

Diversity, Equity, and Inclusion Efforts of the nEXO Collaboration



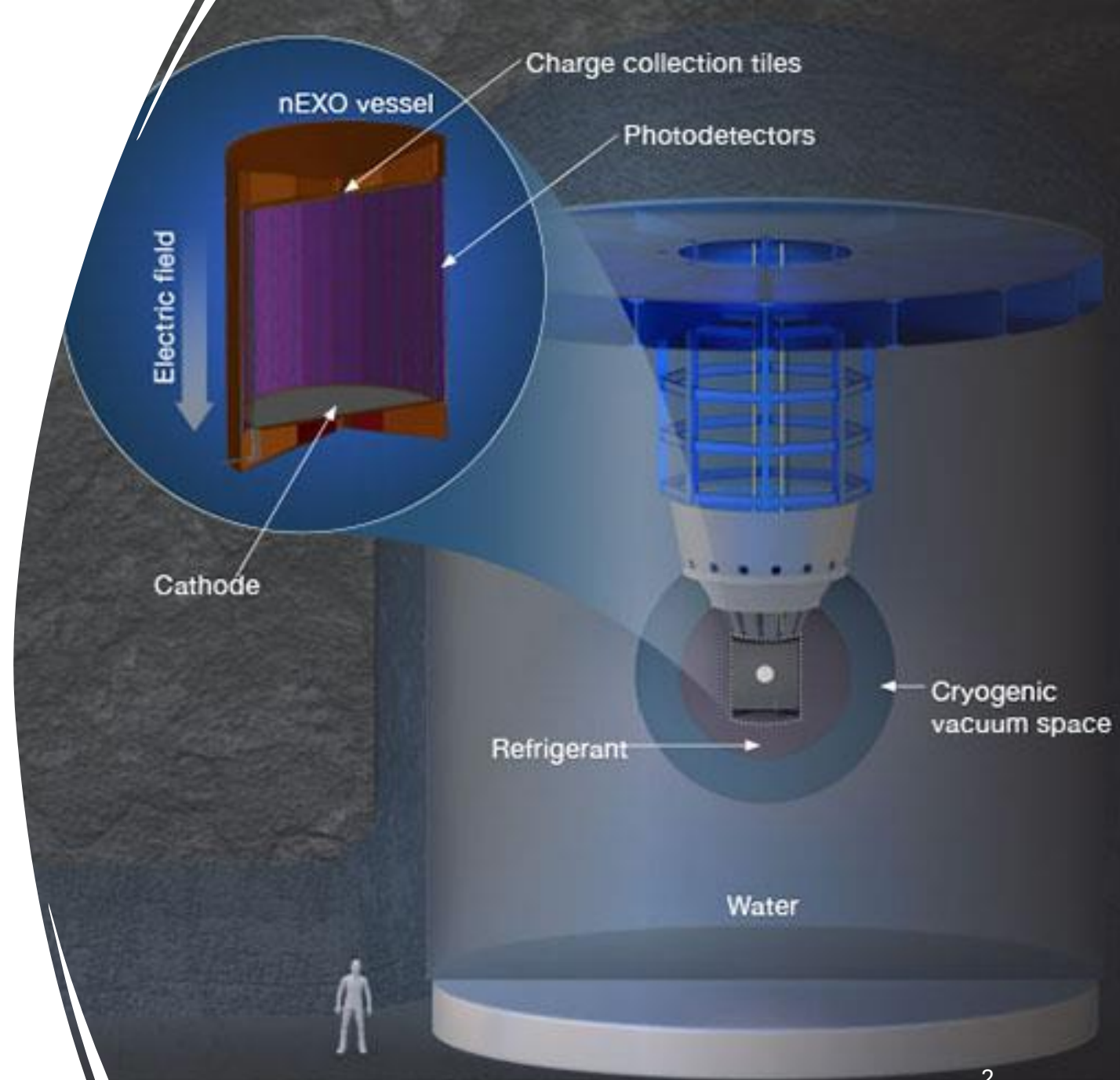
Kirsten McMichael, PhD
Carnegie Mellon University
On behalf of the nEXO DEI Committee

