

Particle Physics Faculty Meeting

- Agenda
 - News/Updates
 - Research groups updates

New Director

- Start date: May 17th, 2021



“I am truly honoured to have been selected as the next Director of TRIUMF”, said Dr. Smith. “I have long been engaged with TRIUMF’s vibrant community and have been really impressed with the excellence of its science, capabilities and people. TRIUMF plays a unique and vital role in Canada’s research ecosystem and I look forward to help continue the legacy of excellence upheld by Dr. Jonathan Bagger and the previous TRIUMF Directors”.

- Should we ask for a meeting with Nigel (similar to when Jon Bagger started)

CNSC Audit

- Interim Director:
- I would like to restate the importance of TRIUMF's work to achieve compliance with the N286-12 standard (Management System Requirements for Nuclear Facilities) as per our license conditions with the Canadian Nuclear Safety Commission (CNSC). TRIUMF's Quality Council, chaired by Anne Louise Aboud, will be leading the effort to drive us towards compliance, and **given its criticality for our upcoming CNSC relicensing, this work must be our highest priority.**
- While the specific work required is being determined, it is expected that there will need to be significant efforts undertaken in a short time to meet the expectations of the regulator. I ask for everyone to cooperate with the Leadership Team and the Quality Council as TRIUMF moves quickly to address the gaps in our processes and documentation.

4.7.2 Information

- Information shall be provided in a timely manner to those who need it, including the following:
- (a) the necessary information is identified (e.g., identification and labelling of systems and components, radiation dose identification, and worker identification);
 - (b) those who need the information are identified;
 - (c) the information is current, correct, and timely; and
 - (d) information systems provide adequate security and ease of use.

4.7.3 Documents

- Documents shall be controlled consistent with intended use. Control shall include
- (a) unique identification;
 - (b) defined format and presentation;
 - (c) identification of status;
 - (d) review for adequacy, and approval;
 - (e) availability for use at the location where the work is to be performed or where the document is required for reference; and
 - (f) prompt removal of obsolete documents from use.

4.7.4 Records

- Records shall be
- (a) readable;
 - (b) complete;
 - (c) identifiable;
 - (d) traceable to the related items and work;
 - (e) retrievable;
 - (f) preserved; and
 - (g) retained as specified.

4.8 Work management

4.8.1 Work planning

- Work shall be identified and planned with the following:
- (a) a clear description of the work, including requirements and verification;
 - (b) worker requirements, including verification worker ;
 - (c) supply chain requirements, including lead times;
 - (d) resources assignment, including the worker to perform the verification;
 - (e) critical characteristics of the work to be verified, verification methods, extent, and acceptance criteria established;
 - (f) the sequencing and scheduling of the work, including verification (e.g., inspection and testing requirements); and
 - (g) the acceptance criteria for the finished product.

4.8.2 Work control

- Conduct of work shall be authorized and carried out using controlled
- (a) documents;
 - (b) software, including engineering tools and analytical software;
 - (c) items;
 - (d) tools, gauges, instruments, and other measuring and testing devices;
 - (e) processes; and
 - (f) practices.

CNSC Audit

- Anne Aboud:
 - Increase awareness of the Management System
 - [TRIUMF Quality Manual](#)
 - [Step-by-step instructions on how to view the Standard](#)
 - CNSC management system audit and findings and TRIUMF's high level plan to address them at next week's Town Hall

- Terry Sanger
 - Where to find information on incident reports?
 - [Non-Conformity Reports \(NCR\)](#)
 - Over the coming months, and in line with our values of Safety and Accountability, we will be sharing some of the lessons learned from NCRs and their subsequent root cause investigation.

