



# IPDC Program Update

2026-07-28

Arthur B. McDonald

**Canadian Astroparticle Physics Research Institute**



[koby.dering@queensu.ca](mailto:koby.dering@queensu.ca)

# Integrated Project Delivery Centre

<https://mcdonaldinstitute.ca/ipdc/>



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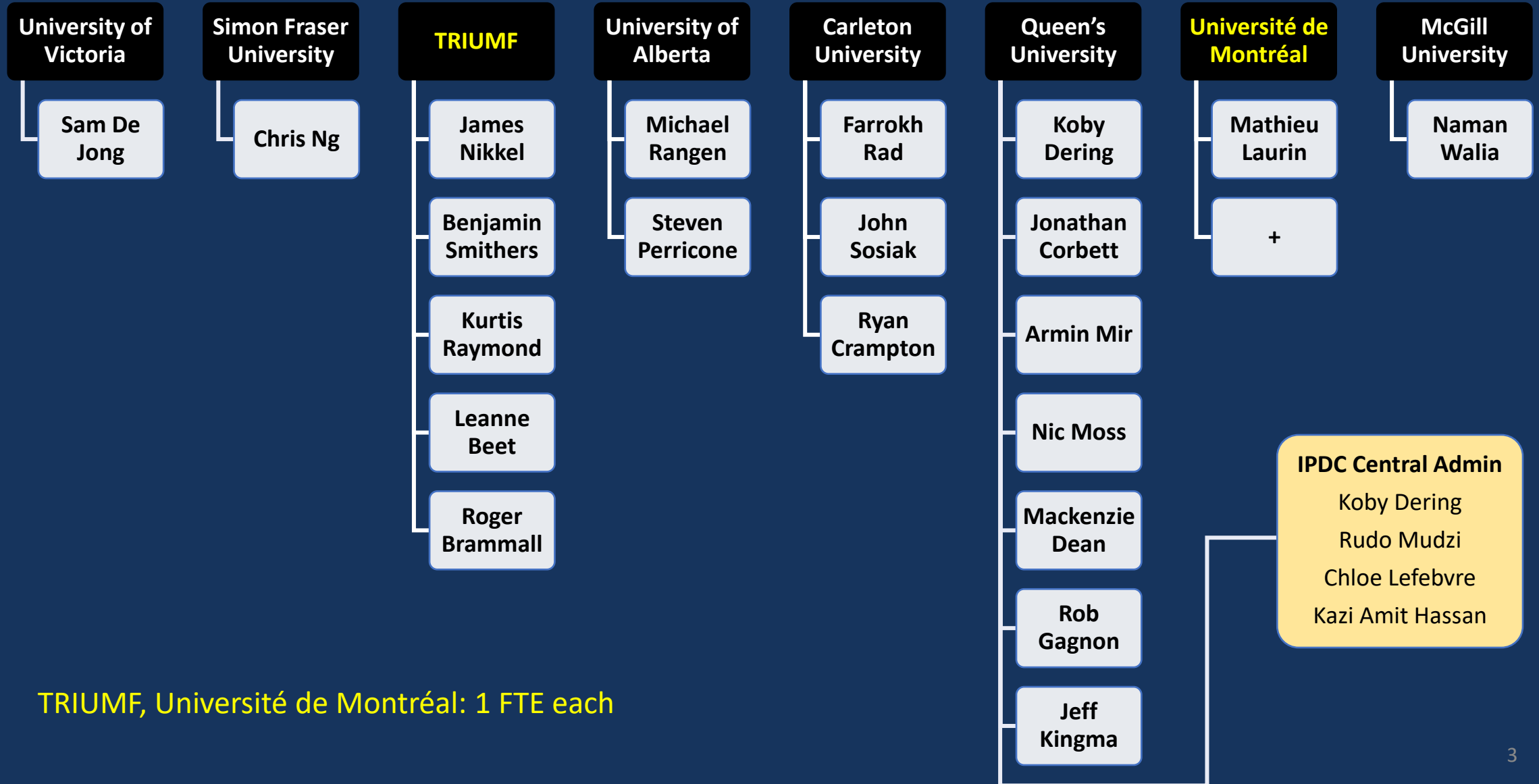
## About the IPDC

The **Integrated Project Delivery Centre (IPDC)** brings together Canada's engineering and technical expertise to support the design, fabrication, and assembly of major international scientific experiments over the coming decade.

