



Faculty of Science

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FACULTY OF SCIENCE FACULTY COUNCIL OF SCIENCE Minutes of Meeting of March 19, 2025

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, March 19, 2025, at 1:00 p.m. using a hybrid model of WebEx and in-person (C-2045).

FSC 3101 Present

Biology

T. Chapman, A. Chaulk, L. Dunne, E. Edinger, C. Graves, A. Hurford, S. Leroux, D. Marshall, T. Miller, P. Trela, H. Volkoff, Y. Wiersma

Biochemistry

V. Booth, M. Berry, R. Bertolo, R. Brown, J. Brunton, S. Cheema, S. Christian, Z. Frank, S. Harding, P. Kakumani, S. Mayengbam, J. Park, K. Wilson, C. Yetman

Chemistry

C. Bottaro, J. Gillis, K. Jobst, M. Katz, F. Kerton, C. Kozak, M. Oh, H. Reader, N. Ryan, S. Smith, J. Stockmann, H. Therien-Aubin

Computer Science

S. Bungay, D. Churchill, A. Fiech, M. Hatcher, C. Hyde, C. McCarthy, O. Meruvia-Pastor, J. Rey-Goyeneche

Earth Sciences

L. Careen, Farquharson, K. Hull, A. Langille, A. Malcolm, S. Piercey, K. Waghorn

Mathematics & Statistics

I. Booth, D. Dyer, J. Greening, R. Haynes, J.C. Loredano-Osti, S. Sullivan, T. Stuckless

Ocean Sciences

I. Fleming, P. Gagnon, J. Wroblewski

Physics & Physical Oceanography

M. Bromberek, D. Coombs, S. Curnoe, M. Evstigneev, E. Hayden, M. Morrow, H. Neilson, I. Saika-Voivod, K. Shorlin, M. Strong, S. Wallin, L. Zedel

Psychology

D. Hallett, J. Hoskins, K. Hourihan, A. Swift-Gallant, C. Walsh

Dean of Science Office

J. Blundell, J. Bowering, T. Fridgen, M. Fitzpatrick, L. Frizzell, S. Hutcherson, C. Hussey, G. Jackson, J. Kavanagh, P. MacCallum, J. Major, T. Mackenzie, D. Nichols, R. Newhook, N. Squires, C. Sullivan, C. Thorpe

Representatives from other Faculties

B. Misiuk (HSS)

Student Representatives

D. Deshpande, E. Gnam, F. Probandno, E. Wiseman

Guest Speakers

J. French (CAIR), P. Price (CAIR)

FSC 3102 Adoption of Minutes

Moved: Minutes of the meeting of December 4, 2024, be adopted. *(Sullivan/Berry)* **Carried**

Moved: Minutes of the meeting of February 19, 2025, be adopted. *(Sullivan/Berry)* **Carried**

FSC 3103 Business Arising: No Business

FSC 3104 Correspondence: No Report

FSC 3105 Centre for Analytics, Informatics and Research (CAIR)

Jacqueline French, CAIR Director and Paul Price, Systems Office, gave a presentation on what services Centre for Analytics, Informatics and Research (CAIR) is currently offering and the support they offer. (Presentation attached.)

FSC 3106 Other Business – Departmental Name Change Request

The Department of Biochemistry has requested to change the department's name to the Department of Human Biosciences. was approved, however, there was a lot of discussion regarding how this change will affect other departments and students. *(Harding/Berry)* **Carried**

In-favor: 16 in room, 12 online

Against: 4 in room, 5 online

Abstain: 9 in room, 8 online

FSC 3107 Reports of Standing Committees:

A. Undergraduate Students Committee: No Reports

B. Graduate Studies Committee: No Reports

C. Library Committee: No Business

FSC 3108 Dean's Report

Due to limited time, a special faculty council meeting will be scheduled on Wednesday, March 26 at 1:00pm for a budget update.

