THz workshop - Welcome

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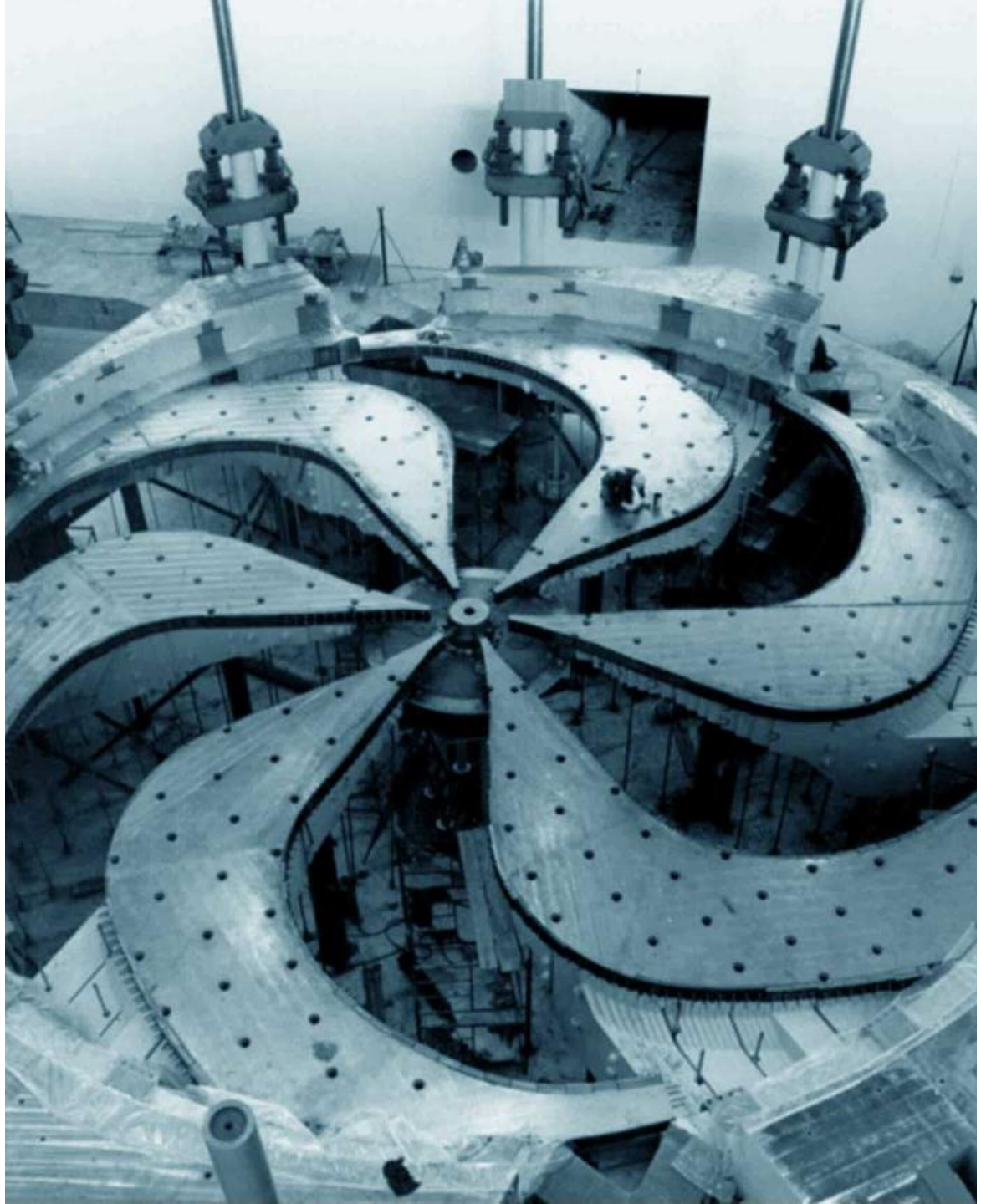
ALD accelerator division

