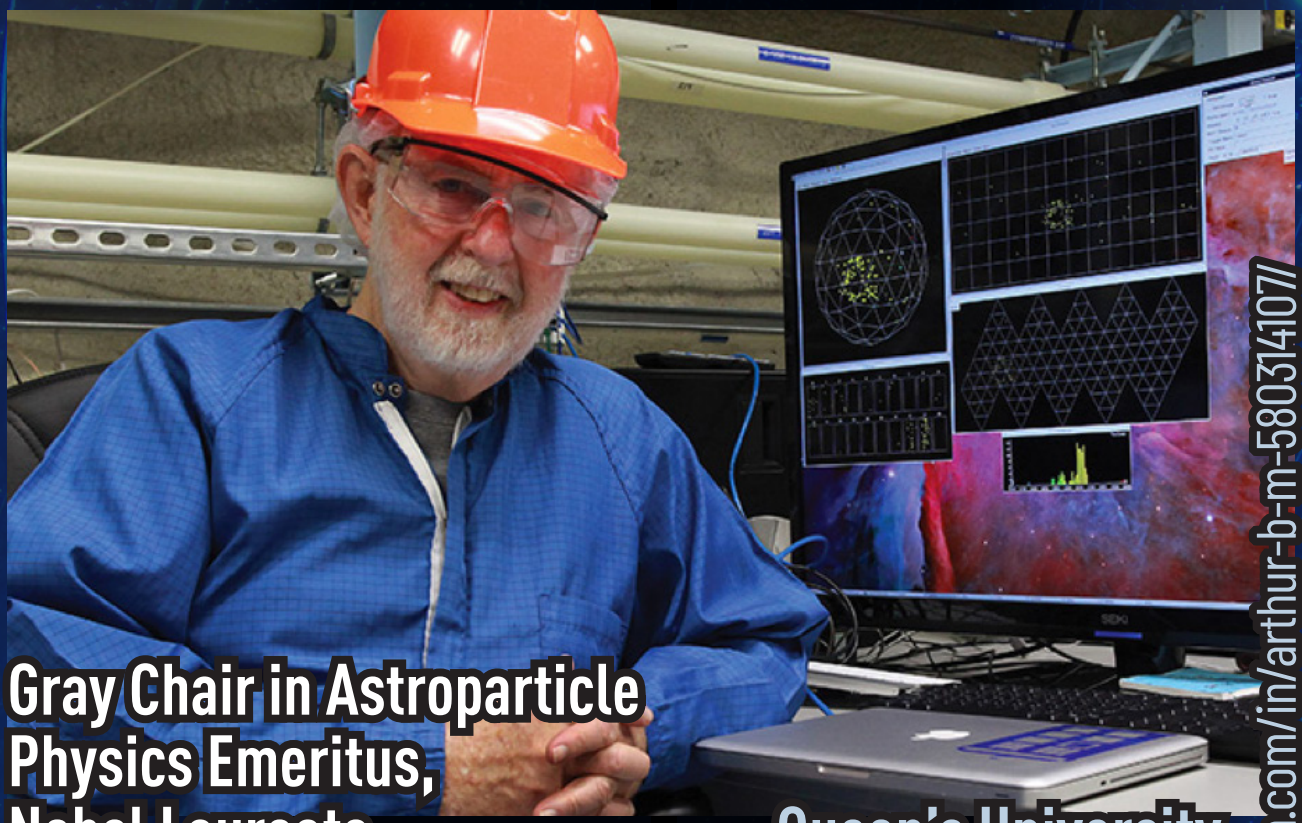
2026 REVISED EDITION

S
SCIENCE

Art McDonald (he/him)

art@snolab.ca

RP-6



Gray Chair in Astroparticle Physics Emeritus, Nobel Laureate

Queen's University

https://www.linkedin.com/in/arthur-b-m-58031407/

Dr. McDonald was responsible for the development and operation of the Sudbury Neutrino Observatory, as well as the analysis and presentation of scientific results. His persistence and leadership over many years paved the way to the significant scientific breakthroughs made by the team.

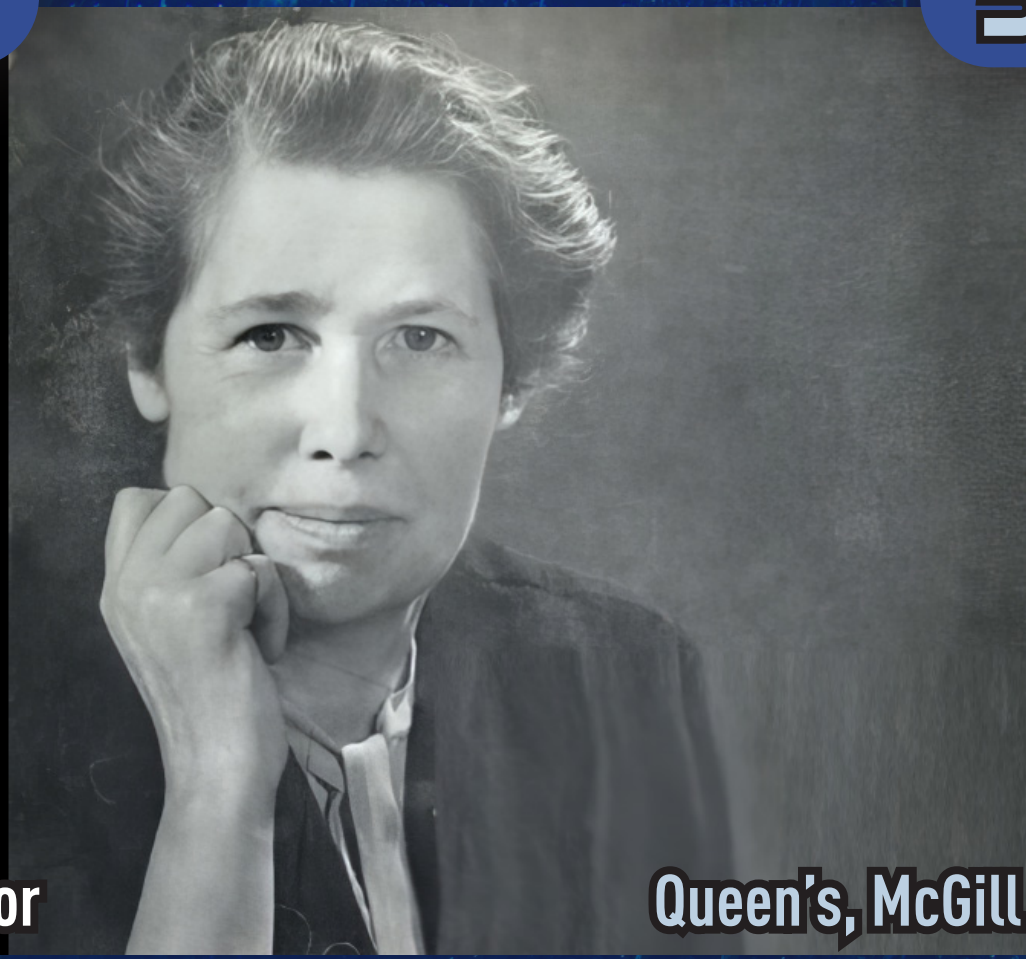
INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
3	3	3	3

2026 REVISED EDITION

S
SCIENCE

Allie Vibert Douglas (1894-1988)

RP-5



Professor

Queen's, McGill

Worked as a statistician during WWI: 1916-1918. Studied at Cambridge and was the first woman to receive a PhD in Astrophysics in Canada at McGill in 1926, where she lectured until becoming Dean of Women and a Physics Professor at Queen's from 1939-1964. President of RAS 1943-1945. Named to the Order of Canada in 1967.

https://en.wikipedia.org/wiki/Allie_Vibert_Douglas

INSTRUMENTATION	THEORY	DATA	EDII
2	2	3	3

2026 REVISED EDITION

S
SCIENCE

Patrick Hatch (he/they)

patrickhatch27@gmail.com

RP-3

PhD Candidate

Queen's University

I work for the IceCube Neutrino Observatory searching for the sources of high energy astrophysical neutrinos. This involves making sense of IceCube data through the power of stats, simulations, and theory! Outside of research, I volunteer at a local farm and take on overly ambitious cooking projects.

THEORY	DATA	OUTREACH	TRAINING
2	4	1	1

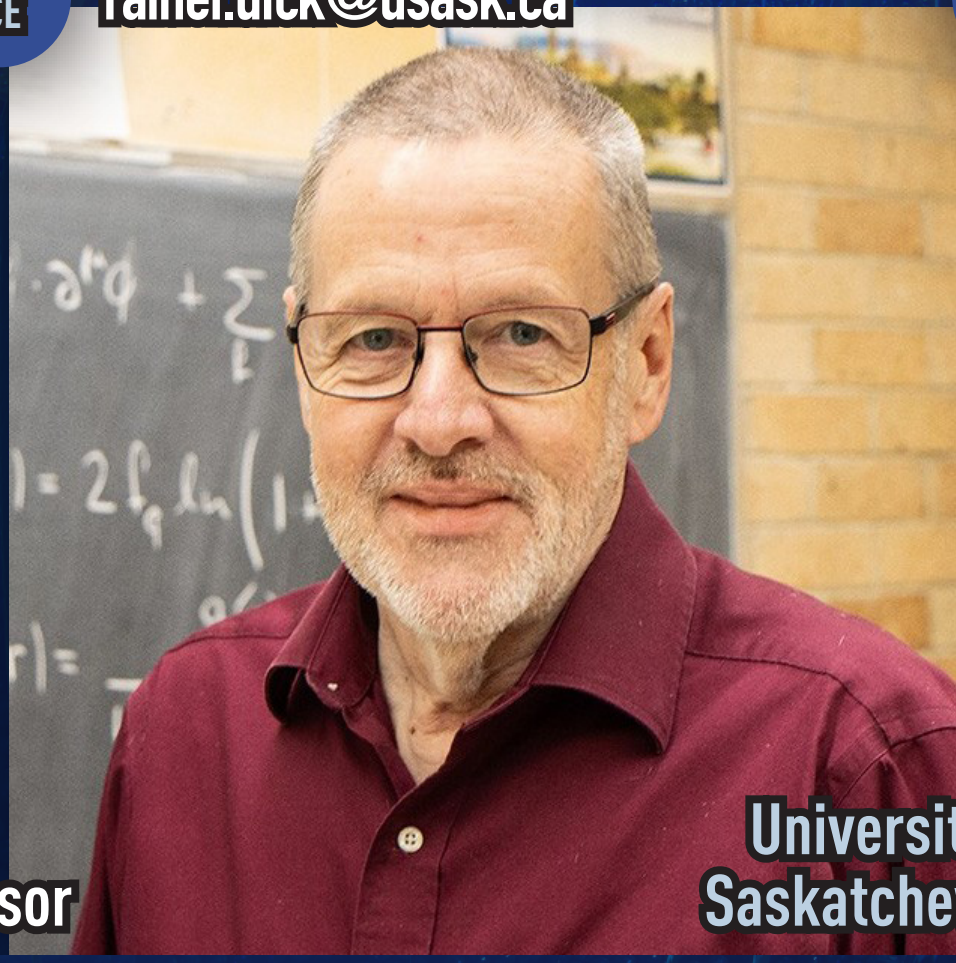
2026 REVISED EDITION

S
SCIENCE

Dr. Rainer Dick (he/him)

rainer.dick@usask.ca

RP-5



Professor

University of Saskatchewan

https://www.linkedin.com/in/rainer-dick-50691026

Professor Rainer Dick studies theoretical particle astrophysics, focusing on dark matter models beyond the Standard Model, cosmic rays, and string theory. His work connects gravitation, quantum field theory, and cosmology to better understand the universe's fundamental forces and structure.

THEORY	DATA	COLLABORATION	TRAINING
4	2	2	2

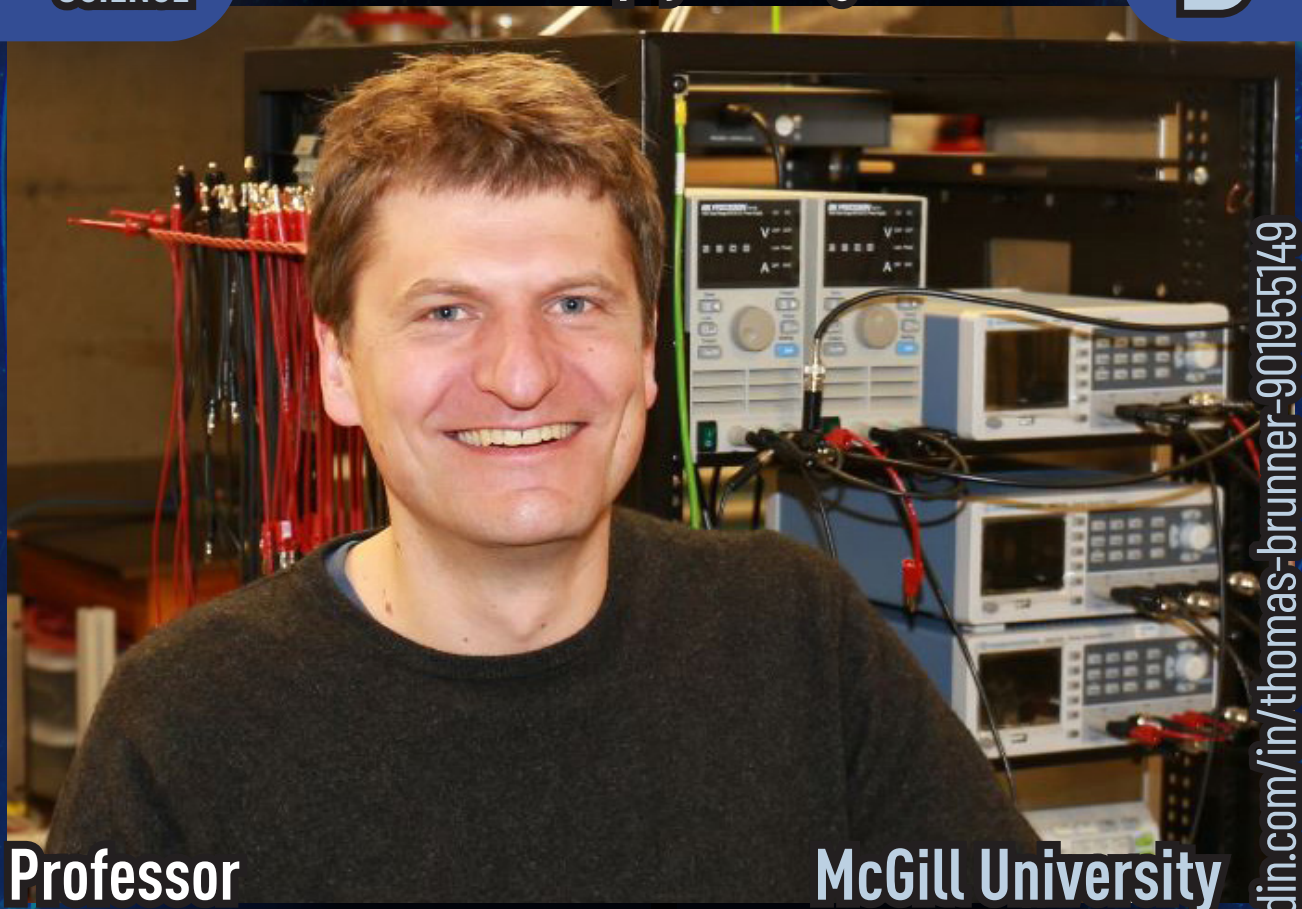
2026 REVISED EDITION

S
SCIENCE

Dr. Thomas Brunner (he/him)

thomas.brunner@physics.mcgill.ca

RP-5



Professor

McGill University

https://www.linkedin.com/in/thomas-brunner-901955149

I am a Professor of Physics at McGill University and a Canada Research Chair in Subatomic Physics. My research focuses on understanding the nature of neutrinos through precision measurements of radioactive nuclear decays, advancing detector technology, and exploring fundamental questions in particle physics.

INSTRUMENTATION	DATA	COLLABORATION	TRAINING
3	1	4	2

2026 REVISED EDITION

S
SCIENCE

Dr. Brigitte Vachon (she/her)

brigitte.vachon@mcgill.ca

RP-5

Professor

McGill University

https://www.linkedin.com/in/brigitte-vachon-a5a06088

I am a Professor and James McGill Chair in Physics at McGill University. My research group investigates high-energy particle collisions (multiboson interactions), builds novel instrumentation, and conducts dark matter searches with opto-mechanical sensors to probe basic constituents of the universe.

INSTRUMENTATION	DATA	COLLABORATION	TRAINING
3	3	2	2

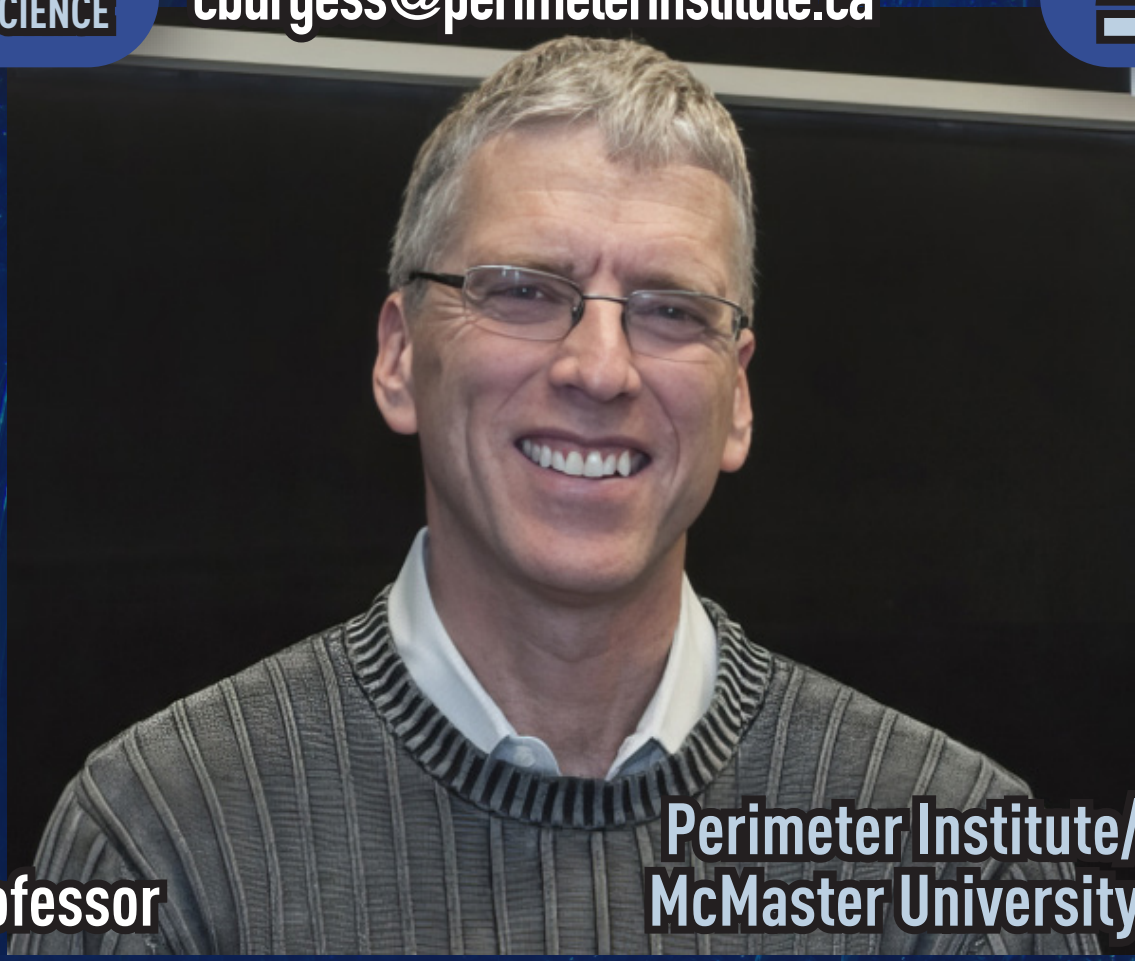
2026 REVISED EDITION

S
SCIENCE

Dr. Cliff Burgess (he/him)

cburgess@perimeterinstitute.ca

RP-5



Professor

Perimeter Institute/
McMaster University

https://perimeterinstitute.ca/people/cliff-burgess

I study theoretical physics at the intersection of quantum field theory, gravitation, and particle physics. My research explores ideas such as extra dimensions and effective field theory to understand how the universe's fundamental interactions emerge from deeper physical principles

THEORY	OUTREACH	COLLABORATION	TRAINING
4	2	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Nigel Smith (he/him)

nsmith@triumf.ca

RP-6

Executive Director and CEO — **TRIUMF**

https://www.linkedin.com/in/nigelsmithattriumf

I am the Director of TRIUMF, leading research in particle, nuclear, and accelerator physics, along with applications in medicine and materials science. I previously worked on dark matter and cosmic ray experiments at SNOLAB, BOULBY, and in Antarctica, and continue to advance astroparticle physics globally.

INSTRUMENTATION	DATA	COLLABORATION	TRAINING
3	2	4	2

2026 REVISED EDITION

S
SCIENCE

Dr. Katelin Schutz (she/her)

katelin.schutz@mcgill.ca

RP-5

Assistant Professor

McGill University

I study astrophysical and particle-physics phenomena connecting cosmology and the Standard Model. My work explores how unknown particles and forces influence dark matter and cosmic structure using theory and observation.

https://katelinschutz.com/

THEORY	DATA	OUTREACH	COLLABORATION
4	1	2	3

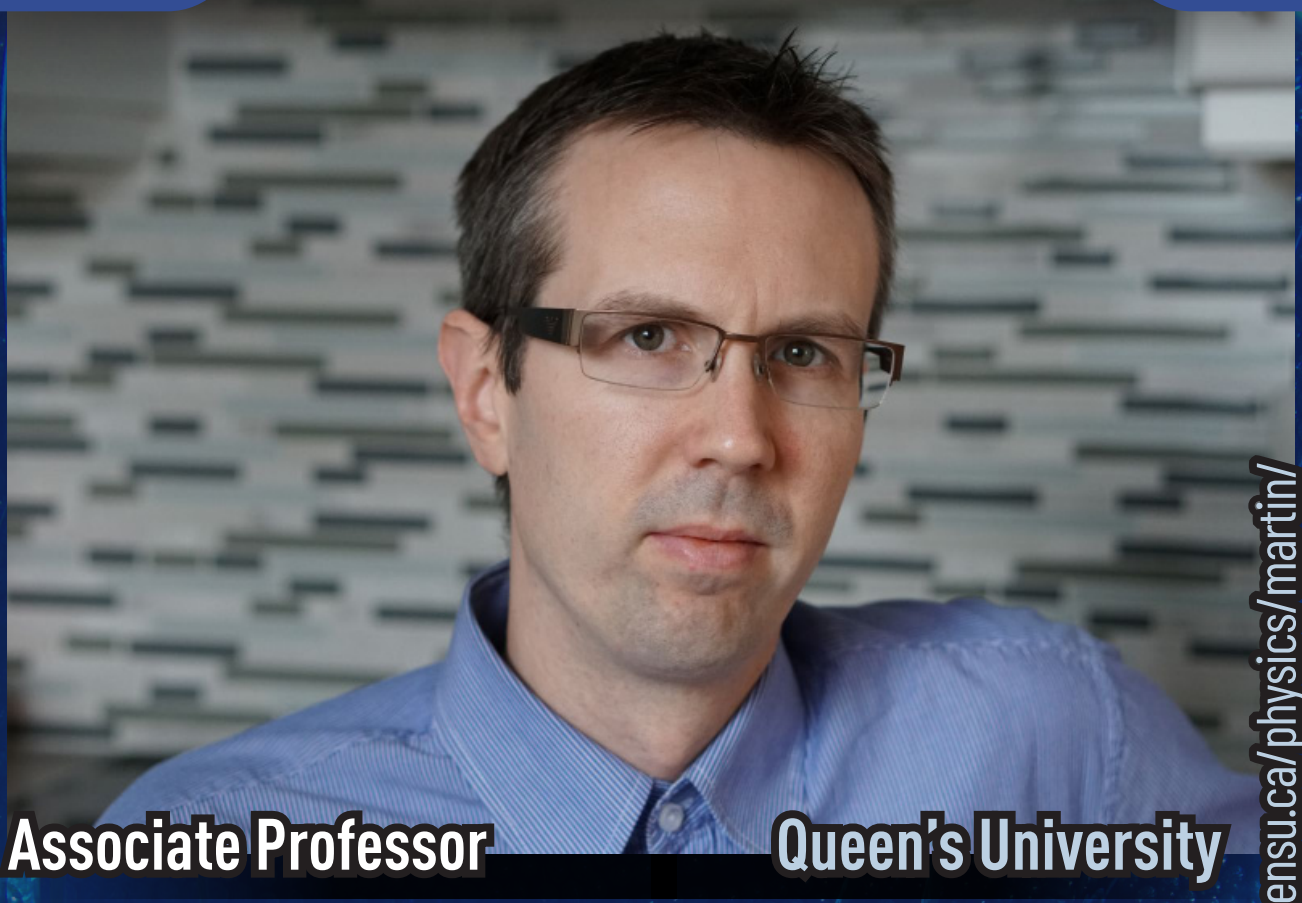
2026 REVISED EDITION

S
SCIENCE

Dr. Ryan Martin (he/him)

ryan.martin@queensu.ca

RP-5



Associate Professor **Queen's University**

https://www.queensu.ca/physics/martin/

I work on several projects across particle astrophysics including LEGEND, NEWS-G and SNO+. I am a specialist in machine learning and data analysis. I am a strong supporter of open access resources for software and education.

