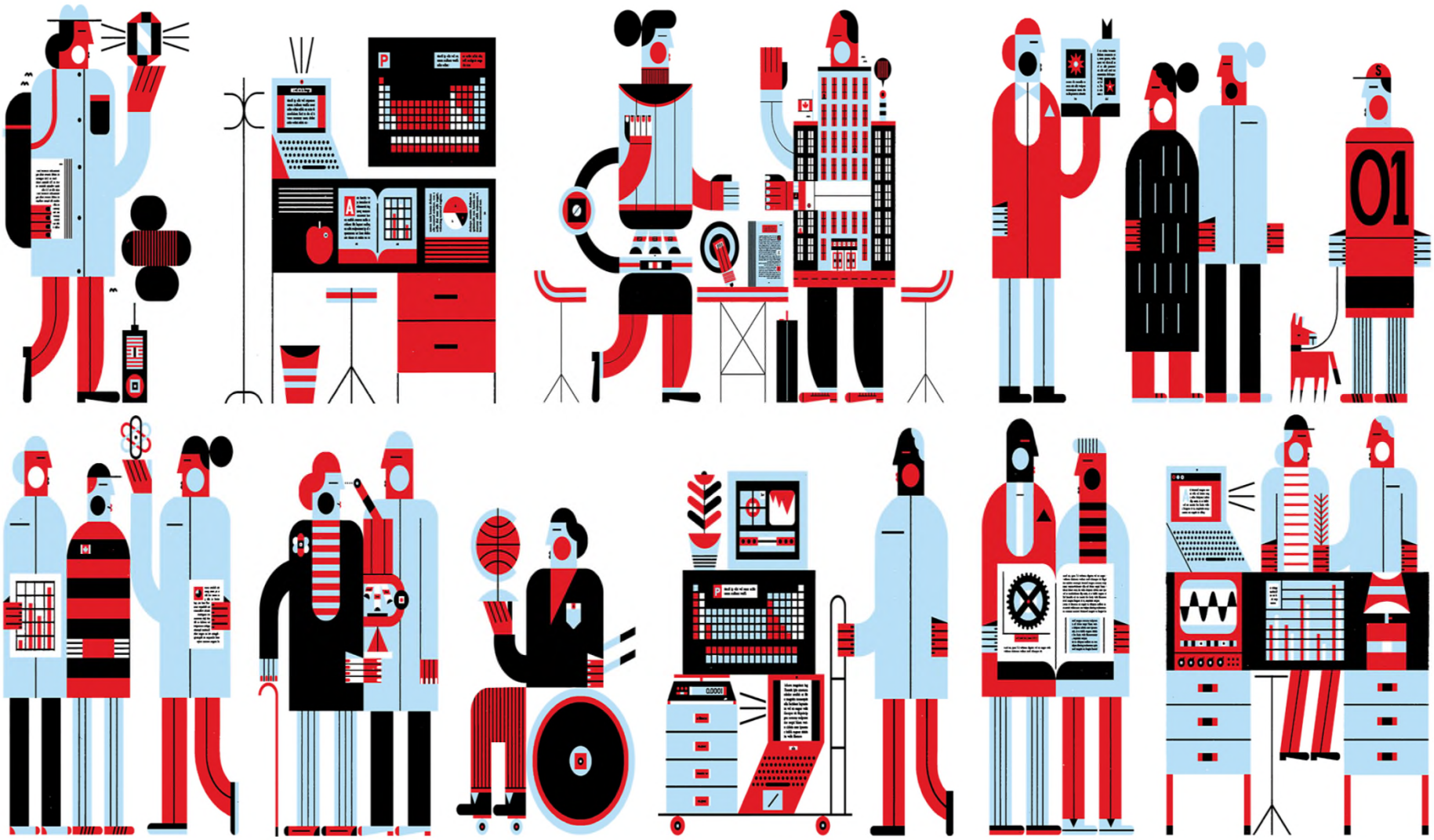
NSERC
CRSNG

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

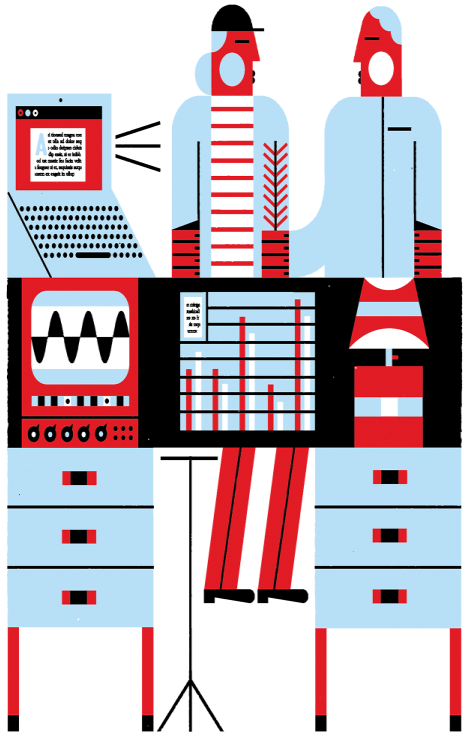
2022 Competition

Presented by: Jeffery Martin, University of Winnipeg

Congress of the Canadian Association of Physicists

June 10, 2022 – Virtual Congress

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

CY2022

Name	Institution	Term	Expertise
Mary Convery	Fermi National Accelerator Laboratory	2020-2023	Exp. Accelerator R&D
Andrzej Czarnecki	University of Alberta	2021-2022	Th. High Energy Physics
Paul Garrett	University of Guelph	2019-2020, 2021-2023	Exp. Nuclear Physics
Nikolina Ilic	University of Toronto	2021-2024	Exp. Particle Physics
Georgia Karagiorgi	Columbia University	2019-2022	Exp. High Energy Physics, Neutrino Properties
Jeffery Martin (Co-Chair)	University of Winnipeg	2016-2018, 2021-2022	Exp, Nuclear Physics
David Morrissey	TRIUMF/University of Victoria	2021-2024	Th. Particle Physics
Meenakshi Narain	Brown University	2020-2023	Exp. High Energy Physics
Matthias Schindler	South Carolina University	2021-2024	The. Nuclear Physics
Pedro Vieira	Perimeter Institute	2020-2023	Th. Particle Physics
Ingo Wiedenhoever (Co-Chair)	Florida State University	2020-2023	Exp. Nuclear Physics