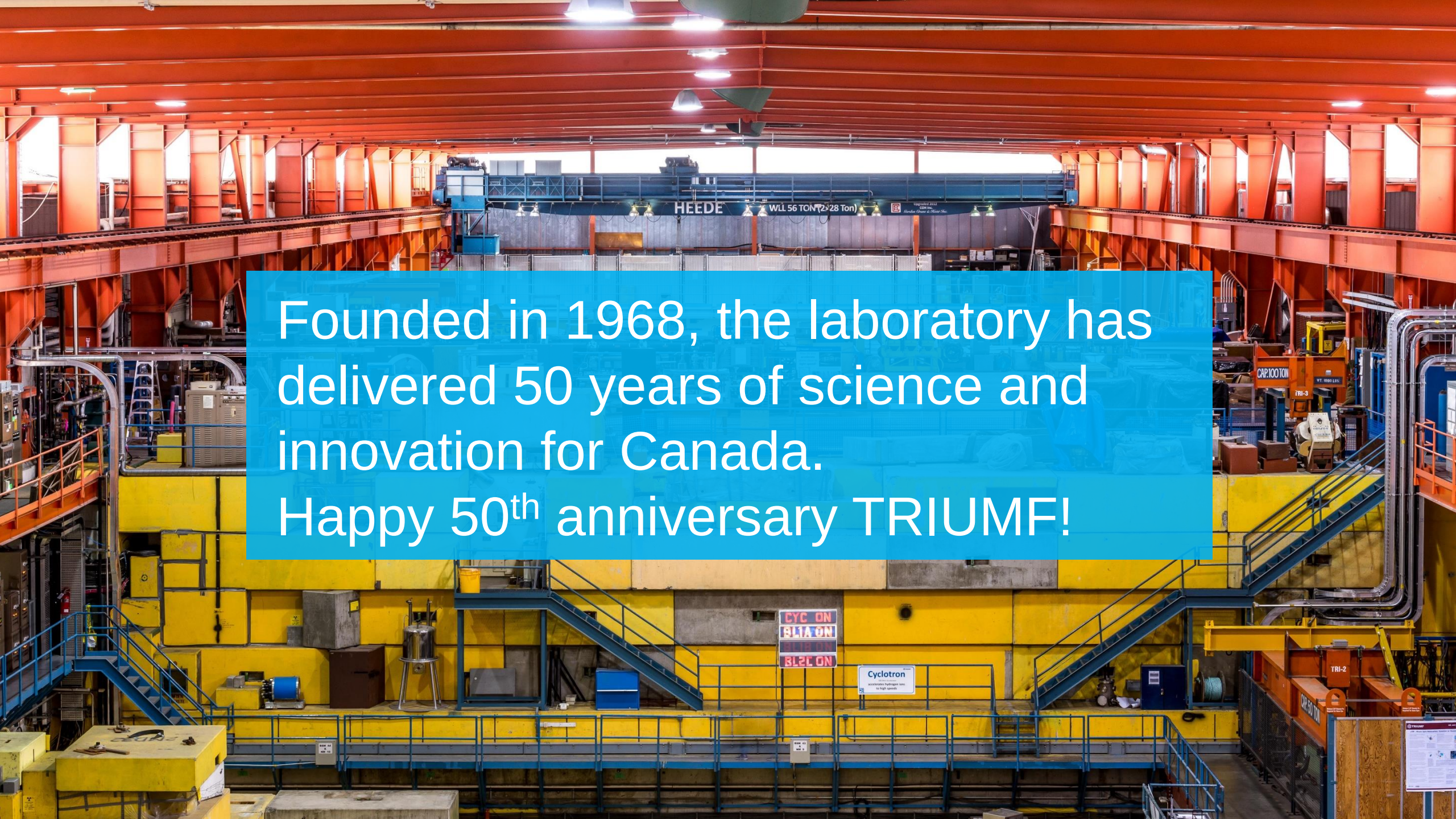
July 05, 2018



Welcome to TRIUMF!

