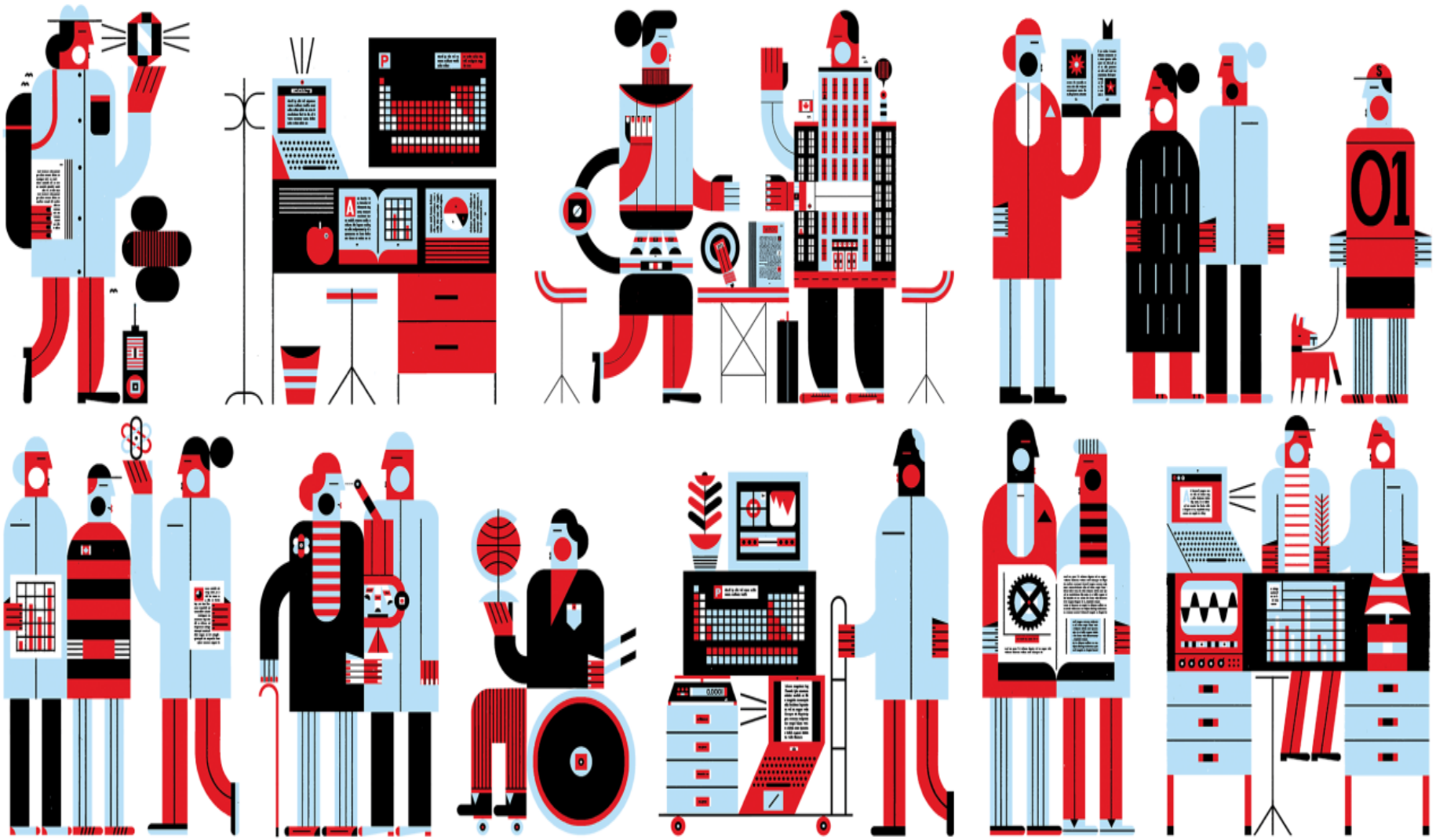
NSERC
CRSNG

Breakthrough answers
to timeless questions

Des réponses innovantes
à de grandes questions



Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

Canada

Report from the SAPES Co-Chair to the Community

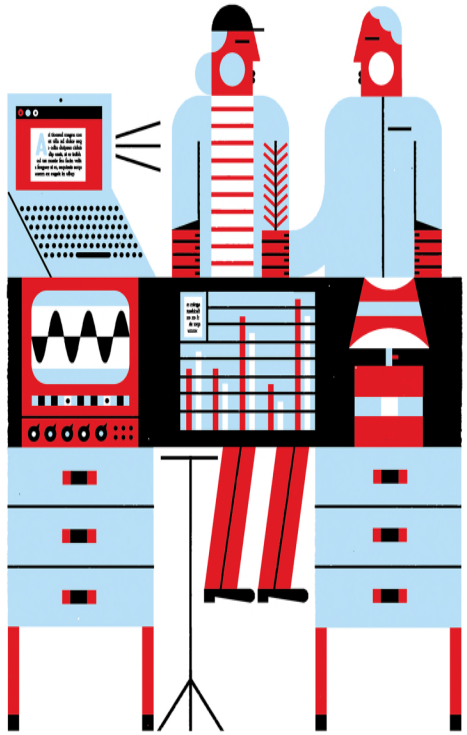
2025 Competition

Presented by: Alexandros Gezerlis, University of Guelph

Congress of the Canadian Association of Physicists

June 12, 2025

Table of contents



The Subatomic Physics Evaluation Section

- The Subatomic Physics Evaluation Section (SAPES) is a standing review committee that oversees various programs:
  - Individual and Project Discovery Grants
  - Research Tools and Instruments (RTI - Category 1, 2 or 3) Grants
  - Major Resources Support (MRS) Grants
- Funded through a unique **independent envelope mechanism at NSERC,** since 1991
- This comprehensive approach is essential
  - Complexity and inter-dependency of many proposals
  - Country-wide collaborations among individuals, groups, universities, and national research organizations
  - Long-term and large-scale international projects and commitments
  - Possibility to exchange funds between the various programs as a function of the priorities of the community and the pressures it faces

The Subatomic Physics Evaluation Section