INSTRUMENTATION	DATA	COLLABORATION	TRAINING
1	4	2	3

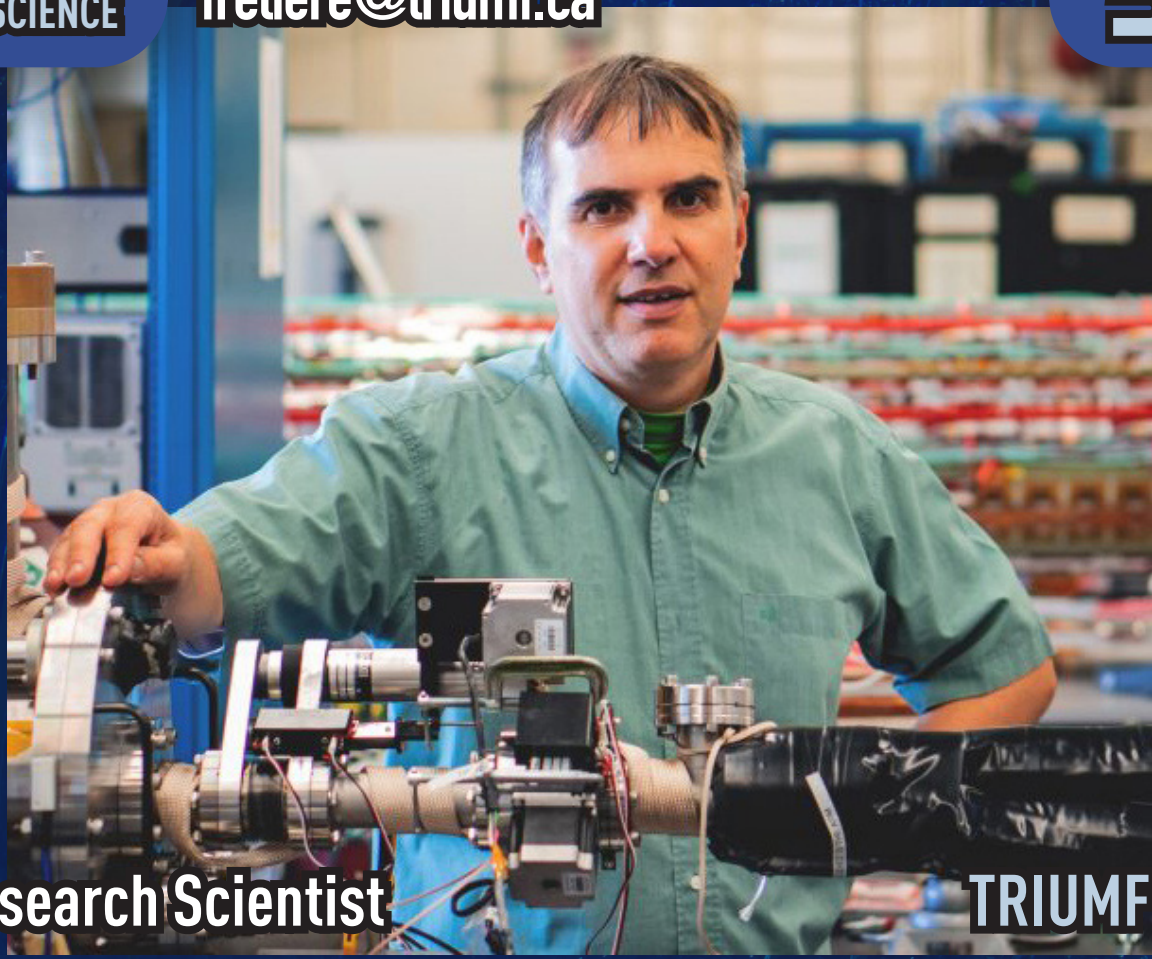
2026 REVISED EDITION

S
SCIENCE

Dr. Fabrice Retiere (he/him)

fretiere@triumf.ca

RP-5



Research Scientist — **TRIUMF**

I am a senior research scientist at TRIUMF and adjunct professor at Simon Fraser University, focusing on the development of light sensors and liquid noble gas detectors for particle and nuclear physics. My work advances technologies for rare-event searches, including dark matter and neutrino detection experiments.

https://www.linkedin.com/in/fabrice-retiere-25334b37

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
2	1	3	4

2026 REVISED EDITION

S
SCIENCE

Dr. Gopolang Mohlabeng

gmohlabe@sfu.ca

RP-5

Assistant Professor

Simon Fraser University

I am an Assistant Professor at Simon Fraser University specializing in theoretical astroparticle physics and cosmology. My research focuses on exploring new physics beyond the Standard Model, particularly dark matter, using both terrestrial and astrophysical probes.

https://www.sfu.ca/physics/people/faculty/gmohlabe.html

THEORY	DATA	OUTREACH	COLLABORATION
4	2	3	1

2026 REVISED EDITION

S
SCIENCE

Dr. Stephen Sekula (he/him)

stephen.sekula@snolab.ca

RP-6

Professor

SNOLAB

Dr. Stephen Sekula is Research Group Manager at SNOLAB and Professor of Physics at Queen's University. He studied the properties of the newly discovered Higgs boson and contributed to the ATLAS trigger system. He balances science with community engagement and mentorship while navigating challenges of large projects.

https://www.linkedin.com/in/stephen-sekula-912912a6

INSTRUMENTATION	THEORY	COLLABORATION	TRAINING
3	3	2	3

2026 REVISED EDITION

S
SCIENCE

Dr. Alex wright (he/him)

awright@queensu.ca

RP-5

Professor

Queen's University

https://www.queensu.ca/academia/wright/

Dr. Alex Wright is an experimental astroparticle physicist working on neutrino and dark matter detectors. Skilled in low-background instrumentation and data analysis, he builds and calibrates underground experiments while tackling challenges of rare signals, complex backgrounds, and large collaborations.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
3	3	3	1

2026 REVISED EDITION

S
SCIENCE

Dr. Bibha Chodhuri (1913–1991)

RP-6

Research Scientist

the Saha Institute of Nuclear Physics

https://en.wikipedia.org/wiki/Bibha_Chowdhuri

Bibha Chowdhuri was an Indian particle physicist and pioneer of cosmic-ray research. She was skilled in detector analysis and experimental design and helped identify the pion. Despite major contributions, she faced gender bias and limited recognition, persisting with rigor, independence, and mentorship.

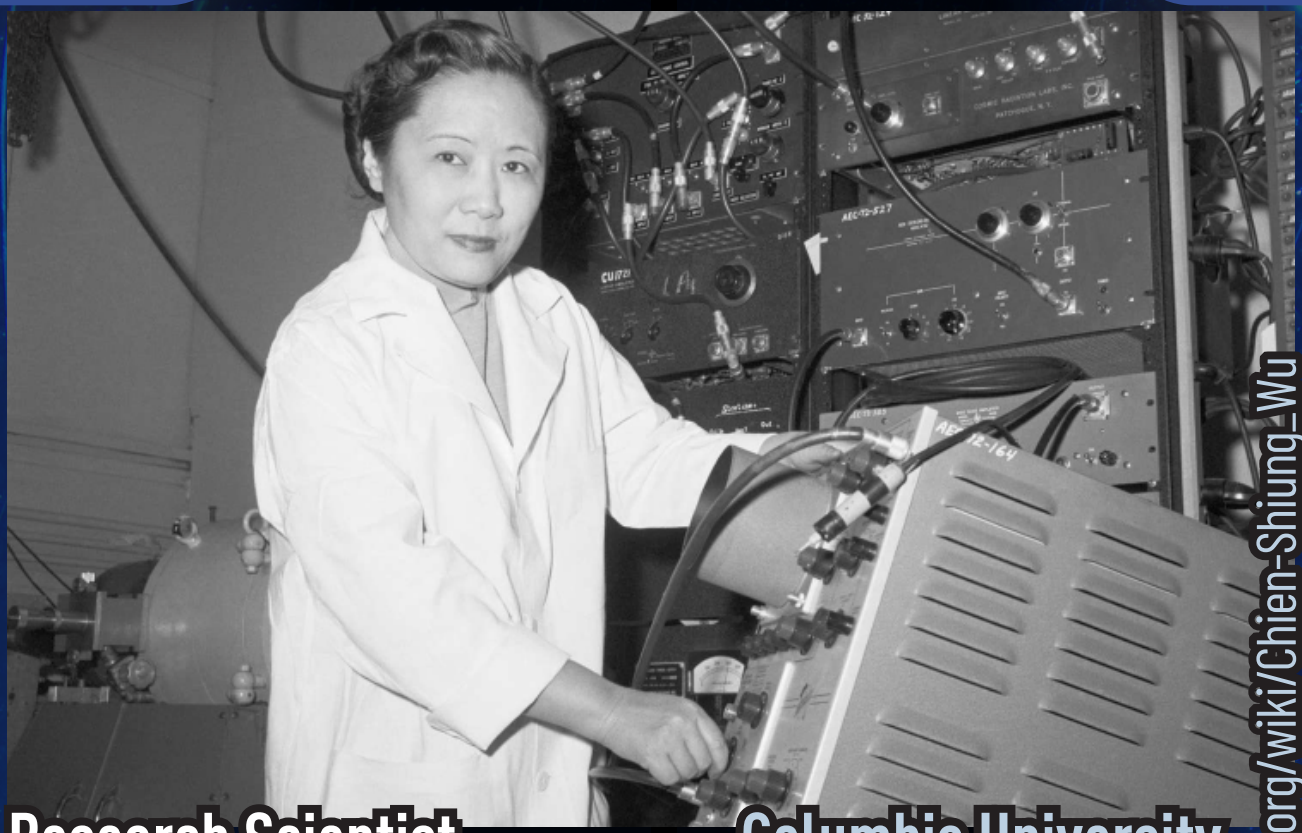
INSTRUMENTATION	THEORY	DATA	TRAINING
4	3	3	1

2026 REVISED EDITION

S
SCIENCE

Dr. Chien-Shiung Wu (1912–1997)

RP-6



Research Scientist — **Columbia University**

Chien-Shiung Wu was a Chinese-American experimental physicist. Her Wu Experiment overturned the law of parity conservation in weak interactions. Renowned for precision nuclear physics and beta decay research, she overcame racism and sexism to shape modern particle physics.

https://en.wikipedia.org/wiki/Chien-Shiung_Wu

INSTRUMENTATION	THEORY	DATA	COLLABORATION
4	3	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Vera Rubin
(1928–2016)

RP-6

Astronomer

the Carnegie Institution of Washington

Vera Rubin was an American astronomer whose studies of galaxy rotation curves provided the strongest evidence for dark matter. As an expert in observational astronomy and data analysis, she challenged established models and overcame gender bias to transform modern cosmology.

http://en.wikipedia.org/wiki/Vera_Rubin

INSTRUMENTATION	THEORY	DATA	OUTREACH
3	3	4	1

2026 REVISED EDITION

S
SCIENCE

Dr. Matthew Leybourne

ml164@queensu.ca

RP-5

Professor

Queen's University

https://ca.linkedin.com/in/matthew-leybourne-4597075

Matthew Leybourne specializes in analytical and isotope geochemistry, trace element methods, and fluid geochemistry of ore systems. He co-directs the Queen's Facility for Isotope Research and works on ultra-trace techniques to support geology and astroparticle research.

INSTRUMENTATION	DATA	ENGINEERING	TRAINING
3	3	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Kristine Spekkens (she/her)

kristine.spekkens@queensu.ca

RP-5

Professor

Queen's University

https://ca.linkedin.com/in/kristine-spekkens-6978b0a4

Kristine Spekkens studies galaxy formation, neutral hydrogen gas, and dark matter. Skilled in radio astronomy and galaxy kinematics, she leads surveys and develops tools to map gas in galaxies, while tackling challenges of complex data and cosmological interpretation.

INSTRUMENTATION	THEORY	DATA	COLLABORATION
2	3	4	1

2026 REVISED EDITION

S
SCIENCE

Dr. Gwen Grinyer (she/her)

Gwen.Grinyer@uregina.ca

RP-5

Professor

University of Regina

https://www.instagram.com/gwendoesscience/

Gwen Grinyer is an experimental nuclear physicist and Associate Professor at the University of Regina studying rare isotopes to understand nuclear structure and astrophysics. She leads precision measurements and advanced instrumentation while supporting equity, inclusion, and student training in physics.

INSTRUMENTATION	DATA	TRAINING	EDII
4	3	2	2

2026 REVISED EDITION

S/A
SCI/ADMIN

Dr. Tony Noble (he/him)

noblet@queensu.ca

RP-6

Scientific Director

Queen's University/ McDonald Institute

https://www.linkedin.com/in/tony-noble-45472880/

Dr. Noble is a Professor and Canada Research Chair at Queen's University and the Scientific Director of the McDonald Institute. His research focuses on experiments at SNOLAB, where he has worked on the original SNO neutrino oscillation experiment and the dark matter experiments DEAP-3600 and PICO.

INSTRUMENTATION	THEORY	COLLABORATION	TRAINING
3	4	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Nahee Park (she/her)

nahee.park@queensu.ca

RP-5

Research Scientist

Queen's University

https://www.linkedin.com/in/nahee-park-51937870/

Nahee Park is an experimental astroparticle physicist. She studies the origins of cosmic rays using neutrino, gamma-ray, and cosmic-ray observations. She works in large international collaborations and enjoys collaborative, data-driven projects while tackling challenges of rare signals and complex detector data.

THEORY	DATA	OUTREACH	COLLABORATION
2	4	1	3

2026 REVISED EDITION

S/A
SCI/ADMIN

Dr. Jodi Cooley (she/her)

jodi.cooley@snolab.ca

RP-6

Executive Director

SNOLAB

https://www.linkedin.com/in/jodicooley/

Jodi Cooley is an experimental physicist studying dark matter. As Executive Director of SNOLAB and professor at Queen's University, she leads large research teams and complex underground experiments, thriving in collaborative environments while tackling rare signals and challenging detector data.

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
3	3	2	3

2026 REVISED EDITION

S
SCIENCE

Dr. Ken Clark (he/him)

kjc5@queensu.ca

RP-5

Professor

McDonald Institute/
Queen's University

https://mcdonaldinstitute.ca/ken-clark/

Ken Clark is an experimental astroparticle physicist at Queen's University studying dark matter and neutrinos. Skilled in detector development and data analysis, he works in large collaborations like PICO and IceCube, building experiments that search for rare signals from the universe's most elusive particles.

INSTRUMENTATION	THEORY	DATA	COLLABORATION
4	2	3	1

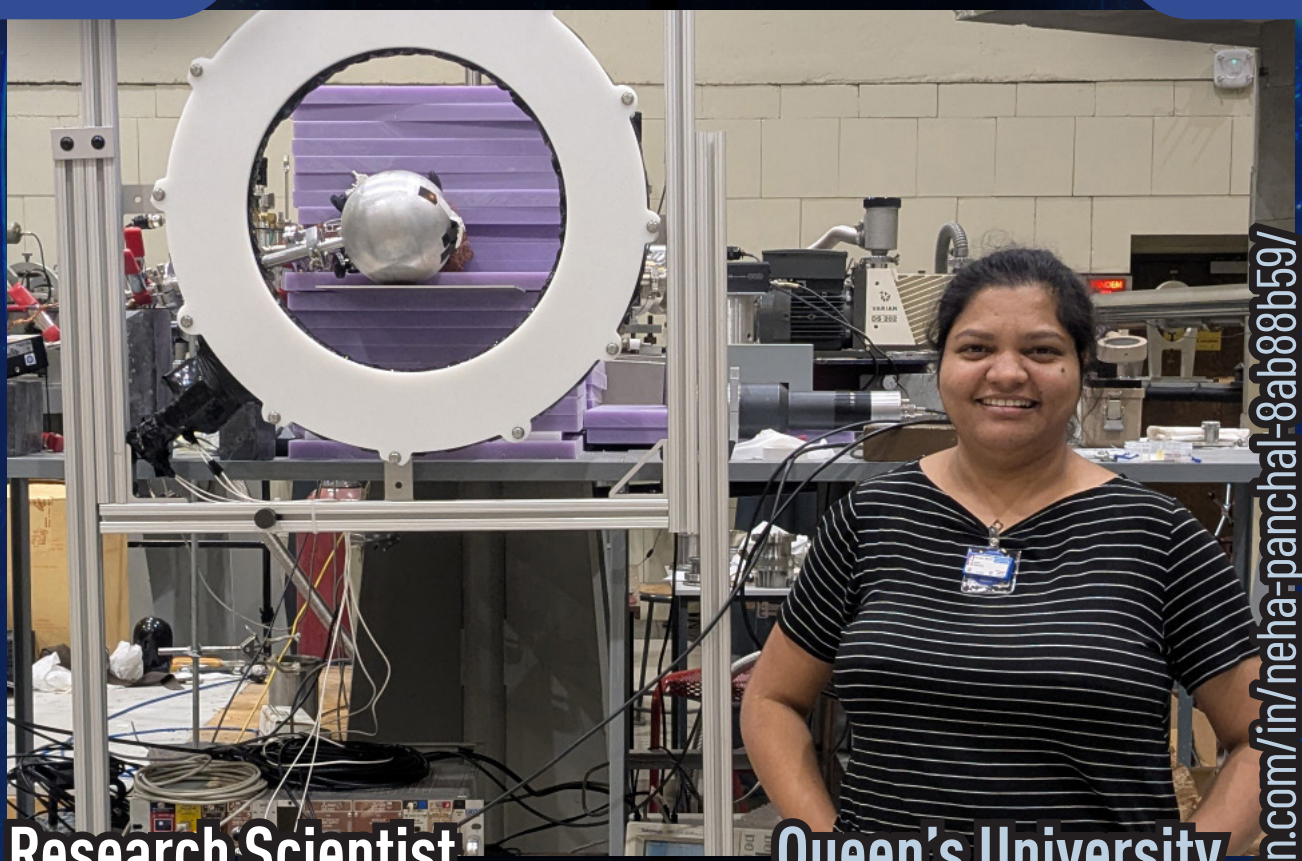
2026 REVISED EDITION

S
SCIENCE

Dr. Neha Panchall (she/her)

np72@queensu.ca

RP-4



Research Scientist — **Queen's University**

https://www.linkedin.com/in/neha-panchal-8ab88b59/

Neha Panchal is a postdoctoral researcher at Queen's University studying particle and astroparticle experiments. She works on detector development and rare-event measurements in collaborative lab environments, using data analysis and instrumentation to investigate fundamental particles and neutrino physics.

INSTRUMENTATION	THEORY	DATA	COLLABORATION
3	2	2	2

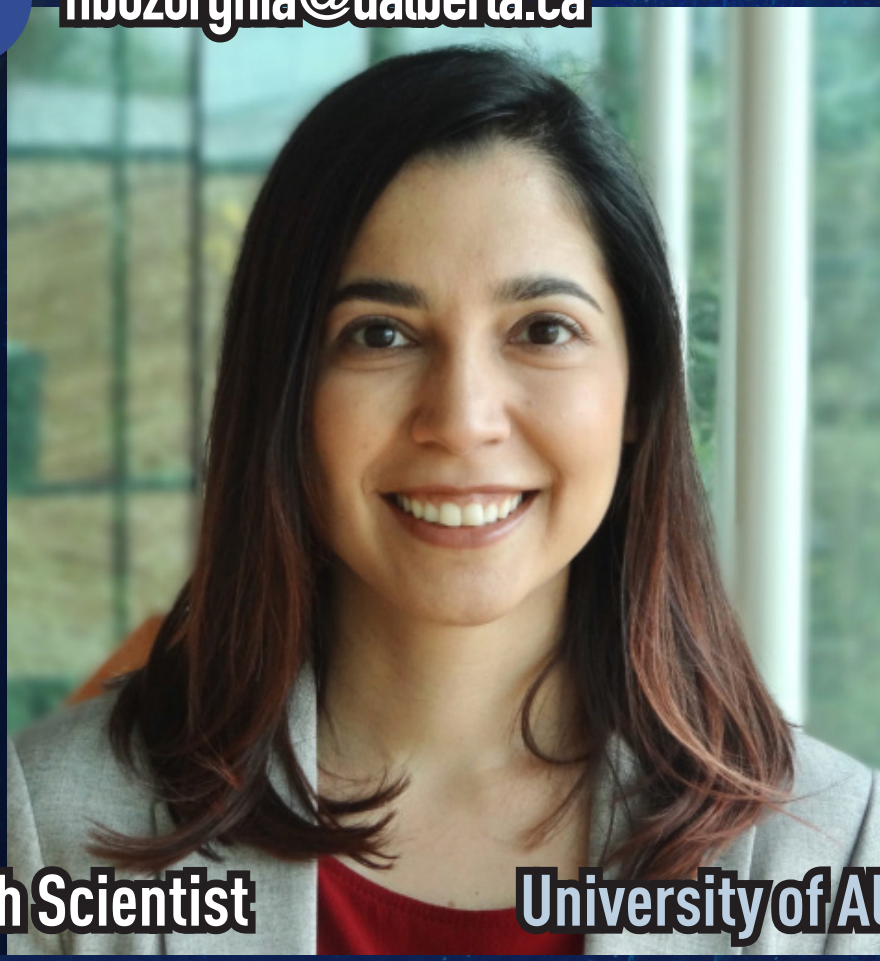
2026 REVISED EDITION

S
SCIENCE

Dr. Nassim Bozorgnia (she/her)

nbozorgnia@ualberta.ca

RP-5



Research Scientist — **University of Alberta**

https://www.linkedin.com/in/nassim-bozorgnia-299b691b6/

Nassim Bozorgnia is a theoretical astroparticle physicist studying the nature and distribution of dark matter in our galaxy. She uses cosmological simulations and astronomical data to understand how dark matter shapes galaxies and to guide experiments searching for this elusive component of the universe.

THEORY	DATA	COLLABORATION	TRAINING
5	3	1	1

2026 REVISED EDITION

S
SCIENCE

Dr. Shohini Ghose (she/her)

sghose@wlu.ca

RP-5

Research Scientist

Wilfrid Laurier University

Shohini Ghose is a quantum physicist at Wilfrid Laurier University studying quantum information, computing, and entanglement. She is known for connecting chaos theory with quantum physics, and for championing equity in science through leadership, public talks, research and advocacy.

https://www.linkedin.com/in/shohini-ghose/

THEORY	OUTREACH	TRAINING	EDII
5	3	1	1

2026 REVISED EDITION

S
SCIENCE

Dr. Guillaume Giroux (he/him)

ggiroux@owl.phy.queensu.ca

RP-5

Professor

McDonald Institute/
Queen's University

https://www.linkedin.com/in/guillaume-giroux-010b21102/

Guillaume Giroux is an experimental astroparticle physicist studying dark matter and neutrinos. He works on underground experiments such as PICO and NEWS-G at SNOLAB, developing detectors and analysis techniques to identify extremely rare particle signals.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
4	3	2	1

2026 REVISED EDITION

S/A
SCI/ADMIN

Dr. Ray Bunker (he/him)

rbunker@snolab.ca

RP-6

Director of Research — **SNOLAB**

https://www.linkedin.com/in/raymond-bunker-05a9246a/

Ray Bunker is an experimental physicist and Director of Research at SNOLAB. His work focuses on dark matter experiments, radiation detection, and low-background techniques. He leads teams developing sensitive detectors to study rare particle interactions deep underground.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
4	2	1	4

2026 REVISED EDITION

S
SCIENCE

Dr. Aaron Vincent (he/him)

aaron.vincent@queensu.ca

RP-5

Professor

McDonald Institute/
Queen's University

https://mcdonaldinstitute.ca/aaron-vincent/

Aaron Vincent is a theoretical astroparticle physicist studying dark matter, neutrinos, and cosmic rays. Skilled in particle theory and astrophysical modeling, he thrives in collaborative projects linking theory with experiments, while tackling the challenge of interpreting faint signals from distant cosmic sources.

THEORY	DATA	COLLABORATION	TRAINING
5	2	2	1

2026 REVISED EDITION

S
SCIENCE

Dr. Aleksandra Bialek (she/her)

aleksandra.bialek@snolab.ca

RP-5

Research Scientist

SNOLAB

https://www.linkedin.com/in/aleksandra-bialek-a43772157/

Aleksandra Bialek specializes in ultra-clean environments for rare-event particle experiments. She develops testing and cleanliness protocols that allow sensitive detectors to search for dark matter and neutrinos, thriving in collaborative laboratory settings where precision and contamination control are critical.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
3	2	3	2

2026 REVISED EDITION

S
SCIENCE

Dr. Darren Grant (he/him)

doctordrg@gmail.com

RP-6

Professor

Simon Fraser University

Darren Grant is an experimental astroparticle physicist studying neutrinos and rare particle interactions. He develops next-generation neutrino detectors and analyzes data from observatories such as IceCube to explore extreme cosmic events and search for dark matter.

https://www.sfu.ca/physics/people/faculty/dgrant.html

INSTRUMENTATION	THEORY	DATA	COLLABORATION
3	3	3	2

2026 REVISED EDITION

S
SCIENCE

Dr. Mark Boulay (he/him)

Mark.Boulay@carleton.ca

RP-6

Professor **Carleton University**

Mark Boulay is an experimental astroparticle physicist studying dark matter and neutrinos. He designs ultra-sensitive detectors such as DEAP-3600 at SNOLAB to search for rare particle interactions deep underground.

https://www.linkedin.com/in/mark-boulay-32830416/

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
4	3	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Mark Chen (he/him)

mchen@queensu.ca

RP-6

Professor — **Queen's University**

https://www.queensu.ca/physics/people-search/mark-c-chen

Mark C. Chen is an experimental astroparticle physicist studying neutrinos, geoneutrinos, cosmic rays, and dark matter. As a leader of the SNO+ experiment at SNOLAB, he develops large underground detectors to study rare particle interactions and explore physics beyond the Standard Model.

