

Erich Vogt:
Memories and Anecdotes of a
Remarkable Canadian Physicist



*Shelley A. Page
University of Manitoba
CAP Congress, 2014*



UNIVERSITY
OF MANITOBA



Early days at the University of Manitoba

B.Sc., 1951 Univ. of Manitoba / United College*

THE WINNIPEG TIME MACHINE
THIS SITE FEATURES STORIES ABOUT WINNIPEG AND MANITOBA HISTORY

THURSDAY, FEBRUARY 1, 2007

WESLEY METHODIST COLLEGE



WESLEY METHODIST COLLEGE
Winnipeg's Earliest Downtown College

* Formerly Wesley College, now Wesley Hall of the Univ. of Winnipeg.

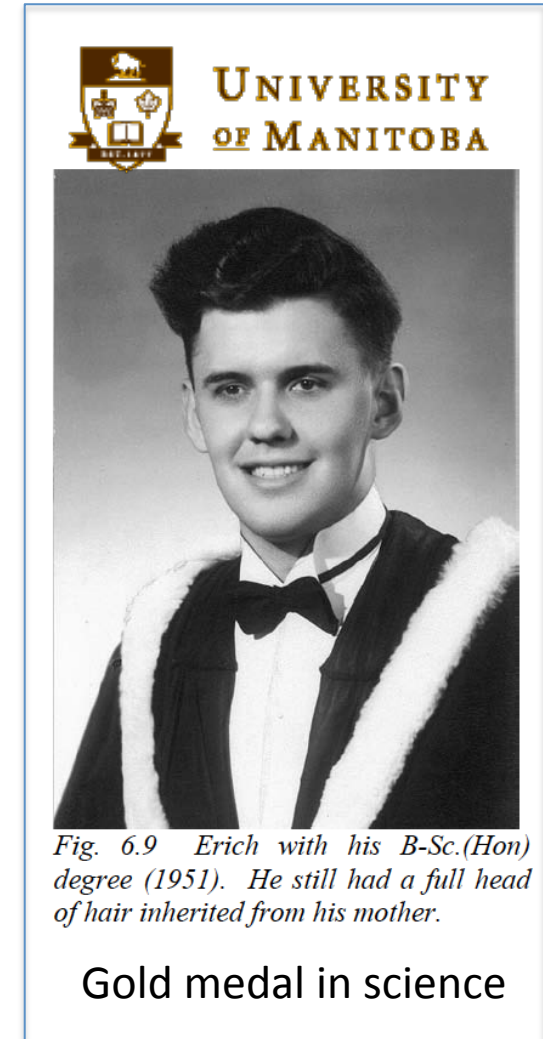


Fig. 6.9 Erich with his B-Sc.(Hon) degree (1951). He still had a full head of hair inherited from his mother.

Gold medal in science

According to Erich's memoirs, the most important event of this period was meeting his future wife, Barbara, in class...

MANITOBA FLOOD MAY, 1950

Taken from newspapers and photos of the day

The 1950 Red River Flood was a devastating flood that took place in Winnipeg, Manitoba, on May 8, 1950. In that year, the Red River flooded the Red River Valley. Winnipeg was ill prepared for such a huge swell of water. Eight dikes gave way and flooded much of the city. Four of eleven bridges were destroyed and nearly 70,000 people had to be evacuated from their homes and businesses. There was one fatality on May 6, 1950, when Lawson Ogg was trapped in a basement where he was fixing a pump when waters rushed through the door of the house and filled the basement. The final tally in damage was over \$600 million. The Red River Floodway was later constructed to divert some of the water of the Red River around the city and lower water levels within Winnipeg.

Just hours after Erich wrote his last exam and left the Fort Garry campus for Steinbach, the river overflowed its banks and the campus was submerged !



First Summer Job...

“For the summer of 1951 I obtained my first Substantial summer job; working with the Canadian Defense Board at its research establishment in Valcartier, Quebec....

“I worked there with a French-Canadian physicist, George Gallagher, who was investigating the temperature and time history of propellants in cannon barrels. It was not the kind of work that a Mennonite pacifist usually does, but it was interesting. Almost as soon as I arrived, I worked out the physical law for temperature versus time for such an explosion; this impressed my supervisor and led to my first report or paper, although it appeared only as a classified report....