Alexander Wright	Queen’s University	2019-2022	Exp. Particle Astrophysics
Albert Young	North Carolina State University	2020-2023	Exp. IEP & NP

The Subatomic Physics Evaluation Section

Support to Operations

- Group Chair
  - Sara Ellison, University of Victoria
    - 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
  - Elizabeth Boston, Director

Virtual Competition

- In a continued response to Covid-19, the Discovery Grants 2021/2022 Competition was held virtually
- Additionally, NSERC offered extensions to all 2021/2022 awards
  - **With funds:** one-time extensions offered to all active DG and SAPMR holders
  - **Without funds:** extensions for grantees in their automatic 1 year for the residual use of DG and SAPMR funds

- Covid-19 Extension with Funds for 2021/2022:

	% of Accept	Total Extension Amount
SAPPJ	87%	$7,843,507
SAPIN	93%	$867,000
SAPMR	100%	$423,715
Grand Total	93%	$9,134,222

Pre Competition Details

- 42 applications
- Total requested: $15.77M
- Available funds: $11.067M
- Projected average funding rate: 71%*

Compare to past funding rates:

2017	2018	2019	2020	2021
74%	69%	64%	55%	42%

*Due to the high projected funding rate, a decision was made to maintain a funding rate post-competition similar to historic averages in order to manage future budget pressures.