INSTRUMENTATION	THEORY	DATA	COLLABORATION
5	1	3	2

2026 REVISED EDITION

S
SCIENCE

Dr. Seyda Ipek (she/her)

seydaIpek@carleton.ca

RP-5

Research Scientist

Carleton University

Seyda Ipek is a theoretical particle physicist. Her research explores dark matter, neutrinos, and the early universe. She thrives in theory-driven projects linking particle physics and cosmology while tackling big questions such as why neutrinos have mass and why matter dominates the universe.

https://physics.carleton.ca/theory/group-members/dr-seyda-ipek

THEORY	DATA	OUTREACH	COLLABORATION
5	2	1	2

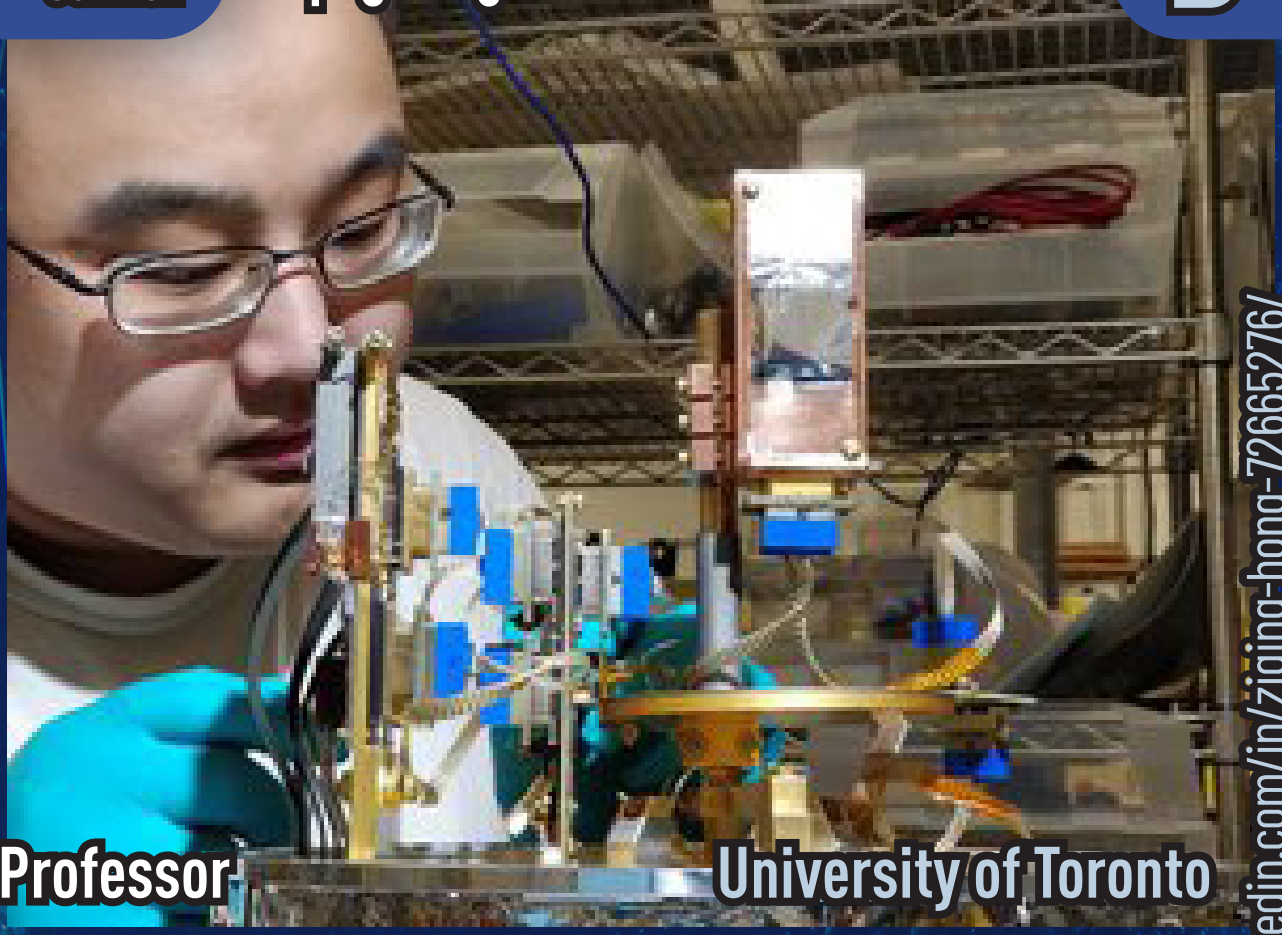
2026 REVISED EDITION

S
SCIENCE

Dr. Ziqing Hong (he/him)

ziqing.hong@utoronto.ca

RP-5



Professor

University of Toronto

https://www.linkedin.com/in/ziqing-hong-726652761

Ziqing Hong is an experimental particle physicist studying dark matter and neutrinos. He develops cryogenic detectors and calibration systems for experiments such as SuperCDMS and Ricochet, working in collaborative research environments to detect extremely rare particle interactions.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
4	3	2	1

2026 REVISED EDITION

S
SCIENCE

Nasim Fatemighomi (she/her)

Nasim.Fatemighomi@snolab.ca

RP-4

Research Scientist

SNOLAB

https://www.linkedin.com/in/nasim-fatemighomi-62595258

Nasim is a collaborator on SNO+, focusing on radon background mitigation - a critical challenge for neutrinoless double-beta decay searches. She contributes to detector upgrades on DEAP-3600. She designed a conceptual automated system for radon measurements for nEXO. She also works with SNOLAB's Low-Background group on radon assay systems.

INSTRUMENTATION	ENGINEERING	OUTREACH	COLLABORATION
3	2	2	2

2026 REVISED EDITION

S/A
SCI/ADMIN

Dr. Mark Richardson (he/him)

Mark.Richardson@queensu.ca

RP-6

Associate Director, Ops — **McDonald Institute**

I am the Assoc. Director, Operations supporting the McDonald Institute strategic operations. I have a PhD in galactic astrophysics, a MEd in informal learning and self-efficacy, and I previously led the McDonald Institute Education and Outreach portfolio. I enjoy rock climbing, reading, boardgames, and movies.

https://www.linkedin.com/in/mark-richardson-96337b68/

DATA	OUTREACH	COLLABORATION	TRAINING
3	4	3	1

2026 REVISED EDITION

A
ADMIN

Blaire Flynn (she/her)

Blaire.Flynn@snolab.ca

RP-5

Communications Lead — **SNOLAB**

Blaire Flynn is the Senior Education and Outreach Officer at SNOLAB. She leads programs that connect scientists with students and the public, helping people explore dark matter and neutrino research through education, community outreach, and inclusive STEM initiatives.

https://www.linkedin.com/in/blaireflynn/

OUTREACH	COLLABORATION	TRAINING	EDII
4	2	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Kyle Leach (he/him)

kyle.leach@queensu.ca

RP-5

Professor

McDonald Institute / Queen's University

https://www.linkedin.com/in/kgleach/

I am an experimental nuclear physicist using rare-isotope decays to study neutrinos and search for physics beyond the Standard Model. My group applies superconducting detectors and quantum sensors to measure tiny nuclear recoils and test fundamental symmetries.

INSTRUMENTATION	THEORY	DATA	COLLABORATION
4	2	2	3

2026 REVISED EDITION

S
SCIENCE

Dr. Marie-Cécile Piro (she/her)

mariecci@ualberta.ca

RP-5

Professor

McDonald Institute/ University of Alberta

https://www.linkedin.com/in/marie-c%C3%A9cile-piro-73163053/

Marie-Cécile Piro is an experimental astroparticle physicist at the University of Alberta searching for dark matter and rare particle signals. She develops ultra-sensitive detectors and purification systems that are used in dark matter experiments such as PICO and DEAP-3600.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
4	3	2	1

2026 REVISED EDITION

S
SCIENCE

Han Wu (they)

han.wu@queensu.ca

RP-
3

PhD Student

McDonald Institute

I work in theoretical astrophysics and am passionate about studying the evolution of halos and searching for new physics particles.

I am a fast learner with a strong curiosity for new knowledge in theoretical physics and a love for deep thinking. I excel at communicating with others and am keen on improving my project management skills.

THEORY	DATA	OUTREACH	COLLABORATION
3	3	1	1

2026 REVISED EDITION

A
ADMIN

Dr. Alex Pedersen (she/her)

alex.pedersen@mcdonaldinstitute.ca

RP-5

Manager for I-EDIAA Capacity Development

McDonald Institute

https://www.linkedin.com/in/alexandra-pedersen-phd-b72727a1/

Alex Pedersen (she/her) is an experienced leader who implements and enhances organizational I-EDIAA strategies, programs, and initiatives.

A skilled geographer, Alex navigates diverse disciplines with ease, bringing a comprehensive understanding of strategic planning, leadership, and hands-on implementation for I-EDIAA action.

DATA	OUTREACH	COLLABORATION	EDII
0	2	3	6

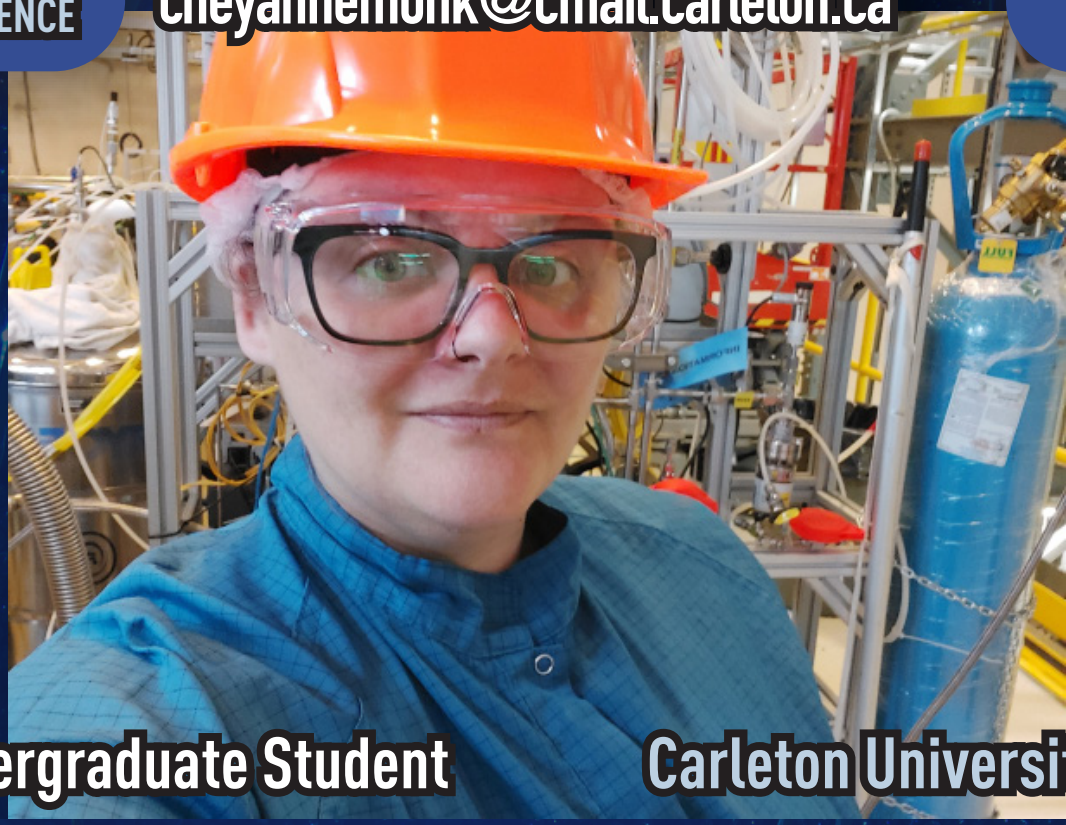
2026 REVISED EDITION

S
SCIENCE

Cheyanne Monk (she/her)

cheyannemonk@cmail.carleton.ca

RP-
1



Undergraduate Student **Carleton University**

I am an undergraduate physics student at Carleton as well as a student research assistant on the DEAP-3600 experiment. I am also passionate about science communication and making science accessible to everyone.

I am a creative person with great attention to detail. I am interested in improving my research and critical thinking skills and look for help with analysis and oral communication

www.linkedin.com/in/cheyanne-monk-05555261

INSTRUMENTATION	THEORY	DATA	COMMUNICATION
2	1	1	2

2026 REVISED EDITION

S
SCIENCE

Mary Calleja

22dvx2@queensu.ca

RP-1

Undergraduate Student — **Queen's University**

I am a summer researcher in GeRMLab. I build machine learning models to reconstruct event position in germanium detectors. Additionally, I analyze drone footage of solar eclipses to evaluate shadow predictions.

I am a hard-working, diligent, fast learner who thrives in collaborative environments. I enjoy volunteering and community outreach. I look forward to developing further skills in coding and data analysis.

https://www.linkedin.com/in/mary-calleja-95953926a/

THEORY	DATA	OUTREACH	COLLABORATION
1	1	3	3

2026 REVISED EDITION

S
SCIENCE

Leo Kim (he/him)

leo.kim@queensu.ca

RP-3

PhD Candidate

Queen's University

My research is in theoretical particle astrophysics and cosmology. In particular, I study astrophysical dark compact objects and black holes formed from dissipative dark sectors and/or exotic cosmological scenarios. I am a resilient researcher who excels in managing several projects across various topics. I am always looking to improve my leadership skills and my oral communication in both scientific and outreach settings.

https://jlkim.github.io/

THEORY	DATA	INSTRUMENTATION	OUTREACH
4	1	1	2

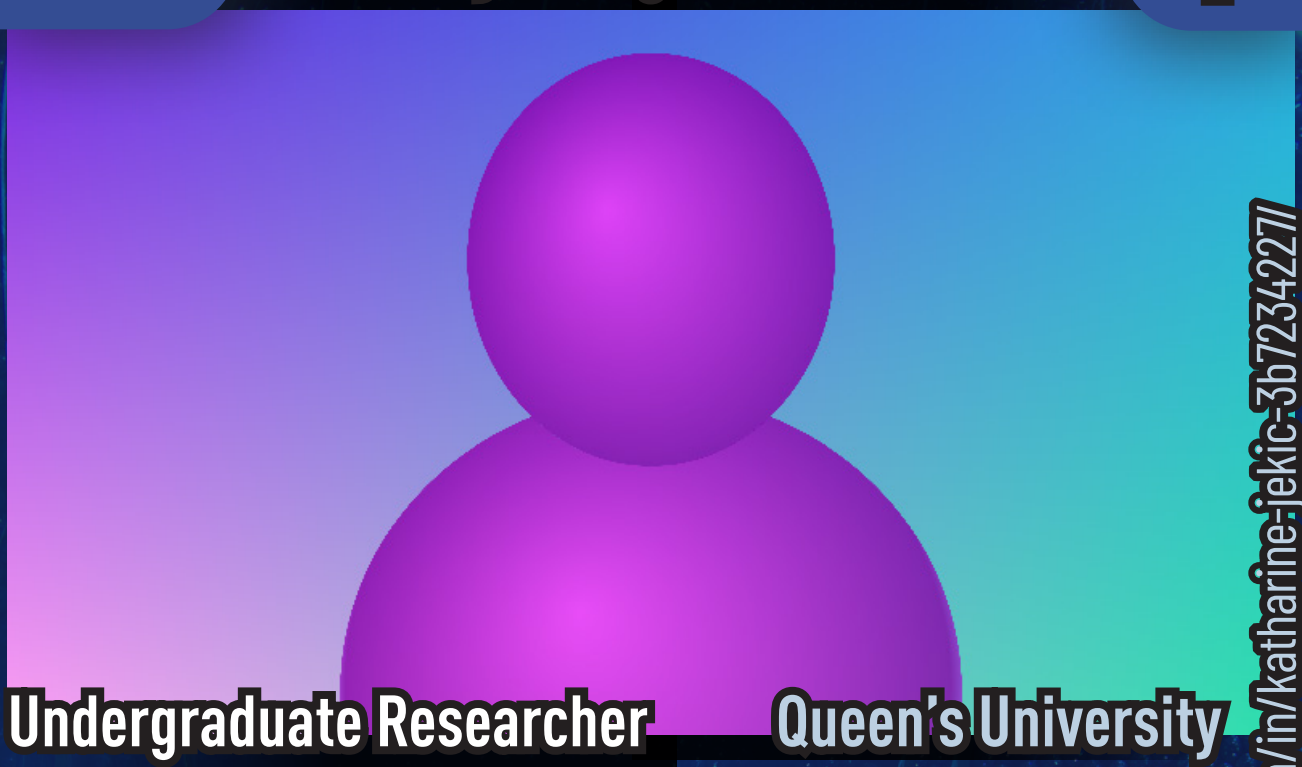
2026 REVISED EDITION

S
SCIENCE

Katharine Jekic (she/her)

katharine.jekic@gmail.com

RP-1



Undergraduate Researcher — **Queen's University**

I am working on my study of the impacts and causes of contextualized Imposter Phenomenon in the physics department. I am very passionate about EDII and analyzing the unique culture of physics.

I am a very skilled communicator and I thrive in spaces where there is a place for both collaboration and independence. I am interested in improving my project management skills and finding new ways to work creatively.

https://www.linkedin.com/in/katharine-jekic-3b7234227/

THEORY	DATA	OUTREACH	COLLABORATION
2	1	3	1

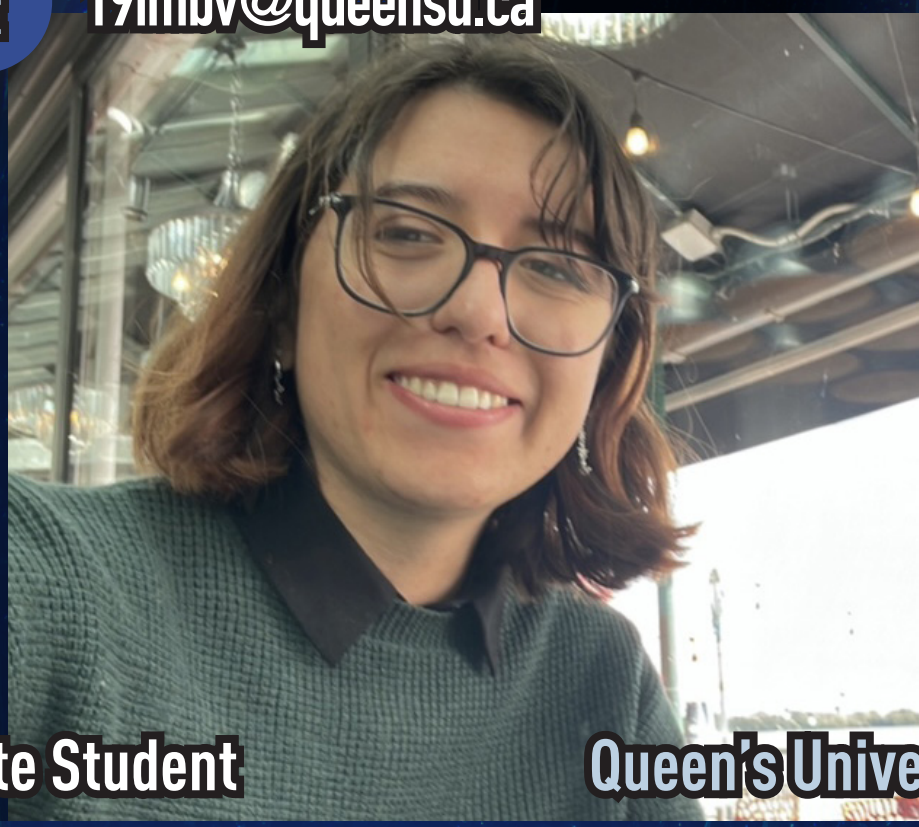
2026 REVISED EDITION

S
SCIENCE

Ivanna Boras (she/they)

19imbv@queensu.ca

RP-2



Graduate Student

Queen's University

I work in the Quantum Nanophotonics Lab on quantum photonic neural networks. I am passionate about making physics more inclusive!

I am good at coming up with creative problem solving ideas while in the lab. I am interested in improving my communication and teaching skills.

https://www.linkedin.com/in/ivanna-boras/

INSTRUMENTATION	THEORY	ENGINEERING	COLLABORATION
2	1	2	2

2026 REVISED EDITION

S
SCIENCE

Rafid (he/him)

rafidhassan8112002@gmail.com

RP-1

Undergraduate Student — **Ankara University**

I am working with CGM Research Group on some areas related to f(R) modified gravity theories, especially Hubble tension. The fields that interest me are broadly related to GR, theoretical cosmology, astrophysics.
I am great at scientific collaborative work, and always looking forward to enhance myself. I am also skilled at Machine Learning and modelling.

https://www.linkedin.com/in/rafid-h-dejrah-35025b205/

THEORY	DATA	OUTREACH	COLLABORATION
2	1	1	2

2026 REVISED EDITION

S
SCIENCE

Laureline Kirsch (she/her)

lkirs040@uottawa.ca

RP-2

Graduate Student — **University of Ottawa**

I work in fiber optics with Dr. Xiaoyi Bao, focusing on long-period fiber grating fabrication and sensing applications.

I am hard-working and excel at hands-on problem-solving, especially when collaborating. I am working on asking for help when support is needed.

www.linkedin.com/in/laureline-kirsch

INSTRUMENTATION	THEORY	DATA	OUTREACH
3	2	1	1

2026 REVISED EDITION

S
SCIENCE

Florent Thibault (he/his)

florent.thibault@mail.concordia.ca

RP-1

Undergraduate Student **Concordia University**

I'm an undergrad at Concordia university in physics. My interest is in the theoritical physics black holes and gravitational waves. I've worked with Dr. Safi-Harb on that subject.

I am not too bad at critical thinking, attention to details and interpersonal skills. I like to work in thight-knit teams. I need to improve advocacy, persuasion and maintaining health & wellness.

https://www.linkedin.com/in/florent-thibault/

THEORY	DATA	OUTREACH	COLLABORATION
2	1	2	1

2026 REVISED EDITION

S
SCIENCE

Dr. Kristine Spekkens (she/her)

kristine.spekkens@queensu.ca

RP-5

Professor | **Queen's University**

https://www.queensu.ca/physics/people-search/kristine-spekkens

I work on understanding the structure and evolution of nearby galaxies. I help build new radio telescopes, and deliver positive impacts from them.

I am passionate about the people who make science and technology happen. I work hard to help build environments in which everyone can excel.

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
2	3	2	3

2026 REVISED EDITION

S
SCIENCE

Sola Long (she/her)

solalong128@gmail.com

RP-1

Undergraduate Student — **University of Toronto**

https://www.linkedin.com/in/sola-long

I am a 4th year undergrad at UofT, focusing on the SuperCDMS readout system chip design. I have a passion for physics and engineering, aiming to contribute to advancements in Astroparticle research.

I am proficient in Altium for PCB design and noise analysis, working on RnD with digitalizing the lockbox readout for the cryogenic fridge. I aim to strengthen data analysis skills and teamwork with the TES lab at UofT.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
2	1	2	1

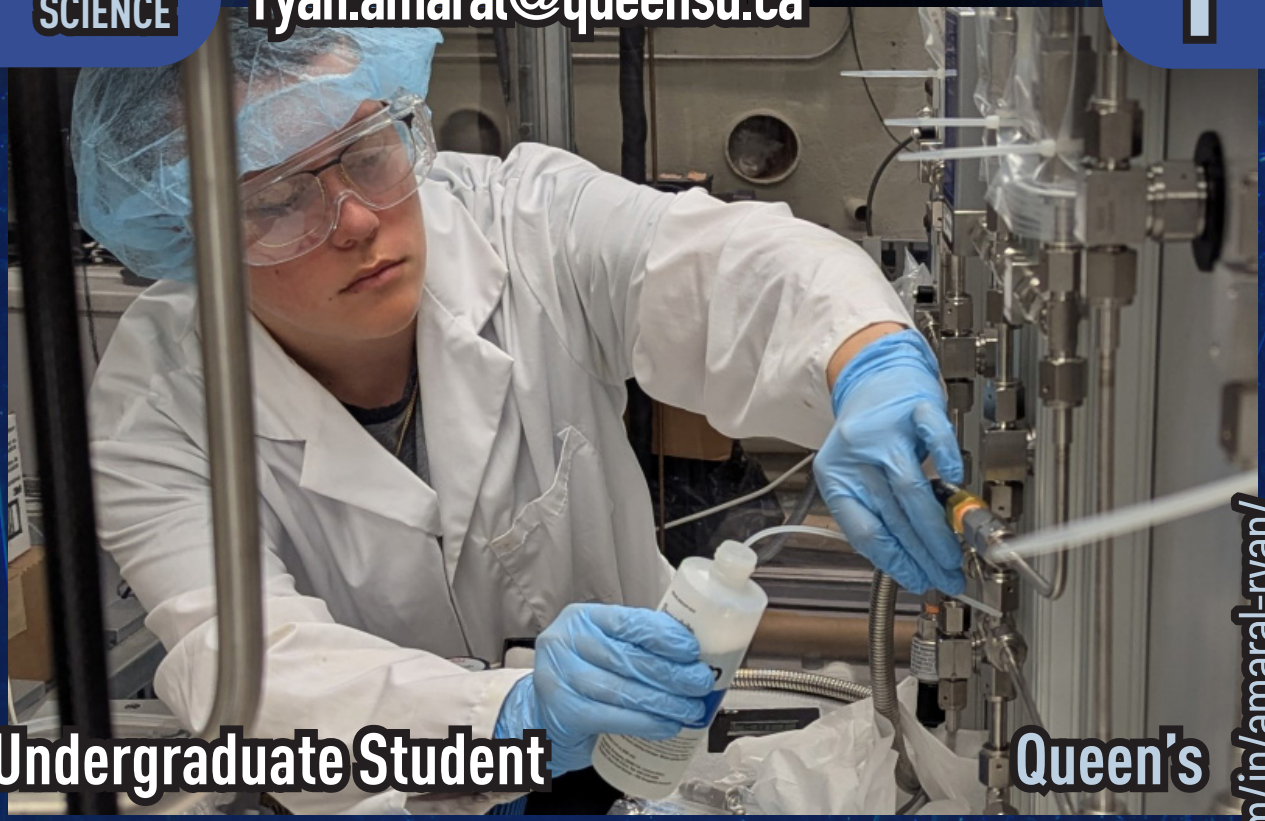
2026 REVISED EDITION

S
SCIENCE

Ryan Amaral (he/him)

ryan.amaral@queensu.ca

RP-1



Undergraduate Student **Queen's**

I work on DEAP-3600 at SNOLAB as well as a xenon-doped liquid argon cryostat at Queen's. I also have a passion for science outreach and communication!

