To: Members of the Department of Physics and Astronomy
From: Ed Auld
May 2, 2008

Here is a "Coffee room copy" of the latest timeline version. Please feel free to copy it, read it and get comments back to me. If you would like to get an electronic copy please email at egauld@phas.ubc.ca
Where you see italics, means I want more information.
I have received a great deal of good information from several people. That is the major difference between this version and previous ones.

Happy reading,

Timeline internal
History Time-line for Physics and Astronomy (DRAFT 3)
To be used by the Faculty of Science in preparing a document for the 100th anniversary celebration in 2008. E.G.Auld: May 2, 2008

1864: Henry Marshall Tory was born. He was the first president of the University of Alberta (1908-1928), the first president of the National Research Council(1928-1935) and the first president of Carleton College(1942-1947). In 1906, he helped establish the McGill University College of British Columbia absorbed into the University of British Columbia in 1915. His brother was James Cranswick Tory, Lieutenant Governor of Nova Scotia. He was a faculty member at McGill. He and Ernest Rutherford were close friends.

1908: Ernest Rutherford received the Nobel Prize in Chemistry for his work in articulating the uranium, radium and thorium decay series and the associated discovery of the exponential law of the nature of alpha, beta and gamma radiation and of the existence of isotopes. Kammerlingh Onnes achieved the first successful liquifaction of Helium.

1915: At U.B.C. four Physics courses offered.
Introduction to the Principles of Physics; Text: Ontario High School Physics and Laboratory Manual.
Heat, Sound and Light; Text: Dechanel's, "Heat, Sound and Light".
Electricity and Magnetism; Text: Brooks and Poyser, "Electricity and Magnetism".
Mechanics; Text, Loney's "Mechanics and Hydrostatics for Beginners"
Staff and Faculty. H.T. Barnes, J.Gordon. Davidson, B.L.Silver. Gordon Danielson became a Full Professor at Ames, Iowa.

1916: T.C. Hebb B.Sc. M.A.(Dal.) PhD(Chicago) hired as Assistant Professor.

1919: Fifth course introduced: Advanced Electricity and Magnetism: differential and integral calculus a prerequisite.

1920: T.C. Hebb, formally made Head of Department. He held this position until 1939. A.E.Hennings PhD.(Chicago) hired as Associate Prof. The number of courses expanded from 5 to 10, including: "Recent Advances in Physics", with Rutherford's and Millikan's Texts, and an Experimental Physics lab (6 hours per week).

1923: Shrum and MacLellan (Toronto) are the first to successfully repeat Kammerlingh Onnes liquifaction of Helium.

1926: G.M. Shrum, PhD(Toronto) hired as Assistant Prof. Schrödinger publishes his wave equation and the spectral analysis of hydrogen in a series of four papers. Walter Gage is awarded his M.A.(major: Mathematics, minor: Physics).

1927: Leslie E. Howlett is awarded a B.A. first class honours in physics. The first B.A. where Physics is the major discipline.

1929: Undergraduate courses increased to 19. Graduate courses introduced: (8 in all). A course for High School Teachers was also introduced.

1931: Quantum Mechanics introduced as a graduate course. First M.A. awarded where Physics was the major. Oscar E. Anderson and Kenneth Moore. Both their theses were entitled: "The Arc Spectrum of Nitrogen."

1932: Chadwick discovers the neutron and the true nature of the nucleus was discovered.

1934: Patrick McTaggart-Cowan was a teaching assistant for the year. At the May Convocation: G.M. Volkoff received his B.A. in Physics and Math and was awarded the Governor-General's gold medal.

1935: Robert Christy received his B.A. in Math and Physics and was awarded the Governor-General's Gold medal. Kenneth Mackenzie, BA'35, MA'37 at U.B.C. Ph.D. under Lawrence at UC Berkeley. Co-discoverer of element 85, astatine (1940). Co-builder of first synchrocyclotron, demonstrating phase stability in circular accelerators for the first time (1946). Assoc. Prof, UBC (1946-7). Prof., UCLA (1947-2002). Collaborated with Reg Richardson building first sector-focusing cyclotrons and proposing 750-MeV cyclotron meson factory (of which TRIUMF is a scaled-down version). Founded UCLA Plasma Physics Group.