Our laboratory is one of Canada's major investments in large-scale multidisciplinary research infrastructure -

with >500 staff and >200 students & post-doctoral researchers

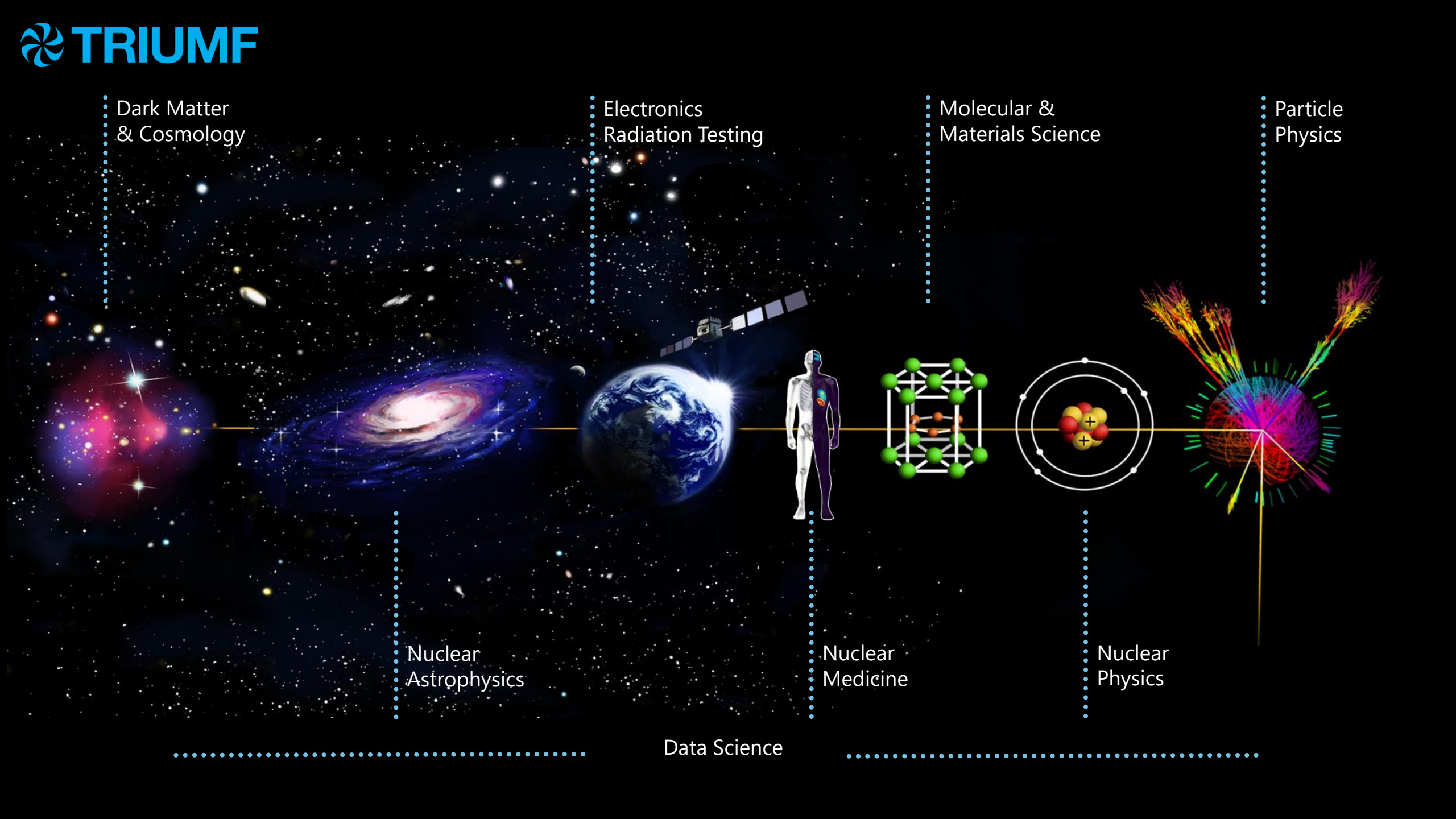


Founded in 1968, the laboratory has delivered 50 years of science and innovation for Canada.
Happy 50th anniversary TRIUMF!