I am skilled at detail-oriented problem solving, collaboration, and staying organized. I am actively working on improving my public speaking skills.

https://www.linkedin.com/in/amaral-ryan/

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
2	2	1	1

2026 REVISED EDITION

E
ENGINEER

Jonathan Corbett, P.Eng

jtc7@queensu.ca

RP-4

Design Engineer

McDonald Institute/ Queen's University

I work to provide technical support to design and operate various particle physics experiments. My area of expertise is in cryogenic engineering and evaluating fluid process designs.

I am skilled at understanding complex systems, asking insightful questions of technical designs, and communicating engineering concepts to others.

https://www.linkedin.com/in/jonathan-corbett-p-eng-848746116/

INSTRUMENTATION	ENGINEERING	COLLABORATION	TRAINING
2	4	1	2

2026 REVISED EDITION

S
SCIENCE

Yilda Boukhtouchen (she/her)

yilda.boukhtouchen@queensu.ca

RP-3

PhD Candidate

McDonald Institute,
Queen's University

I study the detection signatures of heavy dark matter models, in experiments and astrophysical systems. I am also passionate about science outreach programs for primary/secondary school students!

I am skilled in communicating and teaching science to a wide range of audiences.

I am interested in improving my leadership skills in research settings.

physics.yilda.ca

THEORY	DATA	OUTREACH	COLLABORATION
3	3	2	1

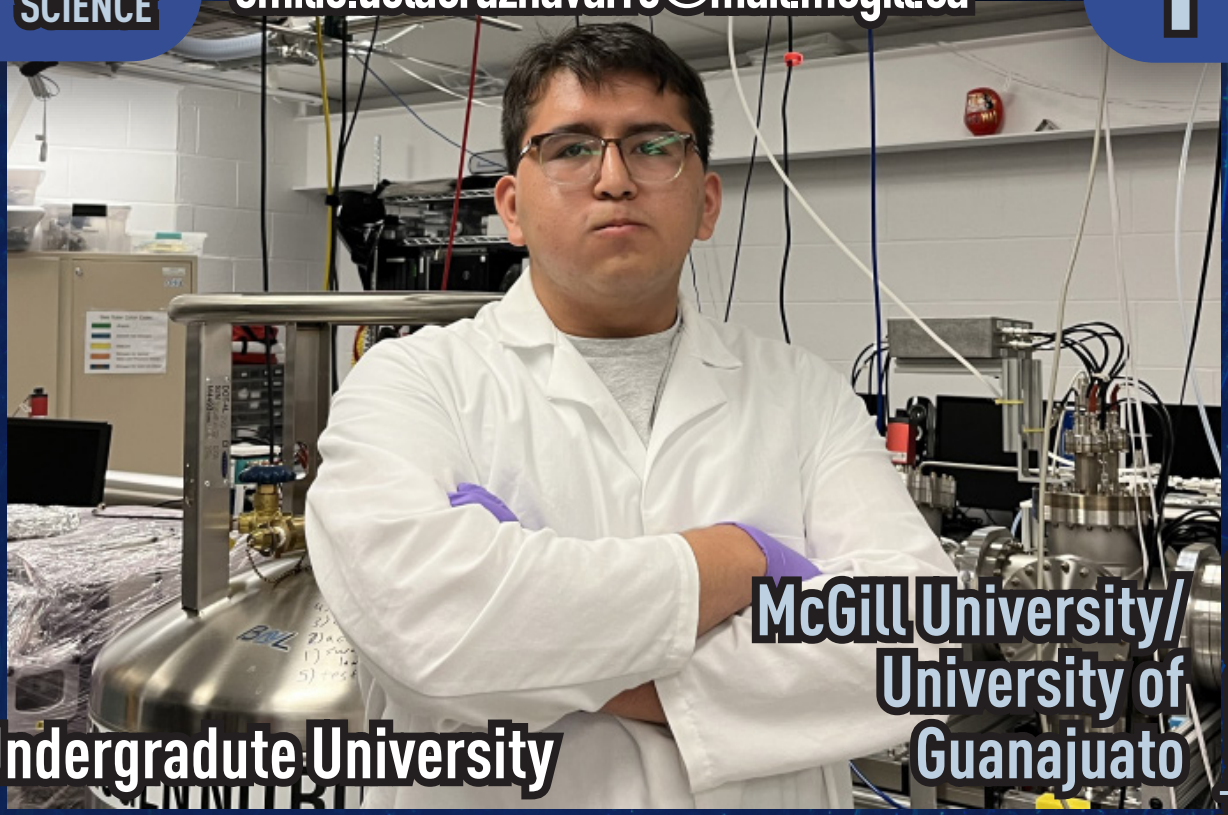
2026 REVISED EDITION

S
SCIENCE

Emilio Yahir de la Cruz

emilio.delacruznavarro@mail.mcgill.ca

RP-1



Undergradute University

McGill University/
University of
Guanajuato

I'm mexican physics undergraduate doing a three month internship at McGill University in the barium tagging upgrade effort. I'm also aware of mental health and its impact in nowadays.

I care for identity development and communicating. Also I enjoy understanding the root of the problems and nature. I'm interested in improving my adaptability, experimental skills and critical thinking.

linkedin.com/in/emilio-delacruznavarro

INSTRUMENTATION	THEORY	ENGINEERING	OUTREACH
1	2	1	2

2026 REVISED EDITION

S
SCIENCE

Tai Withers (they/them)

tai.withers@queensu.ca

RP-3

Masters Student

Queen's University

I study massive star formation by using ammonia to look for star progenitors! I also care deeply about improving the graduate student experience through the lenses of equity and union work.

I do best in self-directed environments, working loosely with collaborators who can help me structure big-picture goals. I consider myself a researcher and an advocate, and am always open to growth in those areas.

https://www.linkedin.com/in/taiwithers/

THEORY	DATA	INSTRUMENTATION	OUTREACH
1	3		1

2026 REVISED EDITION

A
ADMIN

Dr. Nik Arora (he/him)

nikhil.a@queensu.ca

RP-
5

Education and Outreach Officer

McDonald Institute

I am the Education & Outreach Officer. I am passionate about galaxies and creating educational spaces that enable experts to share their knowledge.

I enjoy environments which allow a lot of room for optimization. I am interested in developing skills to efficiently work to meet deadlines.

https://www.linkedin.com/in/arora-nik/

THEORY	DATA	OUTREACH	COLLABORATION
2	2	5	1

2026 REVISED EDITION

S
SCIENCE

Dr. Matthew Stukel (he/him)

matthew.stukel@snolab.ca

RP-5

Research Scientist

SNOLAB

I work on the SuperCDMS and COSINUS dark matter experiments. I'm also the captain of the SNOLAB softball team.

I enjoy getting experiments to work and seeing the results of lots of hours of hard work

https://www.snolab.ca/people/dr-matt-stukel/

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
4	3	2	1

2026 REVISED EDITION

E
ENGINEER

Alex Lau (he/him)

aylex.lau@mail.utoronto.ca

RP-1

Undergraduate Student **University of Toronto**

https://www.linkedin.com/in/alex-lau-29685b13b/

I am an engineering student at the University of Toronto, and working on the MATHUSLA project. I am assisting in the construction of a test stand, and we are currently in the process of data-taking and characterizing.

I enjoy learning new ideas and techniques, and applying them to solve problems. I believe in effective communication, and I'm currently interested in improving my networking skills.

INSTRUMENTATION	THEORY	DATA	ENGINEERING
2	1	1	2

2026 REVISED EDITION

S
SCIENCE

Dr. Lotta Jokiniemi (she/her)

ljokiniemi@triumf.ca

RP-4

Postdoctoral researcher — **TRIUMF**

I study nuclear electroweak processes to probe physics beyond the Standard Model of particle physics. In particular, I give nuclear-theory predictions for neutrinoless double-beta decay and related processes.

I enjoy problem solving in collaborative team, where I can use creativity and critical thinking. I excel in communication skills, both oral and writing. I seek to improve my leadership and supervision skills.

THEORY	DATA	OUTREACH	COLLABORATION
3	3	2	2

2026 REVISED EDITION

A
ADMIN

Zachary Kenny (he/they)

zachary.kenny@mcdonaldinstitute.ca

RP-
4

Communications Officer — **McDonald Institute**

My role involves promoting astroparticle physics and connecting the research community. I manage the Institute's comms newsletter, social media, etc.

I enjoy working creatively, teaching, and in collaboration with others. I'd like to improve in strategic goal analysis, reporting, and budget planning.

https://www.linkedin.com/in/zac-kenny/

THEORY	DATA	OUTREACH	COLLABORATION
2	1	4	3

2026 REVISED EDITION

S
SCIENCE

Melissa Baiocchi (she/her)

m.baiocchi@queensu.ca

RP-3

Master's Student **Queen's University**

I am a Master's student working on the balloon-borne cosmic ray detector the High Energy Light Isotope eXperiment (HELIX). I have worked on thermal modelling, metrology, and instrumentation for this experiment.

I excel at adapting to new research tasks and projects, but I sometimes struggle to juggle multiple tasks at the same time. For this card, choose one skill of your choice and give it five skill points!

THEORY	DATA	INSTRUMENTATION	OUTREACH
X	X	X	X

2026 REVISED EDITION

S
SCIENCE

Cheyanne Monk (she/her)

cheyannemonk@cmail.carleton.ca

RP-
1

Undergraduate Student **Carleton University**

I have spent two years on the DEAP-3600 dark matter experiment. I am passionate about EDI and effective science communication.

I excel at creative expression and communicating science in general terms. I am interested in improving my collaborative skills.

www.linkedin.com/in/cheyanne-monk-05555261

INSTRUMENTATION	THEORY	DATA	COMMUNICATION
1	2	1	2

2026 REVISED EDITION

S
SCIENCE

Yusuf Ahmed (he/him)

yahmed@snolab.ca

RP-
1

Undergraduate Student **SNOLAB**

I work on the newly begun CUTE-Qubit project at SNOLAB which aims to characterize and mitigate correlated errors in superconducting qubits. Prior to it, I worked on radon trapping and counting systems for SNOLAB and SNO+

I excel at hands-on experimental primary data collection and analysis, and enjoy testing hypotheses. I am working to improve myself in public speaking by participating in education and outreach activities.

https://www.linkedin.com/in/y-ahmed/

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
3	2	1	2

2026 REVISED EDITION

S
SCIENCE

Emma Ellingwood (she/her)

emma.ellingwood@queensu.ca

RP-
3

PhD Candidate

Queen's University

I work on DEAP-3600, but I look for neutrino interactions with the detector. I also study fluorescence of materials at cryogenic temperatures. I enjoy doing outreach and co-organizing the Queen's astroparticle meetings.

I excel at keeping my experimental research very organized and detailed. I am good at troubleshooting issues in both instrumentation and data analysis work.

I am currently working on advancing my public speaking skills.

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
3	3	2	2

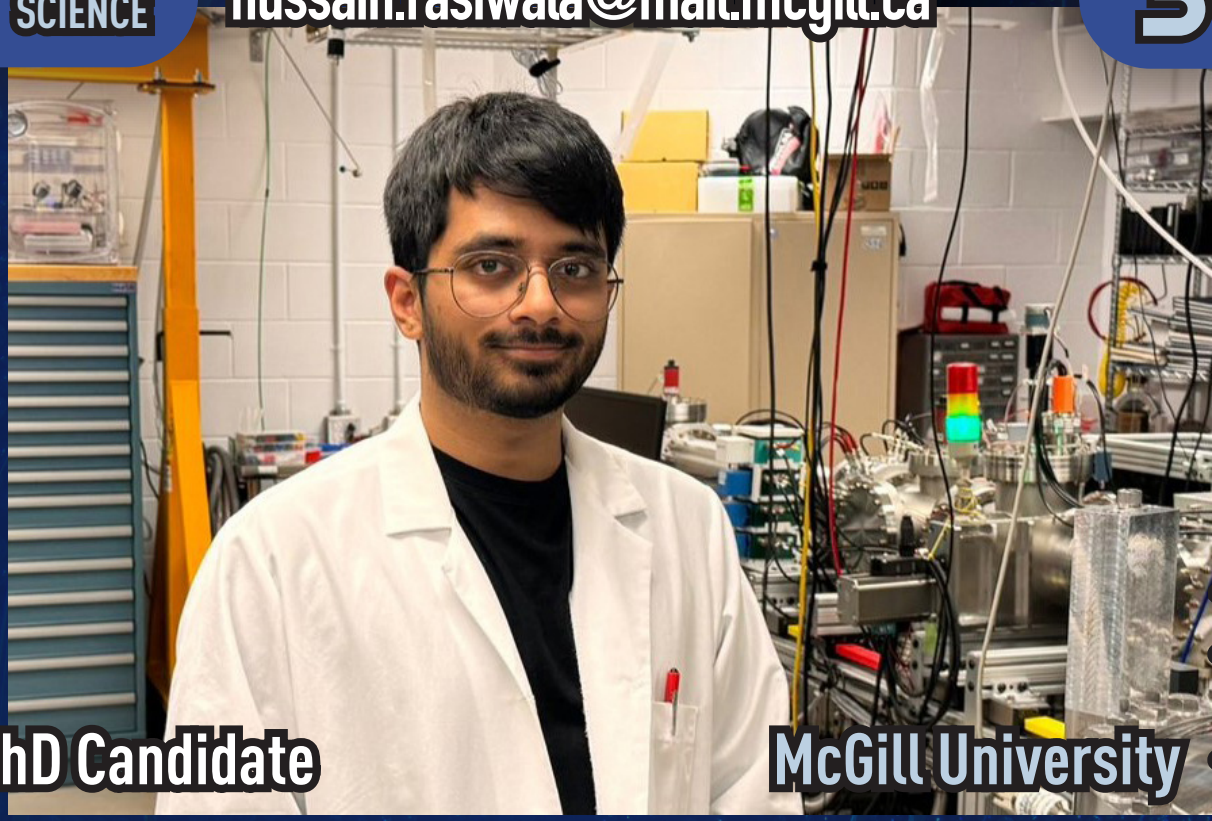
2026 REVISED EDITION

S
SCIENCE

Hussain Rasiwala (he/him)

hussain.rasiwala@mail.mcgill.ca

RP-3



PhD Candidate

McGill University

I work on the nEXO experiment, that will search for the neutrinoless double-beta decay. Outside of research, I am passionate about improving EDI in STEM and serve on McDonald Institute's HQP advisory committee.

I excel at managing complex projects and thrive in collaborative environments. I am seeking guidance to enhance my leadership and advocacy skills, as well as to strategically plan the next steps in my academic career.

www.linkedin.com/in/hussain-rasiwala

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
3	2	2	2

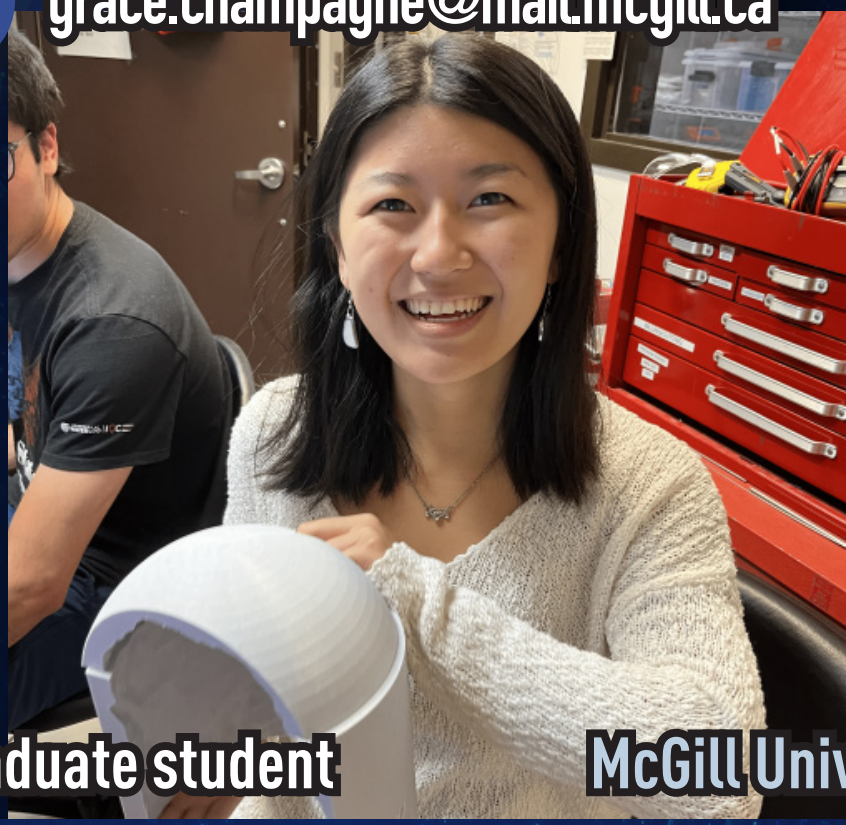
2026 REVISED EDITION

S
SCIENCE

Grace Champagne (she/her)

grace.champagne@mail.mcgill.ca

RP-1



Undergraduate student

McGill University

I'm currently working on the nEXO experiment at McGill University searching for Neutrinoless Double Beta Decay. I love plants.

I excel at organization and collaboration. I enjoy working in a team and pride myself in team leadership. I aim to improve my programming, specifically code structure.

www.linkedin.com/in/gracechampagne27

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
2	1	1	2

2026 REVISED EDITION

S
SCIENCE

Theo Hugues

theo.hugues@queensu.ca

RP-4

Postdoctoral Fellow

Queen's University

https://orcid.org/0000-0002-4895-8897

My research focuses on Dark Matter and neutrino searches using Liquid Argon. I work with DEAP-3600 a single-phase detector located at SNOLAB and DarkSide-20k a dual-phase TPC, under construction at LNGS, Italy.

I excel at organizing my experimental data analysis and work in the laboratory. I thrive in team collaboration, solving creative problem, and mentoring students. I aim to grow my leadership and project management skills.

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
2	3	2	2

2026 REVISED EDITION

S
SCIENCE

Haihao Shi (he/him)

shihaihao@xao.ac.cn

RP-2

University of Chinese Academy of Sciences/ XAO

Graduate Student

https://scholar.google.com/citations?user=kSsz8bcAAAAJ&hl=zh-CN

I am a graduate student in particle astrophysics, using astronomical observations and AI to explore mysterious particles.

I excel at organizing people from diverse fields using their advanced tools for interdisciplinary work but need to improve theoretical physics.

THEORY	DATA	OUTREACH	COLLABORATION
1	2	2	2

2026 REVISED EDITION

A
ADMIN

Dr. Jocelyn Sinclair (she/her)

jocelyn.sinclair@cdnsciencepub.com

RP-4

Journal Development Specialist

Canadian Journal of Physics

I coordinate editorial work, outreach, and strategy for the Canadian Journal of Physics. Passionate about research integrity and representation.

I excel at problem solving and managing projects which incorporate different outlooks. I'm interested in learning more about the physics community.

https://www.linkedin.com/in/jocelyn-sinclair-4a0690121/

THEORY	DATA	COMMUNICATION	COLLABORATION
1	2	3	3

2026 REVISED EDITION

S
SCIENCE

Gabrielle Barsky-Giles (she/her)

gabrielle@thaumas.net

RP-1

Undergraduate Student — **Queen's University**

https://ca.linkedin.com/in/gabrielle-barsky-giles-b49715243

I am an undergraduate student studying mathematical physics. As a research assistant I work on HELIX a cosmic ray balloon experiment attempting to determine the time it takes cosmic rays to reach the earth.

I excel at the analysis portion of experiments and collaboratively developing solutions to issues that arise in research. I would like to further develop my communications skills, to efficiently transmit my ideas.

THEORY	DATA	COLLABORATION	EDI WORK
1	2	1	2

2026 REVISED EDITION

A
ADMIN

Edward Thomas (he/him)

edward.thomas@mcdonaldinstitute.ca

RP-5

Associate Director **McDonald Institute**

I manage external relations programs for the McDonald Institute and have 20 years' experience leadership experience in publishing, academic research, entrepreneurship and innovation.

I excel in complex project planning, risk management and strategic analysis. I like troubleshooting and optimization of multi-variate open-ended collaborations operating under conditions of uncertainty.

https://www.linkedin.com/in/edwardthomas/

DATA	ENGINEERING	OUTREACH	COLLABORATION
1	3	3	3

2026 REVISED EDITION

S
SCIENCE

Alexis Willson (she/her)

alexis.willson@queensu.ca

RP-1

Undergraduate Student/ Research Scientist

Queen's & McDonald Institute

I am an Undergraduate Student at Queen's working as a Geophysics and McDonald Institute researcher, passionate about expanding research boundaries!

I excel in creativity and taking initiative, driven by an eagerness improve.
I am interested in building up my collaboration and networking skills.

INSTRUMENTATION	THEORY	DATA	OUTREACH
1	2	2	1

2026 REVISED EDITION

S
SCIENCE

Kimia Ghanaatpisheh (she/her)

kimiaghanaatpisheh@cmail.carleton.ca

RP-2

Graduate Student — **Carleton University**

I am a Master's Student in Theoretical Particle Physics working on first-order Phase transitions and Gravitational waves, I work with BSMPT (Beyond the Standard Model Phase Transitions : A C++ package for the computation of the EWPT in BSM models) to further facilitate my research.

I excel in Critical Thinking and Problem Solving. I am passionate about Solving puzzles and anything that involves Thinking(Hence why I am in Physics)

https://www.linkedin.com/in/kimia-ghanaatpisheh/

THEORY	DATA	OUTREACH	GAMES
7	2	3	1

2026 REVISED EDITION

S
SCIENCE

Tom Wu (he/him)

yujun.wu@mail.utoronto.ca

RP-
1

Undergraduate Student

University of Toronto

I work on detector simulations for the SuperCDMS experiment by running simulations using ComputeCanada Supercomputing Clusters.The goal of my project is to model trigger delay in detector electronics..

I excel in environments where I can work creatively and self-motivated. I am interested in improving my academic writing skills, and I'm currently looking for grad school oppotunities in AstroPhysics

INSTRUMENTATION	THEORY	DATA	ENGINEERING
1	1	3	1

2026 REVISED EDITION

S
SCIENCE

Nick Swidinsky (he/him)

21nes8@queensu.ca

RP-2

Graduate Student — **Queen's University**

I work on cryogenic experiments for fluorescence and scintillation as well as the KDK+ experiment which is looking to find the rare Œ≤+ decay of potassium-40

I excel in instrumentation specifically for scintillators and cryogenics. I enjoy analyzing the data that we acquire, and am the best at analysis when I have designed the experiment myself.

https://www.queensu.ca/physics/people-search/nicholas-swidinsky

INSTRUMENTATION	DATA	ENGINEERING	OUTREACH
3	2	2	2

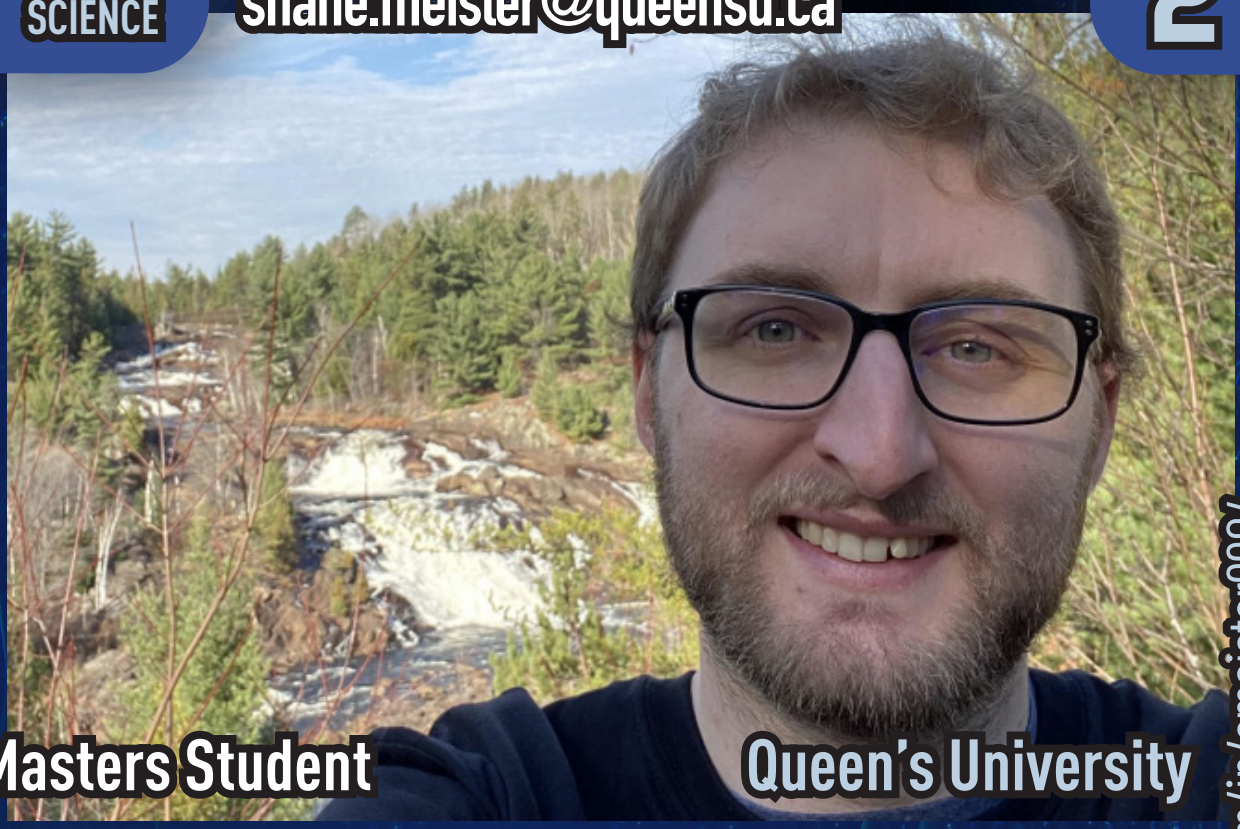
2026 REVISED EDITION

S
SCIENCE

Shane Meister (he/him)

shane.meister@queensu.ca

RP-2



Masters Student — **Queen's University**

I am a Masters Student at Queen's working on PICO-40L and 500, planning on upgrading to the PhD program. I was an architect before switching fields to physics, so I love combining aesthetics with scientific research!