The IPDC operates through a network of specialized hubs strategically located across Canada to best meet the needs of the research community. By coordinating resources and expertise nationwide, the Centre ensures that projects receive the right support at the right time.

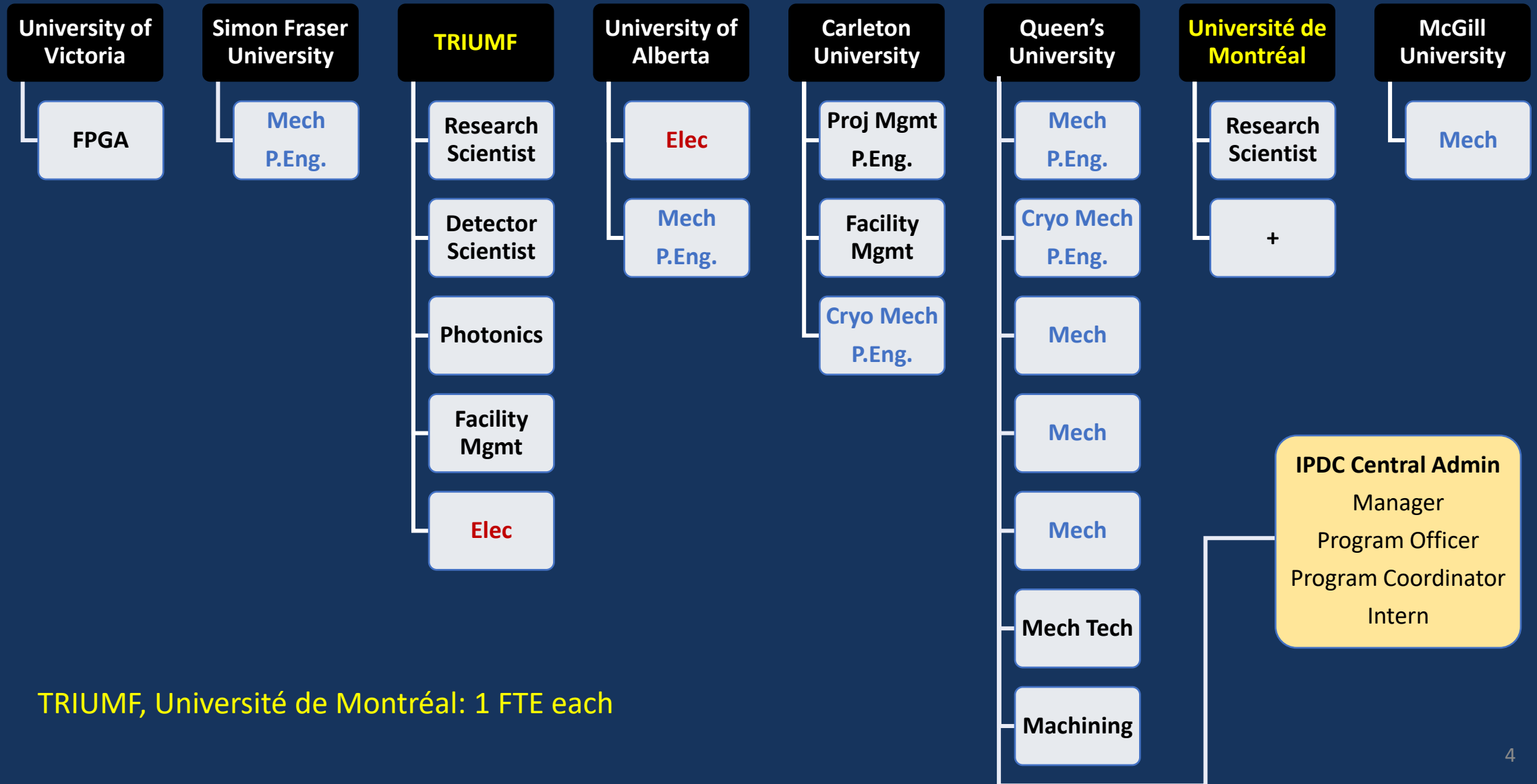


# Hubs – 17 Technical FTE



TRIUMF, Université de Montréal: 1 FTE each

# Hubs – 17 Technical FTE



# Technical Staff

Technical Staff  
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IPDC Activity



## Jonathan Corbett, P.Eng

Queen's University

Intermediate Design Engineer

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✉ [jtc7@queensu.ca](mailto:jtc7@queensu.ca)

**Expertise:** Cryogenics, Process, Vacuum, Mechanical, FEA, Regulatory, Project Management

► [Biography](#)



## Naman Walia

McGill University

Engineer

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✉ [naman.walia@mcgill.ca](mailto:naman.walia@mcgill.ca)

**Expertise:** Mechanical, Cryogenics, Vacuum, FEA, 3D Printing

► [Biography](#)



## Mackenzie Dean,

Queen's University

Engineering Designer - Mechanical



# How to Apply

- Requests are categorized by magnitude of support required
  - Maintain some capacity for aligned local support and ad-hoc smaller activities: Level 0/L0 and Level 1/L1
  - Larger and more complex projects follow a formal application and adjudication process: Level 2+/L2+
- Do you have questions about how to take advantage of IPDC resources? Do you have a smaller project that needs technical support?

Knock on our door or send us an email – we will try to help you!

# How to Apply

- **Step 1: Submit a Project Application**
  - Applicant info
  - Technical requirements, deliverables, personnel requirements and oversight
  - Funding status, schedule, risks
- **Step 2: Feasibility Review**
  - Preliminary assessment by Project Feasibility Committee (PFC)
- **Step 3: Resource Allocation Review**
  - Resource Allocation Committee (RAC) evaluates the alignment and scientific merit and determines appropriate level of support
- **Step 4: Notification and Project Start**

Applications generate a **Project Ticket**, used to track progress through the lifecycle of the request

# How to Apply



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## How to Apply

The Integrated Project Delivery Centre (IPDC) provides access to specialized engineering and technical expertise to support the design, fabrication, and assembly of major experimental projects in astroparticle physics across Canada.



Researchers and project leaders can apply for IPDC support by submitting a formal **Project Application** form. This process ensures that each request is reviewed fairly, assessed for feasibility, and aligned with the McDonald Institute's research strategy.