Competition Week

- **February 20 – February 25, 2022**
- Large Project Day was held February 20th
  - Invited Participants received SAPES questions in advance:
    - TITAN
    - nEXO
    - ATLAS-Canada
    - MOLLER
- 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
- In CY2021, SAP moved to a five-reviewer model to harmonize with the DG Program and to reduce member workload

Competition Budget
Pre-competition

SUBATOMIC PHYSICS ENVELOPE
MULTI-YEAR COMMITMENTS BY CATEGORY
Pre-Comp 2022

	2022	2023	2024	2025	2026
RTI - COMMITTED	$0	$0	$0	$0	$0
RTI - 2022 Competition Requested	$1,097,189	$119,910	$157,500	$0	$0
RTI - TOTAL	**$1,097,189**	**$119,910**	**$157,500**	**$0**	**$0**
THEORY - COMMITTED	$3,152,300	$2,039,200	$1,273,300	$427,200	$0
THEORY - 2022 Competition Requested	$892,514	$937,242	$1,029,443	$1,077,015	$1,032,258
THEORY - TOTAL	**$4,044,814**	**$2,976,442**	**$2,302,743**	**$1,504,215**	**$1,032,258**
EXP OPS** - COMMITTED	$12,810,507	$1,340,000	$645,000	$387,000	$0
EXP OPS - 2022 Competition Requested	$13,050,958	$12,736,417	$12,734,530	$344,616	$344,166
EXP OPS - TOTAL	**$25,861,465**	**$14,076,417**	**$13,379,530**	**$731,616**	**$344,166**
MRS - COMMITTED	$2,129,215	$1,475,000	$75,000	$0	$0
MRS - 2022 Competition Requested	$729,636	$888,976	$926,929	$0	$0
MRS - TOTAL	**$2,858,851**	**$2,363,976**	**$1,001,929**	**$0**	**$0**
TOTAL - COMMITTED	$18,092,022	$4,854,200	$1,993,300	$814,200	$0
TOTAL - 2022 Competition Requested	$15,770,297	$14,682,545	$14,848,402	$1,421,631	$1,376,424
GRAND TOTAL	**$33,862,319**	**$19,536,745**	**$16,841,702**	**$2,235,831**	**$1,376,424**
TOTAL ENVELOPE	**$29,159,160**	**$29,159,960**	**$29,159,960**	**$29,159,960**	**$29,159,960**
AVAILABLE	**-$4,703,159**	**$9,623,215**	**$12,318,258**	**$26,924,129**	**$27,783,536**

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
- **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 at End of Competition

SUBATOMIC PHYSICS ENVELOPE
MULTI-YEAR COMMITMENTS BY CATEGORY
Competition 2022

	2022	2023	2024	2025	2026
RTI - COMMITTED	$0	$0	$0	$0	$0
RTI - 2022 Competition	$264,974	$119,910	$157,500	$0	$0
RTI - TOTAL	**$264,974**	**$119,910**	**$157,500**	**$0**	**$0**
THEORY - COMMITTED	$3,152,300	$2,039,200	$1,273,300	$427,200	$0
THEORY - 2022 Competition	$528,000	$551,000	$551,000	$551,000	$551,000
THEORY - TOTAL	**$3,680,300**	**$2,590,200**	**$1,824,300**	**$978,200**	**$551,000**
EXP OPS** - COMMITTED	$12,810,507	$1,340,000	$645,000	$387,000	$0
EXP OPS - 2022 Competition	$8,692,447	$9,738,830	$9,805,105	$118,830	$120,005
EXP OPS - TOTAL	**$21,502,954**	**$11,078,830**	**$10,450,105**	**$505,830**	**$120,005**
MRS - COMMITTED	$2,129,215	$1,475,000	$75,000	$0	$0
MRS - 2022 Competition	$605,000	$735,000	$745,000	$0	$0
MRS - TOTAL	**$2,734,215**	**$2,210,000**	**$820,000**	**$0**	**$0**
TOTAL - COMMITTED	$18,092,022	$4,854,200	$1,993,300	$814,200	$0
TOTAL - 2022 Competition	$10,090,421	$11,144,740	$11,258,605	$669,830	$671,005
GRAND TOTAL	**$28,182,443**	**$15,998,940**	**$13,251,905**	**$1,484,030**	**$671,005**
TOTAL ENVELOPE	**$29,159,960**	**$30,137,477**	**$29,159,960**	**$29,159,960**	**$29,159,960**
AVAILABLE	**$977,517**	**$13,161,020**	**$15,908,055**	**$27,675,930**	**$28,488,955**

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

All remaining funds will be added to the SAP envelope for CY2023.