I excel in problem solving and novel approaches to existing challenges. I am passionate about teaching, illuminating challenging topics for newcomers is my priority.

https://www.linkedin.com/in/smeister990/

INSTRUMENTATION	DATA	ENGINEERING	OUTREACH
1	2	2	2

2026 REVISED EDITION

S
SCIENCE

Rory Macdonald (he/him)

rory.macdonald@queensu.ca

RP-1

Undergraduate Student **Queen's**

I am an undergrad at Queen's working on instrumentation, analysis, and software development for the DEAP-3600 experiment located at SNOLAB. I am also involved in STEM outreach and education initiatives.

I have a strong background in programming and software development, and I am interested in improving my analysis and project management skills. I thrive in collaborative environments with strong communication.

https://www.linkedin.com/in/rory-mac/

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
2	2	2	1

2026 REVISED EDITION

S
SCIENCE

Robert Collister (he/him)

robcollister@gmail.com

RP-
4

Postdoctoral Fellow — **Carleton University**

I work for nEXO at Carleton, searching for OuBB. I am building facilities to test SiPM light collection tiles in LXe. Previously, I worked on barium-tagging, a novel background rejection technique for OuBB searches.

I have decades of experience with the hardware side of experimental physics. I am interested in developing my leadership and project management skills, for advancement in my physics career.

https://www.linkedin.com/in/robert-collister-3462721a0/

INSTRUMENTATION	ENGINEERING	COLLABORATION	TRAINING
3	2	2	3

2026 REVISED EDITION

S
SCIENCE

Alexander Vicol

alexander.vicol@yahoo.com

RP-1

Undergraduate Student

SNOLAB

I work at the Low Background Lab and have completed a project regarding the the analysis of Radon monitors using the underground lab at SNOLAB. I am highly passionate about entrepreneurship and leadership.

I have strengths with leadership, interpersonal communication, and grit. I should improve upon organization.

https://ca.linkedin.com/in/alexander-vicol

THEORY	OUTREACH	COLLABORATION	GRIT
1	2	2	9

2026 REVISED EDITION

S
SCIENCE

Dr. Joe Bramante (he/him)

josephbramante@gmail.com

RP-5

Professor — **Queen's University**

I work on dark matter and cosmology and am one of the leaders of Queen's High Energy and Astroparticle Theory group.

I investigate theoretical physics beyond the Standard Model, with special attention to new experimental and astrophysical searches for dark matter.

https://www.queensu.ca/academia/bramante/

THEORY	DATA	OUTREACH	COLLABORATION
5	2	1	2

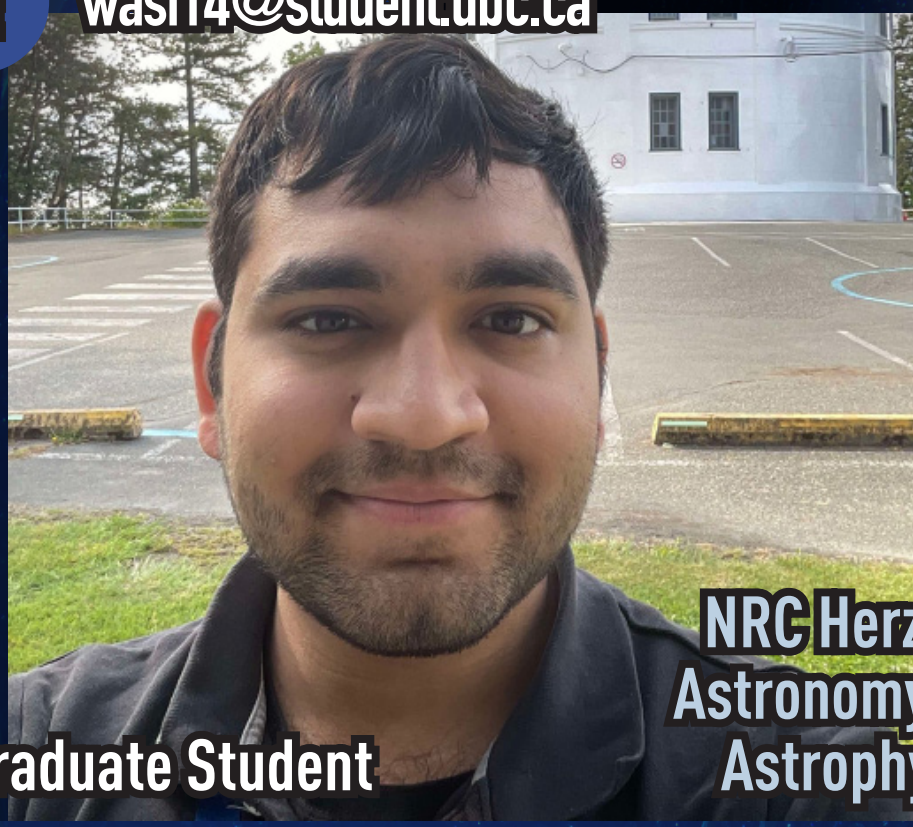
2026 REVISED EDITION

S
SCIENCE

Wasi Naqvi (he/him)

wasi14@student.ubc.ca

RP-1



Undergraduate Student

NRC Herzberg Astronomy and Astrophysics

I work on detector simulations and in-orbit performance testing for the CASTOR Telescope. I love astronomy, particle physics, soccer and Hozier.

I like to work in environments where I can learn from others and ask open questions.

https://www.linkedin.com/in/wasi-naqvi-0a2338246/

INSTRUMENTATION	THEORY	DATA	HUMOR
2	1	2	2

2026 REVISED EDITION

E

ENGINEER

Joshua Himmens (he/him)

joshua@himmens.com

RP-1

Undergraduate Student

UBC

https://www.linkedin.com/in/joshua-himmens

I work with the ATLAS group at TRIUMF developing machine learning approaches to particle flow. Our goal is to combine tracker and calorimeter data to improve the accuracy of ATLAS event reconstruction.

I love physics and engineering. I excel at understanding complex problems and codebases quickly. I want to experience every subfield of physics. My weakness is that I often go overtime when presenting my work.

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
1	2	2	1

2026 REVISED EDITION

S
SCIENCE

Christine Kraus (she/her)

tine@snolab.ca

RP-5

Research Scientist

SNOLAB

I work on the SNO+ experiment, where we use neutrinos to learn about the universe. I am also passionate and engaged in various EDI initiatives and hope that more people get involved in improving the scientific community.

I love working in teams and promote mentorship wherever I can. I provide leadership, project management skills, calibration and background expertise, and look for help in professional writing, higher level programming.

https://www.linkedin.com/in/christine-kraus-355b7b71/

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
3	2	2	3

2026 REVISED EDITION

S
SCIENCE

Prof. David Curtin (he/him)

dcurtin@physics.utoronto.ca

RP-6

Professor and Principial Investigator

University of Toronto

I am a high energy theorist motivated by mysteries like the hierarchy problem, dark matter and the universe's matter-antimatter asymmetry, and I do a lot of work on the astrophysics and cosmology interface.

I provide guidance from high energy theory on what aspects of dark matter dynamics to probe astrophysically, and develop the new interdisciplinary collaborations needed to address these questions.

https://curtin.physics.utoronto.ca/

THEORY	DATA	OUTREACH	COLLABORATION
6	1	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Derek Cranshaw (he/him)

djcranshaw@gmail.com

RP-
4

Postdoctoral Researcher **Queen's University**

I am the analysis coordinator for the PICO collaboration, which is a series of bubble chambers searching for WIMP dark matter. I also have a background in Higgs physics from my time working on the CMS experiment.

I specialize in data analysis and statistics, software development, and communication of scientific results. I am looking to improve my in-lab skills relating to construction and implementation of experimental design.

THEORY	DATA	OUTREACH	COLLABORATION
2	4	3	1

2026 REVISED EDITION

S
SCIENCE

Dr. Shaokai Yang (he/him)

shaokai1@ualberta.ca

RP-
4

Postdoc

University of Alberta

I use deep learning to analyze neutrino physics data for the SNO+ experiment. With extensive experience, I contribute to scientific advancements and support diversity and inclusion in the research community

I specialize in deep learning for neutrino physics, thriving in research and collaboration. I seek to improve project management skills and need support with administrative tasks.

THEORY	DATA	OUTREACH	COLLABORATION
3	4	1	1

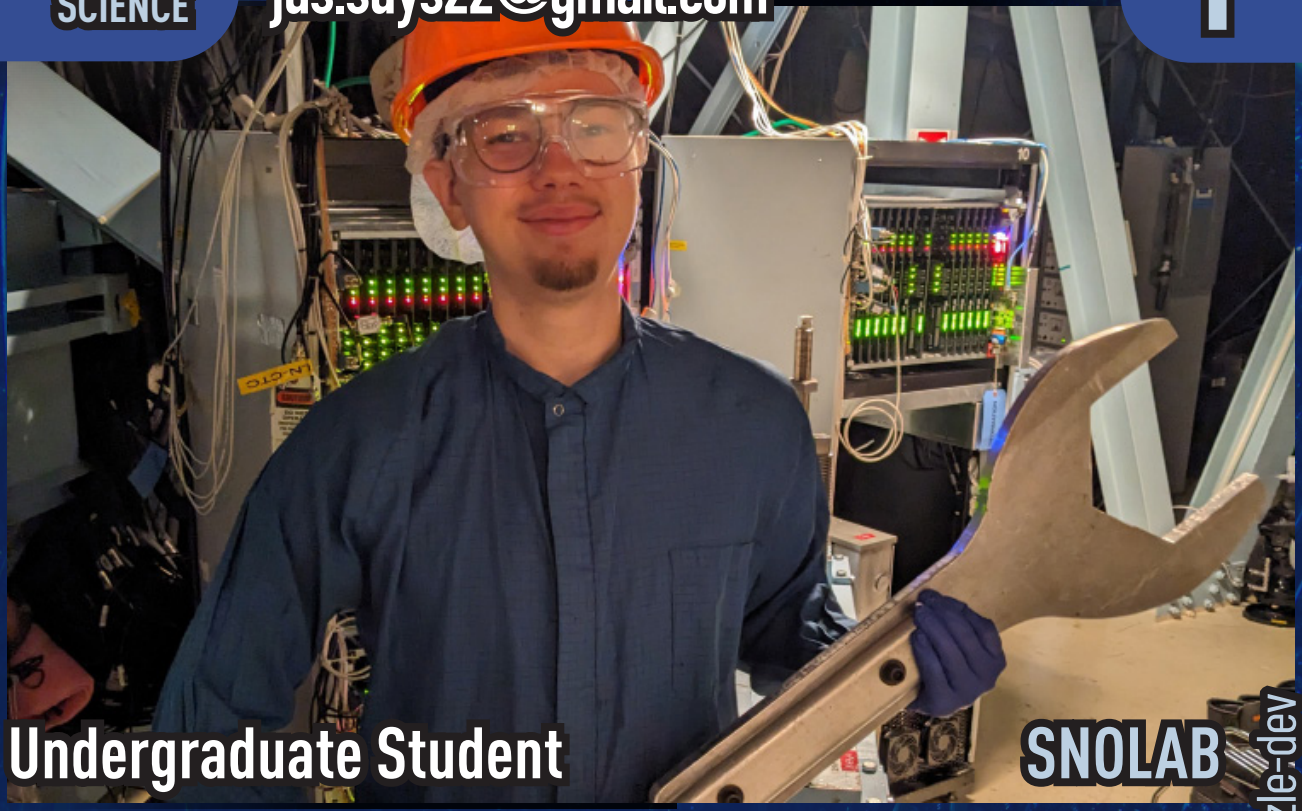
2026 REVISED EDITION

S
SCIENCE

Justin Suys (he/him)

jus.suys22@gmail.com

RP-1



Undergraduate Student

SNOLAB

I work with the SNOLAB scientific support team and with the SNO+ radon assay team to improve the accuracy of radon concentration measurements.

I thrive at the intersection of technology and physics. Collaboration is to me an effective catalyst for progress and self-development. I would enjoy the opportunity to develop my communication and writing skills.

https://github.com/Swizzle-dev

INSTRUMENTATION	THEORY	DATA	ENGINEERING
2	1	2	1

2026 REVISED EDITION

S
SCIENCE

Dr. Encieh Erfani (she/her)

eerfani@perimeterinstitute.ca

RP-4

Postdoc

Perimeter Institute

Theoretical physicist exploring cosmology and dark matter, with a strong interest in science diplomacy and science communication.

I thrive in creative, interdisciplinary teams and science outreach. I seek to grow in leadership and support with admin tasks and grant logistics

www.linkedin.com/in/encieh-erfani

THEORY	OUTREACH	COLLABORATION	SCIENCE DIPLOMACY
3	2	2	2

2026 REVISED EDITION

S
SCIENCE

Dr. Andrew Erlandson (he/him)

andrew.erlandson@cnl.ca

RP-4

Staff Scientist

Canadian Nuclear Laboratories

I work on the DEAP-3600 experiment searching for dark matter but I've also led work expanding the sensitivity of liquid argon dark matter detectors to solar neutrinos through charged current interactions.

I thrive in technical environments where you can really get into the weeds of a problem. I'd like to further develop my leadership skills so I can help shape the next generation of physicists.

https://www.linkedin.com/in/andrew-erlandson-52b0a842/

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
3	2	3	3

2026 REVISED EDITION

S
SCIENCE

Lazar Paroski (he/him)

lazar.paroski@queensu.ca

RP-
1

Undergrad Research Assistant

SNOLAB/ Queen's

I am working on nEXO and searching for Neutrinoless Double Beta Decay. I test PMTs and analyze data. I am passionate about cool new physics and also play varsity Water Polo.

I thrive on solving unfamiliar problems, driven by my passion for physics. I love collaborating with others and am always eager to learn new things, embracing challenges that push my knowledge and skills to new heights.

www.linkedin.com/in/lazar-paroski

INSTRUMENTATION	THEORY	DATA	ENGINEERING
1	1	2	2

2026 REVISED EDITION

S
SCIENCE

Jon Clarke (he/him)

jon.clarke@queensu.ca

RP-3

PhD student

Queen's University

I work on the NEWS-G dark matter experiment. I have experience in medical physics, using GPS to compare atomic clocks in different continents, teaching high school physics, and training physics teachers, which included improving diversity in physics. I love music, from heavy metal through to electronica.

I value teamwork very highly and have managed, mentored and taught. I am good at understanding how my work relates to the rest of the world. I very much appreciate others' assistance when undertaking creative tasks and wish to learn far more about Indigenous Ways of Knowing concerning physics.

https://www.linkedin.com/in/jcphysics/

THEORY	DATA	INSTRUMENTATION	OUTREACH
1	3	1	1

2026 REVISED EDITION

S
SCIENCE

Elspeth Cudmore (she/they)

elspeth.cudmore@mail.utoronto.ca

RP-3

Graduate Student Researcher

University of Toronto

https://ca.linkedin.com/in/elspeth-cudmore-a601b4b2

I work on RICOCHET: a reactor neutrino program searching for CEvNS with cryogenic bolometers. In my free time I love petting cats & doing handstands.

I work well in small groups, where I can work on my own side-quests in pursuit of a common goal. I would like to improve my time management skills

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
3	1	3	1

2026 REVISED EDITION

S
SCIENCE

Dr. Melissa Diamond (she/her)

melissa.d.diamond@mcgill.ca

RP-2

Postdoctoral Researcher

McDonald Institute / McGill University

I am a theorist working in dark matter phenomenology. My work focuses on heavy dark matter composites, primordial black holes, and interactions between dark matter and compact astrophysical objects.

I work well in team environments, on the creative elements of at unraveling thorny technical issues. I would like to improve my time management and ability to plan research projects.

THEORY	DATA	OUTREACH	COLLABORATION
4	1	2	2

2026 REVISED EDITION

S/E
SCI/ENG

Lucas Di Pietro (any)

lucs100d@gmaill.com

RP-1

Undergraduate Student

SNOLAB

I worked on the SNO+ experiment at SNOLAB. When underground, I helped with maintenance on the electronics; when above ground, I worked on full-stack internal web development. I'm neurodivergent and love Splatoon :)

I'm a quick learner that isn't afraid to get my hands dirty. I work best in small, tight-knit groups where I get along with everyone, but could use a bit more experience leading projects and keeping organized.

https://www.linkedin.com/in/lucs100/

INSTRUMENTATION	DATA	ENGINEERING	DESIGN
2	1	1	2

2026 REVISED EDITION

S
SCIENCE

Karen Macías Cádenas (she/

karen.macias@csic.es

RP-3

PhD Candidate

IFT UAM/CSIC

I work on dark matter and neutrinos. I did my MSc at Queen's and my undergrad at UABC Mexico. I'm passionate about science outreach and social justice

I'm an excellent communicator and work best when there's continuous feedback. I'm interested in learning more data analysis to complement my research.

karen-macias.github.io

THEORY	DATA	OUTREACH	COLLABORATION
3	1	2	2

2026 REVISED EDITION

E
ENGINEER

Armin

jwp2@queensu.ca

RP-4

Engineering Designer — **McDonald Institute**

I am an experienced mechanical engineering designer with a passion for physics and research. I have had the chance to work with amazing people on PICO-500, NEWS-G3, and KDK+.

I'm detail oriented & I have a good imagination! While those, together with my education & work experience, help me in design, CAD modeling and making things real, I always look forward to a good collaborative work

www.linkedin.com/in/armin-mirabolghasemi

INSTRUMENTATION	THEORY	ENGINEERING	COLLABORATION
1	1	5	2

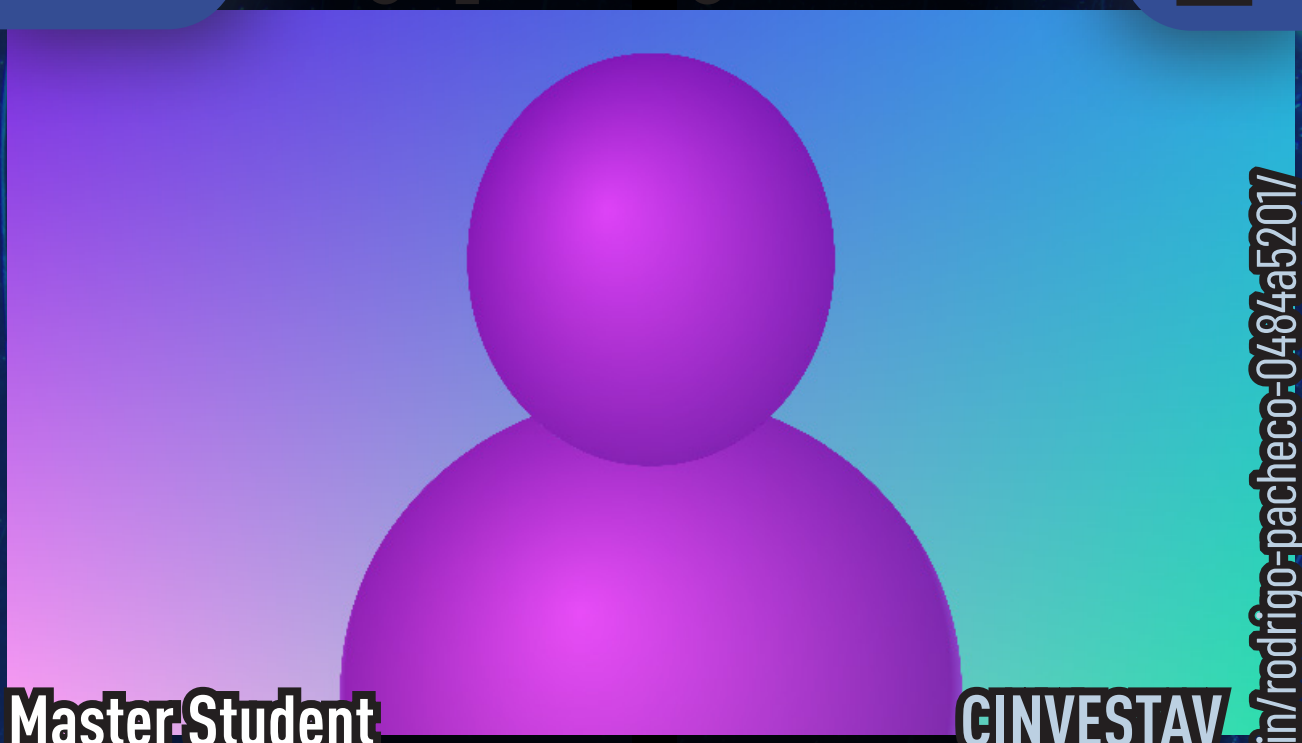
2026 REVISED EDITION

S
SCIENCE

Rodrigo Pacheco (he/him)

rodrigo.kpacheco@gmail.com

RP-2



Master Student

CINVESTAV

https://www.linkedin.com/in/rodrigo-pacheco-0484a52017/

I'm from Mexico and I work on SuperCDMS at SNOLAB for the summer studying the sensitivity for supernova neutrinos, for my master I work in Blazar emission models. I like cats, cooking, teaching and learning about places.

I'm most comfortable in roles that are related to teaching others, analysis, design and simulation but I think I would have great room to improve when building budgets and seeking for finantial opportunities

THEORY	DATA	ENGINEERING	OUTREACH
3	2	1	2

2026 REVISED EDITION

S
SCIENCE

Brian Krar, Meng

brian.krar@queensu.ca

RP-
3

PhD Student

Queen's University

I work on the SNO+ experiment, with my work focusing primarily on solar neutrinos (among other ancillary areas and aspects). Spherical lyrical spiritual miracle. Unstoppable force. Occasional immovable object.

Leader, visionary, dreamer - these are the words that have been used to describe me on the front of a playing card.

Thrives at the intersection of particles and astrophysics.

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
3	4	2	1

2026 REVISED EDITION

E
ENGINEER

Michaela Robert (she/her)

michaela.robert@queensu.ca

RP-2

Master's Student — **Queen's University**

I work on the PICO experiment at SNOLAB searching for WIMP dark matter. I am also a competitive curler and enjoy teaching the game to others.

My discipline and attention to detail make me a fast learner, and I thrive in environments where I can constantly broaden my knowledge and abilities. I would like to improve my leadership and presentation skills.

https://www.linkedin.com/in/michaela-robert/

INSTRUMENTATION	DATA	ENGINEERING	COLLABORATION
3	2	2	1

2026 REVISED EDITION

S
SCIENCE

Avani Bhardwaj (she/her)

avani.bhardwaj@queensu.ca

RP-2

Graduate Student — **Queen's University**

I am a physics master's student at Queen's University, part of the HELIX ballon borne experiment. I focus on characterizing aerogel tiles and am interested in EDIAA within the physics department

My key strengths are staying motivated and disciplined, even under pressure. I struggle with effectively communicating complex scientific concepts.

INSTRUMENTATION	DATA	ENGINEERING	OUTREACH
2	3	1	1

2026 REVISED EDITION

S
SCIENCE

Prof. Simon Viel (he/him)

simon.viel@snolab.ca

RP-5

Associate Professor — **Carleton University**

I work on SNOLAB experiments with noble liquids, looking for dark matter, neutrinoless double beta decay, and other measurements. I previously worked with ATLAS on searches for new physics and the Higgs boson.

My main expertise is data analysis software for detector simulation, event reconstruction and signal extraction, including machine-learning algorithms. I also participate in photodetector research and development.

INSTRUMENTATION	DATA	OUTREACH	COLLABORATION
1	5	1	3

2026 REVISED EDITION

S
SCIENCE

Ezri Wyman (she/they)

19emhw@queensu.ca

RP-2

Graduate Student — **Queen's University**

I work on the Scintillating Bubble Chamber experiment on hardware and simulation. I co-chair GEMINI-P and sit on various EDI committees.

