

TRIUMF



ANNUAL REPORT SCIENTIFIC ACTIVITIES 1997

CANADA'S NATIONAL MESON FACILITY
OPERATED AS A JOINT VENTURE BY:

UNIVERSITY OF ALBERTA
SIMON FRASER UNIVERSITY
UNIVERSITY OF VICTORIA
UNIVERSITY OF BRITISH COLUMBIA

ASSOCIATE MEMBERS:

UNIVERSITY OF MANITOBA
UNIVERSITÉ DE MONTRÉAL
UNIVERSITY OF REGINA
UNIVERSITY OF TORONTO

UNDER A CONTRIBUTION FROM THE
NATIONAL RESEARCH COUNCIL OF CANADA

APRIL 1998

The contributions on individual experiments in this report are outlines intended to demonstrate the extent of scientific activity at TRIUMF during the past year. The outlines are not publications and often contain preliminary results not intended, or not yet ready, for publication. Material from these reports should not be reproduced or quoted without permission from the authors.

ORGANIZATION

Board of Management

The Board of Management of TRIUMF manages the business of the facility and has equal representation from each of the four founding universities. At the end of 1997 the Board comprised:

University of Alberta	Dr. E.W. Brooker Dr. P. Kitching Dr. B. Kratochvil	
Simon Fraser University	Dr. B.P. Clayman Dean C.H.W. Jones Dr. R.G. Korteling	Chairman
University of Victoria	Ms. G. Gabel Dr. T. Gough Dr. A. McAuley	
University of British Columbia	Dr. B. Bressler Dr. C. Eaves Dr. D.F. Measday	

Non-voting members: Dr. N. Sherman, National Research Council
Dr. D.G. Stairs, McGill University
Dr. A. Astbury, Director, TRIUMF
Dr. J.-M. Poutissou, Associate Director, TRIUMF
Mr. M. La Brooy, TRIUMF
Recording Secretary

Towards the end of 1987, Board membership was expanded, in anticipation of a broadening of the TRIUMF joint venture to include a more national representation of Canadian universities long associated with the TRIUMF experimental program. The University of Manitoba and Université de Montréal became associate members, and the University of Toronto joined as an observer. At the end of 1988, University of Toronto status changed from that of observer to associate member. In March, 1989 the University of Regina became an associate member. Associate membership at year-end:

Associate members: Dr. J. Keselman, University of Manitoba
Dr. R. Azuma, University of Toronto
Dr. K. Denford, University of Regina
Dr. G. Michaud, Université de Montréal

The following changes occurred in Board membership in 1997: Dr. J. Keselman replaced Dr. T. Hogan as University of Manitoba associate member; Dr. G. Michaud replaced Dr. M. St. Jacques as Université de Montréal associate member. The board met 4 times during the year.

Administration

Under the directorship of Dr. A. Astbury, TRIUMF personnel were grouped into divisions, with division heads and the administration branch as follows:

Division Head, Science Division	J.-M. Poutissou
Division Head, Accelerator Technology Division	E.W. Blackmore
Division Head, Cyclotron Operations Division	G. Dutto
Division Head, Technology Transfer Division	P.L. Gardner
Division Head, Administration Division	I.M. Thorson
ISAC Project Leader	P.W. Schmor

Operating Committee

The Operating Committee of TRIUMF is responsible for the operation of the facility. It reports to the Board of Management through its chairman, the Director, Dr. A. Astbury. The Operating Committee consists of one voting member from each of the four universities, two voting members representing the interests of external users and one representing TRIUMF staff. The Associate Director is a non-voting member. Members of the committee (alternate members in parentheses) at the end of 1997 were:

Dr. A. Astbury	Chairman	Director	
Dr. J.-M. Poutissou	<i>(ex officio)</i>	Associate Director	
Dr. N. Rodning		University of Alberta	(Dr. L.G. Greeniaus)
Dr. M. Vetterli		Simon Fraser University	(Dr. P. Percival)
Dr. R. Keeler		University of Victoria	(Dr. M. Lefebvre)
Dr. D.M. Hasinoff		University of British Columbia	(Dr. C. Hearty)
Dr. W.T.H. van Oers		Users	(Dr. E. Mathie)
Dr. J. Rogers		Users	(Dr. J. Vincent)
Mr. J. Yandon		TRIUMF	(Dr. T.J. Ruth)
Mr. J. Hanlon	Recording Secretary	TRIUMF	
Dr. N. Sherman	<i>(ex officio)</i>	National Research Council	

Changes in 1997: Dr. N. Rodning replaced Dr. L.G. Greeniaus as the University of Alberta member (Dr. Greeniaus remained as alternate); Dr. M. Vetterli replaced Dr. J.M. D'Auria as Simon Fraser University member, with Dr. P. Percival as alternate; Dr. R. Keeler replaced Dr. G.A. Beer as University of Victoria member, with Dr. M. Lefebvre as alternate; Dr. D.M. Hasinoff replaced Dr. R.F. Kiefl as University of British Columbia member, with Dr. C. Hearty as alternate; Drs. W.T.H. van Oers and J. Rogers replaced Drs. G. Azuelos and C.D.P. Levy as the two senior members representing Users, with Drs. E. Mathie and J. Vincent as alternates; Mr. J. Yandon replaced Dr. T.J. Ruth as TRIUMF member (Dr. Ruth remained as alternate). The Operating Committee met 10 times in 1997.

NRC Advisory Committee on TRIUMF

Dr. D.G. Stairs	Chairman	McGill University
Dr. N. Sherman	Secretary	National Research Council
Dr. P.-G. Hansen		Michigan State University
Dr. J.C. Hardy		Atomic Energy of Canada Ltd.
Dr. J.G. Martel		National Research Council
Dr. D. Perkins		Oxford University
Dr. B. Peters		unaffiliated
Prof. V. Soergel		University of Heidelberg
Prof. M. Stott		Queen's University
Dr. R. Taylor		SLAC
Prof. R. Carnegie	<i>(ex officio)</i>	Carleton University
Dr. C.H. Jones	<i>(ex officio)</i>	Simon Fraser University
Dr. P. Sinervo	<i>(ex officio)</i>	University of Manitoba

Changes in 1997: Dr. S. Page was replaced by Dr. P. Sinervo as an *(ex officio)* member.

Agency Committee on TRIUMF

Dr. A.J. Carty	Chairman	President, National Research Council
Dr. T. Brzustowski		President, Natural Sciences and Engineering Research Council
Mr. K. Lynch		Deputy Minister, Industry Canada
Mr. J. McLure		Deputy Minister, Western Economic Diversification
Dr. N. Sherman	Secretary	National Research Council

TRIUMF Safety-Management Committee

Dr. A. Astbury		Director, TRIUMF
Dr. E. Blackmore		Head, Accelerator Technology Division
Dr. G. Dutto		Head, Cyclotron Division
Dr. J.-M. Poutissou		Associate Director/Head, Science Division
Mr. I.M. Thorson		Head, Administration Division
Mr. P.L. Gardner		Head, Technology Transfer Division
Mr. J. Drozdoff		Head, TRIUMF Safety Group
Mr. M. Stenning		Head, Operations Group
Dr. M. Adam		TAPC Chairman
Mr. G. Wood		Industrial Safety Officer
Dr. P. Schmor		ISAC Project Leader
Mrs. K. Gildert	Recording Secretary	Administration Division