FSC 3109 Questions

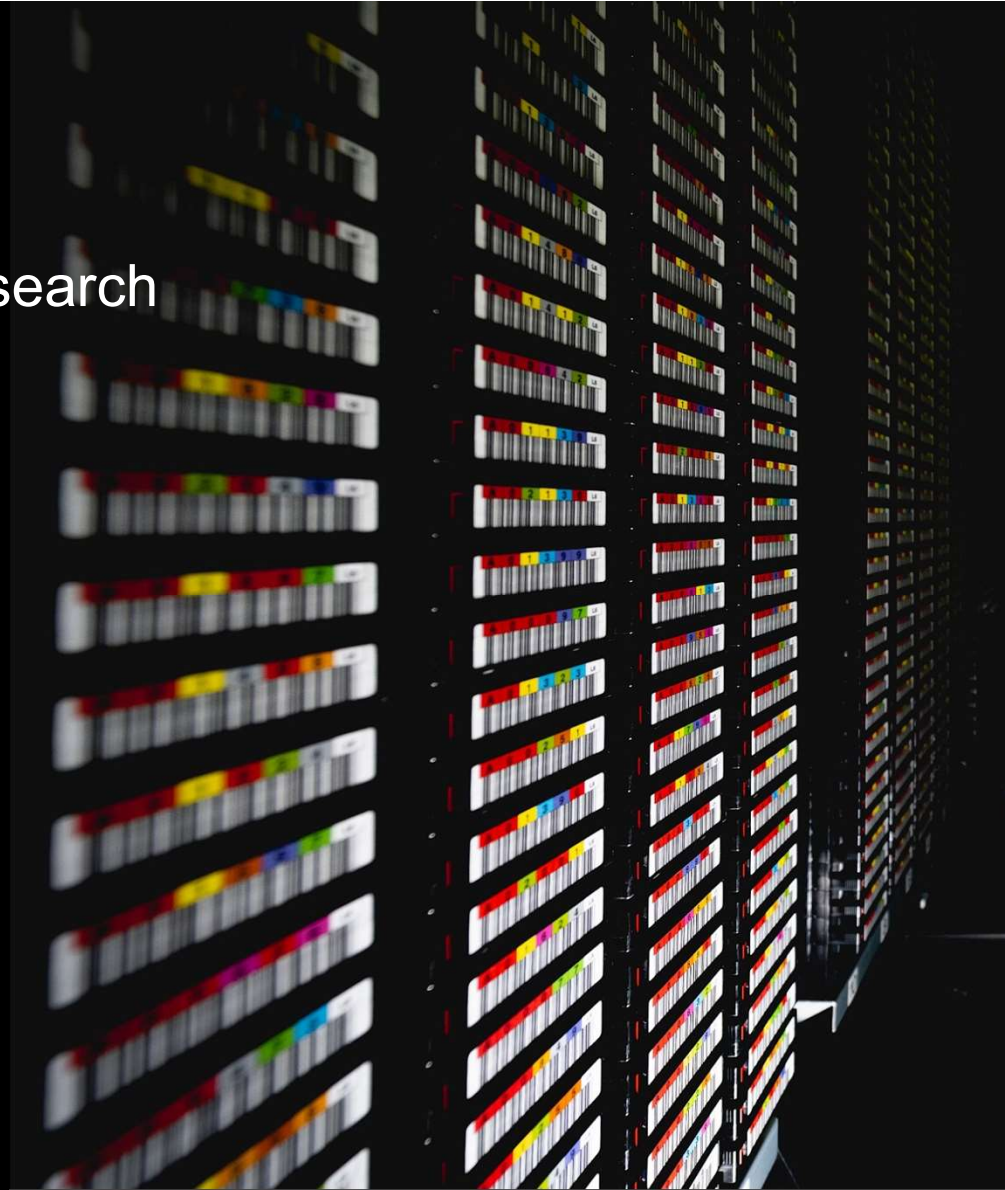
FSC 3110 Adjournment:

Meeting adjourned at 2:00 p.m.