My skills include electronics, lab hardware, MD and fluid simulations. I want to improve my skills at statistical mechanics and computational physics.

https://www.linkedin.com/in/ezri-wyman-876876318/

INSTRUMENTATION	DATA	ENGINEERING	OUTREACH
3	2	1	1

2026 REVISED EDITION

S
SCIENCE

Jeremy Savoie (he/him)

jeremy.savoie@umontreal.ca

RP-3

PhD Student | **Université de Montréal**

I work on the PICO experiment searching for WIMP-like dark matter. I am passionate about improving mental well-being, EDI in academia and engaged citizenship.

My strength is in collaborative environments. I have an affinity for leadership and project coordination, but am always eager to improve these skills. I am also trying to improve my communication and presentation skills.

https://www.linkedin.com/in/jeremy-savoie-1496a9242/

DATA	ENGINEERING	COLLABORATION
2	2	4

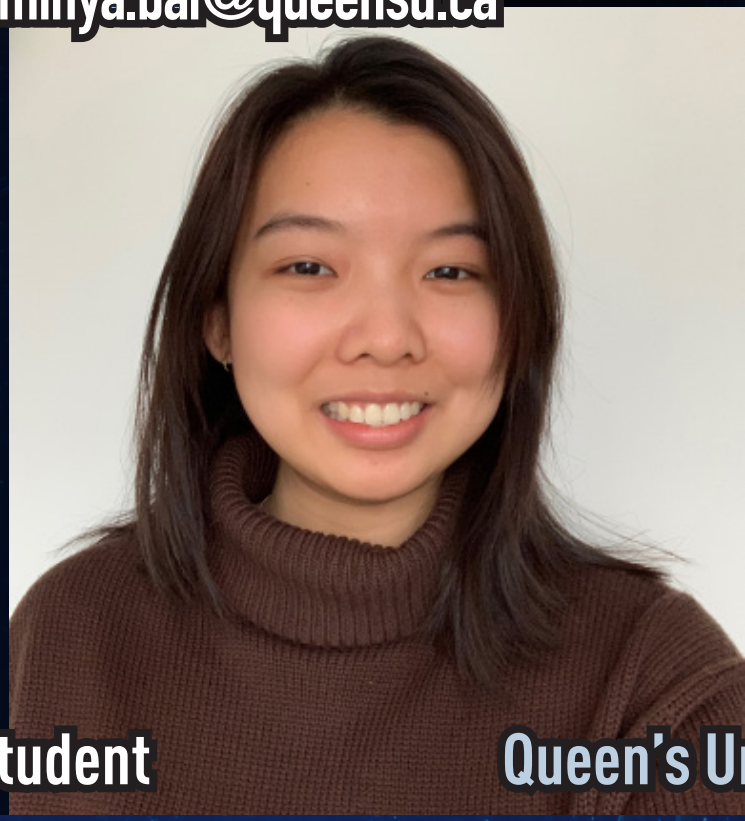
2026 REVISED EDITION

S
SCIENCE

Minya Bai (she/her)

minya.bai@queensu.ca

RP-2



Graduate Student — **Queen's University**

I work on the PICO dark matter experiment at SNOLAB. My work involved improving the optics software for better bubble recognition. I am passionate about education and EDII initiatives in the scientific community.

My strengths involve being easily adaptable and enjoy trying different types of research. I am an advocate for learning and education, and I am interested in improving my communication skills to a wider audience.

https://www.queensu.ca/physics/people-search/minya-bai

INSTRUMENTATION	DATA	ENGINEERING	OUTREACH
3	2	2	2

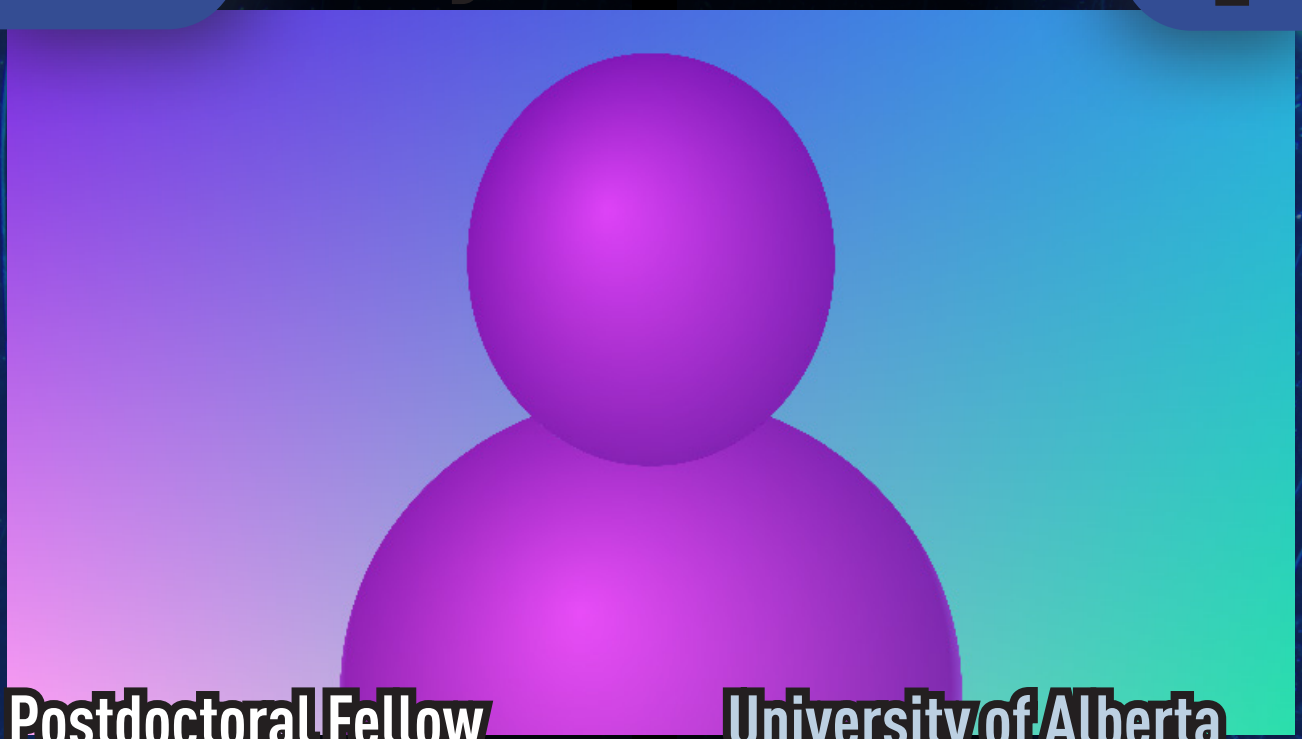
2026 REVISED EDITION

S
SCIENCE

William Woodley

wwoodley@ualberta.ca

RP-
4



Postdoctoral Fellow

University of Alberta

I am a postdoctoral fellow working on the PICO experiment at the University of Alberta searching for dark matter. I am also passionate about physics education and pedagogy.

My strengths lie with programming and data analysis and I enjoy project organisation and documentation. I look for help with instrumentation and hardware and I am always trying to improve my communication skills.

THEORY	DATA	OUTREACH	COLLABORATION
1	4	2	2

2026 REVISED EDITION

S
SCIENCE

Andrew Buchanan

andrewbuchanan7071@gmail.com

RP-
3

PhD Student

Queen's University

I work with the Astroparticle Theory group where I focus on Quantum Chromodynamics and Yangs-Mills theory, including dark matter models with similar to QCD.

With a strong mathematical background, I excel at self-directed projects tackling difficult theoretical problems. I also have a passion for teaching students.

THEORY	DATA	OUTREACH
4	1	1

2026 REVISED EDITION

PICO 2L
WIMP Dark Matter Detector

Small-Scale
RP+ 2

SNOLAB
kjc5@queensu.ca

PICO-2L was the first detector installed at SNOLAB by PICO, demonstrating that bubble chambers can be used to search the parameter space of low mass dark matter. The first run of PICO-2L lasted from October 2013 to May 2014. PICO-2L started a second data taking phase in February of 2015 with a new, all synthetic quartz vessel and a new set of piezoelectric sensors. Run 2 ended in November 2015, and in January 2016 PICO reported the 2L bubble chamber was background free.

https://www.picoexperiment.com/pico-2l/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
2	2	7

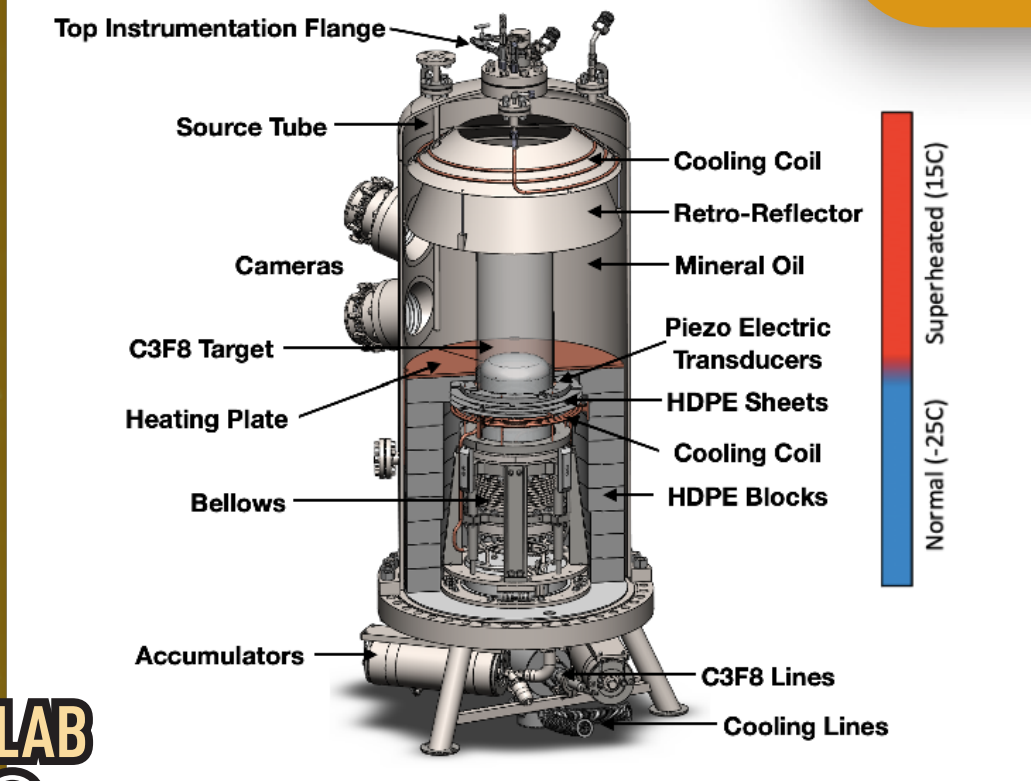
REQUIRED PERSONNEL:

E
Engineer

2026 REVISED EDITION

PICO 40L
WIMP Dark Matter Detector

Mid-Scale
RP+ 4



SNOLAB
kjc5@queensu.ca

PICO-40L is a large-scale prototype of the right-side-up bubble chamber experiment. The detector began construction at SNOLAB in 2019 and was finished in 2020. Currently the new systems of the detector are being commissioned.

https://www.picoexperiment.com/pico-40l/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
6	4	7

REQUIRED PERSONNEL:
E
Engineer

PICO 500
WIMP Dark Matter Detector

Large-Scale
RP+ 6

SNOLAB
kjc5@queensu.ca

PICO-500 is the next generation detector that builds upon the principle demonstrated by PICO-2L, -60, and -40L. The scaled-up detector will have an active volume of about 250 litres and will use a synthetic quartz vessel. The experiment has received full funding from CFI and the Canadian provinces. SNOLAB has approved the conceptual design of the experiment and allocated space in the underground facility for PICO-500 in the cube hall area of the lab.

https://www.picoexperiment.com/pico-500/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
7	10	10

REQUIRED PERSONNEL:
A+E
Admin, Engineer

NEWS-G
WIMP Dark Matter Detector

Large-Scale
RP+ 6

Queen's
jon.clarke@queensu.ca

The NEWS-G collaboration uses spherical proportional counters filled with gas for low-mass dark matter detection at SNOLAB, and will soon investigate coherent elastic neutrino-nucleus scattering. These detectors feature low capacitance, low energy threshold, excellent energy resolution, low cost, robustness, and flexibility in gas choice and operating pressure.

https://www.queensu.ca/physics/news-g/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
8	8	12

REQUIRED PERSONNEL:
A+E
Admin, Engineer

2026 REVISED EDITION

Helium Liquefier
Facility Infrastructure

Small-Scale
RP+ 2

Queen's University
jtc7@queensu.ca

To support the ongoing research and UG labs within the Physics and Chemistry departments, a Helium Reliquefier was installed in August 2023 to collect, store and liquefy the helium gas boiloff for recycled use. Work was required to integrate the design to the existing building infrastructure, debug the system during early operations, and communicate with the manufacturer throughout the project lifecycle.

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
3	1	6

REQUIRED PERSONNEL:

E
Engineer

2026 REVISED EDITION

Astronomy on Tap
Local Public Outreach Event

Mid-Scale
RP+ 3

McDonald Institute / Queen's University
outreach@mcdonaldinstitute.ca

https://www.facebook.com/aotkingston

Astronomy on Tap gets rid of the lecture hall and instead meets people in their community to talk about astronomy and astrophysics. Events require public engagement, fun talks, exciting trivia, working with community stakeholders for sponsorship, and lots of coordination behind the scene to get the space just right. The result is a fun and engaging evening with prizes, exciting science, and insightful conversation.

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	OUTREACH
3	1	10

REQUIRED PERSONNEL:

A
Admin

2026 REVISED EDITION

HELIX
Cosmic Ray Detector

Mid-Scale
RP+ 4

HELIX is a balloon-borne experiment designed to measure the chemical and isotopic abundances of light cosmic ray nuclei. Measurements by HELIX, especially of 10Be from 0.2 GeV/n to beyond 3 GeV/n, will provide an essential set of data for the study of propagation processes of the cosmic rays. HELIX launched in 2024!

http://helix.uchicago.edu/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
5	7	7

REQUIRED PERSONNEL:

E
Engineer

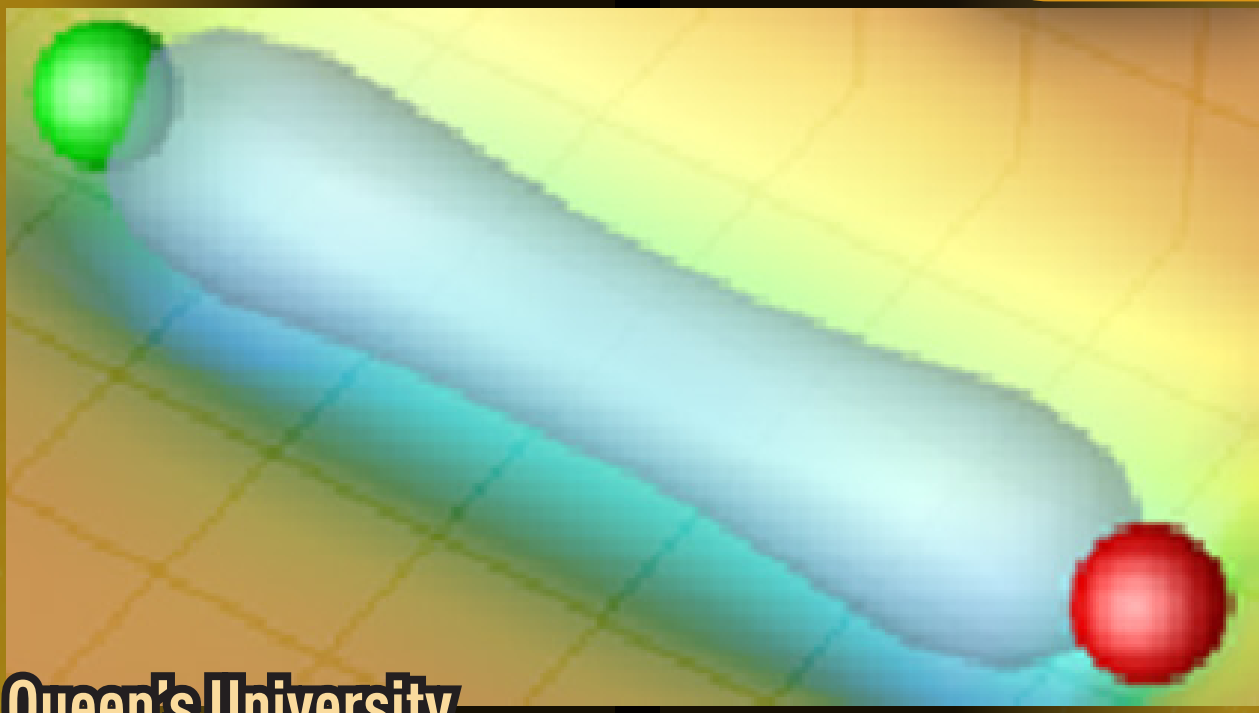
2026 REVISED EDITION

Quirky Dark Matter

Dark Matter Theory

Small-Scale

RP+ 2



Queen's University

andrewbuchanan7071@gmail.com

Quirky Dark Matter is a type of dark matter model where a 'dark' version of QCD is weakly coupled to the Standard model.These 'quirks', as they're called, have masses much larger than the theory's confinement scale. So, they behave very quirkily. Instead of forming three quirk protons like quarks, they form massive hadrons with potentially millions of quirks connected by stringy flux tubes. So, how quickly big are these quirk balls? What are the cosmological implications of these quirks?

REQUIRED SKILL POINTS:

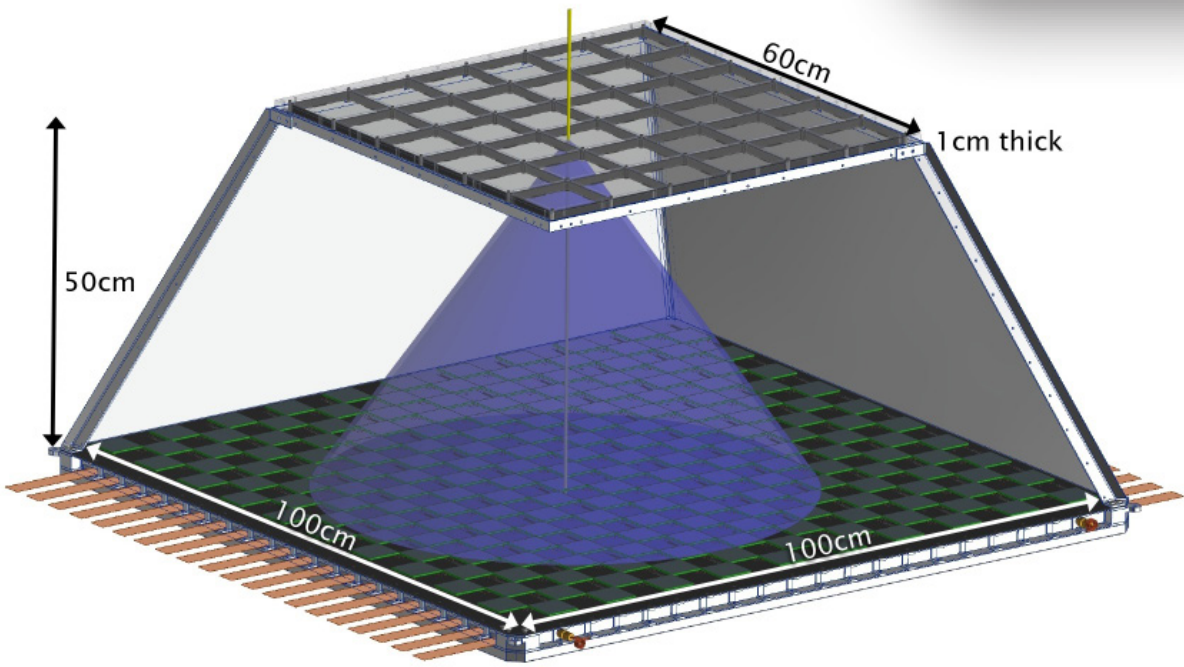
INSTRUMENTATION	THEORY	DATA
10	2	

2026 REVISED EDITION

HELIX: Ring Imaging

Cosmic rays

Small-Scale
RP+ 2



nahee.park@queensu.ca

The HELIX (High Energy Light Isotope eXperiment) RICH (Ring Imaging Cherenkov) detector identifies charged particles by detecting Cherenkov radiation. As particles travel faster than light in a medium, they emit this radiation, forming rings that the RICH detector captures. This enables precise measurement of particle velocities, crucial for understanding cosmic rays.

http://helix.uchicago.edu/

REQUIRED SKILL POINTS:

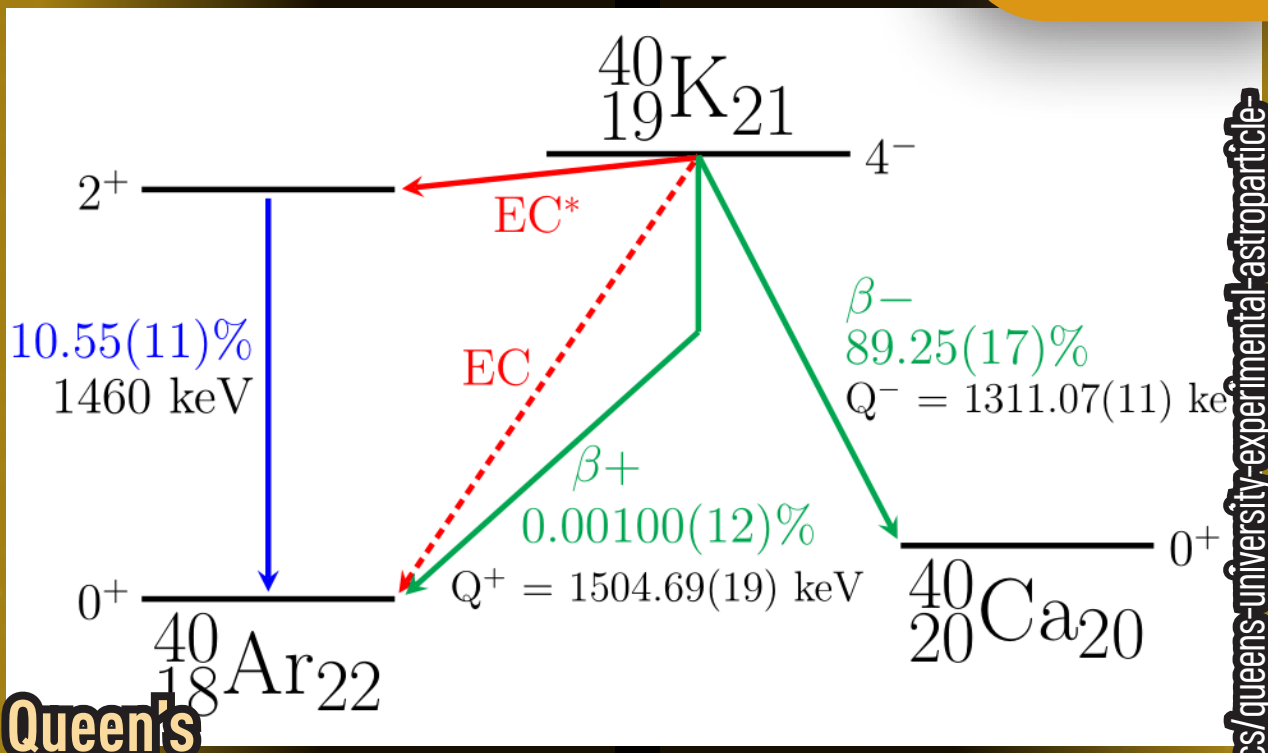
INSTRUMENTATION	THEORY	DATA
	6	6

2026 REVISED EDITION

KDK+

Rare radioactive decay of Potatssium

Mid-Scale
RP+ 4



Queen's
21nes8@queensu.ca

Experiment to measure the branching ratio of the rare _+ decay of potassium 40. The experiment will look for a triple coincident signal between the _+ interaction in a liquid scintillator, and two back to back _'s that are produced from the annihilation of the _+ particle.

https://www.queensu.ca/physics/queens-university-experimental-astroparticle-physics-group

REQUIRED SKILL POINTS:

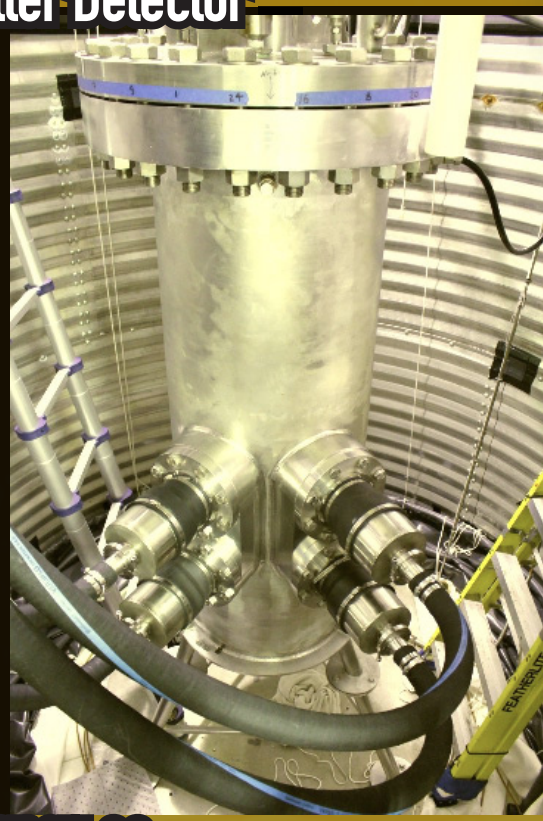
INSTRUMENTATION	THEORY	DATA
4	6	8

PICO-60

WIMP Dark Matter Detector

Mid-Scale

RP+ 4



SNOLAB

minya.bai@queensu.ca

PICO-60 was the next generation bubble chamber from PICO-2L. In comparison to its predecessor, PICO-60 had a larger active volume and was submerged in a water tank in the ladder labs in SNOLAB. The physics results from PICO-60L filled with CF_3I lead to competitive world leading results within the spin-dependent proton regime. The detector took physics data until it was decommissioned in 2017.