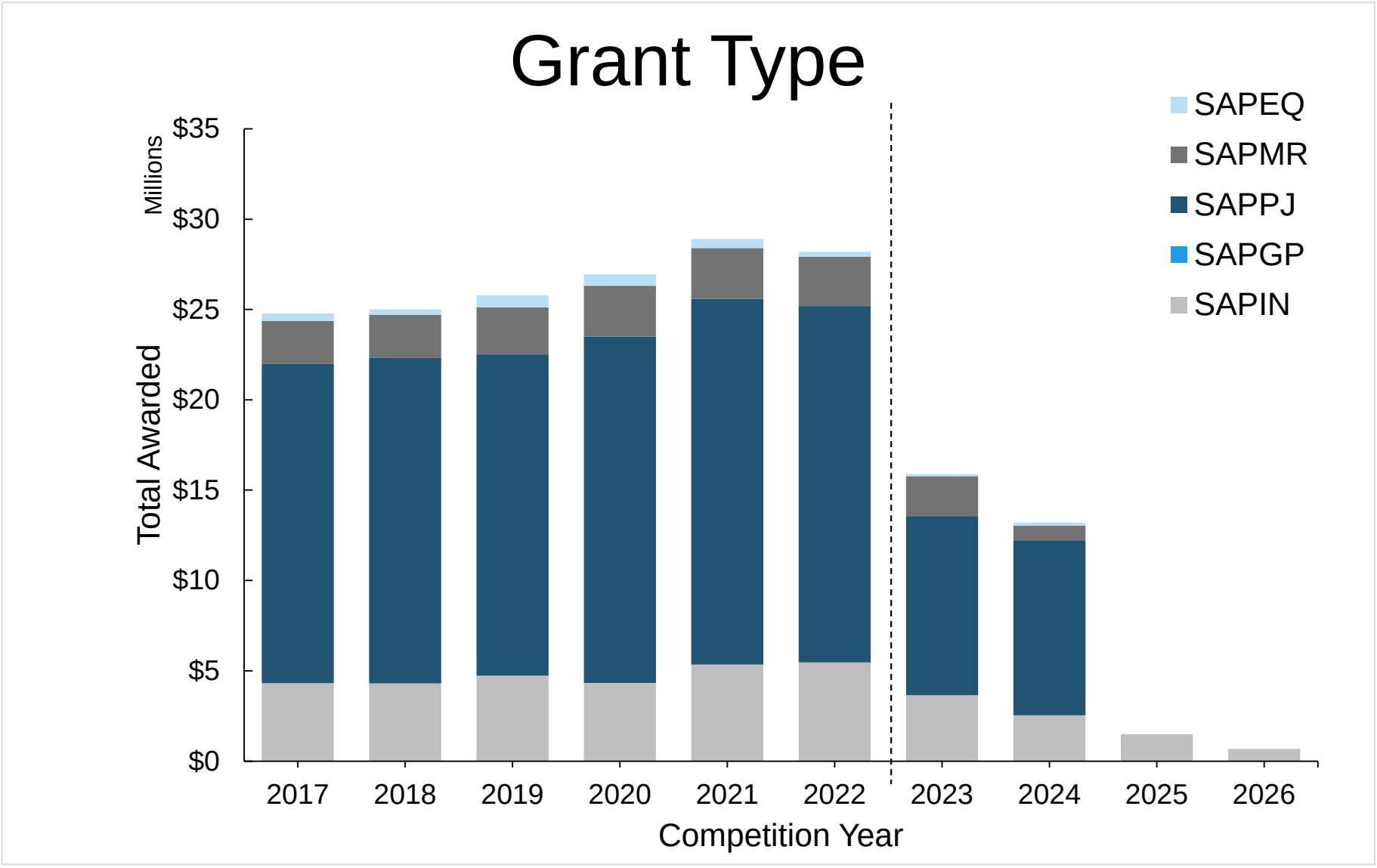
Share of Envelope at End of Competition
Comparison to Past Years