1936: G.M. Volkoff awarded his M.A. Thesis: "Determination of Mean Lives of Excited Atoms". He then studied with J. Robert Oppenheimer at the University of California at Berkeley where he published his paper "On Massive Neutron Cores" and earned his Ph.D. in 1940. Alex Fraser joins his father as members of the Departmental workshop. He remembers watching Shrum through a peep hole next to Chemistry 200, so that he could bring in the demonstrations at the correct time. Under his foremanship the department's shop became a major reason for many of the experimental successes. The Herb Gush rocket launches were a good example.

1937: Robert Christy awarded his M.A. “Electron Attachment and Negative Ion Formation in Oxygen.” He went to Berkeley to work with Oppenheimer for his PhD., made significant contributions to the Manhattan project and Christy joined the University of Chicago Physics department briefly after leaving Los Alamos before being recruited to join the Caltech faculty in 1946. He stayed at Caltech for his academic career, serving as Department Chair, Provost and Acting President.

Shuichi Kusaka. B.A. awarded the Governor-General’s gold medal. Physics and Math. Shuichi was the son of a Japanese family. He moved to Canada when he was five. Attended Gladstone High School. His parents were medical officers for the B.C. packers in Steveston. He got his PhD. under Oppenheimer. He became a U.S. citizen, and was at Princeton, when he was drowned in 1947 swimming off the East coast. He edited a book about Einstein and is co-author of a paper with Pauli. By this time Oppenheimer must have wondered what was in the water in Vancouver.

1938: *Arthur Crooker joins the department. He was a member of the Canadian Olympic team. Sprinter.*

1939: Shrum becomes head of the Department. Hebb retires. Ken Mann is hired as assistant professor. Ken Mann became one of the best teachers the department has ever had. Shortly after WWII, the following graffitto was found in the men’s washroom: “Ken Mann is a damn good prof”. What better accolade could you want as a teacher!

1940: G.M. Volkoff hired as Assistant Prof. A graduate level course in Nuclear Physics is added.

1943: Thomas Collins receives his B.A. in Math and Physics. He was the first graduate to get a Ph.D. in any subject at UBC. (1950). He studied under Volkoff. He later became an accelerator physicist with Fermilab, became Associate Director of Fermilab, and was awarded the Wilson Prize of the APS in 1994 for the invention of "Collins insertions", which allow long straight sections to be included in [the periodic magnet lattices of circular high-energy accelerators, providing space for large detectors and other equipment.

1944: Anne Underhill gets her M.A. “The Stark Effect of Helium in Some B-type Stars”.

1945: Volkoff awarded an honorary doctorate (in 1945) by UBC for his work on the theory of Canada's CANDU reactors during World War II.

1946: Course number system changed to present system: 100,200,300,400 level for undergrads and 500 level for graduate courses. Phys511: Low Temperature Physics introduced. Engineering Physics starts in the Faculty of Applied Science, but is run by Physics. Three returning war veterans initiated this: Willard Matheson, Duncan Pitman and David Rose. They graduated in 1947 and all three went on to great careers. George Volkoff made a member of the Order of the British Empire.

1947: Ten faculty and 11 instructor lecturers, is the department staffing. The new Hennings Building shows on the campus map. The hiring of physics luminaries such as Van der Ziel, Dekker, Bluh, etc. by Gordon Shrum at the end of the war, were the factors that led to the development of the department into the multidisciplinary powerhouse that led to the largest physics graduate school in Canada. The list of the staff in the years from 1945 to 1955 should be recorded, along with their fields of interest. Low Temperature(Jim Brown, Kim and Betty Daniels), Solid State(Ron Burgess), Oceanography (Bob Stewart), Nuclear(*Karl Erdman, Derek Livesey, George Griffiths, Bruce White*, John Prescott), Theory(Bob Barrie, Peter Rastall, Roger Howard, Louis de Sobrino), Geophysics(*John Jacobs, Don Russell*). Bertram Brockhouse receives his B.A. in Physics at UBC. He is awarded the Nobel prize for Physics in 1994 for his work in neutron spectroscopy at Chalk River. He collaborated closely with Myer Bloom when they were both at Chalk River. Some of the first neutron scattering experiments were with highly absorbing materials, in the process verifying the Breit-Wigner formula. This was the first work on slow neutron spectroscopy.