Hiring

- In the process of the ATLAS BAE hire (Max) a spousal P&S position (Kate Pachal) was negotiated (did not take effect because Max and Kate are CERN-based for the moment and Kate's current postdoctoral position was still ongoing)
- Now we have the opportunity for a dual career BAE hire at TRIUMF (hosted in SciTech)
 - In response to a dual career offer by a US university
- Same procedure as applied to Chloe Malbrunot
- Hiring Committee
 - Chair: Ken Regan (McGill)
 - Corina Andreoiu (SFU)
 - Carsten Krauss (Alberta)
 - Monika Stachura (TRIUMF)
 - Isabel Trigger (TRIUMF)
 - Nigel Hessey (TRIUMF)
- Committee will review application and interview, if "above bar" will invite for public colloquium including meetings with BAE's in various departments who are encouraged to give feedback for the final report that will be sent to Jens – timeline: within the next 2 weeks

TRIUMF 20-year vision plan

- Community survey through Thought Exchange but also **traditional survey** Topical Groups
- You can access the ThoughtExchange platform using [this link](#). This exercise will help identify the ideas that most resonate with the community, and these will then be fed back to the various Topical Groups as one of the inputs into their listening and visioning activities.
- Complementing the ThoughtExchange effort, a [Topical Group survey](#) has been developed that allows for response in greater detail on areas of specific research and program development. This survey is open-ended and also collects no personal information.
- The links to the ThoughtExchange consultation platform and Topical Group survey are sharable and should be accessible from any web-connected device. **The feedback channels will be open until March 22nd, 2021.**

SAP LRP

- LRP townhalls this week
- Science Opportunities (Monday)
- Subatomic Physics Connections: Interfacing to other Fields and Societies (Wednesday)



ACOT

- Thursday April 22, 2021

14:00 – 15:15 <i>(75 mins)</i>	<i>Committee Members & Observers</i> <i>Open to the Lab</i>	<p>Plenary presentations</p> <p>14:00-14:45 TRIUMF Overview <i>(including ARIEL construction and ISAC operations)</i> <i>Presenter: Jayas Digvir</i></p> <p>14:45-15:15 Physical Sciences <i>Presenter: Jens Dillings</i></p> <p>[Zoom link] Meeting ID: xxx xxx xxxx / Passcode: xxxxxx</p>
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- Friday April 23, 2021

Time (PDT)	Participants	Session
10:00 – 12:00 <i>(120 mins)</i>	<i>Committee Members, Observers, & TRIUMF Conveners/Presenters</i> <i>Open to the Lab</i>	Parallel Sessions
		Subject Conveners Subject Matter Expert
		<i>Theory</i> Petr Navratil Larry McLerran
		<i>Science Tech (ST), Particle Physics (PP), & Scientific Computing (SC)</i> Nigel Hessey (ST) Oliver Stelzer-Chilton (PP) Reda Tafirout (SC)
		<i>Nuclear Physics</i> Chris Ruiz Sherry Yennello Alexandra Gade
		<i>Life Sciences</i> Valery Radchenko Silvia Jurisson
		<i>Material Sciences</i> Syd Kreitzman Gabriel Aeppli
		<i>Technology Transfer</i> Kevin McDuffie Mike Trinczek Frenny Bawa Geneviève Tanguay
14:00 – 16:00 <i>(120 mins)</i>	<i>Committee Members, Observers, & TRIUMF Conveners/Presenters</i> <i>Open to the Lab</i>	Accelerator and ARIEL Parallel Session
		Subject Conveners Subject Matter Expert
		<i>Accelerator & ARIEL</i> Bob Laxdal Pierre Delahaye Hans Weise Hideto En'yo

ACOT

- From Reiner:
- These parallel sessions should all start with an overview presentation on the respective area, to be coordinated with the respective ALDs.
- The last 15 minutes of the parallel session will be reserved for a meeting of the attending ACOT member(s) with only students and postdocs from the respective field. **ACOT has requested that the students & postdocs prepare a slide or two to communicate any specific issues they would like to discuss with ACOT.** Please communicate this to students/postdocs in your area.
- There will be a 60-minute virtual poster session that will be scheduled for Friday at noon
 - Will be using Gather.town as a platform (Jens to coordinate)
 - We have also the opportunity to have a few grad students or postdocs to give an online poster presentation / short talk
 - Please send me your speaker suggestions with a proposed poster title
 - So far have 2 suggestions, SiPMT and ATLAS

Goals

- Do we need any updates for 2021?