Name	Institution	Term	Expertise
Maxime Brodeur	University of Notre Dame	2024-2026	Exp. Low Energy Nuclear Physics
Maria Chamizo-Llatas	Brookhaven National Laboratory	2024-2026	Exp. Accelerator R&D
Heather Crawford	Lawrence Berkeley National Laboratory	2025-2027	Exp. Nuclear Physics – Nuclear Structure
Mariana Frank	Concordia University	2025-2027	Th. High Energy Physics
Alexandros Gezerlis (Co-Chair)	University of Guelph	2023-2025	Th. Nuclear Physics
Roxanne Guenette (Co-Chair)	University of Manchester	2023-2025	Exp. Neutrino Particle Physics
Yordanka Ilieva	University of South Carolina	2025-2027	Exp. Nuclear Physics
Sangyong Jeon	McGill University	2025-2027	Th. Nuclear Physics
Giulia Ricciardi	University of Naples	2023-2025	Th. Particle Physics
Niki Saoulidou	University of Athens	2025	Exp. High Energy Physics
Pierre Savard	University of Toronto	2025-2027	Exp. High Energy Physics
Gordon Semenoff	University of British Columbia	2024-2026	Th. Quantum and Field Theory
Timothy Sumner	Imperial College of London	2024-2026	Exp. Astroparticle Physics & Dark Matter
Martin Venhart	Slovak Academy of Sciences	2025-2027	Exp. Nuclear Physics
Michel Vetterli	Simon Fraser University	2024-2025	Exp. High Energy Physics
Juan Pablo Yanez	University of Alberta	2025-2027	Exp. Neutrino Physics