“Valcartier was overrun by army ballistics personnel who constantly fired cannons and whose favorite prank was to leave some high explosives in the ubiquitous ashtrays, where they caused amusing explosions...”

-- *Erich Vogt, memoirs*



M.Sc. and first paper, 1952

☆ **Boundary conditions in the mechanics of relativistic wave fields**

Erich Vogt

Thesis (M.Sc.)--University of Manitoba, 1952. 1952

● **Checked out from Elizabeth Dafoe Library In Storage, Available by Request (Thesis V86)**

The screenshot shows the Canadian Journal of Physics website. The main header is "Canadian Journal of Physics" in white text on a dark background. Below it is a red navigation bar with links: Home, CSP, Journals, Books, Open Access, Authors, Librarians, Societies, and About the Press. The breadcrumb trail reads: Home > Journals > Canadian Journal of Physics > List of Issues > Volume 30, Number 6, November 1952 > BOUNDARY CONDITIONS IN THE MECHANICS OF FIELDS. On the left, there is a "Browse the journal" sidebar with links to List of issues, e-First articles, Current issue, Most read articles, and Most cited articles. The main content area is titled "Article" and features the article "BOUNDARY CONDITIONS IN THE MECHANICS OF FIELDS" by S. M. Neamtan and E. Vogt. It includes download links for PDF (952 K) and PDF-Plus (1688 K). The abstract is visible below the article title.

Canadian Journal of Physics

Home CSP Journals Books Open Access Authors Librarians Societies About the Press

Home > Journals > Canadian Journal of Physics > List of Issues > Volume 30, Number 6, November 1952 > BOUNDARY CONDITIONS IN THE MECHANICS OF FIELDS

Article

« Previous TOC Next »

BOUNDARY CONDITIONS IN THE MECHANICS OF FIELDS

S. M. Neamtan, E. Vogt

PDF (952 K)
PDF-Plus (1688 K)

Canadian Journal of Physics, 1952, 30(6): 684-698, 10.1139/p52-065

ABSTRACT

In this paper

A variational principle has been set up for the description of relativistic fields with the aid of Lagrangians involving second order derivatives of the field functions. This constitutes a generalization of the usual formulation in that, besides the boundary conditions usually imposed, it admits also linear homogeneous boundary conditions. The formulation has been developed for the complex scalar and complex vector fields. The variational principle then yields not only the wave equations but also the allowed boundary conditions. A Hamiltonian and equations of motion in canonical form can be set up. A symmetric stress-energy tensor and a charge-current vector are defined, yielding the usual conservation equations. For the vector field, π_4 is not identically zero; also the Lorentz condition arises out of the variational principle and does not have to be separately imposed. For the Dirac field an extension to Lagrangians with second order derivatives is not possible, but for this field also the variational principle yields the allowed boundary conditions.

Erich and the CAP



Erich was President from 1970-71 and served on almost every committee then existing, including the first CAP Science Policy Committee (1969):

Don Betts, Erich Vogt, Lynn Trainor, Jean-Louis Meunier & Morrel Bachynski

“The terms of reference of the committee were noble and clear: ‘To optimize the contribution of the Canadian Association of Physicists to national decisions on Science Policy which affect the physics community’.” -- *J.S.C. McKee*

A CAP delegation presented a brief to the special Senate Committee on Science Policy on June 5, 1969: late night discussions led to the development of a national Assembly of Scientific Societies, which became SCITEC Canada.

Evolution: SCITEC Canada → National Consortium of Scientific and Educational Societies → Canadian Consortium for Research (present day)

Erich Vogt won the CAP Medal for Lifetime Achievement in Physics in 1988

Incoming President, 1970:

“Erich Vogt - A Profile” by T. D. Newton, PiC, vol 26 #6 (1970)

“The title is traditional but a profile is inadequate for Erich Vogt

Erich is a straightforward man who might, at first sight, be taken for a farm hand – about six feet, broad, hair black with one white spot now spreading somewhat, suit usually ruffled, tie (if any) askew. His first words will be politely hesitant but then, if he is interested, the words will come tumbling rapidly but not as fast as his thought. And if physics is the topic, the listener will soon appreciate why Erich is the President of the CAP.

114 / Physics in Canada



E. Vogt

[... discussion of research papers...]