CAIR

Centre for Analytics, Informatics and Research

Upgrade and Expand



Centre for Analytics, Informatics & Research

Upgrade and Expand



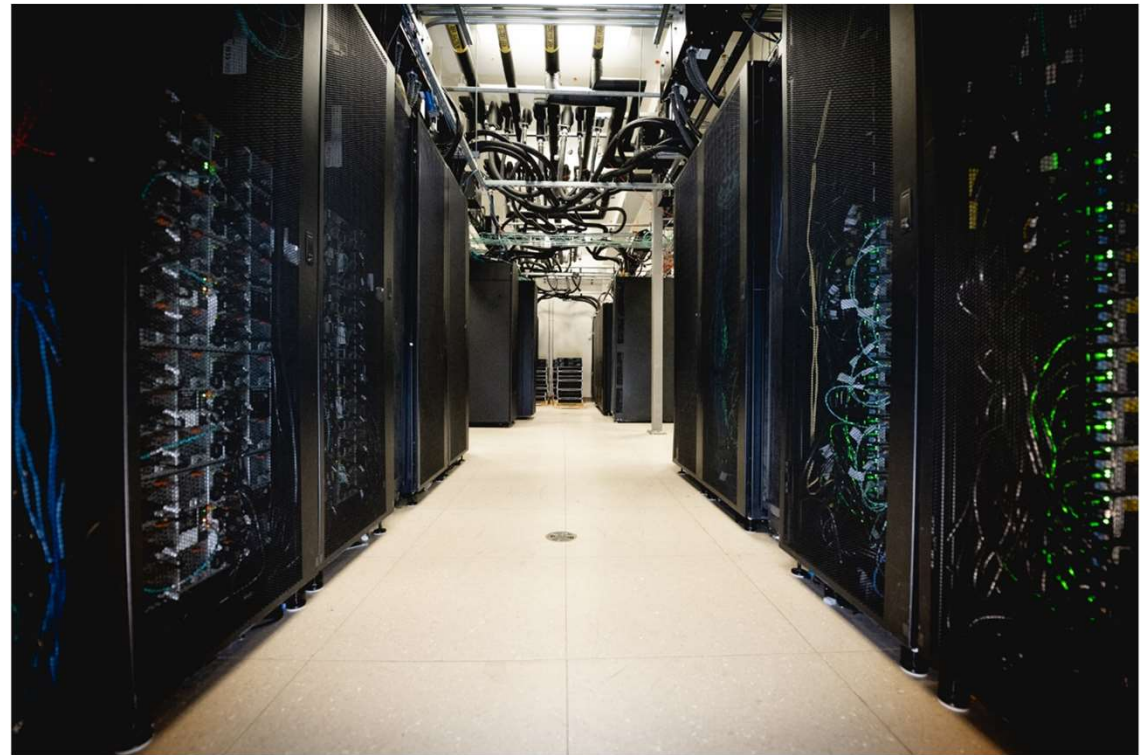
- CHIA (2014) becomes **CAIR (2021)**
- Funded through: R&D NL, Private In-kind, NL Gov't
- In **partnership with IBM**
- Significant investment opportunities to **Upgrade & Expand**
- Leading edge of timely, secure and accessible research IT services
- Integrated across the IT landscape of Memorial

Centre for Analytics, Informatics & Research



Current CAIR Service Offering

- High-performance computing centre
- Secure storage with off-site backups
- CAIR staff assist researchers with:
 - determining best analysis tools
 - troubleshooting issues
 - secure data transfer
 - back-up and data storage



Centre for Analytics, Informatics & Research

Upgrade and Expand



CAIR & ACEnet work in partnership ensuring community needs are met and resources are efficiently deployed.

- High performance computing, storage, large-scale file transfer capabilities.
- Training & expertise to develop algorithms, run large-scale simulations, and analytics.
- Co-located equipment. Co-located teams.

Nation-wide deficit in Compute Power exists.