Subatomic Physics Evaluation Section
Evolution of Envelope's Shares

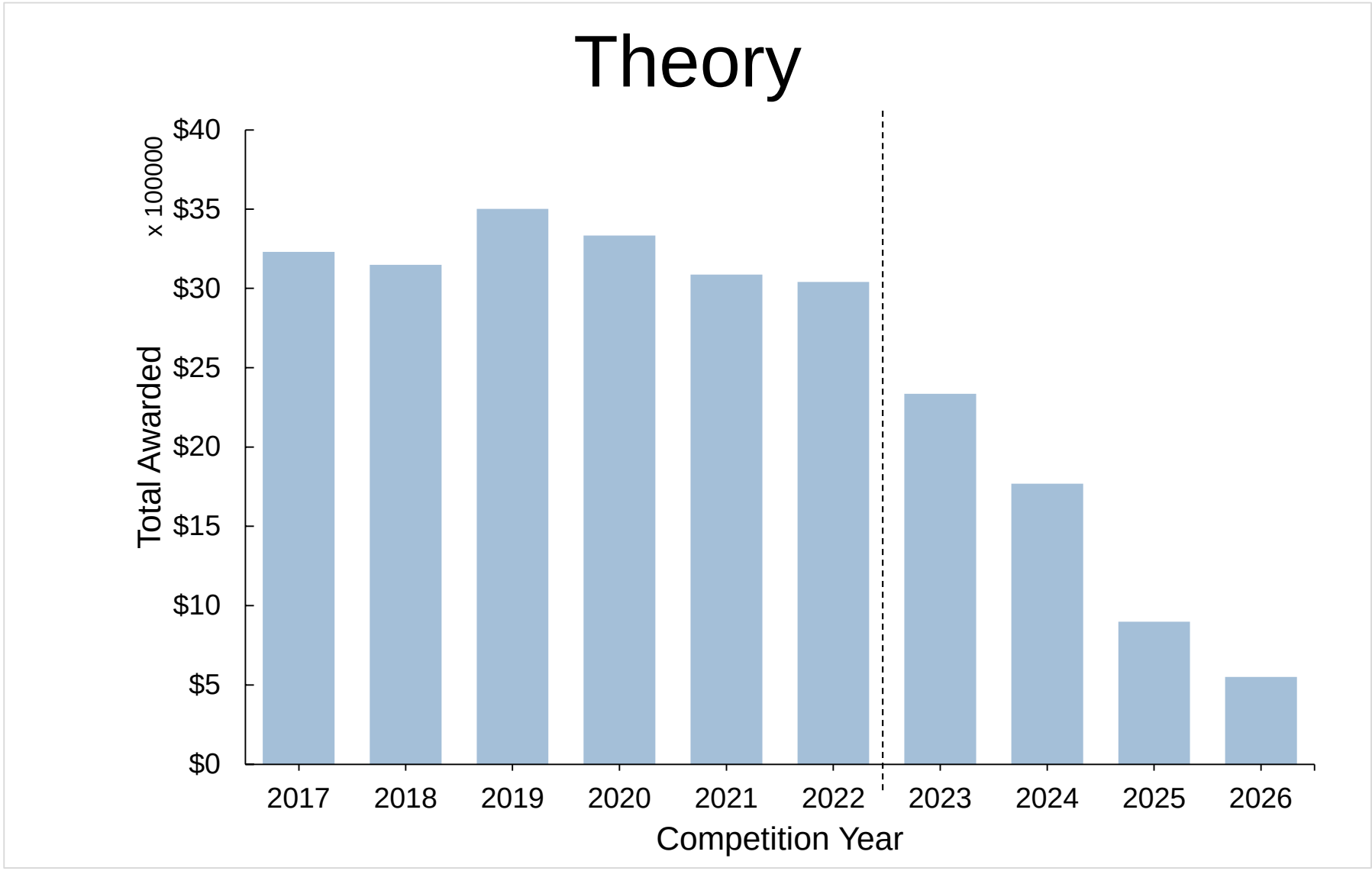
	2017	2018	2019	2020	2021	2022
Theory	13%	13%	13%	11%	13%	13%
RTI	2%	1%	3%	2%	2%	1%
Total Research Ops	85%	86%	84%	86%	86%	86%
Exp. Ops	75%	77%	74%	76%	76%	76%
MRS	10%	10%	10%	10%	10%	10%