1948: J.B. Warren hired as Associate Prof. John Warren is considered to be the father of nuclear physics for western Canada. The 3 Mev Van de Graaff built under his supervision was run successfully from 1949 until the early 1970s, (when TRIUMF started up). The first of the Department photographs is taken on the front steps of the Hennings building. *Wladyslaw Opechowski joins the department.*

1953: Shrum president of CAP

1956: Roy Nodwell is awarded a Ph.D.

1957: Myer Bloom arrives as a Post Doctorate Fellow. Myer becomes Mr. “Nuclear Magnetic Resonance” in Canada. At UBC Bloom used his knowledge of NMR to establish the new disciplinary field of Biophysics, the study of the physical properties of biological membranes. This brought together new collaborations from Chemistry, Biochemistry, Microbiology and Medicine. These initiatives led to the establishment of a new Canadian Institute for Advanced Research program on the Science of Soft Materials and interfaces, with a team of scientists from Canada, Europe and the United States.

1958: First year for the Faculty of Science to award a B.Sc. Malcolm McMillan, Detlef Matz, and George Needler, all received first class honours in Mathematics and Physics, amongst those receiving the B.Sc.

1959-61: The Plasma Physics group is formed. Hannes Barnnard. Roy Nodwell, and Frank Curzon. Frank becomes a world expert in spark discharges in gases, and spent a great deal of his later research years consulting and advising the Japanese TV industry on plasma TV. *Bill Dalby joins the department.*

1960: David Williams arrives at UBC with a NRC Postdoctoral award, and joins Myer Blooms group. He became a faculty member in 1962. He pioneered the NMR studies of

metallic single crystals, and with Garth Jones studied the electron distribution in alloys using angular correlation of gamma rays from positron annihilation.

1961: G.M. Volkoff becomes Head of the Department. Shrum retires from UBC and moves on to be Head of B.C.Hydro and the Chancellor of Simon Fraser University. Garth Jones joins the department.

1962: Hebb building and Theatre is opened. Volkoff president of CAP. *Peter Matthews joins the Department*.

1963: Mike Crooks joins the department. An excellent teacher, Mike is fondly remembered for his dedication to outreach programs for the Department. The Physics Olympics was initially started in the Faculty of Education, approximately 1979, with assistance from members of the Physics department, but gradually the responsibility shifted to Physics, under the guidance of Mike. He was also helped initiate the Physics Olympiad, where Canadian students compete internationally. The space in the Hennings building set aside to support these activities has been named "The Michael Crooks Outreach Lab". Rosalia Guccione receives her Ph.D. in Physics. The first female to do so. Thesis: "Magnetic Space Groups".

1964: Mike Craddock joins the department. Mike, an accelerator beam dynamics expert, worked and consulted with many other institutions, for example, TRIUMF and CERN. Boye Ahlborn joins the department, thus making the plasma group up to four. Boye was instrumental in introducing the first Engineering Physics project lab course in 1978, while he was Director. Brian Turrell joins the department. Condensed Matter Magnetism; Nuclear Orientation; NMR. His group was the first to detect continuous wave Nuclear Magnetic resonance of oriented nuclei. They also performed experiments using the new isotope separator facility (ISAC) at TRIUMF.

1965: Erich Vogt joins the department in 1965 but left the department in 1975 to become UBC Vice-President (1975-1981 and then the director of TRIUMF in 1981. He has taught in the department more or less continuously since 1965. Walter Hardy gets his Ph.D., under the supervision of Myer Bloom. Bill Shuter joins the department, and then with Phil Gregory (1973) and Bill McCutcheon (1972), formed a very active radio-astronomy group. They erected a 15-foot dish antenna and receivers for millimetre observations on the South Campus detecting their first solar signals at 40 GHz in 1972 and CO near 110 GHz in the Orion Nebula in 1973. Department hosts for the first time the CAP congress (then 1979, 2005). *Peter Martin and Paul LeBlond(Oceanography) join the department.* In 1965, Antony Hewish and Samuel Okoye "an unusual source of high radio brightness temperature in the Crab Nebula". This source turned out to be the Crab Nebula neutron star that resulted from the great supernova of 1054 CE. This was the first experimental observation of what Volkoff and Oppenheimer predicted in 1940.