Member Universities

University of Alberta
University of British Columbia
University of Calgary
Carleton University
University of Guelph
University of Manitoba
McGill University
McMaster University
Université de Montréal
University of Northern
British Columbia
Queen's University
University of Regina
Saint Mary's University
Université de Sherbrooke
Simon Fraser University
University of Toronto
University of Victoria
Western University
University of Winnipeg
York University

TRIUMF


Dark Matter
& Cosmology
Electronics
Radiation Testing
Molecular &
Materials Science
Particle
Physics
Nuclear
Astrophysics
Nuclear
Medicine
Nuclear
Physics
Data Science

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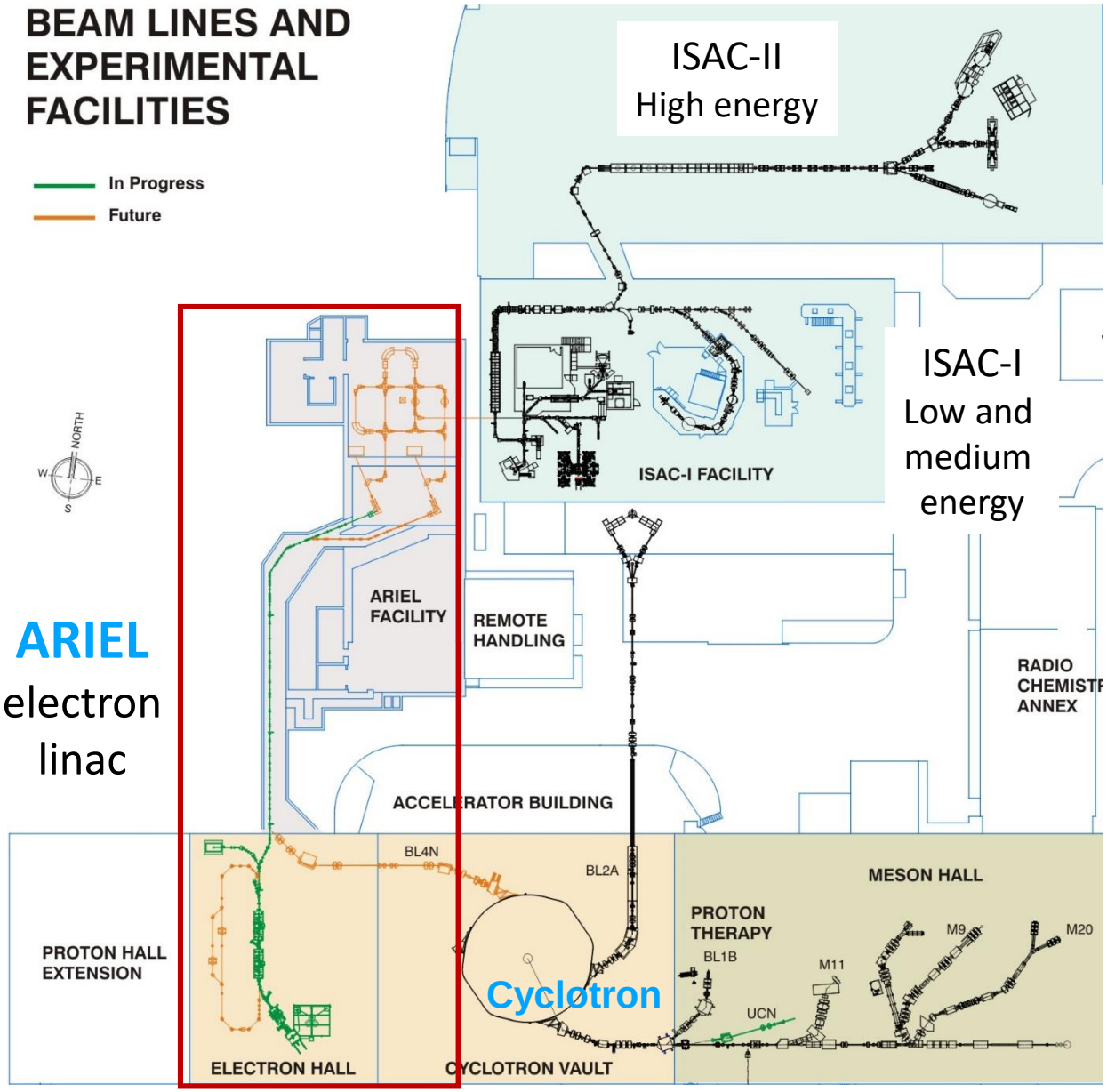