https://www.picoexperiment.com/pico-60/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
5	6	7

REQUIRED PERSONNEL:

E

Engineer

2026 REVISED EDITION

DRIFT: Art & Dark Matter

Public Outreach Event

Mid-Scale
RP+ 4

McDonald Institute

Artists Anne Riley, Nadia Lichtig, Josèfa Ntjam (artwork in image), and Jol Thoms visited Queen's and SNOLAB, saw the experiments, and met with experts in the field. They then created artwork inspired by the science and their experiences. The exhibit toured Kingston, Vancouver, Toronto, and Ottawa through 2021-2022. An virtual online exhibition is available. The project was supported by the Agnes Etherington Art Centre, the McDonald Institute and SNOLAB.

agnes.queensu.ca/digital-agnes/online-exhibition/drift-art-and-dark-matter/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	OUTREACH
4	4	8

REQUIRED PERSONNEL:

A
Admin

2026 REVISED EDITION

Annual Community Meeting

Research Community Conference

Mid-Scale
RP+ 4

McDonald Institute
admin@mcdonaldinstitute.ca

The McDonald Institute Annual Community Meeting is an opportunity for the astroparticle physics community to convene to share science updates, build network connections, confer on strategic decision making, participate in high-caliber professional development, and partake in some jovial social time.

https://indico.global/event/16626/

REQUIRED SKILL POINTS:

THEORY	DATA	OUTREACH
4	4	8

REQUIRED PERSONNEL:

A
Admin

2026 REVISED EDITION

Total Solar Eclipse
Local Public Outreach Event

Large-Scale
RP+ 6

Queen's
nikhil.a@queensu.ca

Supporting the local Kingston community for a once-in-a-lifetime total solar (first one in nearly 700 years!) eclipse passing through Kingston on April 8th. This multi-faceted program carried out science education and outreach for the total solar eclipse for the local Kingston community and beyond.

https://www.queensu.ca/physics/2024eclipse

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	OUTREACH
4	8	15

REQUIRED PERSONNEL:

A
Admin

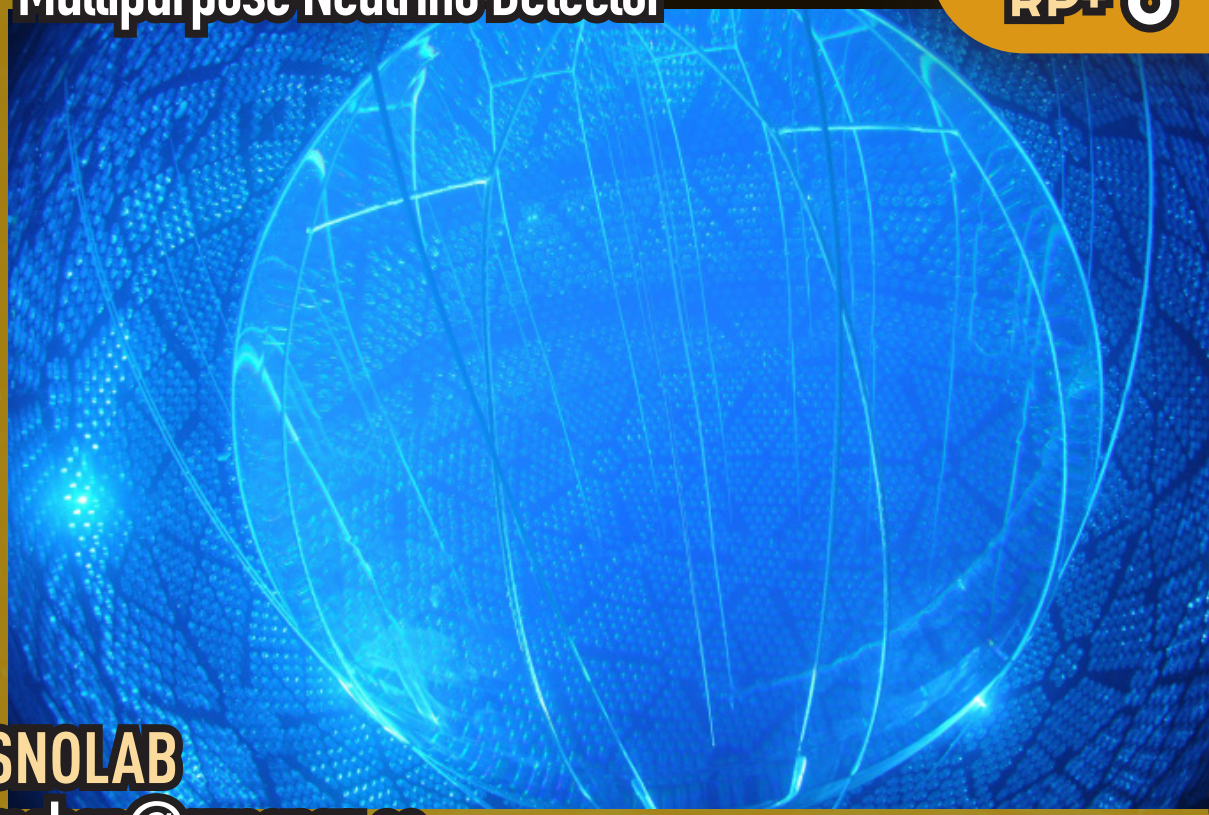
2026 REVISED EDITION

SNO+

Multipurpose Neutrino Detector

Large-Scale

RP+ 6



SNOLAB

mchen@queensu.ca

SNO+ uses a liquid scintillator to detect neutrinos. When a neutrino hits the detector, it creates charged particles. When these particles hit the scintillator it gives off light which is detected by thousands of sensors surrounding the vessel. Tellurium will also be added to the scintillator in the future in hopes of detecting neutrinoless double beta decay.

https://snoplus.phy.queensu.ca

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	ENGINEERING
10	6	9

REQUIRED PERSONNEL:

Admin

SuperCDMS
Cryogenic Dark Matter Search

Large-Scale
RP+ 6

SNOLAB

cdms-contact@slac.stanford.edu

SuperCDMS uses silicon and germanium crystals to detect dark matter. When a dark matter particle hits the crystals, it deposits a small amount of energy in them, which can be measured. The crystals are arranged in towers and connected to electronics that monitor the data, looking for an interaction.

https://supercdms.slac.stanford.edu/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	COLLABORATION
10	6	9

REQUIRED PERSONNEL:

E
Engineer

2026 REVISED EDITION

DAMIC
CCD Dark Matter Detector

Small-Scale
RP+ 2

SNOLAB

DAMIC uses CCDs (charged coupled devices) to look for dark matter interactions. The silicon CCDs are electical circuits made up of many capacitors, which are extremely sensitive to small changes in energy. When a dark matter particle interacts, that energy change can be measured, creating a signal in the data.

https://www.npl.washington.edu/damic/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
3	3	4

REQUIRED PERSONNEL:

S
Science

2026 REVISED EDITION

Women+ In Physics Canada Conference

Small-Scale
RP+ 2

CAP/McDonald Institute/Queen's

wipc2025@queensu.ca

https://www.queensu.ca/wipc2025/

This conference aims to foster inclusivity and diversity within the physics community by providing a platform for gender minorities and their allies to share research, network, and develop professionally. Conference delegates will have the opportunity to build networks, explore career paths, and present research, while also promoting gender equity and taking part in conversations about women in physics, equity, and inclusivity issues.

REQUIRED SKILL POINTS:

OUTREACH	COLLABORATION	EDII
3	3	4

REQUIRED PERSONNEL:

A
Admin

2026 REVISED EDITION

Canadian Astroparticle Summer School

Small-Scale
RP+ 2

Queen's University and SNOLAB.

summerschool@mcdonaldinstitute.ca

The Canadian Astroparticle Physics Summer School (CAPSS) is an intensive week-long undergraduate school that will introduce students to the current topics in the field of astroparticle physics and includes lectures and hands-on activities in particle physics, detector development, neutrino physics, dark matter astrophysics theory and cosmology, all at Queen's University and at SNOLAB.

https://mcdonaldinstitute.ca/capss/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	ENGINEERING
4	4	2

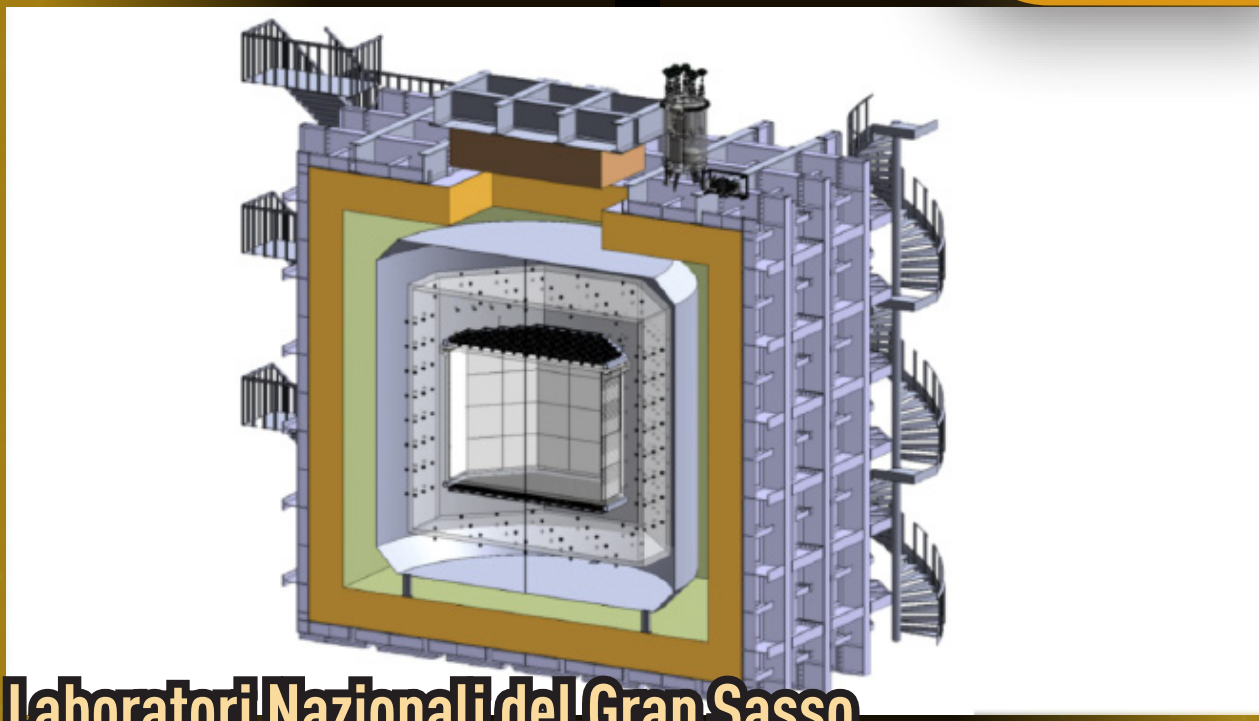
REQUIRED PERSONNEL:

A
Admin

2026 REVISED EDITION

Darkside 20k
WIMP Dark Matter Detector

Large-Scale
RP+ 6



Laboratori Nazionali del Gran Sasso
galbiati@princeton.edu

DarkSide-20k is a next-generation direct dark matter experiment designed to search for weakly interacting massive particles (WIMPs). It is under construction at the Laboratori Nazionali del Gran Sasso in Italy and intends to use a dual-phase liquid argon time projection chamber containing about 20 tonnes of ultra-pure argon, operated deep underground to reduce cosmic backgrounds.

https://darkside.lngs.infn.it/

REQUIRED SKILL POINTS:

INSTRUMENTATION	DATA	ENGINEERING
10	5	10

REQUIRED PERSONNEL:

A
Admin

2026 REVISED EDITION

DEAP 3600

WIMP Dark Matter Detector

Large-Scale
RP+ 6

DEAP Collaboration
mark.boulay@carleton.ca

DEAP-3600 is a dark matter detector using 3,600 kg of liquid argon. When argon atoms are excited by particle interactions, they produce ultraviolet light. This light is then detected by sensors surrounding the vessel and analyzed to determine what caused it. DEAP-3600 achieves strong sensitivity to WIMP dark matter.

https://deap3600.ca/

REQUIRED SKILL POINTS:

INSTRUMENTATION	DATA	ENGINEERING
10	8	7

REQUIRED PERSONNEL:

S+E+A
Sci, Eng, Admin

2026 REVISED EDITION

GRIDS
Summer School

Small-Scale
RP+ 2

TRIUMF
grids@triumf.ca

Graduate Instrumentation and Detector School (GRIDS) is a hands-on summer school for graduate students and early postdocs in nuclear, particle, and astroparticle physics. Combining lectures with lab training, GRIDS will help participants develop a basic understanding of particle-matter interactions, radiation detection, and safe operation of modern detector instrumentation.

https://grids.triumf.ca/2025/

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	COLLABORATION
3	3	4

REQUIRED PERSONNEL:

S
Science

2026 REVISED EDITION

CAPPS
Summer School

Small-Scale
RP+ 2

Arthur B. McDonald Canadian Astroparticle Physics Research Institute

summerschool@mcdonaldinstitute.ca

https://mcdonaldinstitute.ca/capss/

CAPSS is a week-long undergraduate summer school hosted by Queen's University and SNOLAB, aiming to introduce students to astroparticle physics. Through lectures, hands-on detector activities, and a tour of SNOLAB, students will explore particle physics, neutrinos, dark matter, cosmology, and research pathways.

REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	OUTREACH
2	3	5

REQUIRED PERSONNEL:

S
Science

2026 REVISED EDITION

IceCube Neutrino Observatory

Neutrino Detector

Large-Scale

RP+ 6

University of Wisconsin

erin.osullivan@physics.uu.se

Constructed at the Amundsen-Scott South Pole Station in Antarctica, IceCube searches for high-energy neutrinos that are either produced in the vicinity of distant astrophysical accelerators like black holes and neutron stars (astrophysical neutrinos) or from the interaction of cosmic rays in the Earth's atmosphere (atmospheric neutrinos) using thousands of sensors located under the Antarctic ice.

https://icecube.wisc.edu/

REQUIRED SKILL POINTS:

INSTRUMENTATION	ENGINEERING	COLLABORATION
8	5	12

2026 REVISED EDITION

VERITAS
Gamma Ray Astronomy Telescope

Large-Scale
RP+ 6

Fred Lawrence Whipple Observatory

VERITAS (Very Energetic Radiation Imaging Telescope Array System) is a ground-based gamma-ray instrument operating at the Fred Lawrence Whipple Observatory (FLWO) in southern Arizona, USA. It is an array of four 12m optical reflectors for gamma-ray astronomy in the GeV - TeV energy range. These imaging Cherenkov telescopes are deployed such that they have the highest sensitivity in the VHE energy band (50 GeV - 50 TeV), with maximum sensitivity from 100 GeV to 10 TeV.

https://veritas.sao.arizona.edu/

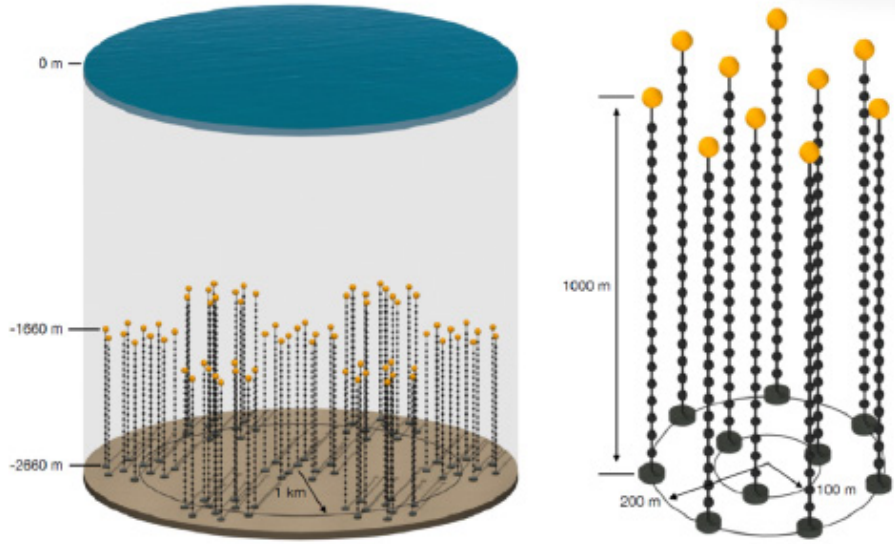
REQUIRED SKILL POINTS:

INSTRUMENTATION	THEORY	DATA
12	8	5

2026 REVISED EDITION

P-ONE
Neutrino Telescope

Large-Scale
RP+ 6



elisa.resconi@tum.de

The Pacific Ocean Neutrino Experiment (P-ONE) is a proposed large-volume neutrino telescope in the Northeast Pacific Ocean, off the coast of Vancouver Island, Canada. Building upon the optical deep-sea data and communications network operated by Ocean Networks Canada, an international collaboration of researchers plans to instrument more than one cubic kilometer of deep-sea volume. P-ONE will target measuring high-energy neutrinos to shed light on the cosmos.

https://www.pacific-neutrino.org/

REQUIRED SKILL POINTS:

INSTRUMENTATION	ENGINEERING	COLLABORATION
10	10	5

REQUIRED PERSONNEL:

E
Engineer

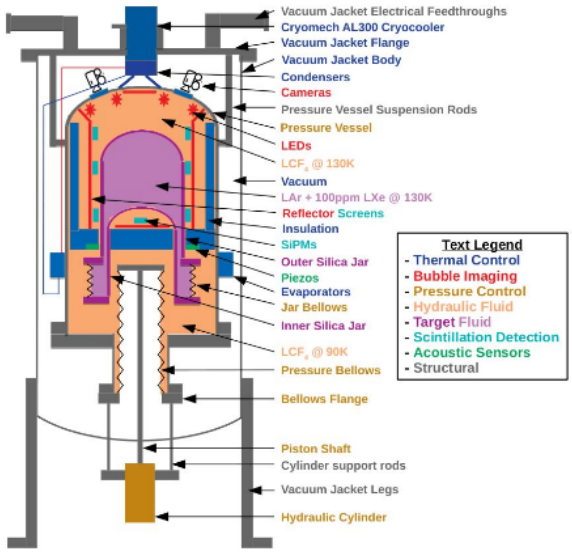
2026 REVISED EDITION

SBC
Scintillating Bubble Chamber

Mid-Scale
RP+ 4

TRIUMF

The SBC Detector



Discovery

https://particlephysics.ca/project/scintillating-bubble-chamber-experiment/?lang=en

SNOLAB

sumanta@ualberta.ca

The Scintillating Bubble Chamber (SBC) collaboration is designing and building a bubble chamber for the detection of both dark matter and coherent elastic neutrino-nucleus scattering. Using a target volume primarily composed of argon, the nucleation signal from electron recoils (the limiting factor for low-threshold studies in bubble chambers) is suppressed, allowing for the exploration of new parameter space.

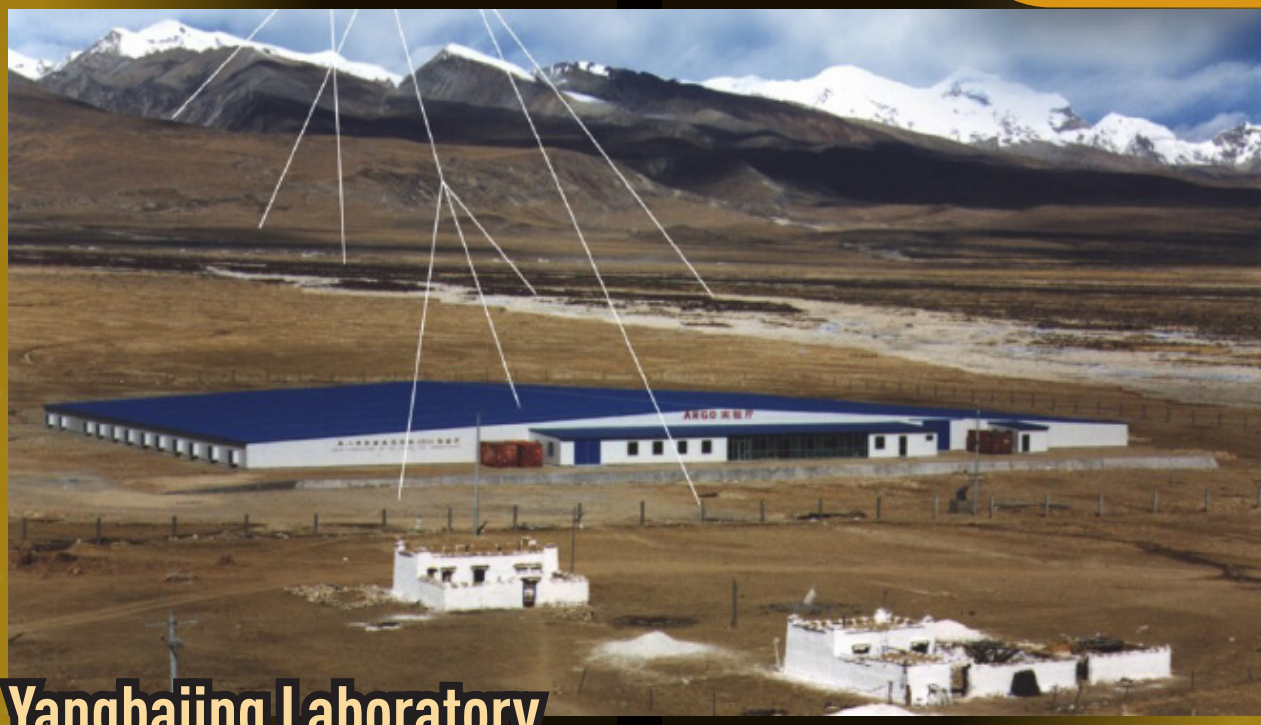
REQUIRED SKILL POINTS:

INSTRUMENTATION	DATA	ENGINEERING
6	4	6

2026 REVISED EDITION

ARGO-YBJ
Cosmic Ray Detector

Mid-Scale
RP+ 4



Yangbajing Laboratory

disciascio@na.infn.it

The aim of the ARGO-YBJ experiment is to study cosmic rays, mainly cosmic gamma-radiation, at an energy threshold of ~100 GeV, by means of the detection of small size air showers. This goal will be achieved by operating a full coverage array in the Yangbajing Laboratory (Tibet, P.R. China) at 4300 m above sea level.

https://argo.na.infn.it/

REQUIRED SKILL POINTS:

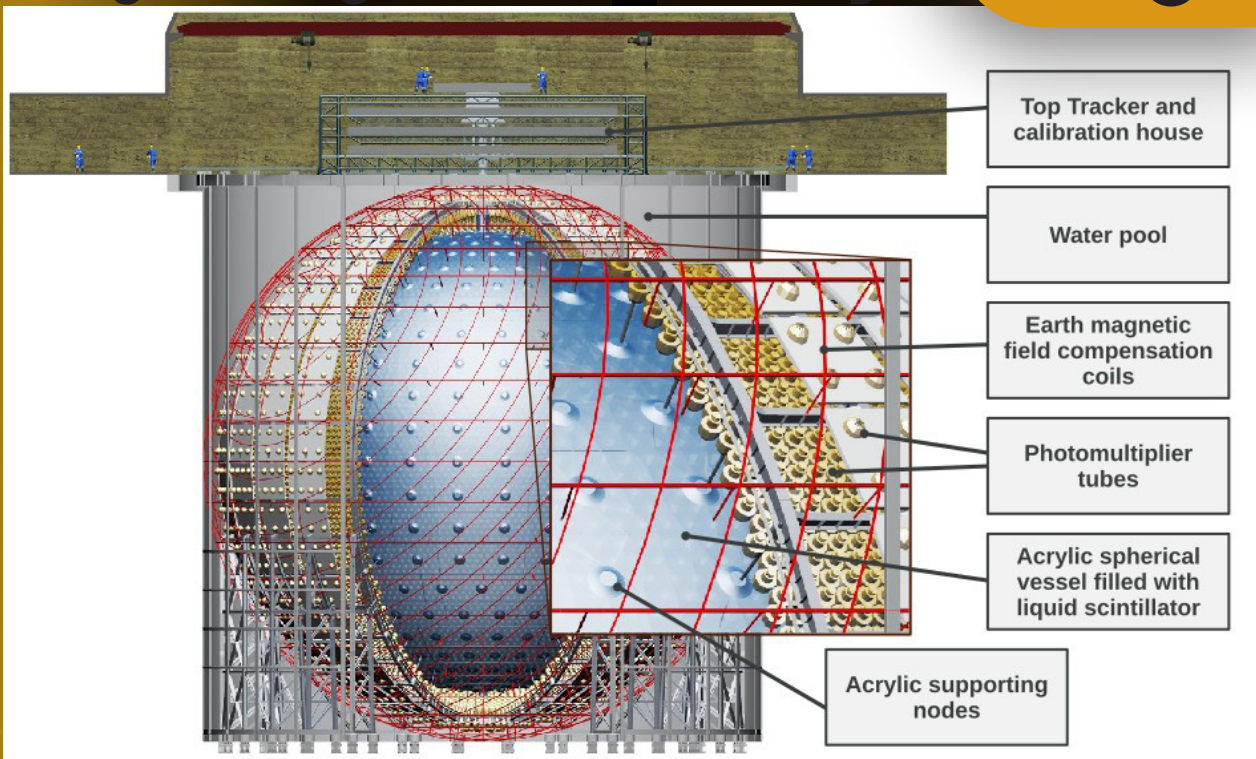
INSTRUMENTATION	DATA	ENGINEERING
8	4	4

2026 REVISED EDITION

JUNO

Jiangmen Underground Neutrino Observatory

Large-Scale
RP+ 6



JUNO is a medium baseline reactor neutrino experiment currently operating at Kaiping, Jiangmen in Guangdong province in Southern China. It aims to determine the neutrino mass hierarchy and perform precision measurements of the Pontecorvo–Maki–Nakagawa–Sakata matrix elements. JUNO began taking data in 2025 and published two world-leading results after just 59 days of operation.

https://juno.ihep.cas.cn/

REQUIRED SKILL POINTS:

INSTRUMENTATION	DATA	COLLABORATION
9	8	8

REQUIRED PERSONNEL:

S+E+A
Sci, Eng, Admin

2026 REVISED EDITION

EVENT: Opportunity

Frontier Research Venture Fund

RP- 2

McDonald Institute
admin@mcdonaldinstitute.ca

One year of research funding for new high-risk, high-reward research areas that help maximize the scientific output from the experiments at SNOLAB or internationally.