Key dimensions	Key Goals 5YP	Divisional goals	Objectives
Science and Technology	1) Make ground breaking discoveries across TRIUMF's multidisciplinary research portfolio	Lead and participate in SAP research including delivering high-impact results in PP, NP, experiment and theory.	Complete scientific and technical analysis and publish results from Particle Physics, focus on ATLAS, T2K, UCN, ALPHA, SuperCDMS to test SM and BSM.
		Publish scientific results in SAP 210 publications total (160 in PP and 65 NP, for exp & theory)	Use rare-isotopes to lead and execute experimental programs in nuclear structure, nuclear astrophysics, and tests fundamental physics, with focus on ISAC, and complementary external programs.
		Enable Canadian Scientists and students to participate in research abroad (through TRIUMF collaboration or contributions) for up to 200 people	Develop and execute SAP theory methods to lead, guide and support the TRIUMF program
		Enable Canadian Scientists and students to participate in research at TRIUMF for up to 200 people	
		Deliver Data Science and Machine Learning applications to enhance research output	Deliver machine learning techniques to enhance sensitivity of experiments or improve operation for a min of 4 projects (and publish results)
	2) LEVERAGING OUR STRENGTH IN ACCELERATOR SCIENCE AND DETECTOR TECHNOLOGY	Develop and deliver technical contributions to SAP physics experiments	Using TRIUMF core technical expertise in PSD, complete PM milestones (up to 10 Gate Reviews) for technical contributions and document or publish results (see above) and developments
		Support the ARIEL Project with PSD expertise with a minimum of 5 FTE	

Goals

- Do we need any updates for 2021?

Key dimensions	Key Goals 5YP	Divisional goals	Objectives
People and skills	4) Become a hub for interdisciplinary education and training	Deliver training graduate and undergraduate students in PSD research activities for a minimum of 60 students	Training and mentoring students
			Training and mentoring PDFs
			Mentor Program for non tenured BAEs
			Continuously improve equity, diversity, and inclusion
Innovation and Collaboration	5) Inspire Canadians to discover and innovate	Deliver expert and non-expert presentations about research and discoveries from TRIUMF (min of 100)	Increase outreach through public lectures and social media, and cross promotion with other insitutions (of other fields)
		6) Translate knowledge and discovery into innovation	HARNESSING OUR TECHNOLOGIES TO SOLVE REAL-WORLD PROBLEMS Deliver a concept to transfer UV photon detection technology