TRIUMF ACC facilities

Primary beam driver:

Cyclotron, 500 MeV, H^-
ISOL facility with highest power driver beam

Advanced rare isotope laboratory - ARIEL:

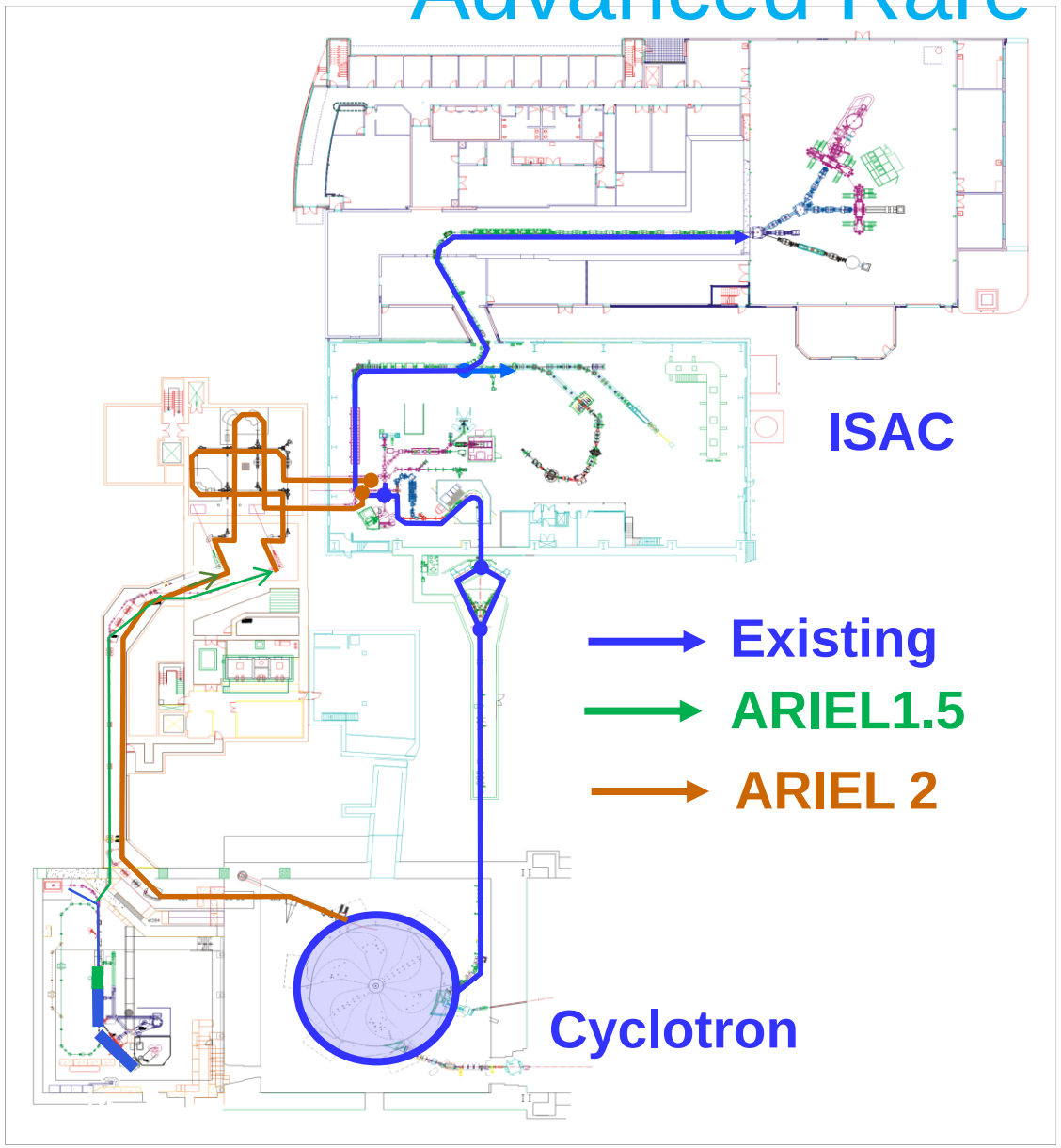
Superconducting electron linac
50 MeV, 10 mA, cw

