

Particle Physics Faculty Meeting

- Agenda
 - BAE ads
 - ACOT
 - Hiring in SciTech

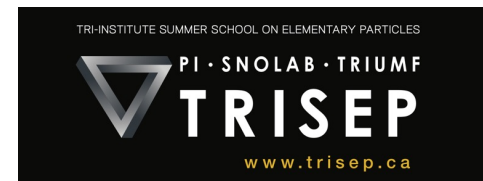
News

- **Congratulations to the ALPHA team!**
- [Innovative particle cooling techniques](#) to researchers from the Antihydrogen Laser Physics Apparatus ([ALPHA](#)) and the Baryon Antibaryon Symmetry Experiment ([BASE](#)) collaborations at CERN, for two separate studies presenting new ways to cool particles and antiparticles. The techniques could pave the way for precision studies examining the matter–antimatter asymmetry in the universe. The ALPHA collaboration demonstrated [laser-cooling of antihydrogen atoms](#) for the first time.
- To achieve this, the physicists developed a new type of laser, which produces 121.6 nm laser pulses, to cool the antiatoms. They then measured a key electronic transition in antihydrogen with unprecedented precision, a breakthrough that could lead to improved tests of other key properties of antimatter.



News

- **HyperK** and **ALPHA BAE** positions posted on Inspire and various platforms + journals
 - Application deadlines January 23rd and January 30th respectively
 - Start dates will be September 1, 2022
 - Setting up hiring committees well before then
 - Big thanks to HR team getting this out before the holidays!
- PSD ad hoc space committee – Mark Hartz to chair
 - Priority: Lab space for Stephan Ettenauer and HAICU
- Summer school planning underway for next year
 - **GRIDS**
 - with Arthur B. McDonald Institute
 - June 13-24, 2022
 - **TRISEP**
 - with SNOLAB and Perimeter Institute
 - July 4-15, 2022
 - Planning on in-person with backup online format



News

- **Precision/Quantum Measurement Forum** started by Makoto:
 - *Given the increasing interest in precision and quantum measurements, both world-wide and at TRIUMF, it seems useful to create a place to exchange ideas and learn from one another on an informal basis, especially because the people who work in this field at TRIUMF are spread across different groups, departments and divisions*
 - First speaker: Mike Bradley's (sabbatical at TRIUMF) Monday Dec 6th
 - Pedagogical seminar on **Quantum Magnetometry with the Diamond NV-Centre**

News

- **Vaccination status at TRIUMF**
 - Beginning December 17, TRIUMF will require that all Appointees, all Employees, and those Visitors with site access must declare their vaccination status with the organization. This action is rooted in our commitment to safeguarding our community, and is informed by guidance from public health officials, community feedback, and similar policies at our member universities.
 - Shortly, all Appointees and Employees, as well as Visitors with site access, should receive an invitation from Thrive Health to sign-up for their platform to verify vaccination status.

ACOT

- Thanks everyone for providing slides and input to the session
- Feedback from close-out session positive and supportive
- Request for next meeting
 - Present at the next ACOT meeting the evaluation of the SciTech group's work management and Workday's time entry system
 - Produce a chart showing all current and future projects (including proposed projects) as a function of time for the next decades, include high-level human resource needs. This will help to visualize an overall program at TRIUMF, TRIUMF's strategy, and potential gaps in human resources

ACOT Session Question 1: Big Picture TRIUMF activities and interests

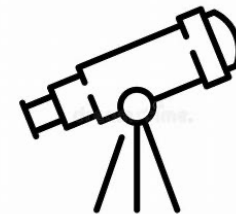
The departments of **Particle Physics, Theory, Science & Technology** and **Scientific Computing** address the following Research Topics:

- High Energy Frontier
- Neutrinos and Dark Matter
- Precision Tests of Fundamental Interactions



Lead in Scientific Discovery through **focus projects**

- Projects where we are involved in all areas
 - detector design/construction, operations, data analysis
- Ensure critical mass is established
- Maintain leadership in all areas
- Current experiments
 - ATLAS, T2K/Hyper-K, ALPHA, TUCAN, SuperCDMS
- New experiments approaching, or expected to reach that point in the near future if supported by the laboratory to reach critical mass
 - nEXO, DarkLight, PIONEER



ACOT Session Question 1: Big Picture TRIUMF activities and interests

Enable Particle Physics in Canada and Abroad

- TRIUMF is part of a **network of laboratories and partner institutions**
- Leverage TRIUMF key expertise in accelerator, computing, detector and DAQ technologies
 - Unique expertise in e.g. cryomodules, SiPM, TPC, gaseous detectors, DAQ, etc...
 - Support for Accelerator and Engineering, Science Technology and Computing are crucial
- SNOLAB: detector, facility and DAQ systems through Science and Technology involvement
 - > SuperCDMS, nEXO, ARGO, DEAP, SNO+
- CERN: In kind contributions to LHC and HL-LHC, share in detector upgrades -> ATLAS, ALPHA
- KEK/J-PARC: beam monitoring accelerator contributions
 - share in detector upgrades -> T2K/Hyper-K
- Gran Sasso: DAQ systems -> DarkSide
- Possible future involvements
- Ocean Networks Canada: -> P-One
- PSI: -> PIONEER



ACOT

- Proposed chart for focus (+future) projects
- Project with timeline and BAE staffing on x-axis
- Key technical personnel on y-axis, then onto next project

- ATLAS 5 BAEs + 2 Affiliated scientists (Tier-1, LAr, Muons, ITK, analysis), now-2038
 - Tier 1 personnel (7 staff)
 - LAr project physicist
 - ITK project physicist
 - 8 engineers and techs
 - 4 postdocs and 6 grad students
- ...

ACOT

- Suggest to include a chart for projects where we make technical contributions
 - Emphasizing we are part of a national and global network

- An opportunity to highlight R&D in detector development as projects in their own right
 - SiPM with PHAAR, MIEL
 - Radiation hard silicon sensors (NA62, future collider)
 - Liquid Xe (n-EXO, PIONEER)

- Can make this a focus for the next 5 year plan to strengthen SciTech
 - 20 year vision document also proposed a “detector development center” as one of TRIUMF’s future platforms (among others in computing and accelerators)

SciTech

- Several key personnel in SciTech are retiring / or have retired
 - Robert Henderson
 - Chapman Lim
 - Pierre Amadruz
- Need to ensure succession and replacement hires will proceed
- Start discussion today with Nigel H. and Beatrice



AOB

Next Meeting

- January 13th



Round Table

- ATLAS
- T2K/HyperK
- TUCAN
- ALPHA
- SuperCDMS
- DarkLight
- Pienu / PIONEER
- NA62
- n-EXO / PHAAR
- SNO+
- HALO
- g-2
- Belle 2
- Theory