- Total requested: $15.77M
- Total Recommended: $10.09M
- Final Funding Rate: 64%

Evolution of SAPES Awards



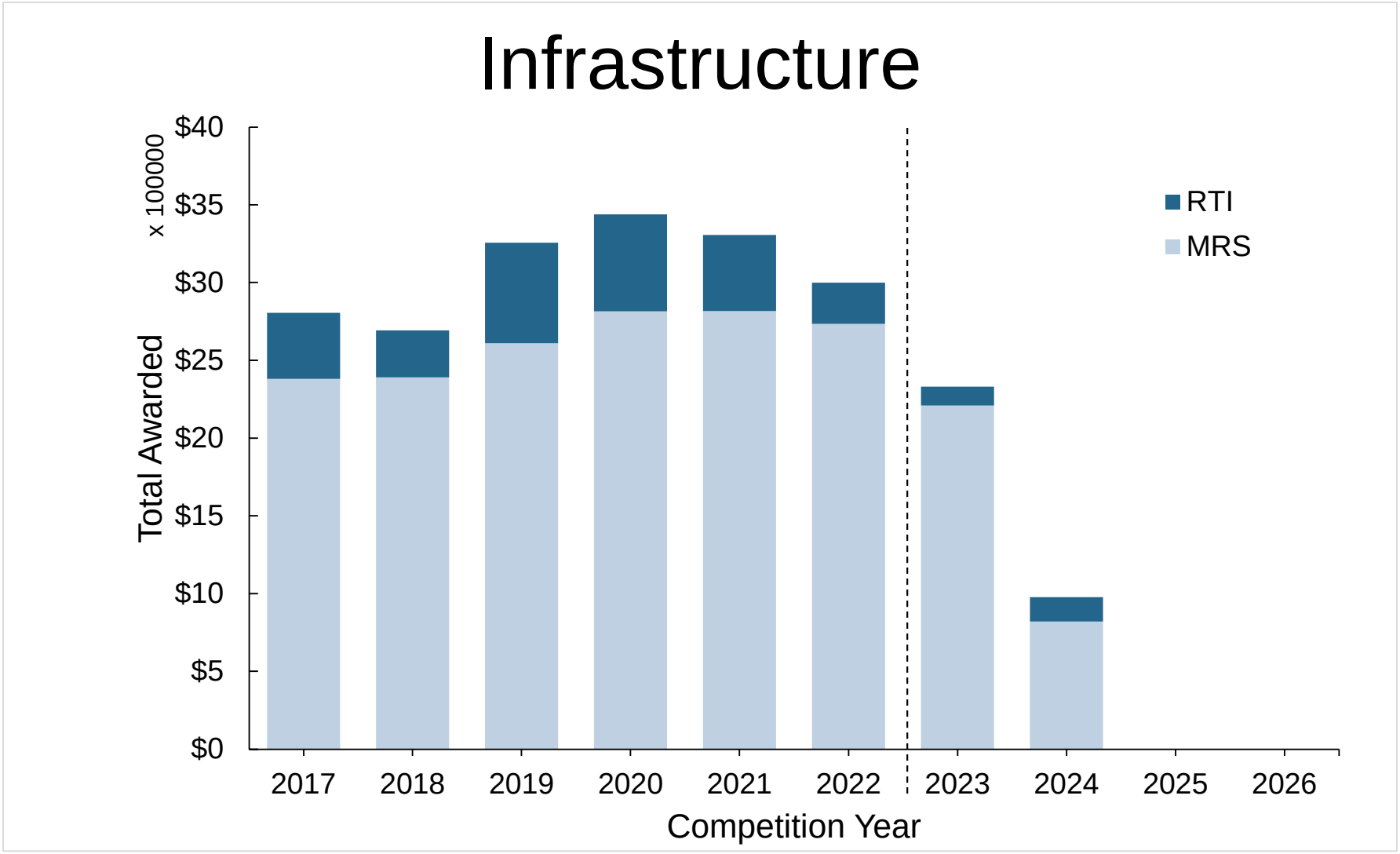
Evolution of SAPES Awards



Theory Results 2017-2022

	2017	2018	2019	2020	2021	2022
Number of Theory applications received	13	12	14	17	10	11
Theory success rate	100.00%	75.00%	78.57%	82.35%	80.00%	81.82%
% of applications submitted that were Theory	25.49%	30.77%	23.73%	29.82%	21.28%	26.19%
% of amount requested from Theory	7.18%	6.99%	7.28%	15.01%	12.10%	5.66%
% of amount awarded to Theory	6.87%	4.83%	7.19%	16.07%	15.48%	5.23%
Theory funding rate	55.64%	51.30%	63.51%	60.45%	50.70%	59.16%
Funding rate overall for that CY	58.13%	74.17%	64.28%	56.45%	39.63%	63.98%
Theory Envelope Share (includes ongoing commitments)	13.23%	12.62%	13.00%	11.35%	12.77%	13.06%

Evolution of SAPES Awards



Subatomic Physics Program Updates

Tri-Agency Research Data Management Policy – launched March 2021

Institutional Strategies

Each post-secondary institution and research hospital eligible to administer CIHR, NSERC or SSHRC funds is required to create an institutional RDM strategy

Deadline: March 2023

Data Management Plans (DMPs)

The agencies will require DMPs to be submitted for a select number of funding opportunities at the time of application. An exact list of FOs that will require DMPs has not yet been established. In the immediate term, each agency has identified one or more FOs that will require DMPs.