The Subatomic Physics Evaluation Section

Support to Operations

- Group Chair
  - Kristin Poduska, Memorial University of Newfoundland
    - Monitors consistency of deliberations for Physics in general
    - Provides advice on procedures and policies as needed
    - Not a member; does not participate in reviews/votes
- NSERC Staff
  - Shashini Jayaratne, Program Assistant
  - Philip Bale & Kaitlyn Pomykala, Program Officers
  - Kevin Lapointe, Manager

Pre-Competition Details

- 62 applications
- Total requested: $27.7M
- Available funds: $15.0M
- Projected average funding rate: 54%

Compare to past funding rates:

2018	2019	2020	2021	2022	2023	2024
74%	64%	56%	40%	64%	60%	52%

Competition

- In a continued response to Covid-19, the Discovery Grants 2025 Competition was held virtually
- Additionally, NSERC is continuing to offer one-time Covid extensions to any DG and MRS awards that were active during 2020

- Covid-19 Extension with Funds for 2025/2026:

	% of Accept	Total Extension Amount
SAPPJ*	-	$0
SAPIN	86%	$846,000
SAPMR	-	$0
Grand Total	86%	$846,000

*Due to the 3-year duration of SAPPJs, no further projects were offered extensions

Competition Week

- **February 23 – February 28, 2025**
- Large Project Day was held February 23, 2025
  - Invited Participants received SAPES questions in advance:
    - ATLAS
    - Global Argon Detector
    - MOLLER
    - nEXO
    - SNO+
    - SuperCDMS
    - TITAN
- Assessment of applications done in 3 rounds;
- Deliberations followed NSERC's policies and guidelines throughout all rounds of competition;
- All recommendations were determined through anonymized electronic voting, with the median vote selected as the final recommendation.

Competition Budget - Pre-competition

SUBATOMIC PHYSICS ENVELOPE
MULTI-YEAR COMMITMENTS BY CATEGORY
Competition 2025

	2025	2026	2027	2028	2029
RTI - COMMITTED	$200,000				
RTI - 2025 Competition	$1,419,897	$221,698	$208,600	$6,600	$0
RTI - TOTAL	**$1,619,897**	**$221,698**	**$208,600**	**$6,600**	**$0**
THEORY - COMMITTED	$3,391,350	$2,153,500	$1,597,500	$871,500	$0
THEORY - 2025 Competition	$1,049,464	$1,069,355	$1,081,055	$1,068,455	$1,081,855
THEORY - TOTAL	**$4,440,814**	**$3,222,855**	**$2,678,555**	**$1,939,955**	**$1,081,855**
EXP OPS** - COMMITTED	$11,788,830	$4,877,005	$359,000	$359,000	$0
EXP OPS - 2025 Competition	$22,143,540	$22,685,782	$22,429,218	$1,174,529	$1,195,323
EXP OPS - TOTAL	**$33,932,370**	**$27,562,787**	**$22,788,218**	**$1,533,529**	**$1,195,323**
MRS - COMMITTED	$538,767	$564,893	$583,715	$247,265	$110,545
MRS - 2025 Competition	$3,077,305	$3,241,970	$3,286,764	$3,463,460	$3,555,715
MRS - TOTAL	**$3,616,072**	**$3,806,863**	**$3,870,479**	**$3,710,725**	**$3,666,260**
TOTAL - COMMITTED	$15,918,947	$7,595,398	$2,540,215	$1,477,765	$110,545
TOTAL - 2025 Competition	$27,690,206	$27,218,805	$27,005,637	$5,713,044	$5,832,893
GRAND TOTAL	**$43,609,153**	**$34,814,203**	**$29,545,852**	**$7,190,809**	**$5,943,438**
TOTAL ENVELOPE	**$30,645,278**	**$30,645,278**	**$30,645,278**	**$30,645,278**	**$30,645,278**
COMPETITION BUDGET	**$15,085,331**				
Unspent from previous FY	**$359,000**				
AVAILABLE	**-$12,604,875**	**-$4,168,925**	**$1,099,426**	**$23,454,469**	**$24,701,840**