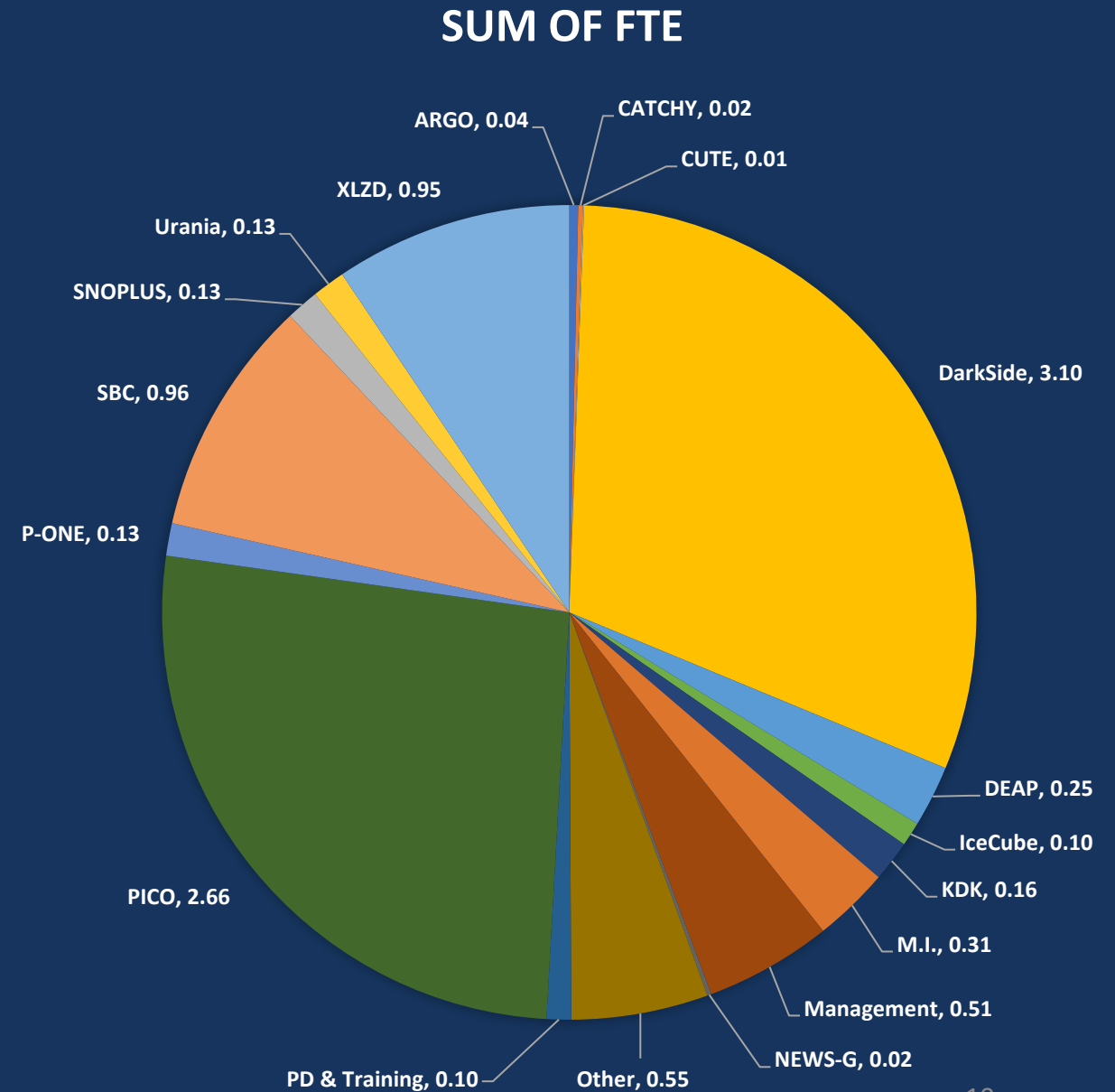


# Resource Allocation Committee

- Composition: Scientific Director + member from each hub + member from SNOLAB
  - Tony Noble (MI), Randall Sobie (UVic), Darren Grant (SFU), James Nikkel (TRIUMF), Carsten Krauss (Alberta), Guillaume Giroux (Queen's), Simon Viel (Carleton), Thomas Brunner (McGill), Alan Robinson (UdeM), Chris Jillings (SNOLAB)
- Mandate: “evaluate the scientific merit of the application and determine whether a project will be supported or not.”
- First RAC meeting held earlier in July
  - Committee orientation
  - Nomination of a chair
- Chair's statement
  - Liaison – maintain transparent communication with all stakeholders
  - Deference – don't reinvent the wheel and respect prior decisions, noting that the committee may have more timely information on resources or feasibility
  - Efficiency – provide the support when the projects need it, allow the IPDC team to work with minimal interference
  - Development of evaluation and prioritization framework
- Next meeting(s) in August

