Advisory Committee on TRIUMF

1. **Role of ACOT**
2. **Current Membership**
3. **ACOT Observations**
4. **Summary**

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Chair, ACOT

Role of ACOT

- **Established in 1995**
  - **Advise NRC on TRIUMF**
    - Address progress toward mandated goals
    - Facilitate interaction with NRC
  - **Advise TRIUMF Director**
    - Broad policy issues
    - Review progress toward milestones
    - Provide expert advice (not manage or perform peer review)
- **Membership**
  - **International committee appointed by NRC President**
  - **Has both scientific, industrial and management representation**

ACOT Membership

- Prof. Juha Aysto, Jyvaskyla, Finland and EP-Division, CERN
- Dr. Bill Buyers, NRC
- Dr. Aaron Fenster, J.P. Robarts Research Institute
- Dr. Jacques Guigne, Guigne International
- Dr. George Kalmus, Rutherford Appleton Laboratory, England
- Prof. Witold Nazariewicz, Tennessee
- Prof. Claus Rolfs, Bocham, Germany
- Prof. Jim Siegrist, Berkeley
- Prof. Pekka Sinervo, Toronto
- Dr. Paul Vincett, FairCopy Services
- Prof. Richard Keeler, Victoria (ex-officio, Director, IPP)
- Prof. Nigel Lockyer, Penn (ex-officio, Chair, NSERC GSC 19)
- Prof. John McDonald, Alberta (ex-officio, Chair, TRIUMF BOM)
- Dr. Walter Davidson, NRC (ex-officio, ACOT Secretary)

ACOT Review Process

- **Assess TRIUMF in context of its 2000-2005 mandate**
  1. **Support basic science programme**
  2. **Operate ISAC and construct ISAC II**
  3. **Provide infrastructure support to CDN subatomic physics**
  4. **Make Canada's contribution to the Large Hadron Collider**
  5. **Support Canadian industry through technology transfer**
- **Meets every six months at TRIUMF**
  - **Two-day meeting to review progress**
  - **Have a close-out with TRIUMF Director**
  - **Formal report (6-8 pages) to NRC President and TRIUMF Director**
  - **ACOT Chair reports annually to Council of NRC**

ACOT Observations I.

- **Lab has performed extremely well under significant constraints**
  - **Proposed budget of $214M over 5 years reduced to $200M**
    - Scope has been adjusted appropriately
      - **ISAC II programme rescoped**
      - **Reduced CERN and ATLAS contribution**
      - **Constraints on lab personnel deployment**
  - **Effectively managed broad programme**
    - ISAC and ISAC II have received clear priority
      - **Maintained focussed traditional nuclear physics programme**
      - **Supported SR and NMR materials research facility**
    - Continued to support national subatomic physics programme
      - **Completing on schedule LHC commitments (cleaning insertions)**
      - **Construction and installation of ATLAS hadronic endcaps**
    - Maintained strategic life science and tech transfer effort

ACOT Observations II.

- **ISAC has made excellent progress since 2000**
  - **Active beam development programme**
    - TRIUMF has world's most intense ^{21}Na beam
    - ECR source being commissioned
    - Pushing to 100 □A on target
  - **Several new facilities are now doing science**
    - TRINAT -- parity violation in □-decay
    - GPS, ^{8}Li □-NMR and 8□ spectrometer commissioned
    - TUDA and DRAGON publishing results
- **Overall, ISAC is a strong emerging programme**

  "The laboratory continues to make excellent progress on the ISAC radioactive beam programme. … ACOT congratulates TRIUMF and the experimental teams on the ISAC accomplishments to date."

  ACOT Report, May 2002

ACOT Observations III.

- **ISAC II development well-managed**
  - **Remains on schedule**
    - Meeting technical milestones
  - **Spectrometer development is going well**
    - Have NSERC support for TIGRESS and TITAN
    - Development of magnetic spectrometer in early stages
- **TRIUMF has "evolved" the base programme**
  - **TWIST focus of non-ISAC nuclear physics programme**
    - A leader in the rare K decay programme at BNL
  - **Strong materials research programme with large user base**
  - **Targeted life science research programme**
    - PET development has strong external support
  - **Tech Transfer has been very effective**
    - Relation with Nordion beneficial

ACOT Observations IV.

- **TRIUMF on track to complete LHC contribution**
  - **Important CDN commitment to international programme**
  - **Builds on TRIUMF expertise in RF and high-power beams**
  - **CERN management has been enthusiastic about role**
- **Subatomic Physics infrastructure support**
  - **Critical national role for laboratory**
  - **Continues to excel, with recent completion of HEC**
  - **TRIUMF's participation in future projects is essential for CDN success in nuclear & particle physics**

Next Five-Year Plan

- **ACOT supports the broad outlines of the plan**
  - **Inclusive, broad-based planning process**
  - **Resulted in an innovative, science-driven plan**
  - **Ambition is appropriate to the science opportunities**
    - Nuclear astrophysics
    - Fundamental symmetries and interactions
    - Materials Research and Life Science
    - Theoretical research in nuclear astrophysics
- **Scope is appropriate**
  - **Focussed on key science questions**
  - **Exploitation of ISAC and ISAC-II**
  - **Supports current subatomic physics priorities**
  - **Allows lab to be well-aligned with future initiatives**
    - Accelerator R&D is key issue

Summary

- **ACOT impressed with lab's performance 2000-2003**
  - **Has advanced a multi-facetted programme**
  - **Successfully brought focus to each of its elements**
  - **Exceptionally strong team of scientists and technical staff**
- **ACOT endorses the components of the 5-year plan**
  - **Focus on science from ISAC and ISAC-II**
  - **Exploit world-class facilities**
  - **Well-aligned with CDN subatomic physics programme**
- **ACOT process appears to work**
  - **Committee feels it has a constructive relationship**
  - **Sees impact of the review process on laboratory decisions and strategy**