APS DPF/Pheno Conference
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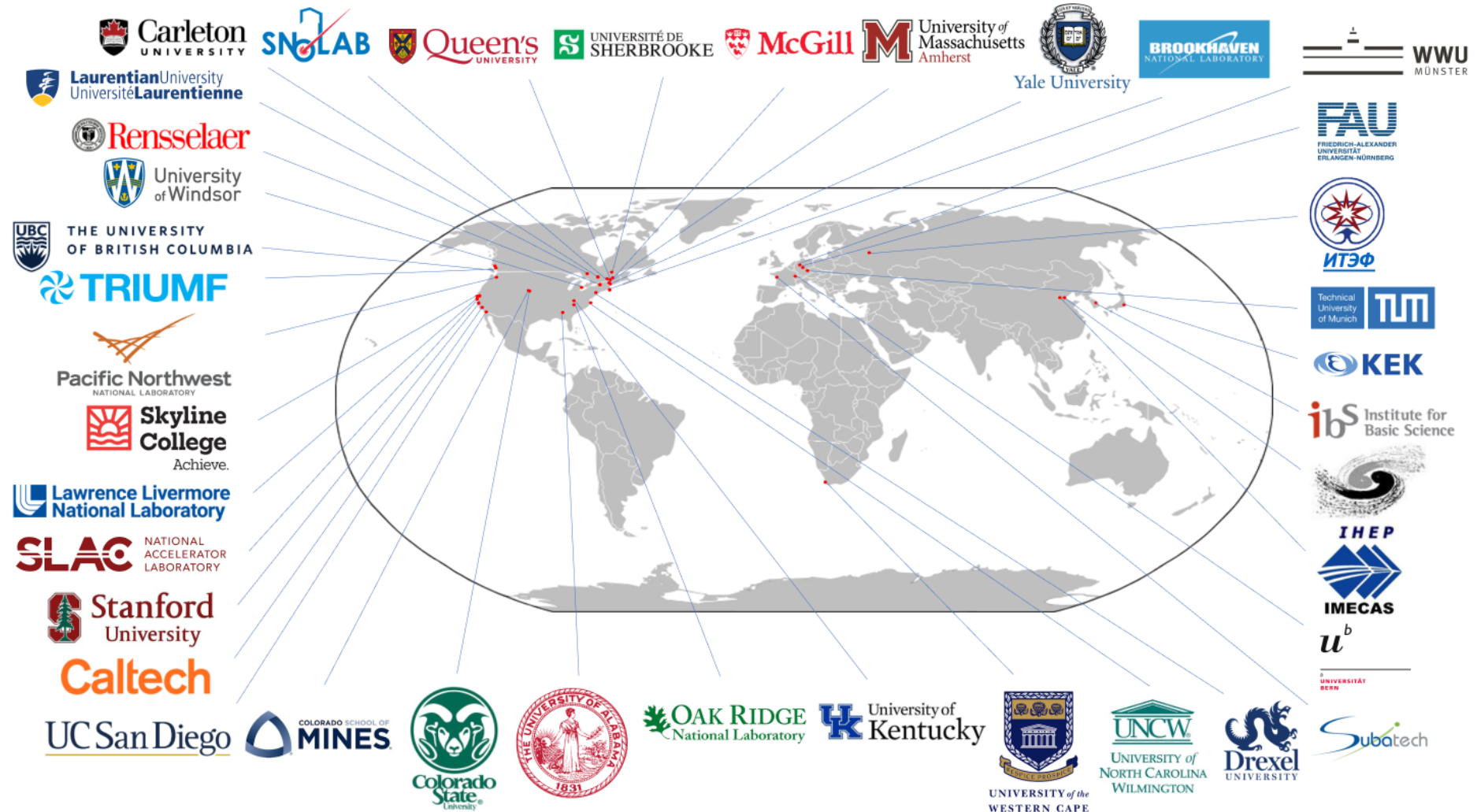


The nEXO Experiment

- Ton scale experiment hoping to observe $0\nu\beta\beta$
- Planned to be built deep underground at SNOLAB in Ontario, CA
- Design includes:
 - Water tank for cosmic ray tagging and gamma shielding
 - Cryogenic vacuum space
 - Refrigerant for cryogenics and further gamma shielding
 - Innermost layer composed of TPC filled with 5000kg of LXe enriched to 90% in ^{136}Xe
 - Discovery Potential: 2 orders of magnitude beyond existing limits ($\sim 10^{28}$ yrs)



The nEXO Collaboration



9 Countries | 38 institutions | ~180 collaborators

nEXO Diversity, Equity, and Inclusion (DEI) Committee

- The nEXO DEI committee was approved by the board at the end of 2020
- 15 to 20 members meet every month to discuss various topics with the goals of:
 - Developing a better understanding of the issues surrounding DEI in STEM
 - Creating initiatives to promote DEI
 - Proposing changes to the collaboration to improve DEI
- We aim to set an example for the field on how to incorporate DEI into all that we do as a large-scale scientific collaboration



Initiatives of the nEXO DEI Committee

| Collaboration Focused | Community Focused |
|---|---|
| <ul style="list-style-type: none">•Mentorship Program•DEI Seminar Series•Information Hub•Authorship Equity Subcommittee•Early Career Board Representative•Showcasing Young Researchers•Climate Survey | <ul style="list-style-type: none">•Social Media•Public Presentations•Papers |

Community Impact

- nEXO Public DEI talks
 - Spring 2023, April APS Meeting
 - Summer 2023, CAP Meeting
- DOE RENEW Grant awarded for “Improving Recruitment and Retention in nEXO and the Double Beta Decay Community”



Several DOE RENEW Awards Feature nEXO

nEXO collaborators received three grants under the Department of Energy (DOE) Office of Science (SC)'s Reaching a New Energy Sciences Workforce (RENEW) initiative.