# Current Support

- Technical staff report their hours supporting experiments
  - Each experiment can have multiple tickets attached to it
  - Showing here the total FTE per experiment
- Starting to capture baseline breakdown (June 1 to July 24)
  - Reporting for 15 FTE (excluding UVic, TRIUMF), 1 FTE = 35 hr/wk
  - 4200 hr total for 15 FTE x 8 wk
- Total reported
  - 2830 hours → 10.1 FTE
  - 4.9 FTE missing: untracked activity, including leaves from work



# First Round Applications

- Thank you to applicants for taking the time to complete the form!
- 19 tickets
  - Mostly covering ongoing staff activities
  - 2 applications targeting new support

IPDC-25-DarkSide-01-L4 (Calibration - glove and motor box)

IPDC-25-DarkSide-02-L4 (Anode deflection system)

IPDC-25-KDK-02-L3 (SDD2)

IPDC-25-PICO-01-L5 (Project)

IPDC-25-PONE-01-L2 (PMT Test Setup)

IPDC-25-SBC-01-L5 (Project)

**IPDC-26-BeEST+SALER-01-L3 (Quantum sensing for astroparticle physics)**

IPDC-26-DarkSide-01-L5 (Project)

IPDC-26-DarkSide-02-L3 (Rn monitor for Rn-free cleanroom)

IPDC-26-DarkSide-03-L5 (Project)

IPDC-26-DEAP-01-L5 (Project)

IPDC-26-PICO-03-L3 (PICO-500 electronics)

IPDC-26-PONE-01-L3 (P-ONE PMT Test Assembly)

IPDC-26-PONE-02-L4 (P-ONE string deployment frame redesign)

IPDC-26-PONE-03-L3 (Muon In-Situ Tracker)

IPDC-26-ProjectX17-01-L3 (Detector design and accelerator beam operation)

IPDC-26-Urania-01-L5 (Project)

**IPDC-26-XLZD-01-L5 (Project)**

IPDC-26-XLZD-02-L4 (Cryostat construction and material assessment)