Requirement will be phased in gradually

Data deposit

Grant recipients are required to deposit into a digital repository all digital research data, metadata and code that directly support the research conclusions in journal publications and pre-prints that arise from agency-supported research.

No date set for implementation

Status of Implementation

Institutional Strategies

Deadline **March 1, 2023**

The agencies will not be assessing the quality of the strategies

The agencies will publish links to the institutional strategies on science.gc.ca

The Digital Research Alliance of Canada has a suite of resources for institutions developing their RDM Strategies

See the FAQ for more info on institutional strategies

Status of Implementation

Data Management Plans (DMPs)

NSERC's initial funding opportunity to require DMPs:

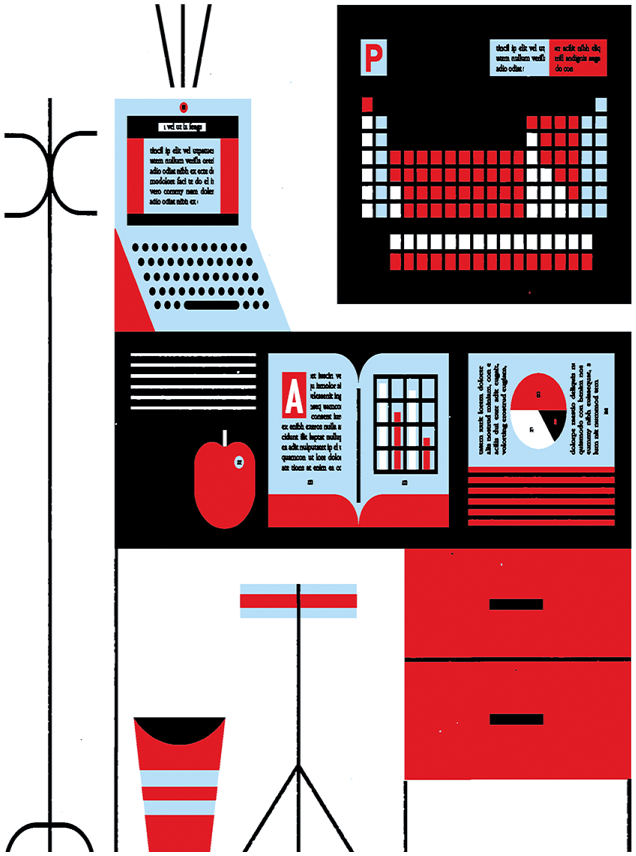
Subatomic Physics Discovery Grants program (Individual and Project)

Timing: October 2023 (Competition Year 2024)

Next steps:

- Working on submission and assessment processes
- Engaging and raising awareness of the requirement amongst the Subatomic Physics community

Questions : ResearchData-donneesderecherche@nserc-crsng.gc.ca



Questions?

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