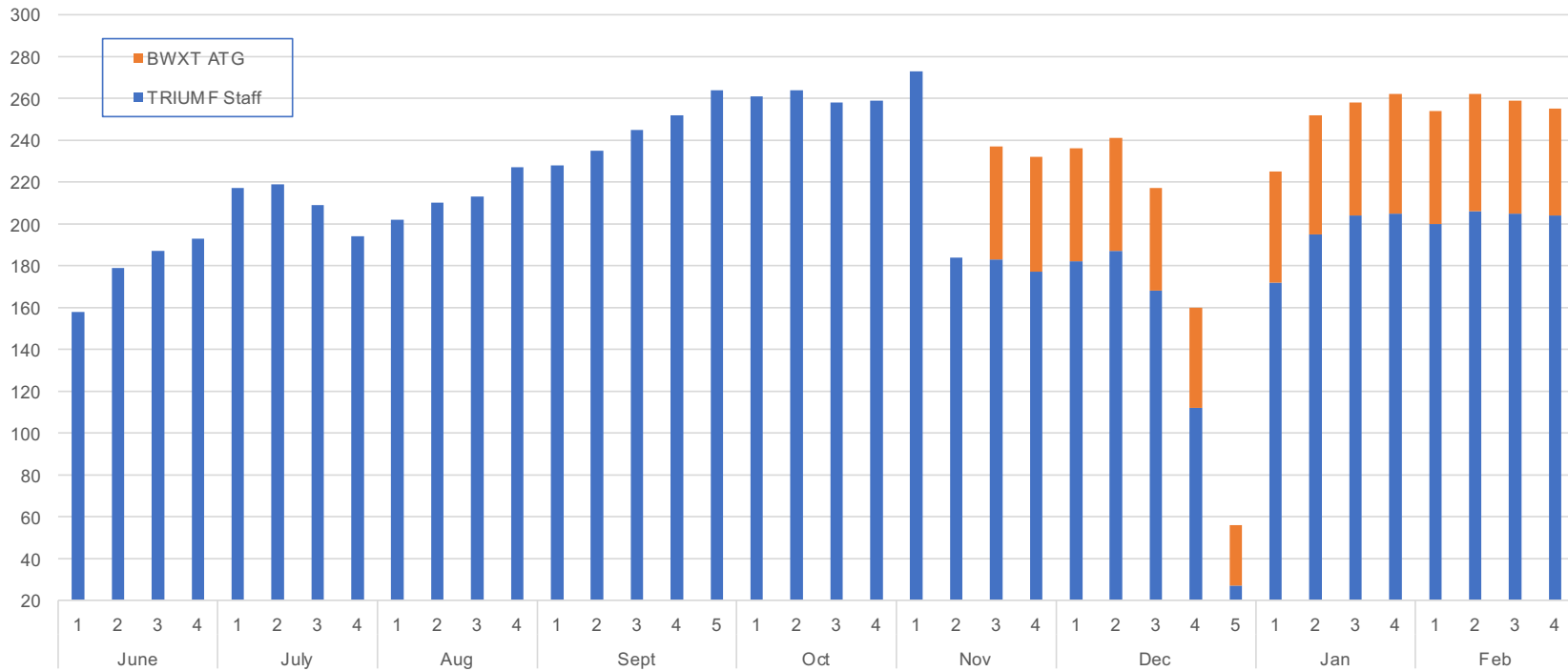
PPR

- Following the email from HR, timeline to conclude this years PPR's by April 1st
- Allayne will send the BAE form with a sign in sheet for March 22nd - March 31st
- Similar to last year
 - Options to add either Jens or Mark for the meeting
 - Will need the BAE form and the P3 form

Covid

- How are the groups doing
- Any concerns?

On Site Staff - June 2020 - Feb 2021





AOB

2021-03-11

Round Table

- ATLAS
- T2K/HyperK
- UCN
- ALPHA
- SuperCDMS
- Pienu
- NA62
- DEAP
- SNO+
- EXO
- HALO
- g-2
- Belle 2
- Theory

Particle Physics

Particle Physics EEC

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- Particle Physics Experiment Evaluation Committee formed
- Evaluate subatomic physics proposals related to the Electron Hall, Meson Hall and UCN beam line channels
- Submission deadline, March 29
- First meeting 22nd April 2021, chair is Natalie Roe (Berkeley)

ALPHA

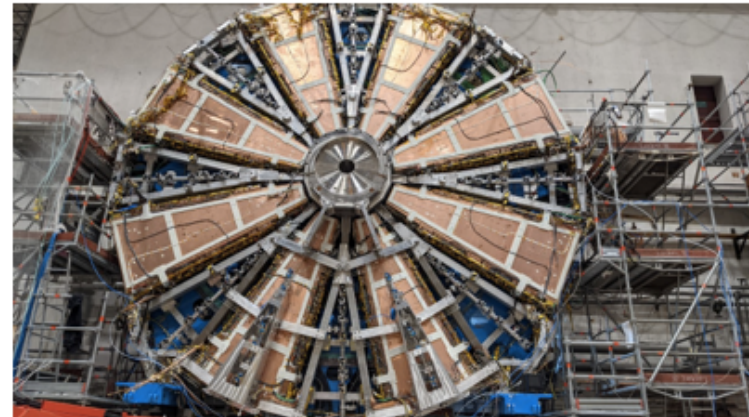
- Nathan Evetts (UBC) successfully defended PhD thesis via Zoom (Feb. 25)
- ALPHA-g TPC commissioning at CERN
 - Travel of postdocs, students to work on detector cancelled due to COVID for now
 - M. Fujiwara currently only one at CERN