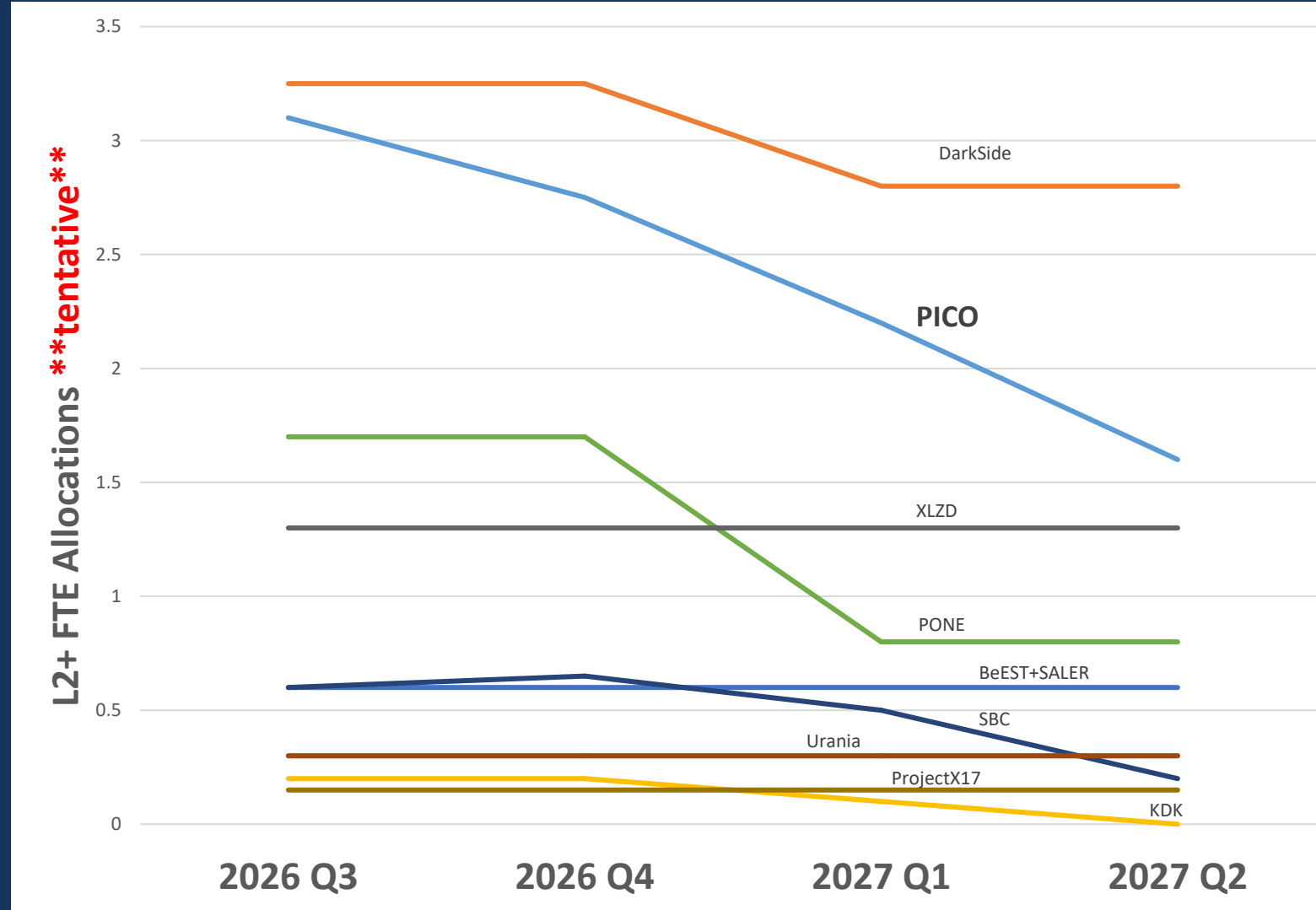
# First Round Applications

- 14 active FTE available
  - Excluding machine shop, UVic, TRIUMF
- 9.8 actual FTE capacity (70% budget for L2+)
  - Balance for local support, admin, or management duties
- 11 projected FTE needed to end of year
  - Including +1.1 FTE for new efforts

|             | # Supporting Staff<br>(NOT FTE) | L2+ FTE Allocations <b>**tentative**</b> |         |         |         |
|-------------|---------------------------------|------------------------------------------|---------|---------|---------|
| Experiment  |                                 | 2026-Q3                                  | 2026-Q4 | 2027-Q1 | 2027-Q2 |
| BeEST+SALER | 3                               | + 0.6                                    | 0.6     | 0.6     | 0.6     |
| DarkSide    | 7                               | 3.25                                     | 3.25    | 2.8     | 2.8     |
| DEAP        | 2                               | 0.3                                      | 0.3     | 0.3     | 0.3     |
| KDK         | 2                               | 0.2                                      | 0.2     | 0.1     | 0       |
| PICO        | 7                               | 3.1                                      | 2.75    | 2.2     | 1.6     |
| PONE        | 4                               | 1.7                                      | 1.7     | 0.8     | 0.8     |
| Project X17 | 1                               | 0.15                                     | 0.15    | 0.15    | 0.15    |
| SBC         | 4                               | 0.6                                      | 0.65    | 0.5     | 0.2     |
| Urania      | 3                               | 0.3                                      | 0.3     | 0.3     | 0.3     |
| XLZD        | 2                               | 0.8 + 0.5                                | 1.3     | 1.3     | 1.3     |
| Grand Total | 34                              | 11.5                                     | 11.2    | 9.05    | 8.05    |

# First Round Applications

- 14 active FTE available
  - Excluding machine shop, UVic, TRIUMF
- 9.8 actual FTE capacity (70% budget for L2+)
  - Balance for local support, admin, or management duties
- 11 projected FTE needed to end of year
  - Winding down efforts on some tickets
    - PICO-500
    - SBC, DarkSide-20k, P-ONE