***EXP OPS = Experimental Operations – Includes Project grants and experimental Individual grants*

Competition Week

Round 1

- Presentation by the **first** reviewer, followed by discussion with the **second through fifth** reviewers on merit criteria, as well as the budget and Data Management Plan
- **Five** reviewers vote anonymously:
  - Merit Criteria
  - Recommended Budget

Rounds 2 and 3

- Discussion by all **five** reviewers, related to the budget
- **Five** reviewers vote anonymously:
  - Recommended Budget

Multiyear Commitments - End of Competition

SUBATOMIC PHYSICS ENVELOPE
MULTI-YEAR COMMITMENTS BY CATEGORY
Competition 2025

	2025	2026	2027	2028	2029
RTI - COMMITTED	$200,000				
RTI - 2025 Competition	$414,735				
RTI - TOTAL	**$614,735**				
THEORY - COMMITTED	$3,391,350	$2,153,500	$1,597,500	$871,500	$0
THEORY - 2025 Competition	$587,000	$587,000	$587,000	$520,000	$520,000
THEORY - TOTAL	**$3,978,350**	**$2,740,500**	**$2,184,500**	**$1,391,500**	**$520,000**
EXP OPS** - COMMITTED	$11,788,830	$4,877,005	$359,000	$359,000	$0
EXP OPS - 2025 Competition	$12,375,000	$12,422,000	$10,583,000	$367,000	$367,000
EXP OPS - TOTAL	**$24,163,830**	**$17,299,005**	**$10,942,000**	**$726,000**	**$367,000**
MRS - COMMITTED	$538,767	$564,893	$583,715	$247,265	$110,545
MRS - 2025 Competition	$2,119,000	$2,119,000	$2,099,000	$2,101,000	$2,103,000
MRS - TOTAL	**$2,657,767**	**$2,683,893**	**$2,682,715**	**$2,348,265**	**$2,213,545**
TOTAL - COMMITTED	$15,918,947	$7,595,398	$2,540,215	$1,477,765	$110,545
TOTAL - 2025 Competition	$15,495,735	$15,128,000	$13,269,000	$2,988,000	$2,990,000
GRAND TOTAL	**$31,414,682**	**$22,723,398**	**$15,809,215**	**$4,465,765**	**$3,100,545**
TOTAL ENVELOPE	**$30,645,278**	**$30,645,278**	**$30,645,278**	**$30,645,278**	**$30,645,278**
COMPETITION BUDGET	**$15,500,066**				
Unspent from previous FY	**$359,000**				
Funds added post competition	**$414,735**				
AVAILABLE	**$4,331**	**$7,921,880**	**$14,836,063**	**$26,179,513**	**$27,544,733**
THEORY ENVELOPE SHARE	**13%**				
Funding Rate:	**56%**				

