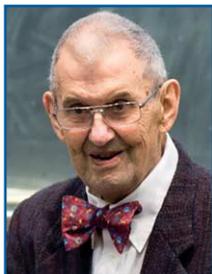


ERICH VOGT (1929–2014), VISIONARY PHYSICIST AND CANADIAN GIANT



TRIUMF lost a dear member of its family when Erich Vogt, its co-founder and visionary leader passed away peacefully in Vancouver General Hospital on February 19th 2014. Erich Vogt and TRIUMF have been inseparable since a day in 1966 when the Canadian federal government trusted a three university consortium

of academics to develop the design for a Meson Factory on the University of British Columbia campus. From that moment, Erich's philosophy was that such cooperation would provide the way for Canadian scientists to play a leadership role on the world stage of nuclear and particle physics. This defined his management style and the vision for the laboratory.

Erich was born in Steinbach, Manitoba, the second of six boys, and received his undergraduate education at the University of Manitoba, moving to Princeton University for his Ph.D. in nuclear reaction theory under Eugene Wigner (1955). He then worked for 10 years at the Chalk River Laboratory which was then one of the premier nuclear physics laboratories in the world. Erich Vogt described this period as the Golden Age of nuclear physics. "It was a time when Canada led the world, and the physicists at Chalk River were at the forefront of almost every sub-discipline of nuclear physics: nuclear structure probed by accelerators, beta rays, neutron capture gamma rays, and fast neutrons; weak interactions; and fission. They were able to do so because they had superb facilities - the NRX and NRU reactors, excellent equipment - the very best amplifiers, scalars, and kicksorters, the first silicon particle detectors and the first lithium drifted germanium detectors, dedicated and expert technicians, and of course, theoretical physicists who believed what the experimentalists were doing was important." As an example of his early work in nuclear theory, Erich contributed a highly-cited summary of low energy nuclear reactions to a 1962 Rev. Mod. Phys. issue commemorating Eugene Wigner's 60th birthday.

"Perhaps more crucial than anything else, the Chalk River laboratories had a knowledgeable management that passionately believed in the value of basic research and understood the process through which it was done". This experience in Chalk River, Erich brought it with him when he moved to the West Coast and it defined his vision for what a first class laboratory should be.

Erich joined the physics department of the University of British Columbia in 1965 and quickly established himself as the champion of a bold project to replace the 3 MeV Van de Graaff accelerator with a 500 MeV cyclotron for which he and John Warren formed a consortium with the two other universities in British Columbia, University of Victoria and Simon Fraser University. The funding for TRIUMF was approved by the Federal government in 1968 and the first beam obtained in 1974 just in time for Christmas. During these years, many graduate and undergraduate students were involved under the supervision of academics in the construction of a challenging high intensity machine which was the brain child of Reg Richardson and incorporated many innovative technologies (H-injection, multiple extraction, energy variability and separated turn extraction,..). By the mid-late 70's, the TRIUMF cyclotron reached its design intensity and a broad science program was in full swing in competition with the other two meson facilities of LAMPF at Los Alamos and SIN (now PSI) in Switzerland. Under Erich's guidance, TRIUMF moved to become an international user facility; strong collaborations were built with Japan and the University of Tokyo, with Japanese physicists providing a muon beamline and developing a large condensed matter research portfolio at TRIUMF. The collaboration with Israel enhanced the pion nuclear program and the collaboration with UK groups provided the best study on the nucleon-nucleon phase shifts in the 200–500 MeV region. He brought in key players to expand the science program (O. Hausser, A. Astbury amongst many).

Erich who became the TRIUMF director in 1981 also foresaw the importance of broadening the science program beyond nuclear and particle physics, and supported a material science and chemistry effort using polarized muons with a superb partnership with Japanese colleagues as well as investing in a radiochemistry program to support medical imaging diagnostics. Later he also envisaged the importance of developing small cyclotrons capable of producing radiotracers in a hospital environment and initiated a transfer of cyclotron technology from TRIUMF to a local manufacturer, EBCO. The TR series of mini-cyclotrons was developed, acquired a reputation for reliability and performance and is today the main line of business of the ACSI company in Richmond (BC). In parallel a strong industry-laboratory collaboration with NORDION was established on the TRIUMF site to produce and deliver radioisotopes worldwide. Eventually three dedicated cyclotrons operated by TRIUMF personnel,

as well as dedicated facilities on the main cyclotron produce and allow to ship more than 50000 patient doses a week of short-lived radioisotopes to hospitals around the world.