# KPIs

- Operational
  - Timesheet compliance, resource allocation fidelity, milestone progress
- Program impact
  - Applicant satisfaction survey, including late exit survey (did the thing do what it was supposed to do?)
  - Staff satisfaction survey
- Tag reasons for variances and capture as caused by factors systemic to IPDC, or by external factors
- Must be low burden to technical staff and projects: quarterly or monthly check-ins using a simple form, e.g., “Ticket Health Tracker”, maintained by IPDC central admin team

| Lead_TicketID                                                                                    | Lead             | Date ↓     | Report Window | Allocation                      | Allocation - Reason | Allocation - Category | Allocation - Notes                                                             | Project Status | Project Status - Reason                    | Project Status - Category | Project Status - Notes                                                                          | Applicant - Satisfaction |
|--------------------------------------------------------------------------------------------------|------------------|------------|---------------|---------------------------------|---------------------|-----------------------|--------------------------------------------------------------------------------|----------------|--------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------|--------------------------|
| <a href="#">Koby Dering IPDC-25-PICO-01-L5 (Project)</a>                                         | Koby Dering      | 2026-07-21 | Last 30 days  | Under reporting (too few hours) | Staff availability  | Internal (IPDC)       | Disrupted by other activities (management duties, vacation)                    | On track       |                                            |                           |                                                                                                 |                          |
| <a href="#">Jonathan Corbett IPDC-25-PICO-01-L5 (Project)</a>                                    | Jonathan Corbett | 2026-07-21 | Last 30 days  | Over reporting (too many hours) | External delay      | External              | Identified unexpected valve behaviour, requiring more testing than planned for | Partially      | Technical challenge<br>Upstream dependency | External                  | See above allocation notes - some delays resulting from fluid systems construction and testing. |                          |
| <a href="#">Nic Moss IPDC-25-SNOPLUS-01-L3 (PSUP Access: PMT panel removal &amp; work bench)</a> | Nic Moss         | 2026-06-12 | Last quarter  |                                 |                     |                       |                                                                                | Completed      |                                            |                           |                                                                                                 | 5 (excellent)            |

# Engineering Intern Program

- Primary goals
  - For engineering disciplines: provide highly relevant professional training to EITs, aligned with the 34 core competencies identified by PEO and other provincial engineering regulators
  - Also aiming to support other early-career technical professionals
  - Address underrepresentation of equity deserving groups in engineering, using EDII initiatives developed by the McDonald Institute
  - Provide additional engineering and technical support to IPDC-supported projects
- Hiring campaign for new Queen's EIT very soon + open call for other partners interested in program
  - Senior staff should provide local mentorship for EIT
  - Facilitated by IPDC EIT Coordinator, provide validator service for EIT where appropriate
- Provincial engineering regulators (BC, AB, ON, QC) do not fully align their rules – IPDC is most equipped to support registrations for Ontario P.Eng.

# What's Next?

- IPDC is live! New applications can be submitted at any time:  
<https://mcdonaldinstitute.ca/ipdc/apply/>
- Formal resource allocation decisions coming very soon for current batch of applications - Next RAC meetings in August
- IPDC is not looking to pull the rug out from anyone already supported. Changes, if any, are anticipated to be incremental and gradual as we fold in new projects and begin to wind down projects nearing completion
- This program is still in its infancy, and we are learning as we go - Thanks for your patience!
- Stay tuned for a showcase of some of the skillsets the IPDC makes available to the community