1967: Michael Ovenden, Bill Shuter, and Roy Nodwell applied jointly to NRC (the University funding agency at the time) for a Negotiated Development Grant (NDG) split among radio astronomy, laboratory astrophysics, and optical astronomy. In April 1970,

NRC agreed to award UBC all of the funds asked for, $538,600. From this grew the Institute for Astronomy and Space Science (IASS). About 1969, funding from NRC was received to construct a 15 foot radio telescope operating at millimetre wavelengths. This was constructed in 1970 on a plot of land south of W. 16th Ave., and on the east side of Wesbrook (just to the north of the B.C. Research Institute).

1968: TRIUMF receives its funding and construction begins on the South Campus. J.B. Warren was the first Director of TRIUMF. The following members of the department played key roles in the design, construction and commissioning of TRIUMF. Auld, Axen, Griffiths, Jones, Johnson, McMillan, Erdman, White, Livesey and Vogt. Gordon Walker joins Geophysics. Gordon subsequently searches for extrasolar planets - techniques developed that led the way to modern successful searches - one of most active areas in astronomy currently. Walker won the Muhlman Prize for this. *Jason Auman, Doug Beder, David Balzarini, and Maurice Pryce join the department.*

Jim Carolan joins the department. Jim was a highly effective supervisor for the science under graduates for many years, and instrumental in making the Science One program the success it is. *Jochen Meyer* joins the department. He used high intensity pulsed lasers to generate, manipulate, and probe various states of matter. *Andrew Gold* joins the department.

1970: David Measday joins the department. David was famous for the TRIUMF detectors TINA and MINA which are large NaI crystals which have been used for over 30 years. Completed experiments include a study of the reaction ($\pi^- + p \rightarrow n + \gamma$) , with superb measurements of differential cross-sections and also of the asymmetry parameter using the TRIUMF polarized target. David was Science Dean pro-tem(1997-98). Vogt president of CAP. Rudi Haering is the first to receive the CAP Herzberg medal.

1971: *Walter Hardy (his scientific record needs to be expanded)* arrives and becomes one of the most honoured scientist in Canada, for his research with hydrogen, low temperature physics and high-temperature cuprate superconductors. The most recent award given to him, Doug Bonn and Ruixing Liang was the NSERC Brockhouse Prize. Greg Fahlman joins Astronomy. Harvey Richer joins Astronomy. Bob Parsons joined the department. He developed many evaporation technologies for modern glass windows. Robin Louis' final oral for his Ph.D. was on January 27, 1971, and the topic was "The properties of ion orbits in the central region of a cyclotron". Student of Mike Craddock, he was President of Ventures West from 1999 to 2005. Prior to joining Ventures West in 1991, Robin was the CEO of Columbia Computing Services Ltd., a provider of software used in K-12 schools for administrative data management. Under Robin´s leadership, Columbia became the dominant company in its industry, was listed on the Toronto Stock Exchange, and subsequently was sold to a British acquirer. Robin also serves as a member of the board of governors of Science World British Columbia and is a member of the board of the CVCA, where he was President from 2003 to 2005 and is now Chairman.

1972: Rudi Haering becomes Head of the Department. He appoints Bob Parsons as Director of Engineering Physics, and thus starts the rebuilding of the Engineering Physics program. *Berger Bergersen joins.*

1973: G.M. Volkoff becomes Dean of Science. Opechowski is awarded an Honorary degree from University of Wroclaw, Poland. *Lore Hoffmann is hired by Rudi Haering to become the Head's secretary. Lore continued to be secretary to the Head until her retirement in 2005. She was secretary for Haering, Nodwell, Williams, Turrell, and Tiedje. She was an enthusiastic supporter and volunteer of the Vancouver Opera Guild, and is still very active in various roles.*

1974: First full energy beam at TRIUMF. Vortek lamp invented. Ahlborn, Nodwell, and Camm the principals. The company is formed and becomes a successful high tech spin-off from Physics. Gary Albach was heavily involved in the formation of the company.