Isotope Separator and Accelerator facility - ISAC

ISAC-I: Normal conducting-linac, 0,15-1,5 MeV/u
ISAC-II: Superconducting-linac, 5-11 MeV/u

Discovery, accelerated

Advanced Rare IsotopE Laboratory



ARIEL will triple the lab's RIB production by adding two new target stations resulting in up to three simultaneous ion beams

→ ARIEL is staged

- ARIEL-I
  E-Linac commissioning at 20MeV (2 cavities)
- ARIEL1.5
  - Complete e-beamline – parts in hand
  - Complete e-Linac to 30MeV – third rf cavity added – now in commissioning
- ARIEL-II
  - Install electron target station (AETE) and RIB lines
  - Install BL4N proton beamline, proton target station (APTW) and RIB lines

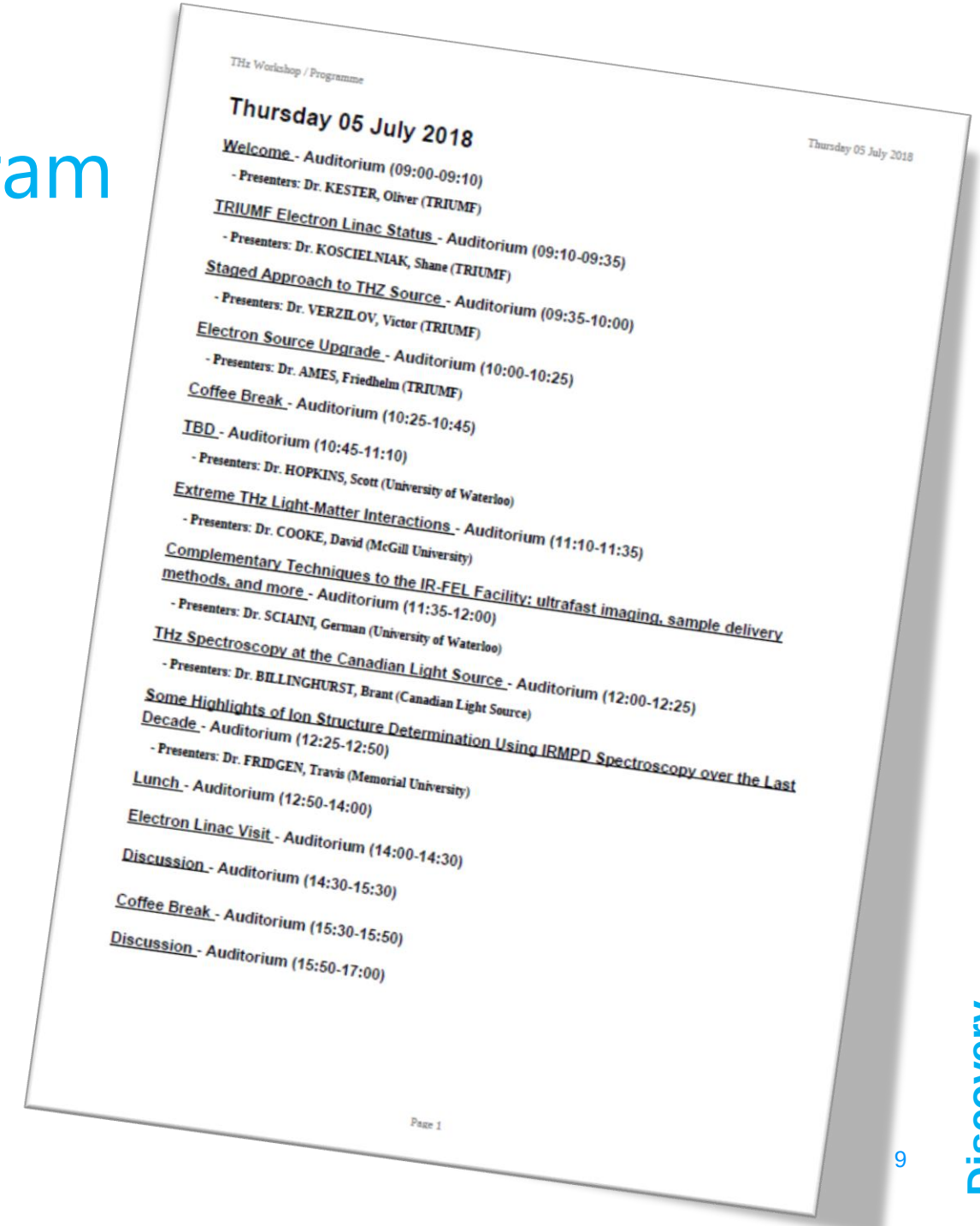
Discovery, accelerated

Objective of the workshop

- To provide an overview of the e-linac at TRIUMF.
- To explore scientific opportunities related to THz radiation generated by intense beams from the superconducting electron linac at TRIUMF.
- To discuss with the Canadian community the feasibility of a THz/IR radiation facility based on the TRIUMF e-linac.
- To discuss and compile a list of photon source parameters which are of interest to the user community.
- To discuss future collaboration between the interested groups at universities, CLS and TRIUMF to establish a THz/IR radiation facility using the e-linac.

The workshop program

- One day program that covers the status of the e-linac and its potential to deliver THz/IR radiation to a users facility.
- Tour to visit the electron linac hall.