Particle Physics

ATLAS

- ATLAS New Small Wheel (NSW) now has all 8 small sectors mounted at CERN
- Large wedges for this wheel are assembled, and will be mounted over the next 4 month
- Hired a new post-doc at CERN, Stergios Tsigaridas
 - Fills the sTGC wedge internal alignment X-ray survey position vacated by Benoit Lefebvre
- CERN-based post-docs, Marco Valente, was appointed as ATLAS jet trigger signature coordinator



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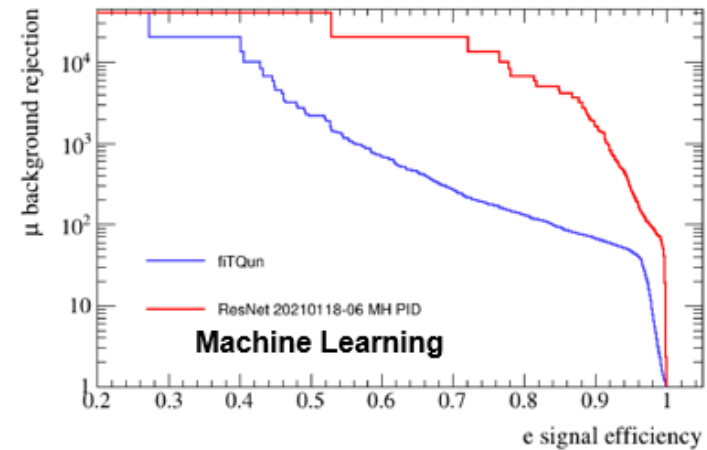
HALO

- Recently installed a new UPS and new DAQ computers underground in SNOLAB, as the old ones had come to the end of their lives.

Particle Physics

Neutrino

- Hyper-K Program Advisory Committee meeting last two weeks
 - Review of Canadian-led efforts: multi-PMT and IWCD
- Hyper-K Collaboration Meeting next two weeks
- CERN Neutrino Platform engagement with Water Cherenkov Test experiment proceeding well
- T2K operation 3/8 to ~4/1, remote shifts from Canada
- Interesting results from WatchMal TRIUMF-led machine learning effort
 - Improvements on event reconstruction compared to traditional tool, fitQun (also developed at TRIUMF)



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PIENU

- Submitted to Phys.Rev.D a paper, "Search for three body pion decays $\pi \rightarrow l \nu X$ ", <https://arxiv.org/abs/2101.07381>.



Next Meeting

- April 8th (ACOT rehearsals likely April 15th)

Quality and Documentation

- **The N286-12 Audit/Assessment from the CNSC closing meeting last Friday was well attended. The preliminary report, list of initial findings, recommendations have been posted to Docushare and will be discussed during this Wednesday's Leadership Meeting**
- Here are some of the urgent items we'll need to address:
 - Re-review of all 'key' management system documents and ensure that all N286-12 requirements are covered and that they're up to date to latest names, organization and roles. This needs to be completed "within the coming weeks" as per the preliminary report. As a sub-action we need to identify missing documents. E.G. Problem Management Process (a higher level document that describes the different problem tools and when to use possibly a new TSOP, Process documents under Commissioning and also under Design and Development and/or update the TSOPs to provide more detailed processes)
 - Document an Action plan to be done by the end of this week (Mar 5)
 - Develop a list of KPI to track progress against this task (by next week Mar 10)
 - Draft a report and complete it by Mar 25 (a week ahead of the end of the month to review and update before sending it out to leadership)
 - Revise the Quality Council Terms of Reference and membership by end of the week. Next Quality Council is Wednesday Mar 3. I want to be able to submit the updated ToR for approval this week and send to the CNSC also for their reference.
 - Last but not least, we need a Governance Document that reflects the councils, committees, and teams and groups and correct the Org charts in the webpages before the end of March. The recommendation is that this is a website or wiki or similar that HR can keep up to date and I can point to in the Quality manual as a link.
 - Other items will also be required like closing aging Faults and Corrective Actions and NCRs.
 - More to come...