1975: Erich Vogt becomes UBC Vice-President (1975-1981). Rudi Haering and Jim Stiles research on Li intercalation into molybdenum sulphide lead to the formation of Moli Energy with Norman Keevil Sr. of Teck and Jeff Dahn providing important business and scientific leadership respectively. The moly sulfide battery research was initiated by Rudi and Jim Stiles, a postdoc working for Dave Williams, Jeff Dahn was a later arrival. Stiles was the research director of Moli Energy for a number of years. Keevil came to Rudi and asked him if he wanted to commercialize the battery work, and subsequently took the lead in raising money and establishing the company. Karl Brackhaus is awarded his PhD for "The generation and control of 1.5 megawatts of RF power for the TRIUMF Cyclotron", under the supervision of Karl Erdman. Karl Brackhaus is one of the founders of Dynapro Systems, which provides control systems for industry. Rudi Haering becomes an Officer of the Order of Canada.

1976: Erich Vogt becomes an Officer of the Order of Canada. *Bill Unruh joined the department. He is a world renowned expert on gravity, and is key member of one of the best theoretical group in Canada (Semenoff, Stamp, Affleck, Scott, Berciu, and others).*

1977: Roy Nodwell becomes Head of the Department.
In 1984 following his retirement from UBC, he was appointed Chairman of the Science Council of BC, and in 1987, he received a gold medal from that council for his significant contributions to Technology Transfer.

1978: Lorne Whitehead, a graduate student of Walter Hardy and *John Berlinsky* makes his first invention of the "Light Pipe". Lorne Whitehead then eventually forms along with Roy Nodwell the company TIR which markets these pipes around the world. Frank Curzon was instrumental in this effort as well. Haering president of CAP.

1980: Paul Hickson joins Astronomy. Paul is famous, amongst other things for his telescope of liquid Mercury, which is rotating to keep it parabolic. Andrew Ng joined the

department. He used a high impact projectile accelerator to understand the behaviour of plasmas at very high densities.

1981: Erich Vogt becomes the Director of TRIUMF. He retired from that post in 1994. Geof Auchinlech and Andre Godoroja produce a design report to retrofit the Vancouver Planetarium entertainment system for their Engineering Physics ApSc 459 project. They get a contract to do the work, and as a result, the department set in motion the process that eventually produced the full provincial funding for the Project Lab in 1988. Alex McKay joins the department. Jess Brewer joins the department. World renowned for his use of the muon beam at triumph for a wide variety of science experiments, from particle physics to using the muon as a probe of the magnetic properties of superconductors. Jess was awarded the Brockhouse prize in 2008.

1982: David Williams becomes Head of Department. During his term the J.B. Warren Chair was created, and the Department took the step of having year-round Co-op Education placements in the Honours Physics program.

1983: Richard McMahon (graduate student in Bob Parsons' lab) developed sophisticated computer technology (hardware and software), and founded local company, Techware Systems Corporation, to commercialize his product. Sales grew to $6M within 13 years. 1996 Techware was acquired by Brooks Automation Inc., with Richard McMahon remaining as president. Richard, Jeff Young and Dan Friedman (MDA president) were all in the same Engineering Physics graduating class (1979).

Gordon Semenoff joins the department. He has been a Fellow of the Royal Society of Canada since 2000 CAP/CRM Medal for Mathematical Physics 2000 National Bank of Denmark Award 1999 MacDowell Medal 1990 Killam Research Prize 1989. UBC Site Director, Pacific Institute for Mathematical Sciences, 1995-1997 Organizer of Frontiers in Mathematical Physics Workshops, 1995-2003.

1984: Last time that Shrum was able to come to the departmental photo.

1985: Chris Waltham joins the department. (SNO). He joined the Sudbury Solar Neutrino collaboration in 1988, and quickly became a key player in the development of the huge detector. The first major funding for SNO came in 1990. First neutrino (cosmic ray) 1999/05/05. First solar neutrino results announced at CAP (Victoria) in 2001.

1986: Chemistry-Physics wing completed.

1987: Brian Turrell becomes Head of the department. Tom Tiedje joins the department and brings molecular beam epitaxy to UBC. Ian Affleck (member of the CIAR) joins the department. Has provided essential theoretical insight into many solid state and high temperature super-conducting questions. He is one of the most cited researchers in the department. An internationally recognized theorist; provides great insight into:

Condensed Matter Theory : Superconductivity, Quantum Magnetism, Quantum Impurities, Field Theory Methods in Condensed Matter Physics.