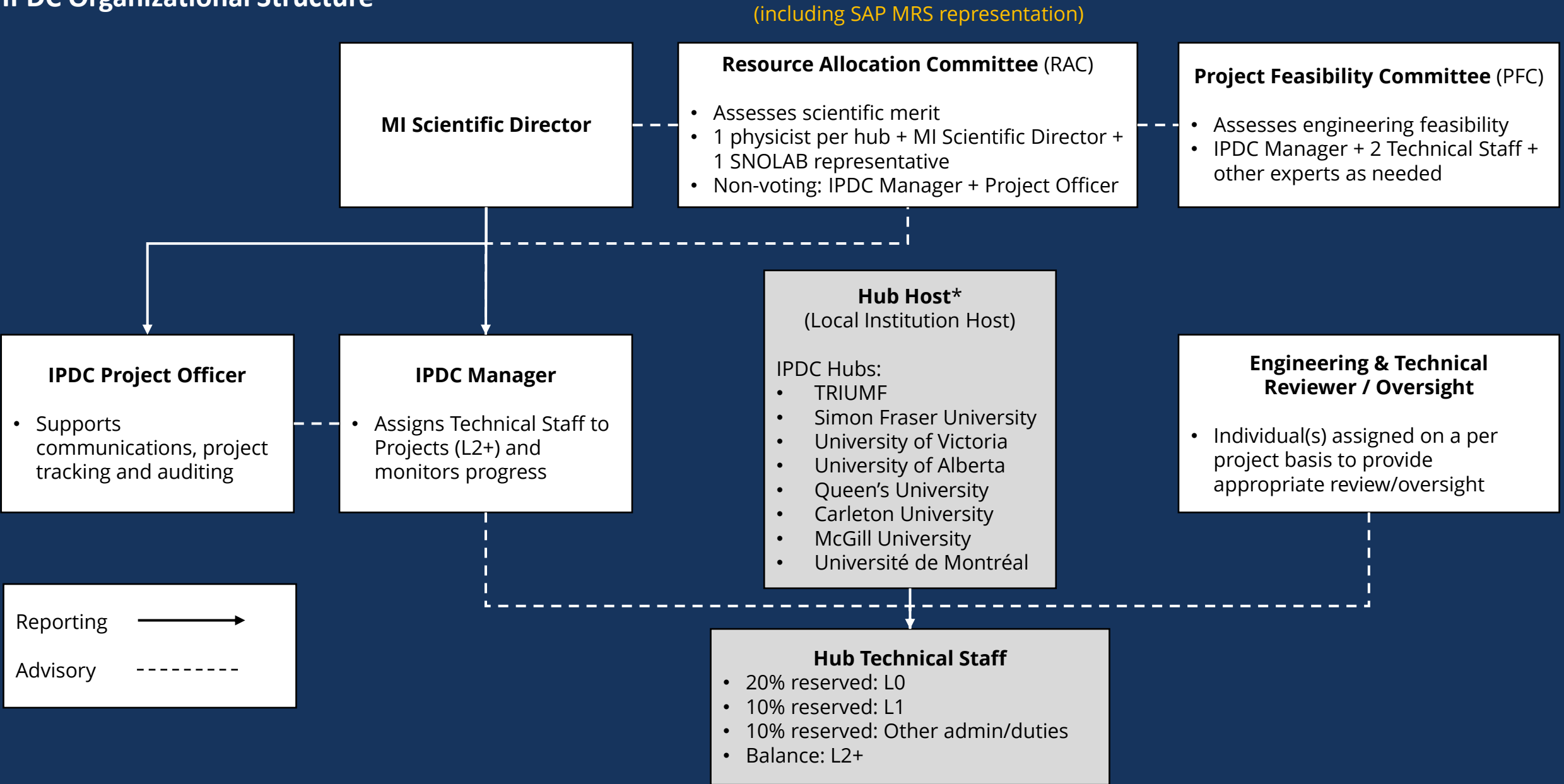


# Thank you

Contact me at:  
[koby.dering@queensu.ca](mailto:koby.dering@queensu.ca)

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# IPDC Organizational Structure



\*Hub host may allocate up to 20% of their Hub Staff's time for L0. See details in IPDC Application Process Document

# Application Process

Data recorded in Project Tickets