116 / Physics in Canada



E. W. Vogt, Incoming President of CAP;
G. M. Shrum, After Dinner Speaker;
D. D. Betts, President of CAP.

These research papers form a fine contribution to theoretical nuclear physics but they are not Erich's only contribution to physics in Canada; other effects derive from his wide general knowledge, unbridled curiosity, boundless energy and willingness to undertake any task which will assist in the development of physics and science in general..... This personal and energetic approach is characteristic of the man. We can be sure that the responsibilities of the President of the CAP will be capably shouldered and energetically carried out or extended during this year. “


CAP-TRIUMF Vogt Medal for Outstanding Experimental or Theoretical Contributions to Subatomic Physics *(from CAP web site)*


The purpose of this award is to recognize and encourage outstanding experimental or theoretical contributions to subatomic physics. While the main criterion for awarding the Vogt medal is the excellence of the research accomplishments, preference will be given for a recent important advance in subatomic physics and to researchers who are still active. The candidate's research should have been done primarily in Canada or in affiliation with a Canadian university, industry or government laboratory.

The medal will be awarded by the Canadian Association of Physicists on the recommendation of a selection committee established by the Canadian Association of Physicists and TRIUMF. In addition to the medal, the recipient will receive a certificate citing the contributions being recognized by the award and a small monetary award. The recipient will also be invited to give a talk at the CAP Congress where the medal will be presented.

*“Erich was an extremely strong believer in the fact that every medal awarded by the CAP should have a cash component associated with it. He recognized that this was not necessarily something we could implement immediately but he hoped that we would work towards that. As part of his conviction, he committed to personally matching a level of contributions towards an endowment fund that would allow a cash award to be given in conjunction with a medal being proposed by TRIUMF for subatomic physics.... **Because of this selfless act on his part, we were able to raise sufficient funds to establish that endowment fund through TRIUMF and now offer a cash award with that prize.**” -- Francine Ford*

First Vogt Medal award, 2011:

CANADIAN ASSOCIATION OF PHYSICISTS  ASSOCIATION CANADIENNE DES PHYSIENS ET PHYSIENNES

TRIUMF, CANADA'S NATIONAL LABORATORY FOR PARTICLE AND NUCLEAR PHYSICS 

TRIUMF, LABORATOIRE NATIONAL CANADIEN POUR LA RECHERCHE EN PHYSIQUE NUCLÉAIRE ET EN PHYSIQUE DES PARTICULES

PRESS RELEASE / FOR IMMEDIATE RELEASE

The 2011 CAP-TRIUMF Vogt Medal for Contributions to Subatomic Physics

is awarded to

Prof. David Sinclair



“ I am extremely honoured to be selected to receive this award. Canada has such a strong program in sub-atomic physics encompassing the whole spectrum of nuclear physics, particle physics at the energy frontier, fundamental symmetries, nuclear astrophysics and more recently astro-particle physics, because there are so many very accomplished scientists working in this field. ...

I am particularly pleased that the medal bears Erich Vogt’s name. When I was a graduate student, Erich had already established a reputation as an outstanding scientist and scholar. His leadership has been so important to creating the rich program that we are so proud of today.”

-- David Sinclair

Ideas and opinions:

- “Friends of CAP” initiative
- “Honorary Council of Past Presidents”
- Sustaining Member of CAP
- Expanding the scope of the ETF (now CAPF)
- Many contributions to *Physics in Canada*

OPINION

AN ASTONISHING CANADIAN FUSION REACTOR PROJECT

Physics in Canada
Vol 66 no 4, 2010
by E.W. Vogt

CBCnews | British Columbia

Home World Canada Politics Business Health Arts & Entertainment Technology & Science Con