TRIUMF was by now well established and well regarded for its scientific output. However Erich had a much more ambitious plan to move the laboratory to another level in international science. He commissioned his accelerator physicists and engineers to develop the KAON proposal to raise the energy of TRIUMF to 30 GeV while maintaining the nominal 100 μ amps intensity. This plan he saw as the same leap forward as had been done initially at TRIUMF. He knew that this would be only possible if a global international collaboration was formed. After a few years, Erich had convinced Europe, the US and Japan who had developed similar projects for high intensity hadron facilities, that his approach was the most likely to succeed and that everyone should join KAON. The Canadian government was prepared to invest in a study to better define the technical aspects, the costs estimates and the potential partners for such a facility. Erich became a travelling salesman and advocate to rally the world to his cause. He expanded on the so-call HERA model of cooperation which Canada had used to join the German HERA project early in 1980 and in which both accelerator and detector contributions were made to get access to a nationally operated facility abroad.

In parallel, Erich encouraged the scientific staff at TRIUMF to take a more visible role in international experiments (at SLAC, HERA, LEP, BNL, KEK) bringing TRIUMF into the big league of particle physics research and establishing the reputation and competencies of the laboratory staff. By the time of his retirement from the directorship of TRIUMF, and after the decision of the Canadian government to not proceed with KAON, Canada was able to join the LHC program, push the rare decay program at BNL, establish a neutrino group and support the Canadian particle physics community to access foreign facilities most effectively. KAON was not to happen on Canadian soil; Erich passed the baton to the Japanese JHF team and followed with interest the construction and first operation of J-PARC for which the director Shoji Nagamiya was ever grateful.

Erich was a fantastic educator and motivator. More than 5000 students enjoyed the three 8:00 am Phys101 lectures he gave each week until he turned 80. He would always adjust his travel schedule to minimize missed lectures.

It was not rare to meet someone in Vancouver who would recall having witnessed Erich's passion for physics in the only physics course they had taken at university. Similarly even under financial duress, the TRIUMF student program would always survive budget trimming.

Erich was devoted to the Canadian physics community. He served as the Canadian Association of Physicist (CAP) chair in 1971, received the CAP medal for achievement in physics in 1988 and helped establish the CAP-TRIUMF Vogt Medal for Outstanding Experimental or Theoretical Contributions to Subatomic Physics. He was also active in supporting Science in BC through the creation of the Science Council of BC and establishing and supporting Science World financially at a critical period while serving on its board. He was very involved in the Vancouver Institute sponsoring Nobel laureates and other exceptional scientists to entertain some 800 Vancouverites on Saturday nights about the best recent discoveries.

Erich served on many scientific advisory and evaluation committees where his deep understanding of what makes a laboratory work well was appreciated. From 1994 till 2012, his stature, his sharp scrutiny of facts and broad knowledge of international science made him a key member of the joint IUPAP-IUPAC working group for the evaluation of the claims for new element discoveries.

He was recognized by both the federal and provincial governments, being appointed an officer of the Order of Canada in 1976 and to the Order of British Columbia in 2006. Tel-Aviv University named one of their laboratories in his honor. He received honorary doctorates from U of Manitoba, Queen's U, Regina U., Carleton U., Simon Fraser U., and UBC.

The TRIUMF family has and will continue to build on his legacy of excellence, strength, daring vision and collaborative spirit and above all friendship, that he instilled in all of us and cultivated as a laboratory policy. Perhaps the recent announcement of a federal funding commitment for TRIUMF for the period 2015–2020, a full year ahead of expectation, was such a exceptional recognition of his vision for the lab that he let go knowing TRIUMF would continue to prosper.

Thank you Erich for the many lessons and for your trust,

Jean-Michel Poutissou and Ewart Blackmore
TRIUMF Emeriti Senior Research Scientists