Rob Kiefl joins the department.

1988: Engineering Physics receives a Fund For Excellence grant from the Provincial government to form the Engineering Physics Project Lab.

1989; Phil Stamp joins the department. A.A. Offenberger (UBC Engphys '57, University of Alberta), becomes president of CAP.

1990: Herb Gush with Halpern and Wishnow successfully measure the Cosmic microwave background radiation with a ten-minute rocket launch from Churchill Manitoba. A very sophisticated but inexpensive liquid helium cooled spectrometer did the trick. Essentially all of the apparatus was built in the Department's workshop. It was launched just a month or so after COBE whose principals were awarded the Nobel prize in 2006. Carl Michal joins the department, and creates an immediate stir with his NMR measurements of spider webs. Kristin Schleich joins the department. She, along with her husband Don, take over the running of the highly successful Physics Olympics. It has flourished under their management.

1992: Michael Crooks receives the President's Service award for Excellence.

1993: Jeff Young joins the department. Janis McKenna joins the department. She and her husband Tom Mattison (joined the department in 1999) are part of the huge BaBar collaboration at SLAC measuring the B-Anti-B production.

1994: Lorne Whitehead joins the department as an Associate Professor and Chairholder of the NSERC/3M Research Chair in Structured Surface Physics. He becomes the most prolific inventor of patents the university has ever had. Doug Bonn joins the department and forms a great partnership with Walter Hardy. Tom Tiedje becomes the first director of AMPEL. AMPEL building opens. George Volkoff becomes an officer of the Order of Canada. Bertram Brockhouse wins Nobel prize in physics.

1995: *Ariel Zhitnitsky joins the department*. Doug Scott joined astronomy (theoretical astrophysics). "The most extraordinary thing that we have been learning about cosmology in the last few decades is that there are things we measured which can give us direct answers to questions about the large scale nature of the Universe. Right now these quantities are being measured and we are in a period of rapid growth in our understanding of cosmology. Many of today's questions appear answerable on a timescale of years - and this is what makes cosmology currently so exciting!"

1996: April 1, Astronomers join the department after the re-organization of the Faculty of Science. The Department is renamed Physics and Astronomy. Lore Hoffmann is awarded the President's Service award for excellence.

1997: 50th anniversary of the first Engineering Physics graduates celebrated. Over 200 alumni came to the reunion. Bjarni Tryggvasson, Engphys ('72), a Canadian Astronaut was in orbit on the space station in August. He was testing his motion isolation system, part of which had been developed in the Engineering Physics project lab. Jaymie Matthews joins the department. A spectacular teacher, and a very innovative researcher. He is mission scientists for MOST (Microvariability & Oscillations of STars), which detects vibrations in the light of ringing stars too subtle to be seen even by the largest telescopes on Earth satellite observation station was his idea.

1998: Tom Tiedje becomes Head of the department. Ed Auld retires as Director of Engineering Physics after 18 years. Jeff Young takes over as Director. Andre Marziali joins the department, introduces a research program that aims to improve the sequencing and diagnostics of DNA. He has already formed a company to do forensic diagnostics. In 2000 he introduced a new project oriented course in Engineering Physics for second year students to build autonomous robots. The final exam in this course is a public display of these robots playing their various interactive games (when? First weekend in August, if you don't think education is exciting come and watch in Hennings 200).

1999: Doug Bryman is appointed to the Warren Chair. The Warren chair was funded in recognition of John Warrens contributions to TRIUMF and Nuclear Physics. Doug Bryman experimental particle physics and specializes in the measurements of rare decay modes of elementary particles, but especially Kaons. Matthew Choptiuk joins the department. Greg Fahlman leaves t take up the Directorship of the Canada, France, Hawaiian Telescope and is 2003 becomes the Director General of The Herzberg Institute pf Astrophysics (Division of NRC). Erich Vogt wins the Departmental Christmas Limeric contest, which was to produce a Limerick with Christmas, Political and Physics themes:

Said Santa, while shaking his fist

At something that Heisenberg missed

"There is no uncertainty,

You can wait till eternity,

Van der Zalm is not on my list."