Canada BC News Events Weather Programs Video Audio

LIVE
CBC
L

Fusion experiment by B.C. firm raises concerns

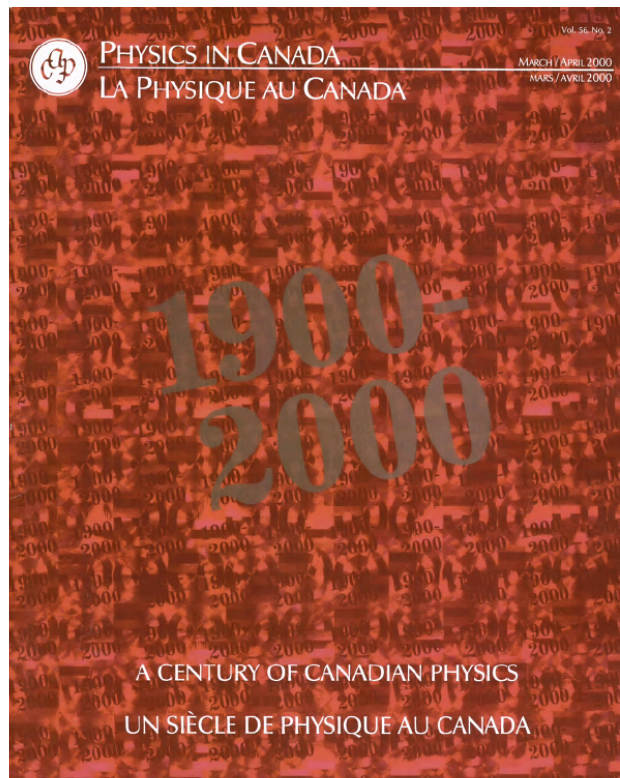
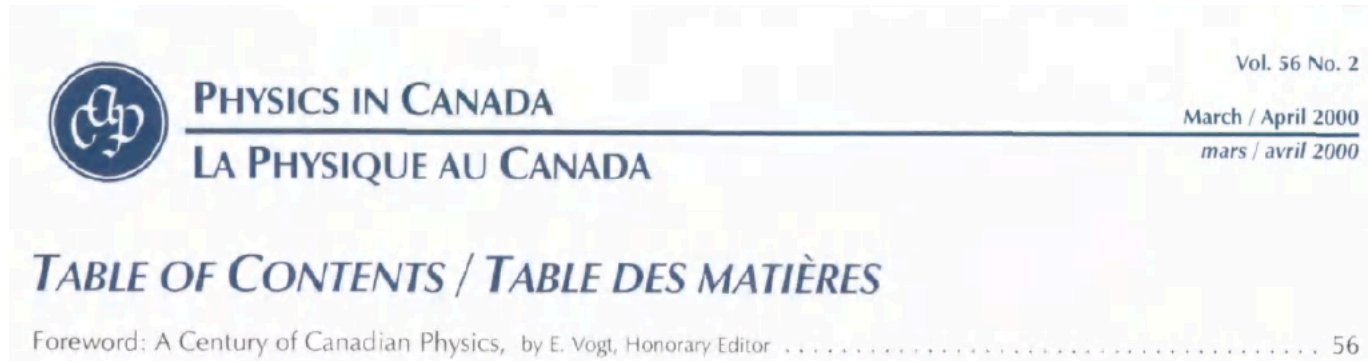
CBC News Posted: Oct 03, 2011 5:56 PM PT | Last Updated: Oct 04, 2011 5:44 AM PT



... "Of course there's a hazard, an explosive hazard," Vogt told CBC News. "It would be messy." When asked if that means people could be hurt, Vogt said, "Yes, that's right."

But Vogt added he doesn't think such an explosion would ever happen — because he believes General Fusion's project simply won't work. "I think it's pure nonsense, this whole project," he said.