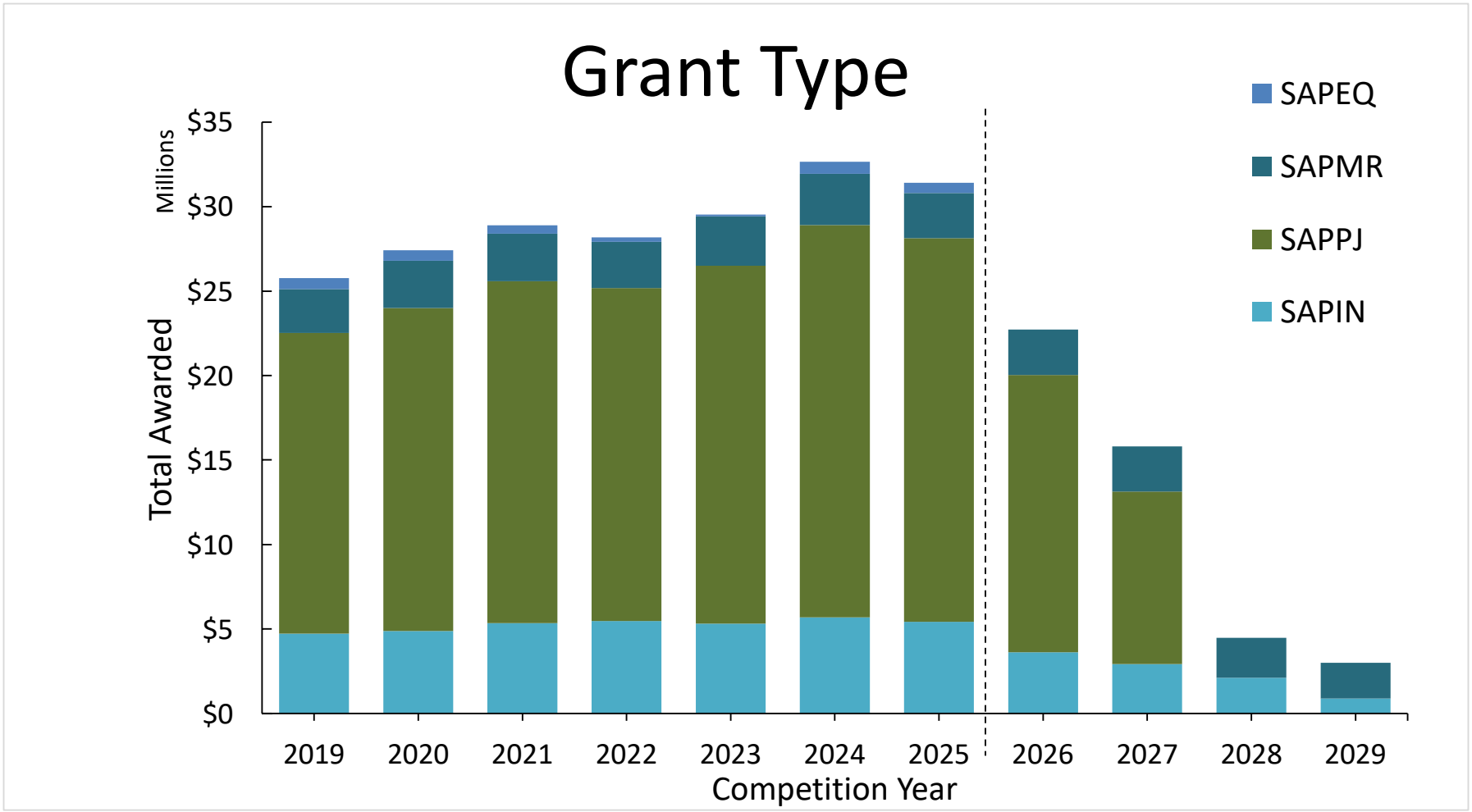
***EXP OPS = Experimental Operations – Includes Project grants and experimental Individual grants*
All remaining funds will be added to the SAP envelope for CY2026.

