

## Faces &amp; Places

## OBITUARY

**Michael K Craddock 1936–2015**

Michael K Craddock, UBC emeritus professor and retired TRIUMF research scientist, passed away in Vancouver, Canada, on 11 November, following a brief battle with cancer. One of TRIUMF's founding fathers, he worked tirelessly on the cyclotron and other key projects for 50 years, including 33 years as TRIUMF's head accelerator physicist, until his retirement in 2001.

Mike Craddock was born on 15 April 1936 in the UK. He received his Bachelor's and Master's degrees in mathematics and physics at Oxford University in 1957 and 1961, respectively. He was a scientific officer at Rutherford Appleton Laboratory while pursuing a D.Phil in nuclear physics at Oxford, which he was awarded in 1964. Upon graduation, Mike joined the Physics Department at the University of British Columbia (UBC), where he remained throughout his career.

Originally hoping simply to conduct experiments at UBC's Van de Graaf accelerator, he was thrust almost immediately into the department's campaign to build a new accelerator on campus. Tasked with investigating options for a new machine, he recommended a modified version of the H<sup>-</sup> cyclotron design of Reg Richardson at UCLA. Mike managed the overall specification, which settled on a scaled-down 500 MeV, 20  $\mu$ A machine. In 1968, the TRIUMF proposal was approved by the Canadian government, and for the next 10 years, Mike was the beam-dynamics group leader. His most memorable challenge in that time was responsibility for determining the position and number of the magnetic shims installed during the massive cyclotron field-shaping campaign. Mike's reward came when he was present at Reg Richardson's shoulder as the first beam emerged on 15 December 1974.

Mike was TRIUMF's leading beam physicist throughout his career, from joint head of the Beam Development Group from 1978 to 1981, then as Accelerator Research Division head from 1982 to 1988 and head of the Accelerator Division from 1989 to 1994, to group leader for accelerator physics from 1995 until his retirement in 2001. He was a chief architect of the KAON Factory Project, where as deputy to project-leader Alan Astbury, he led a multidisciplinary team in the engineering design of a suite of synchrotron-type proton accelerators. KAON was unable to attract federal funding, and so Mike set to work on projects



*Michael Craddock.*

related to the Large Hadron Collider (LHC) accelerator injector chain at CERN, the success of which raised the lab's profile worldwide. Remarkably, during all this time he supervised more than 14 graduate students, regularly taught undergraduate and graduate physics courses, and acted as TRIUMF's correspondent for the *CERN Courier* for 29 years, until August 2004.

Retirement did little to tamper with Mike's relentless energy. He joined the Accelerator Development Group and worked on several projects before settling on fixed-field alternating-gradient accelerators (FFAGs) from 2004 to 2012, where he participated in an international project to build a 20 MeV electron model (EMMA) at Daresbury, UK. He was a constant presence at the lab, organising conferences, and presenting introductory accelerator-physics lectures to students at TRIUMF, UBC, and the University of Victoria, all the while acting as TRIUMF's unofficial historian.

During a career that spanned five indefatigable decades, Mike demonstrated exceptional leadership in the field of high-energy subatomic-particle physics, notably in particle-accelerator design and construction, and he was instrumental in fostering new generations of accelerator physicists in Canada and abroad. A testament to his outstanding character, before he passed away, Mike made a very generous gift to TRIUMF, establishing the Michael Craddock Fund for Accelerator students.

His passing has been felt worldwide and has left a gaping hole in the TRIUMF family. He will be sorely missed by all who knew him.

● *His friends and colleagues.*