2001: Sawatzky joins joins the department. He becomes the director of AMPEL in 2004. He is one of the most cited researchers in the department. WMAP (Halpern} is launched to explore the cosmic microwave background. First satellite ever to go to stable point beyond the Moon(L2). Harvey Richer (PI) awarded 5 full days on the Hubble Space Telescope the largest block of time ever given to a Canadian principle investigator. A Volkswagen car is suspended under the Golden Gate bridge, during engineering week. Astronomy faculty finally move into the Hennings building, which they had left 30 years before. Yes, it took five years to complete the move.

2002: Dr. Brett J. Gladman is this year's recipient of the Harold C. Urey Prize. The Urey Prize is awarded annually by the Division for Planetary Sciences (DPS), the largest division of the American Astronomical Society (AAS). The Urey Prize was established by the DPS to recognize and encourage outstanding achievements in planetary science by a young scientist. He joined Physics and Astronomy this year.

2003: Brian Turrell becomes head AGAIN for one year. MOST launched in June 2003 from a Russian ICBM rocket. Small suitcase-sized satellite built partially in the UBC PHAS shops that looks for minute variations in brightnesses from stars. These data are used to carry out stellar seismology and search for planets around them. Lore Hoffmann retires.

2004: Jeff Young becomes Head of the Department.

2005: The Department has hired over 20 new faculty members in the last five years.

2006: Carl Wieman (Nobel laureate) joins the department. Erich Vogt receives Order of British Columbia. Andre Marziali takes over as Director of Engineering Physics.

2007: Jaymie Matthews becomes an Officer of the Order of Canada.

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This list of awards still needs considerable work. I am getting conflicting information from various responders that is not consistent with the data listed on various web pages.

Members of the Department have probably received more major prizes and honours than any other department in Canada.

FRSC: Shrum(1938), Stewart(1955), Bloom(1968), Vogt(1970), Haering (1971),Walker(1975), Hardy(1980), Affleck(1991),Unruh(1984), Semonoff(1990), Tiedje(2001), Sawatzky(2002), Bonn(2005).

Fellow Royal Soc London: Unruh

Fellow Institute of Physics: Unruh

Fellow of the APS: Ng(1998), Tiedje(1987), Unruh(2000), Hardy(2002), Affleck(2003), Bonn(2003), Choptiuk(2003), Sawatzky(2003), Kiefl(2004).

Honorary Member, American Association of Arts and Science: Unruh

Izaak Walton Killam Memorial Fellowship: Gush(1976), Bloom(1988)

Canada Council Killam Fellowships : Hardy(1984), Richer(2001)

EWR Steacie Memorial Fellowships: Unruh(1984-85), Tiedje(1990-91), Bonn(1997-98)

EWR Steacie prize: Bloom(1967), Hardy(1978), Unruh(1983), Affleck(1988).

NSERC Brockhouse Prize(2005): Walter Hardy, Doug Bonn, Ruixing Liang

Alfred P. Sloan Fellowship: Bloom(1961-66), Hardy(1972-74), Ozier(1972-74), Unruh(1977-79), Affleck(1983-87), Bonn(1996-98), Franz(2002-04), van Raamsdonk(2004-06), Berciu(2005-06), Damascelli(2006-07).

Fulbright Fellowship: Harvey Richer

CIAR Fellows and Associate Fellows: Affleck, Bloom, Unruch, Choptiuk, Young, Brewer, Evans, Hardy, Kiefl, Stamp, Sawatzky.

Canada council Killam Memorial Prize: Bloom(1995), Unruh(1996), Hardy(1998)

CAP Gold medal or Herzberg Medal: Haering(1970,1982), Bloom(1973), Hardy(1978, 1993), Unruh(1983,1995), Tiedje(1989), Affleck(1990,2006), Young(1994), Bonn(1997).

CAP discipline medals:

Industrial and applied physics: Whitehead(1999)

Theoretical and Mathematical Physics: Unruh(1996), Affleck(1997), Semenoff(2000), , Choptiuk(2003).

Brockhouse Medal: Hardy(1999)

Teaching: Matthews(2002), Marziali(2005)

Royal Society of Canada Rutherford Medals: Unruh(1982), Affleck(1991), Hepburn(1993), Choptiuk(2001)

Royal Society of Canada Tory Medal: Sawatzky(2007). This is the Henry Marshall Tory who helped found UBC.

B.C. Science Council awards: 13