Share of Envelope at End of Competition

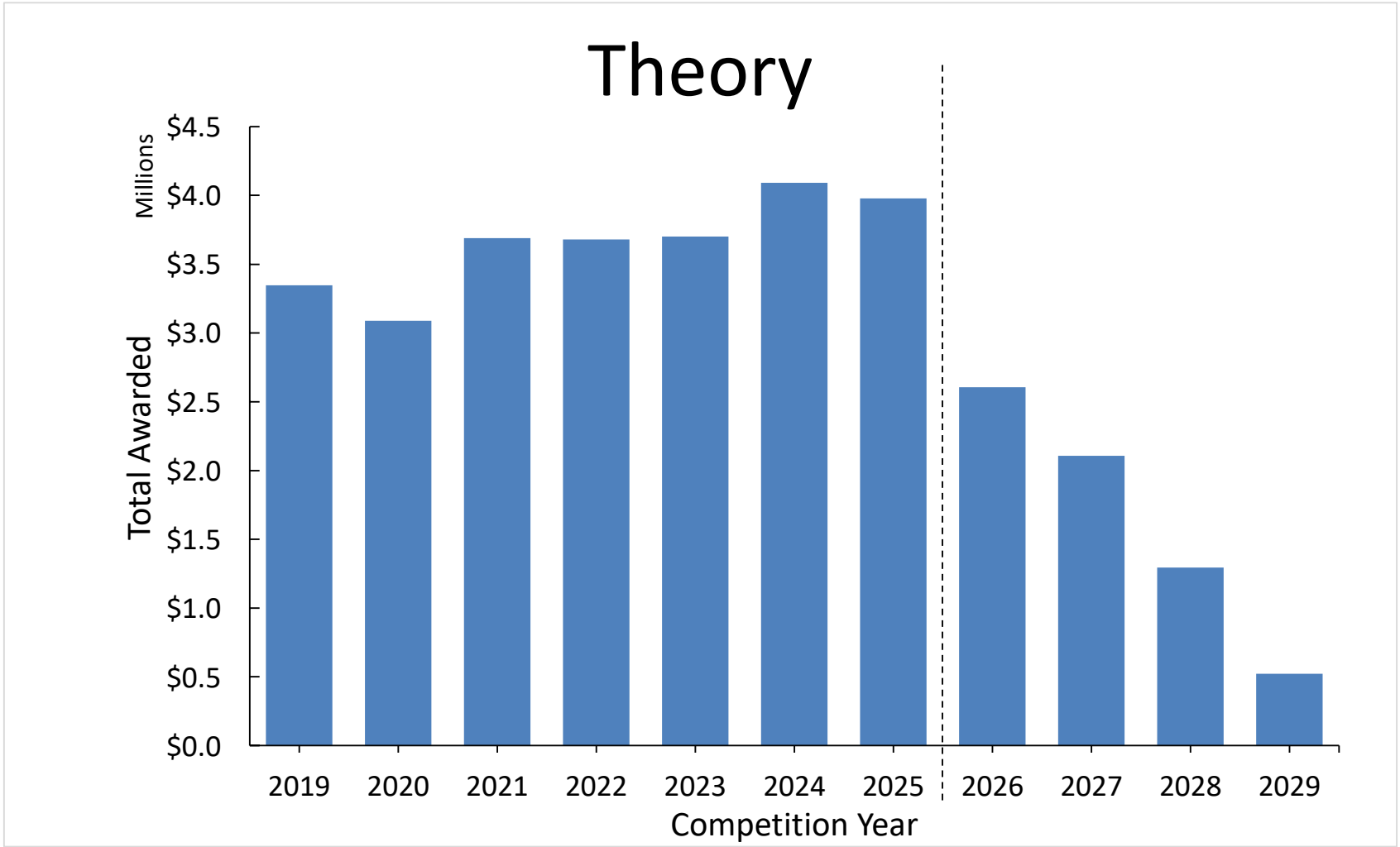
Comparison to Past Years

	2025	2024	2023	2022	2021	2020
Theory	13%	13%	13%	13%	13%	11%
RTI	2%	2.2%	0.4%	1%	2%	2%
Total Research Ops	86%	85%	88%	86%	86%	86%
Exp. Ops	78%	76%	77%	77%	76%	76%
MRS	9%	9%	10%	9%	10%	10%