The DOE announced on August 18, 2023 that \$70 million in funding to support research by historically underrepresented groups in science, technology, engineering, and mathematics (STEM) and to diversify leadership in the physical sciences, as part of the RENEW initiative.

The RENEW grant awarded to Dr. Timothy Daniels (UNCW) and Co-PI Kirsten McMichael (Rensselaer Polytechnic Institute) for the "Improving Recruitment and Retention in nEXO and the Double Beta Decay Community" project will extend and strengthen many of the initiatives undertaken by the nEXO DEI committee, including a climate survey conducted by the American Institute of Physics and student and dependent care travel grants. The lessons learned from the various DEI initiatives will be shared during a workshop held with other nuclear and particle physics collaborations.

The RENEW grants will allow the BNL and Skyline College groups to continue the programs they had established under the "Research Traineeships to Broaden and Diversify Nuclear Physics" initiative in 2021.

Dr. Mickey Chiu (BNL), with "BNL-MSI Fellowship Program for Research Excellence and Preparation in Nuclear Physics (PREP-NP)" program, will be able to provide further opportunities to undergraduate students from minority serving institutions pursuing careers in nuclear physics by leveraging the resources at BNL.

Under the mentorship of Dr. Kolo Wamba and Co-PI Dr. Emilie Hein (Skyline College), the "Pathways to Improved Representation in Advanced Nuclear science (PIRANA)" program will support six students per academic year to work on nEXO projects at Skyline College, a 2-year MSI, in collaboration with other nEXO institutions, such as SLAC, and encourage them to pursue graduate studies in nuclear physics.

Congratulations to all involved in these initiatives!

A full list of abstracts of RENEW awards is available at https://science.osti.gov/-/media/Initiatives/pdf/renew/RENEW_Public_Abstracts-FY23.pdf

Initiatives of the nEXO DEI Committee post-RENEW

| Collaboration Focused | Community Focused |
|--|---|
| <ul style="list-style-type: none">•Mentorship Program•DEI Seminar Series – w/ speaker support•Information Hub•Authorship Equity Subcommittee•Early Career Board Representative•Showcasing Young Researchers•Climate Survey – follow ups planned•Ombudsperson Training•Student/Dependent Care Travel Awards | <ul style="list-style-type: none">•Social Media•Public Presentations•Papers•Targeted Job Boards•DEI Workshops |

DEI Workshop for Collaborations

- Goals
 - To share what we've learned
 - To learn from others
 - To develop a community supported best practices guide for DEI
- Target Audience: Members of Nuclear and Particle Physics Collaborations with a passion for DEI
- Timing: Summer 2025

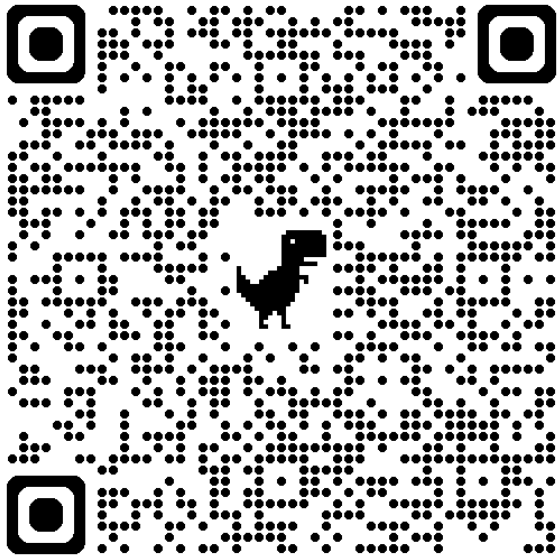
Community of Practice

- Inspired by the Multi-messenger Diversity Network (MDN)
- DEI Knowledge should be shared like any other area of physics
- Continuation of learning community beyond the DEI workshop
- Interested? Scan the QR Code

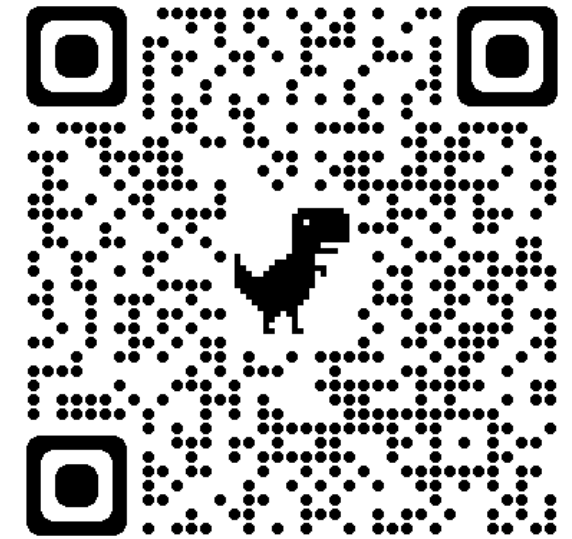


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