TRIUMF Safety Advisory Committee

Mr. I.M. Thorson	Chairman	Administration Division
Mrs. K. Gildert	Secretary	Administration Division
Mr. J. Drozdoff		Head, TRIUMF Safety Group
Dr. M.J. Adam		TAPC Chairman, Science Division
Dr. M.W. Greene		Director, Occupational Health & Safety, UBC
Mr. A.C. Hurst		Head, Operations Group, Cyclotron Operations Division
Mr. D. Pearce	alternate	Cyclotron Operations Division
Dr. N. Stevenson		Head, Applied Technology Group, Technology Transfer Division
Dr. C.A. Davis		Science Division
Dr. D.A. Hutcheon	alternate	Science Division
Observers:		
Mr. A. Alwani		Atomic Energy Control Board
Mr. R. Cawthorn		Atomic Energy Control Board
Mr. B. Phillips		B.C. Ministry of Health

Experiments Evaluation Committee

Subatomic Committee:

Dr. K. Langanke	Chairman	Aarhus University
Dr. H. Fearing	Secretary	TRIUMF
Dr. J.-M. Poutissou	Associate Director / (<i>ex officio</i>)	TRIUMF
Dr. C. Batty		Rutherford Appleton Lab
Dr. P.-G. Hansen		NSCL - Michigan State University
Dr. M. Hasinoff		TUEC/University of British Columbia
Dr. W.C. Haxton		University of Washington
Dr. B.R. Holstein		University of Massachusetts
Dr. A. Richter		Technische Hochschule Darmstadt
Dr. G. Roy		TUEC/University of Alberta
Dr. I.S. Towner		Queen's University
Dr. M.C.T. Wiescher		University of Notre Dame

μ SR Committee:

Dr. M. Thewalt	Chairman	Simon Fraser University
Dr. P.W. Percival	Secretary / (<i>ex officio</i>)	TRIUMF
Dr. J.-M. Poutissou	Associate Director / (<i>ex officio</i>)	TRIUMF
Dr. I.K. Affleck		University of British Columbia
Dr. D.K. Bohme		York University
Dr. L. Taillefer		McGill University
Dr. R.E. Wasylshen		Dalhousie University

In July, 1994 the Experiments Evaluation Committee was formally split into two committees representing subatomic physics and μ SR physics. Changes in membership during the year were: Dr. K. Langanke replaced Dr. J.M. Cameron as chairman and Dr. H. Fearing replaced Dr. D.A. Axen as secretary (Subatomic); Dr. M. Thewalt replaced Dr. A.H. MacDonald as chairman (μ SR). J.D. King, J.A. Berlinsky and J.T. Hynes completed their terms. The committee welcomed Drs. P.-G. Hansen, W.C. Haxton, A. Richter, I.S. Towner and M.C.T. Wiescher (Subatomic) and Drs. I.K. Affleck and D.K. Bohme (μ SR).

Life Sciences Project Evaluation Committee

Dr. T. Lewellen	Chairman	University of Washington
Dr. J.-M. Poutissou	Associate Director	TRIUMF
Dr. L.P. Robertson	Secretary	University of Victoria
Dr. D. Axen		University of British Columbia
Dr. T. Budinger		Lawrence Berkeley National Lab
Dr. R. Finn		Memorial Sloan-Kettering Cancer Center
Dr. R. Flocchini		Crocker Laboratory, University of California
Dr. J. Fowler		Brookhaven National Lab

Changes in membership during the year: Dr. R.R. Johnson was replaced by Dr. L.P. Robertson as secretary.

Biomedical Experiments Evaluation Committee

Dr. L.D. Skarsgard	Chairman	British Columbia Cancer Research Centre
Dr. J.M. Cameron		EEC/IUCF
Dr. D.A. Axen		EEC/University of British Columbia
Dr. M.J. Ashwood-Smith		University of Victoria
Dr. A. Astbury		TRIUMF
Dr. H.E. Johns		Ontario Cancer Institute
Dr. R.R. Johnson		University of British Columbia
Dr. T.R. Overton		University of Alberta
Dr. D.C. Walker		University of British Columbia
Dr. G.F. Whitmore		University of Toronto