EFFECT:

Turn 3 cards from the Resouce deck face up. They cost 2 RP less to recruit this turn. Discard any that were not recruited at the end of the turn.

mcdonaldinstitute.ca/funding-opportunities/#FrontierResearch

2026 REVISED EDITION

EVENT: Opportunity

Research Partnership Building Program

RP-
0

McDonald Institute
admin@mcdonaldinstitute.ca

Mobilize researchers working in Canada by supporting novel workshops, training events, and short-term visits that either initiate or expand research or training partnerships.

EFFECT:

You and one other player may place a wildcard counter on a Personnel Card. It counts as 1 Skill Point in any Skill. Discard this Event after use.

mcdonaldinstitute.ca/funding-opportunities/#RPBWorkshops

2026 REVISED EDITION

EVENT: Undergraduate Opportunity

CASST Student Talk Competition

RP-2

SNOLAB
Christine.Kraus@snolab.ca

An event designed for undergraduate students to present talks about their summer research to peers and members of the community.

EFFECT:

Put a +1 Outreach Counter on 3 different Student Personnel on the table (yours or another player's). Discard this Event after use.

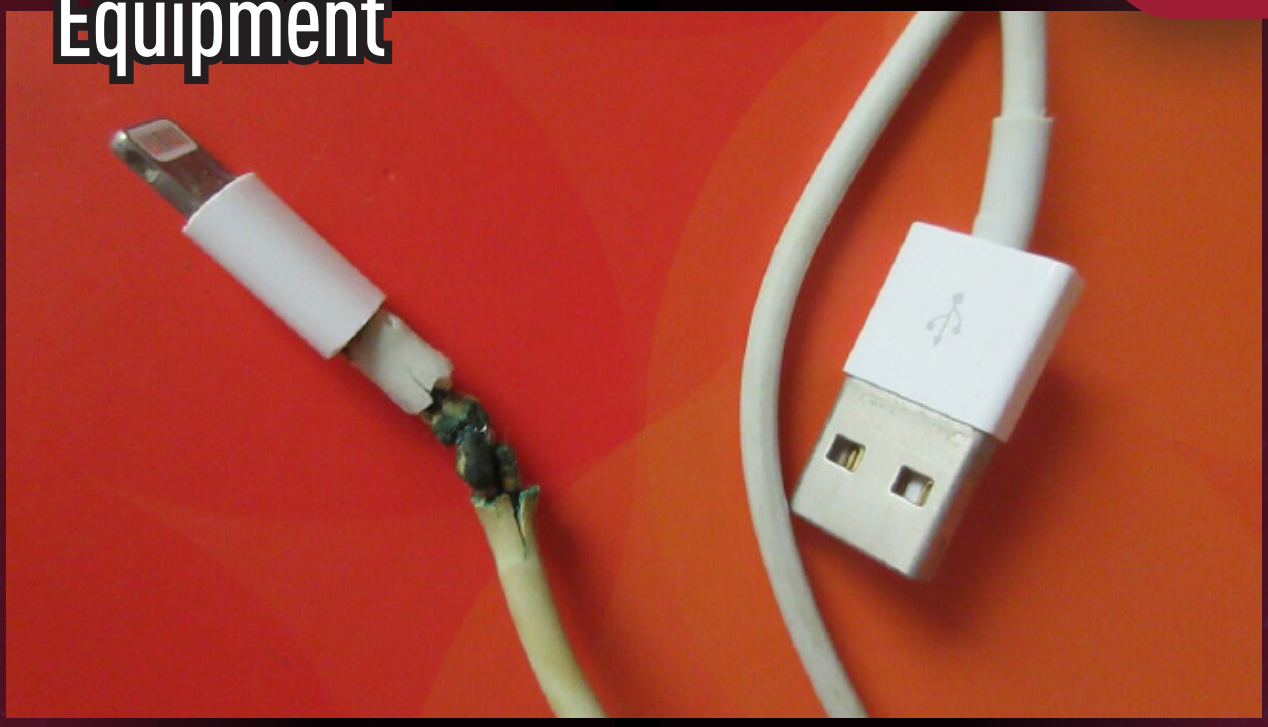
https://indico.snolab.ca/e/casst2024

2026 REVISED EDITION

EVENT: Research Incident

Poor Connection in Lab Equipment

RP– 1



A loose connection develops in the back of a crucial piece of experimental equipment, intermittently affecting all data taken, and takes a whole year to identify.

EFFECT:

Place on a player's project card for the next 3 turns. RP received from that project is reduced by 1 for each of the turns.

EVENT:

Improved Team Culture

RP-
4

Your research team has successfully improved its work culture and therefore the diversity of its members. Due to this improved work setting, turnover of team members has fallen and

EFFECT:

Place on a completed project. That project provides an additional 1 RP each turn.

EVENT: Social Event

Research Group Outing

RP-2

Take your research group out for some fun! Ice cream trip, hiking, axe throwing, escape rooms, the options are endless!

EFFECT:

All players gain two RP. Discard this Event after use.

EVENT: Summer School
EIEI00

RP-
3

Queen's University
minya.bai@queensu.ca

SummEr PartIclE AstrophysIcs WOrkshOp (EIEI00) is an annual workshop ran by graduate students that aims to help prepare undergraduate summer students for their summer research. Sessions range

EFFECT:

Each player may add a +1 Theory counter to a Personnel Card with an RP cost of 2 or less. Each player may add a +1 Outreach counter to a Personnel Card with an RP cost of 3 or more.

https://indico.cern.ch/event/1394318/

2026 REVISED EDITION

EVENT: Incident

Shipping Delays

RP-2

A package that has been ordered for the lab has been delayed! The experiment will now be delayed until this package arrives.

EFFECT:

Choose a player. That player skips their next turn.

EVENT: Skill Building

Project Management

RP- 2

Great managers apply their experience and knowledge in multiple different ways.

EFFECT:

Attach this card to an Admin Personnel Card. They can serve as Admin on 2 seperate projects.

EVENT: Opportunity

Visiting Scientist Program

RP- 1

McDonald Institute

The program aims to mobilize Canadian research talent to international research organizations/institutions and bring international researchers to Canada.

EFFECT:

Take any one Personnel Card from another player and give them one of your Personnel of equal or greater RP cost.

https://mcdonaldinstitute.ca/funding-opportunities/visiting-scientist-exchange/

2026 REVISED EDITION

EVENT: Academic Event

PhD defence

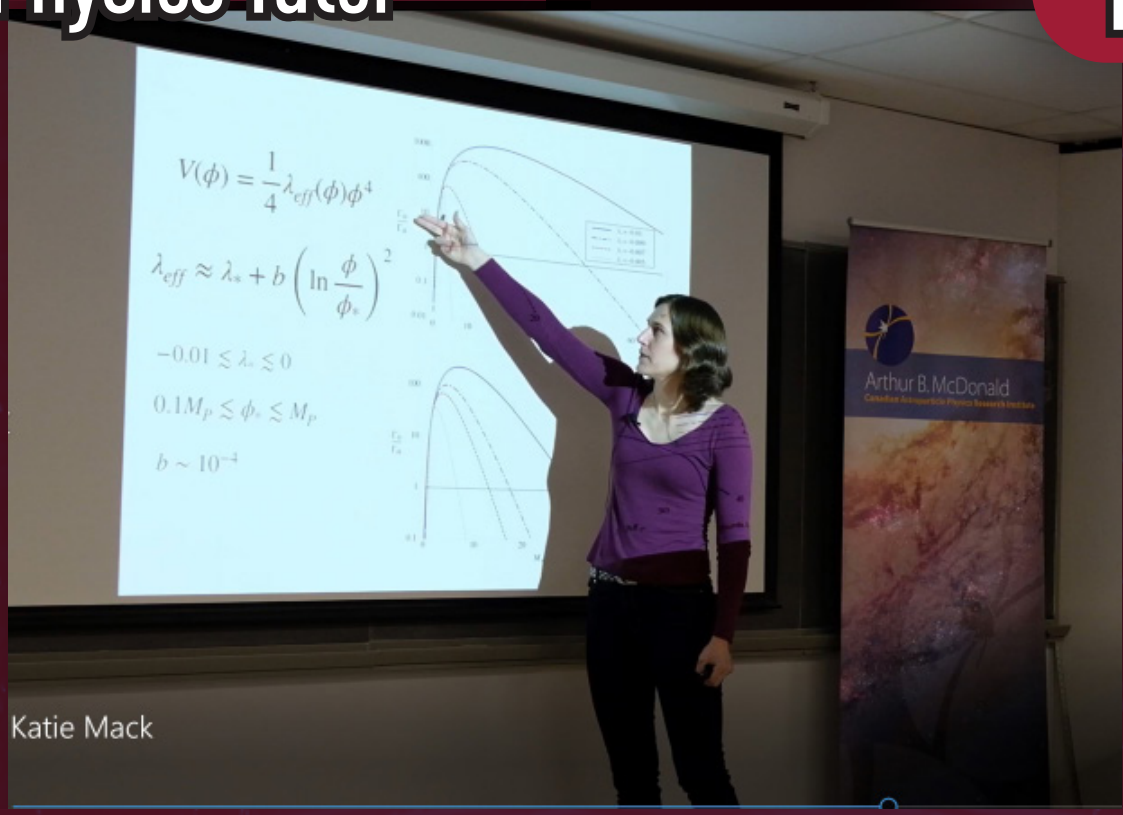
RP- 1

EFFECT:

Attach this card to any Student Personnel Card. They gain +2 in any one of their Skills.

EVENT: Skill Building
Physics Tutor

RP– 1



Sometimes you just need a very specific set of skills.

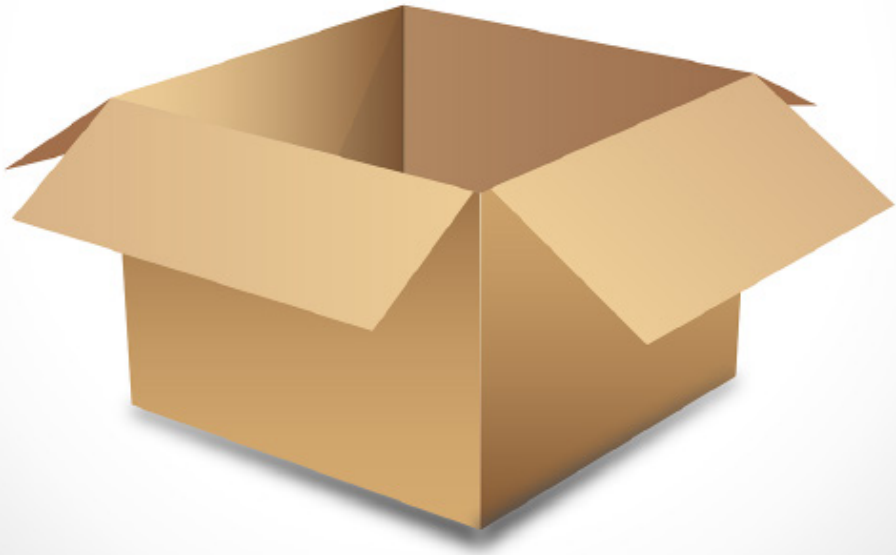
EFFECT:

Search the Resource Deck for a Personnel Card and place it in the pool.

EVENT: Research Incident

Supply Shortage

RP- 3



Many experiments face challenges in the supply chain.

EFFECT:

Place on a project in progress, that project does not progress or provide RP next turn, then discard this card.

EVENT: Research Opportunity

Postdoc Recruitment

RP-5

EFFECT:

Take any Postdoc Personnel Card from another player's research team (even from a completed project or project in progress).

EVENT: Research Incident

Grant Approved!

RP- 3

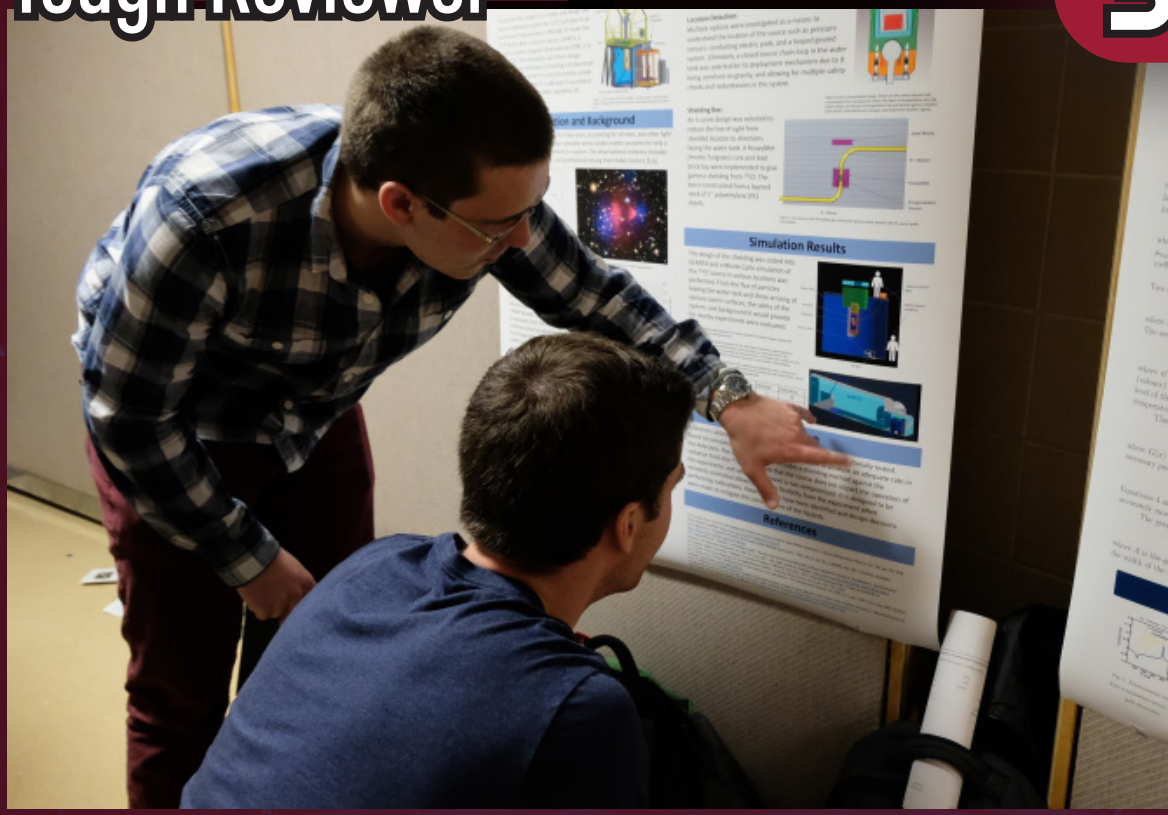
EFFECT:

Recruit any one Personnel Card from the Pool that costs 5 RP or less.

EVENT: Research Incident

Tough Reviewer

RP-3

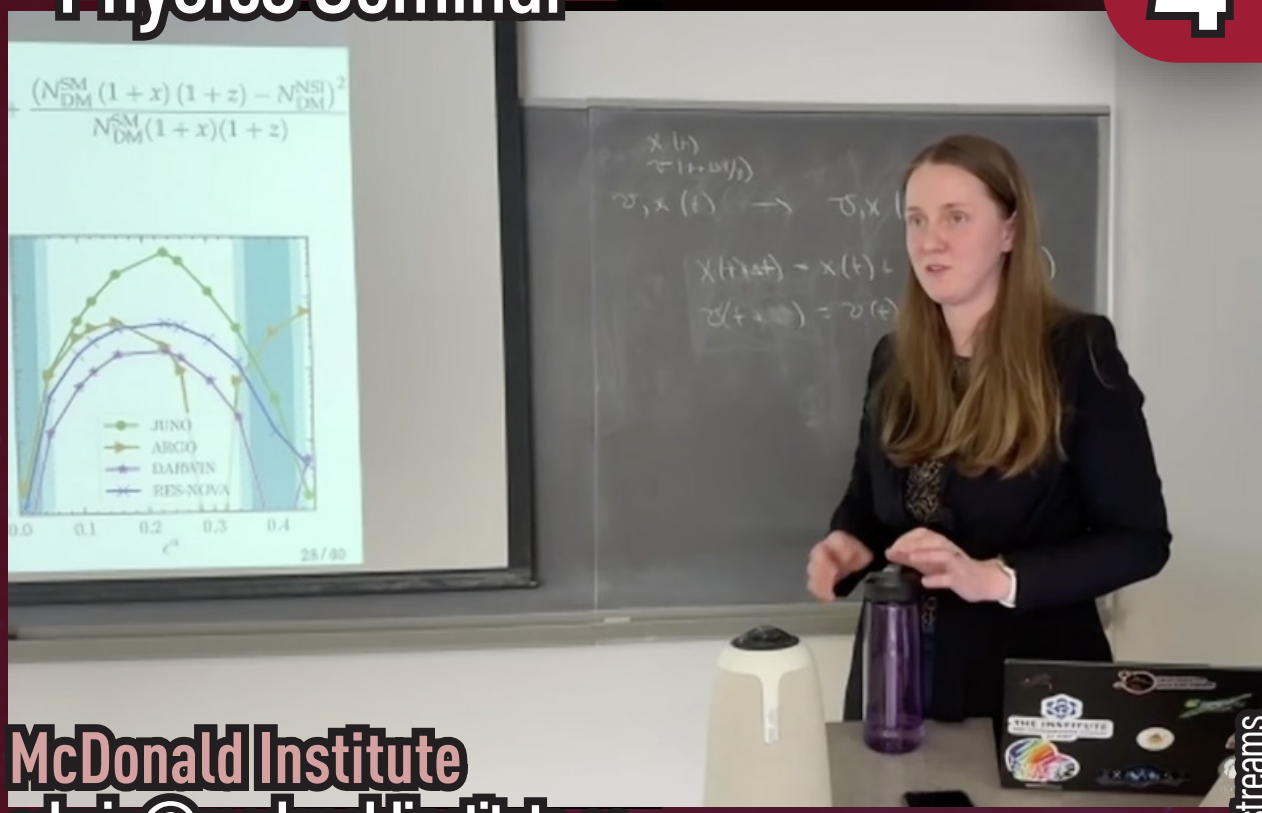


EFFECT:

Place on a project in progress. that project does not progress or provide any RP next turn. When complete, the project provides an additional 1 RP each turn.

EVENT:
Physics Seminar

RP-
4



McDonald Institute
admin@mcdonaldinstitute.ca

The McDonald Institute hosts regular astroparticle physics seminars, which are recorded and uploaded to YouTube.

EFFECT:

Add a progress counter to any one Project in progress.

https://www.youtube.com/@mcdonaldinstitute/streams

EVENT: Professional Development

Grant Writing Tutor

RP- 1

Successful grant writing means tailoring your proposal and using keywords specific to the funding program.

EFFECT:

Search the Project Deck for a Project Card and place it in the pool.

EVENT: Funding Program

The Advancing I-EDI Fund

RP-1

McDonald Institute

admin@mcdonaldinstitute.ca

The Advancing Indigenization – Equity, Diversity and Inclusion (I-EDI) Fund supports efforts that strengthen community and build sustainable capacity in astroparticle physics training and

EFFECT:

Place this card under a Personnel Card with the EDI/EDII Skill, give them +3 in any one Skill.

https://mcdonaldinstitute.ca/funding-opportunities/the-edii-fund/

2026 REVISED EDITION

EVENT: Research Incident

Instrument Technical Review

RP-3

Routine inspections and check-ups of lab equipment help avoid unexpected breakdowns.

EFFECT:

Choose a project. It does not progress or provide RP on its owners next turn. Its owner then keeps this card and can use it to cancel the effect of any event card once, then discard it.

EVENT: Research Incident

Real-time Supernova Alert!

RP-
1

The SuperNova Early Warning System (SNEWS) is a world-wide network of observatories looking for neutrino bursts that meaning a supernova could become visible.

EFFECT:

All Neutrino Projects are stalled on each players next turn. No progress is made, and no RP is gained from them. Any Player with a both a Neutrino and a non-Neutrino Project, gain 5 RP.

EVENT:

Experiment Down-Select

RP-5

EFFECT:

Discard any one Project Card in play. That Project's owner may take a smaller scale project from the Project Pool.

EVENT:

Retirement

RP-
5

When a senior researcher retires, they are seemingly impossible to replace.

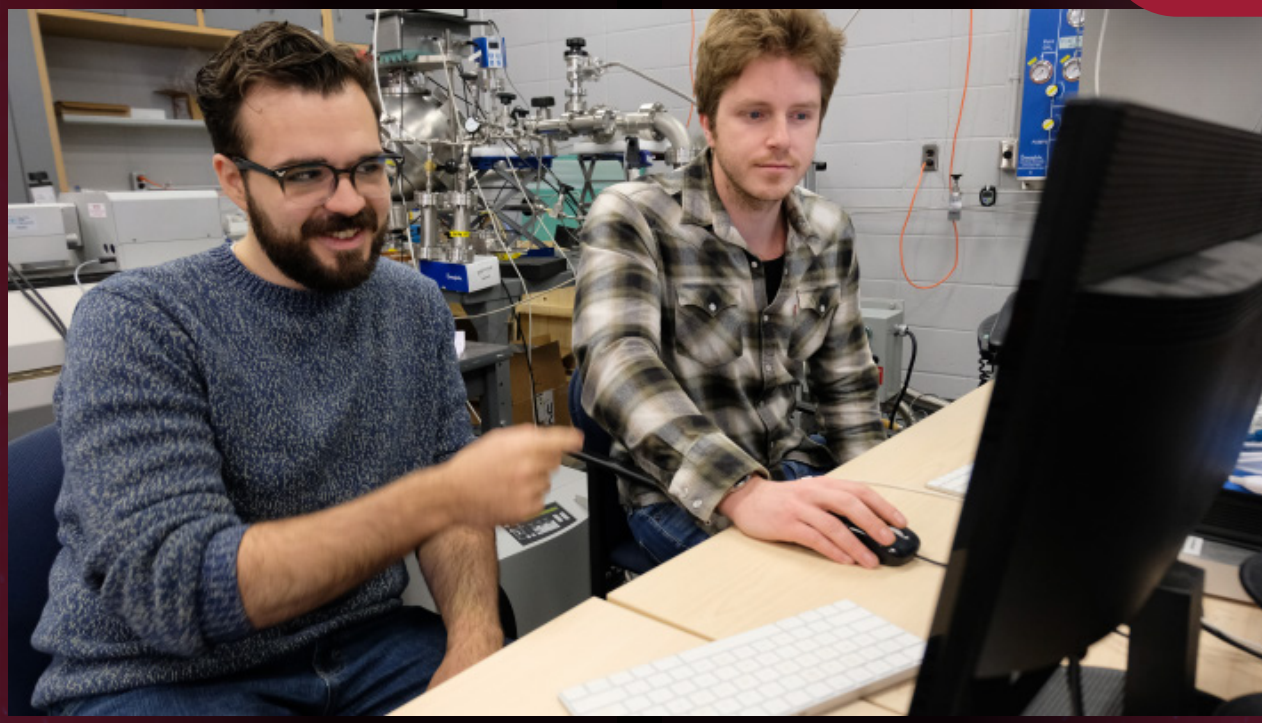
EFFECT:

Choose a player to discard their highest RP cost Personnel card. That Player may reccruit any one Personnel card from the Pool.

EVENT: Research Incident

Graduate Student Exchange

RP-2



Student exchanges help in the sharing of research expertise.

EFFECT:

Choose a Master's or PhD student Personnel from two different players. Those players can apply the skill points of the others' chosen Personnel to a project they own.

EVENT:
Community Newsletter

RP-
0

McDonald Institute

communications@mcdonaldinstitute.ca

The McDonald Institute monthly newsletter keeps the astroparticle physics research community up to date with events, opportunities and the latest science news.

EFFECT:

Each player gains 2 RP. Other event cards in the Pool cost 2 less to recruit this turn.

https://mcdonaldinstitute.ca/newsletter/

EVENT: Workshop Series

Professional Development

RP-2

McDonald Institute

admin@mcdonaldinstitute.ca

The PDO (Professional Deveopment Opportunities) is a monthly workshop series provided by the McDonald Institute to complement physics degree course content.

EFFECT:

Place this card on one of your Personnel. The skill points from one Skill can count as a different Skill.

https://mcdonaldinstitute.ca/events/type/professional-development/

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