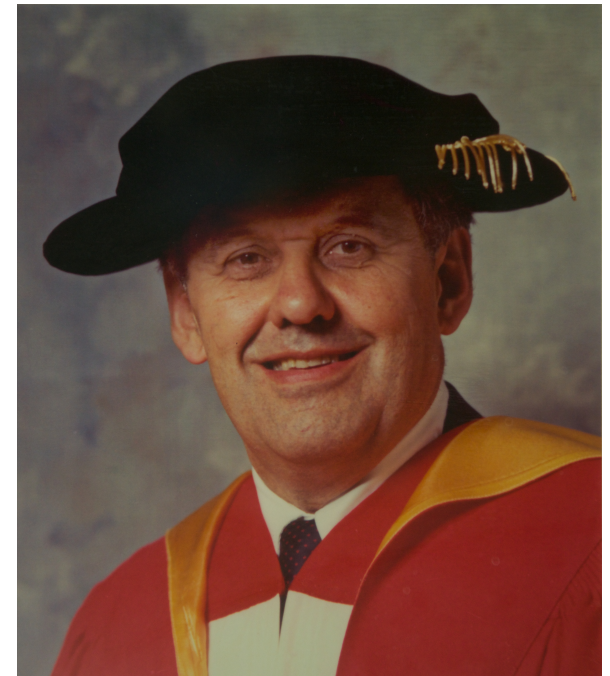
Recommended Reading



A century of Canadian Physics – Much to Celebrate - by Erich Vogt

“There is much to be proud of in the past century of Canadian physics. In spite of almost continuous neglect of research funding by federal governments, some wonderful physics emerged from Canadian physics working both in Canada and abroad. Perhaps the success of individual Canadian physicists is the result of a long tradition of excellent undergraduate physics training in Canada combined with the fact that Canada’s geography evokes a strong response for the natural sciences...”

An Honorary Degree



“Madam Chancellor:

I have the honor to present to you an outstanding graduate of The University of Manitoba, a man with a distinguished career both as a scientist and as a university administrator. A native of Steinbach, Manitoba, Dr. Erich Wolfgang Vogt graduated from the University of Manitoba in 1951 with a B.Sc.(Hons.) degree in Physics. On that occasion, he received the University Gold Medal for studies in Science. The following year, Dr. Vogt remained at this University, earning his M.Sc. degree in Physics whereupon he travelled to Princeton University to study for his Doctorate in Theoretical Physics, which he received in 1955.

“Many honours have already been bestowed upon Dr. Vogt In 1967 he was awarded the Centennial Medal of Canada, and in 1970 he became a Fellow of the Royal Society of Canada. In 1976 he was made an officer of the Order of Canada, and in 1977 he received the Queen Elizabeth Jubilee Medal.

“Dr. Vogt has served the scientific and academic communities in many ways through membership on national committees and study groups. He has also been a long-time and continuing friend of this University, returning to his alma mater many fold the benefits that he received from his education here. Madam Chancellor, it is an honor indeed for me to ask, in the name of the University Senate, that you confer upon Erich Wolfgang Vogt the degree of Doctor of Science, Honoris causa.

October 21, 1982

-- A. Naimark, President

Growing the TRIUMF membership

CANADA'S NATIONAL MESON RESEARCH FACILITY
OPERATED BY:
THE UNIVERSITY OF ALBERTA
SIMON FRASER UNIVERSITY
THE UNIVERSITY OF VICTORIA
THE UNIVERSITY OF BRITISH COLUMBIA
UNDER A CONTRIBUTION FROM:
THE NATIONAL RESEARCH COUNCIL OF CANADA



TRIUMF
DEPARTMENT
OF PHYSICS

FEB 10 1989

88-F-VOGT.903
UOFMAN/Se12

September 12, 1988

Letter to U of M, 1988:

Professor Marian Vaisey-Genser
Associate Vice-President
The University of Manitoba
Office of the President
Winnipeg, MB
R3T 2N2

Dear Professor Vaisey-Genser:

I am enclosing the agreement between TRIUMF and The University of Manitoba which has been approved by the TRIUMF Operating Committee and will now go before our Board of Management for approval. This agreement includes all matters of substance approved by the University of Manitoba in an earlier draft and also a number of changes made primarily to improve the wording.

This agreement will be a model for TRIUMF in its relationship with several other institutions and we appreciate your help in working it out.

Yours sincerely,

E.W. Vogt,
Director

5 year plan 2015-2020:

Member Universities University of Alberta | University of British Columbia | Carleton University | University of Guelph
University of Manitoba | Université de Montréal | Simon Fraser University | Queen's University | University of Toronto
University of Victoria | York University

Associate Members University of Calgary | McGill University | McMaster University
University of Northern British Columbia | University of Regina | Saint Mary's University | University of Winnipeg

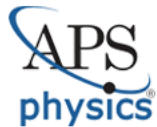


University of Manitoba Joins TRIUMF

24 March 2009

On Friday, March 20, the University of Manitoba became a full member of TRIUMF, Canada's National Laboratory for Particle and Nuclear Physics....