Evolution of SAPES Awards



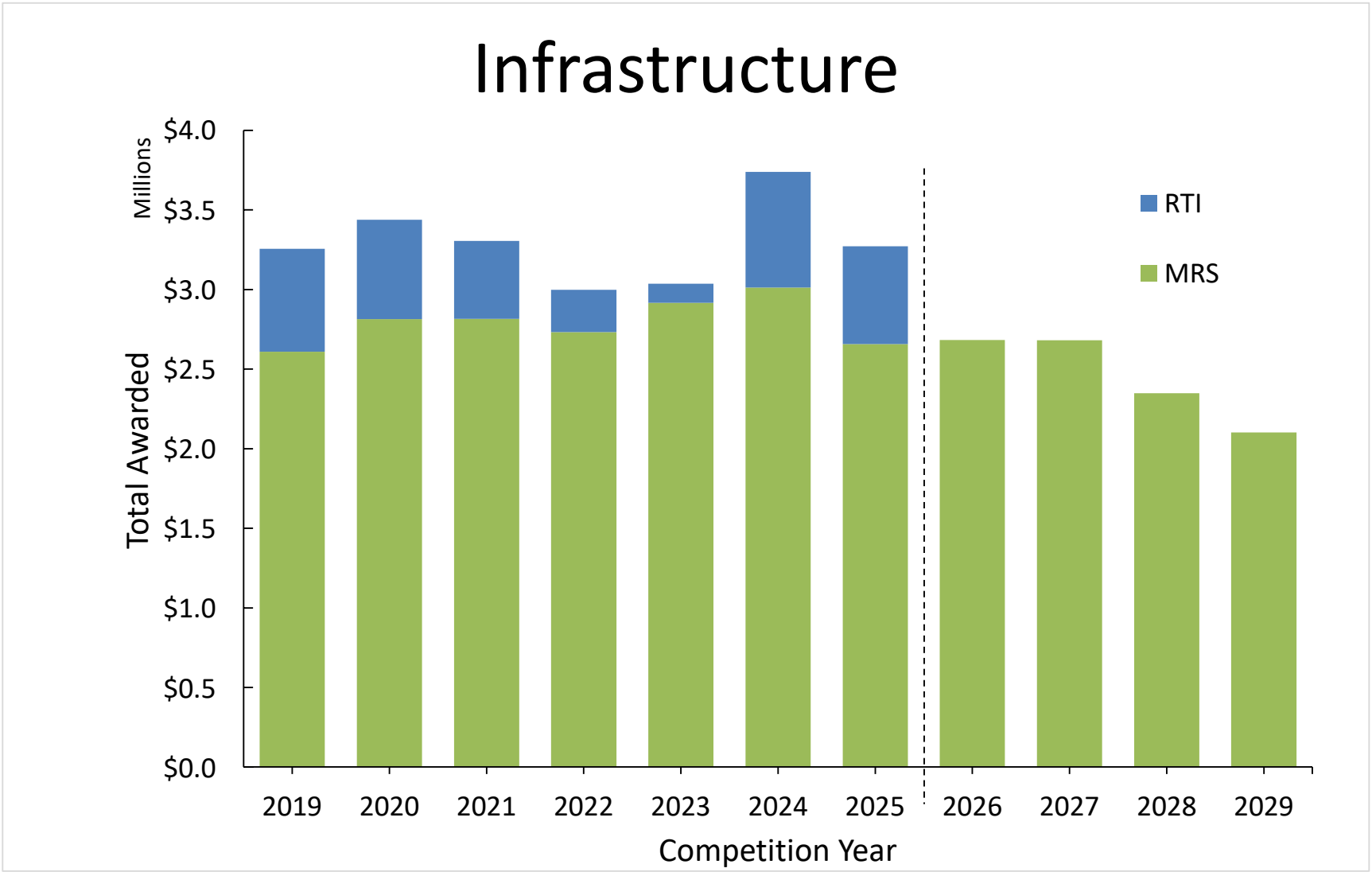
Evolution of SAPES Awards



Theory Results 2020-2025

	2020	2021	2022	2023	2024	2025
Number of Theory applications received	17	10	11	15	13	11
Theory success rate	82%	80%	82%	73%	92%	73%
% of applications submitted that were Theory	30%	21%	26%	32%	25%	18%
% of amount requested from Theory	15%	12%	6%	7%	11%	4%
% of amount awarded to Theory	16%	15%	5%	6%	14%	4%
Theory funding rate	60%	51%	59%	51%	66%	51%
Funding rate overall for that CY	56%	40%	70%	60%	52%	56%
Theory Envelope Share (includes ongoing commitments)	11%	13%	13%	13%	13%	13%