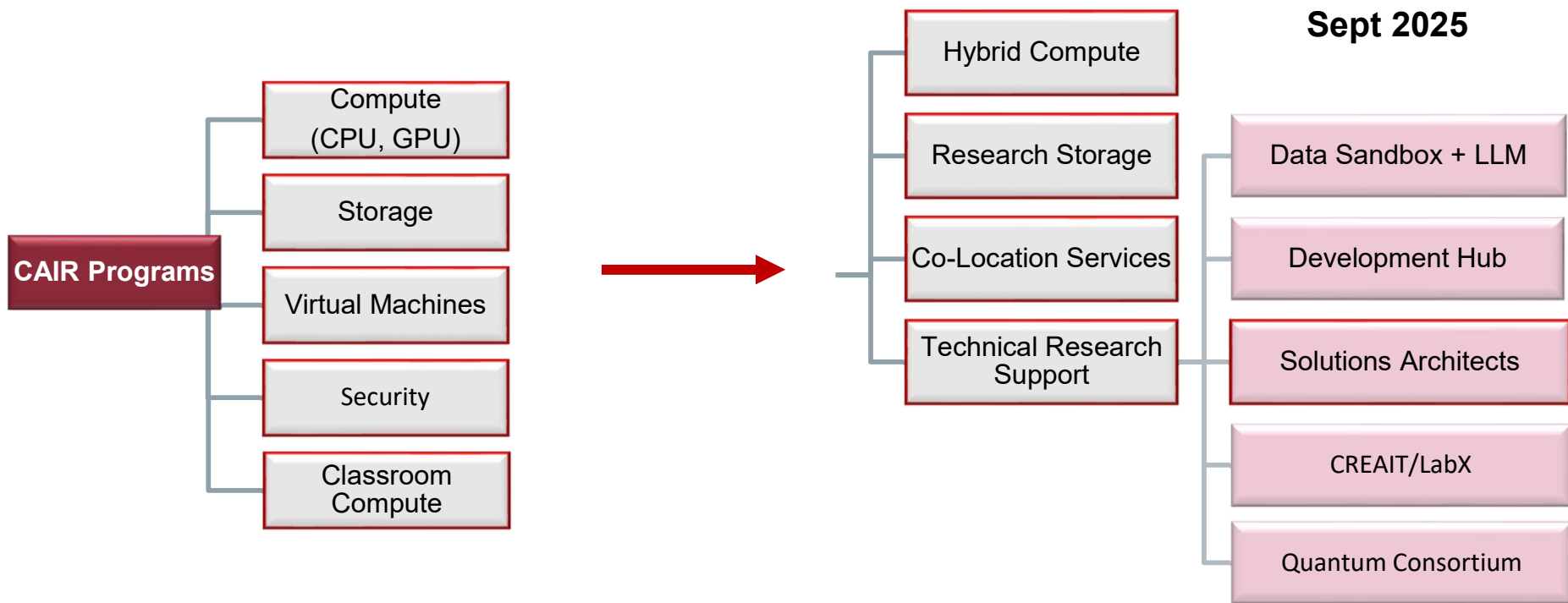


How does CAIR support?

- Rapid Priority Large Compute needs
- Classroom curriculum compute power
- Student storage/compute for capstone projects, entrepreneurial ventures (No PI)
- Data Drop-box to National/International collaborators
- Private/Sensitive long-term data storage
- Co-location of lab/research servers
- IBM partnership supplying research support with global subject matter experts

Centre for Analytics, Informatics & Research

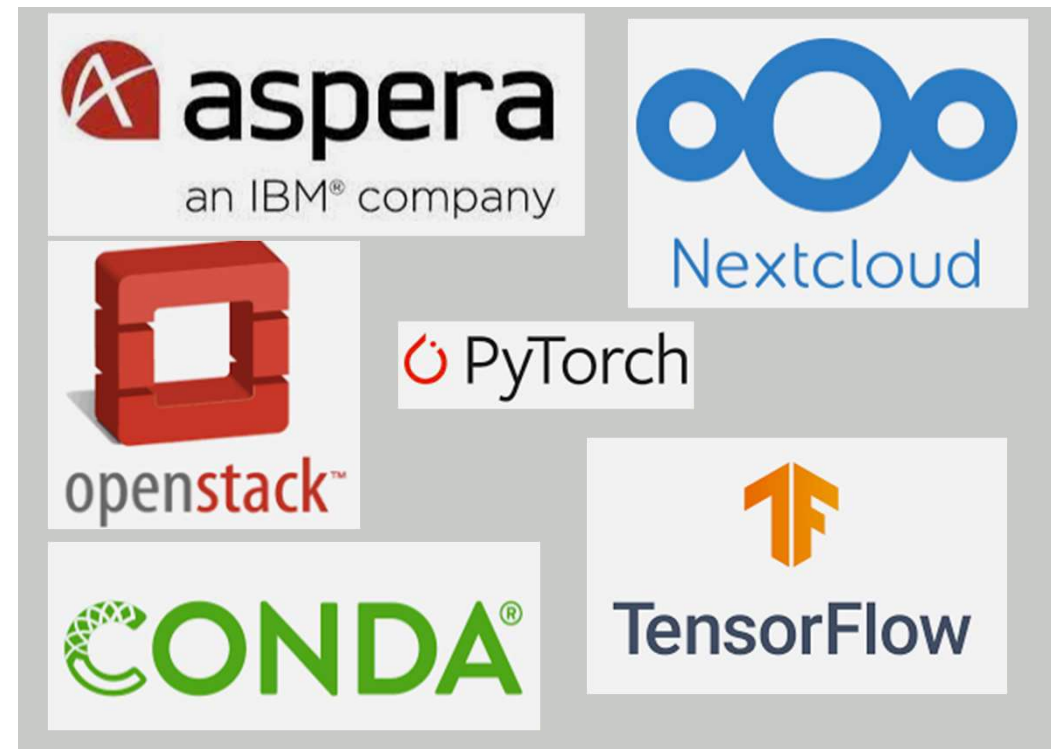
CAIR Planned Expansion



CAIR SaaS (Software/Service as a Service)