(TRIUMF press release)



APS news,
June, 2003

Scientists Observe Charge Symmetry Breaking in Separate Experiments

In separate experiments at the Indiana University Cyclotron Facility (IUCF) and the TRIUMF cyclotron in Canada, researchers have made groundbreaking new measurements of charge symmetry breaking (CSB), according to results presented at the APS April meeting in Philadelphia.

Such measurements can provide deep insights into why nature gave the neutron and proton slightly different masses. At an even more fundamental level, the CSB measurements can potentially yield more precise values of the mass differences between the up and down quarks that make up protons and neutrons.

- Charge symmetry and parity violation programs spanned almost 2 decades
- Development of polarized neutron beams, frozen spin targets, high intensity polarized H- source
- Hosted world experts at TRIUMF for workshops and working visits
- Made possible extended visits to carry out experiments
- Hired TRIUMF / University Research Scientists to strengthen the program
- **Made TRIUMF a “home away from home” for visiting scientists**

“Erich liked to talk about ambitious new experiments for TRIUMF. He was not afraid to take a risk... brought in world experts to help.... supported extended visits to help make these efforts successful.”

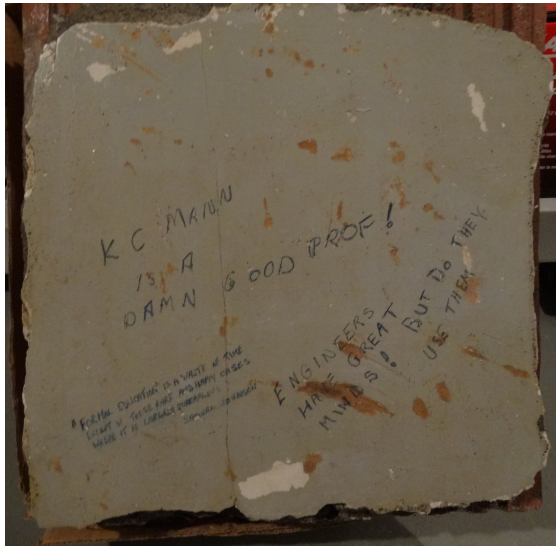
-- Wim van Oers, Univ. Manitoba

Reminiscences.....

UBC Open House, 1970s

Re-enactment of the legendary “leaning tower of Pisa” experiment by dropping things off the library bell tower. Not necessarily historically correct.

(Erich as bishop. My dad as Einstein.)



An unusual retirement gift – Erich arranged for a piece of the men’s room wall to be removed and presented to my Dad (bricks and all).

(I wish I had taken a picture of Erich’s legendary Christmas fruit cake, but I shall always have it in my minds’ eye.)



From my Dad's travel journal, 1972 (K.C. Mann)

Thursday, May 18, OXFORD, ENGLAND

"... Then we caught the 11:05 train to Oxford. At the station, there was Erich, waiting for us. We piled into his car, the red Volvo station wagon, and he drove us to his sabbatical house, a 400-year old stone cottage... where we were welcomed warmly by Barbara and their children....

"Then Erich drove us to the hotel he had arranged for us. He recounted that he had done his utmost to find something suitable for me – an old jailhouse or the like that had been converted to a hotel. We ended up in a place called The Old Parsonage, which only just managed to meet Erich's strict criteria, as it was originally a poor house four or five hundred years ago. It proved to be a fabulous old place....

"Then we walked through the grounds of a number of Oxford's colleges. Erich took us gleefully past what he thought was the most significant sign in town. The University was doing renovations to the building housing the Department of Genetics..."



Erich Vogt was a remarkable Canadian physicist; a great friend, mentor, colleague.

He has left a tremendous legacy for Canadian physics.

He is sorely missed.

With special thanks to:

- *Erich Vogt; the Vogt family and Mike Craddock for sharing sections of Erich's memoirs about his university life in Manitoba*
- *My dad, for his remarkable travel journals and photographs*
- *Wim van Oers for sharing reminiscences about the early days of the Manitoba group experiments at TRIUMF*
- *Jasper McKee for his book "60 Years A-Growing – A History of the CAP [1945-2005]"*
- *Bill Poluha, Science and Technology Librarian, University of Manitoba for helping track down Erich's M.Sc. Thesis*
- *CAP for organizing this session: Francine Ford, Walter Davidson, Béla Jóos, Marcello Pavan, Louis Marchildon, and others who shared ideas and anecdotes*