Evolution of SAPES Awards



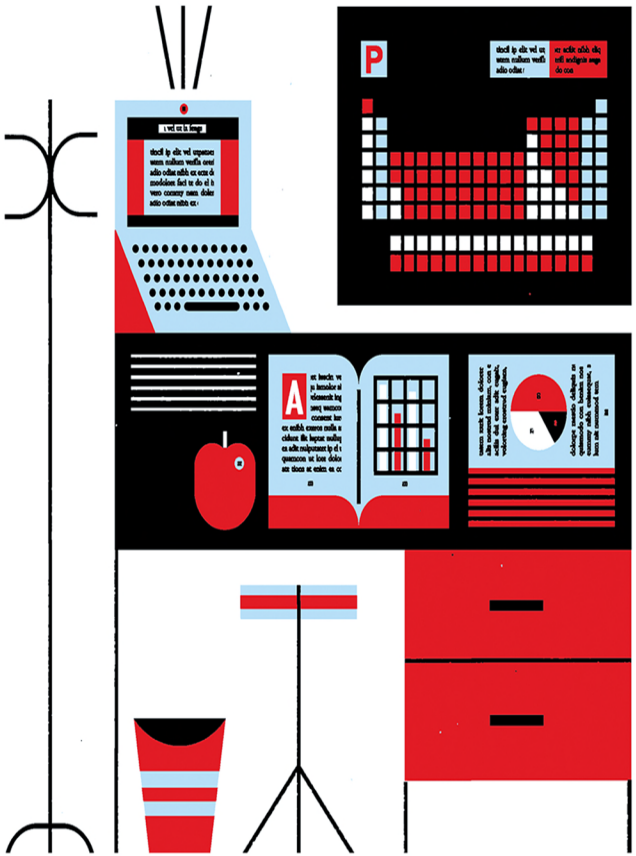
Data Management Plan Pilot in Subatomic Physics

Tri-Agency Research Data Management (RDM) policy requirements are being implemented using a gradual, phased-in approach:

- Data Management Plan (DMP) requirement piloted in the Subatomic Physics Discovery Grants – Individual and Project for Competition 2024 (launched in summer 2023).
- Applicants were required to submit a 2-page DMP with their applications, which was reviewed by committee members but not included in adjudication score.
- Pilot is being evaluated through an applicant survey, review of submitted DMPs, and consultations with committee members.
- Broader implementation of the DMP requirement into other NSERC programs will be informed by pilot evaluation, as well as continued engagement with the research community, CIHR, SSHRC and the Digital Research Alliance of Canada.

Feedback from this year (personal, not NSERC/SAPES)

- Applicants should highlight breadth of impact, rather than focus on numbers
- The SAPES discussed the institution-specific minimum HQP stipends
- There were many large projects up for renewal this year, requesting significant increased funding from NSERC, leading to further pressures on the envelope
- This competition was difficult for SAPES members, leading to intense deliberations right up to the end of Round 3.
  - While the outcome for many applicants was less than ideal, it is a privilege for the Canadian Subatomic community that these discussions/decisions are made by experts and fellow community members.
- The interface between SAPES and the McDonald Institute funding was frequently discussed and considered.
- In discussions with NSERC leadership, SAPES members raised:
  - The importance of increasing the envelope, and
  - The prospects of returning to in-person deliberations



Questions?

Philip Bale & Kaitlyn Pomykala

Program Officers, Subatomic Physics

SUBATOMIC@nserc-crsng.gc.ca

Connect with us

@nserc_crsng

facebook.com/nserccanada