- Aspera
- Tensorflow
- Pytorch
- Conda
- Nextcloud
- Datalab



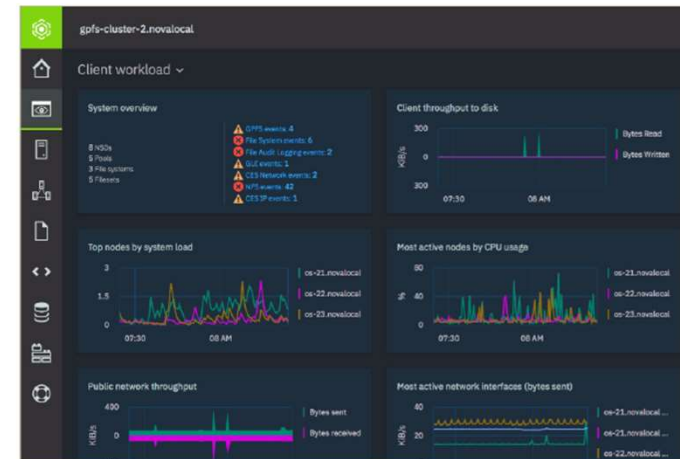
Hardware - Storage



Extended rack (deep)

Storage

- IBM ESS 5000 SC6 with 16 tb drives
- ~6546 TiB usable
- 2 x IBM CES / Protocol Nodes for NFS and SMB export access
- Extended Deep Rack



Hardware - HPC Cluster & Virtual Machines

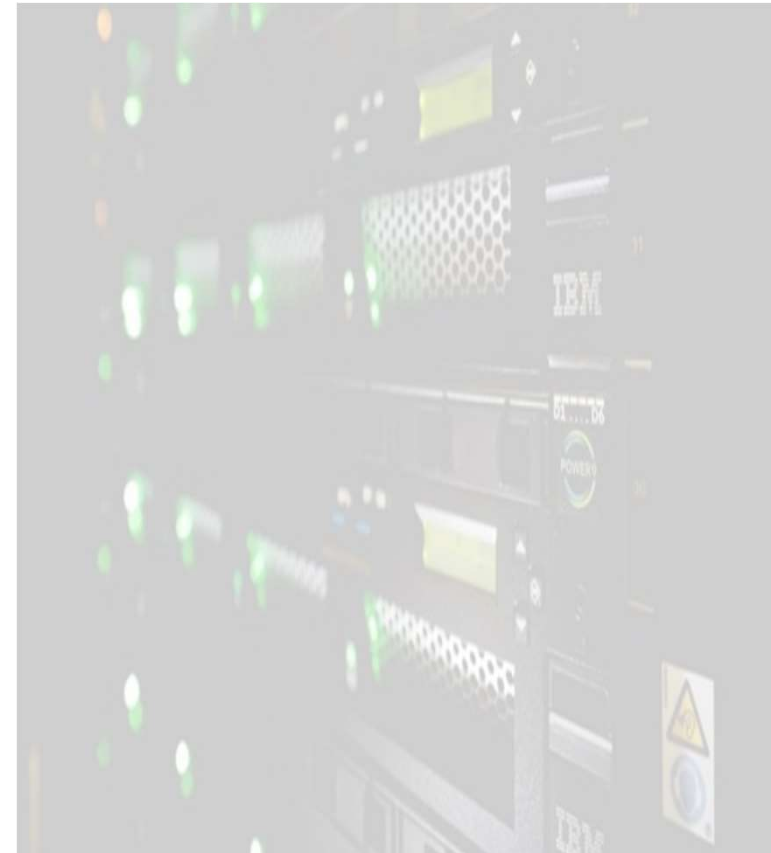


HPC Cluster

- 28 x IBM AC922 Compute 40 cores, 256 GB
- 4 x IBM AC922 Large Mem 40 cores, 1024 GB
- 6 x IBM AC922 GPU Compute 40 cores, 512 GB, 4 x NVIDIA Tesla V100 GPU

Virtual Machine Environment

- 736 x86 CPUs
- 2,355 GB RAM
- Multiple lanes of 54Gb/s connectivity to backend storage



Cybersecurity & Back-up



Cybersecurity

- Cisco Secure Firewall 3140, Firesight Management Console
- Cisco AnyConnect VPN, cisco ISE Radius server managed
- MUN controlled Arctic Wolf Sensor monitoring all traffic
- Connection: ISP via MUN including overarching Memorial Cybersecurity appliances and policies

Data Back-Up

- IBM 3584 Tape Library Storage w Tivoli Server Manager (upgrade on-going)
- 2.5TB LTO 6 Ultrium tapes upgrading to 18TB LTO 9 tapes
- 2 fire/flood proof safes (Health Sciences Med School + School of Pharmacy).
- Physical firewall protected.



Future CAIR



Project Plan

- Proposals submitted beginning Q2
- Funding in place by June 2025
- Staff identified and in-place
- **Launch Sept 2025**

Contacts:

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CAIR Director
jfrench13@mun.ca

Taking CAIR of your data...