- Plenty of time for discussion and exploration of opportunities.



THz Workshop / Programme

Thursday 05 July 2018

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Welcome - Auditorium (09:00-09:10)
- Presenters: Dr. KESTER, Oliver (TRIUMF)

TRIUMF Electron Linac Status - Auditorium (09:10-09:35)
- Presenters: Dr. KOSCIELNIAK, Shane (TRIUMF)

Staged Approach to THZ Source - Auditorium (09:35-10:00)
- Presenters: Dr. VERZILOV, Victor (TRIUMF)

Electron Source Upgrade - Auditorium (10:00-10:25)
- Presenters: Dr. AMES, Friedhelm (TRIUMF)

Coffee Break - Auditorium (10:25-10:45)

TBD - Auditorium (10:45-11:10)
- Presenters: Dr. HOPKINS, Scott (University of Waterloo)

Extreme THz Light-Matter Interactions - Auditorium (11:10-11:35)
- Presenters: Dr. COOKE, David (McGill University)

Complementary Techniques to the IR-FEL Facility: ultrafast imaging, sample delivery methods, and more - Auditorium (11:35-12:00)
- Presenters: Dr. SCIAINI, German (University of Waterloo)

THz Spectroscopy at the Canadian Light Source - Auditorium (12:00-12:25)
- Presenters: Dr. BILLINGHURST, Brant (Canadian Light Source)

Some Highlights of Ion Structure Determination Using IRMPD Spectroscopy over the Last Decade - Auditorium (12:25-12:50)
- Presenters: Dr. FRIDGEN, Travis (Memorial University)

Lunch - Auditorium (12:50-14:00)

Electron Linac Visit - Auditorium (14:00-14:30)

Discussion - Auditorium (14:30-15:30)

Coffee Break - Auditorium (15:30-15:50)

Discussion - Auditorium (15:50-17:00)

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