

Douglas Michael Gingrich



Academic Address

Centre for Particle Physics
Department of Physics
University of Alberta
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Home Address

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Citizenship: Canadian

Date of Birth: 27 February 1958

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ACADEMIC POSITIONS

Professor of Physics	University of Alberta	2001 to present
Visiting Research Professor	SNOLAB	2013-14
Honorary Research Associate	University College London	2010-13
Honorary Research Fellow	University College London	2007-09
Adjunct Visiting Research Scientist	Columbia University	1999-00
Associate Professor of Physics	University of Alberta	1997-01
Assistant Professor of Physics	University of Alberta	1993-97
Postdoctoral Research Associate	University of Oxford	1988-93
College Lecturer in Physics	Oxford (Hertford College)	1988-92

EDUCATION

1988	Ph.D.	Experimental High Energy Physics	University of Toronto
1983	M.Sc.	Experimental High Energy Physics	University of Toronto
1982	B.Sc.	Honours Co-op Applied Physics	University of Waterloo

ACADEMIC AWARDS AND RECOGNITION

Area of Research Excellence	University of Alberta	2001
Emerging Centre of Excellence	University of Alberta	1994-98
NSERC Postgraduate Scholarship	University of Toronto	1988
U. of T. Open Doctoral Fellowship	University of Toronto	1987,86,84
Ontario Graduate Scholarship	University of Toronto	1986,83
E.C. Stevens Scholarship	University of Toronto	1983
Ford S. Kumpf Scholarship	University of Waterloo	1977-79

SOCIETY MEMBERSHIPS

American Physical Society
Canadian Association of Physicists
Institute of Particle Physics (Canada)

RESEARCH

Publications

See attached list of publications.

168 h-index
1,329 total (34 years) publications
146,160 total (34 years) citations
110 average citations per paper
33 papers with over 500 citations
55 papers with between 250 and 499 citations
1267 papers with between 100 and 249 citations

Research Support

\$1,387,495 2020-21 as principle investigator
\$11,059,855 total (28 years) as principle investigator
\$15,598,628 total (28 years) shared at Alberta

Public Lectures

1. University of Alberta Observatory, *The Extra-dimensional Universe*, 2017.
2. Pacific Institute for the Mathematical Sciences (PIMS), Red Deer College, *The High-Energy Frontier: Particle Physics with the New Large Hadron Collider*, 2008.
3. Independent Power Producers Society of Alberta, Banff, *The High-Energy Frontier*, 2008 (keynote, 745 people)

Invited Talks Given at Universities and Laboratories

1. University of Tsinghua, Beijing, *Collider searches for non-perturbative low-scale gravity states*, 2019.
2. Peking University, Beijing, *Collider searches for non-perturbative low-scale gravity states*, 2019.
3. Institute of High Energy Physics, Beijing, *Collider searches for non-perturbative low-scale gravity states*, 2018.
4. TRIUMF, *Collider searches for non-perturbative low-scale gravity states*, 2018.
5. University of Tokyo: ICEPP, *Collider searches for low-scale gravity states*, 2016.
6. Shanghai Jiao-Tong University, *Collider searches for non-perturbative low-scale gravity states*, 2015.
7. The Chinese University of Hong Kong, *Limits on non-perturbative gravitational states at the LHC*, 2015.
8. University of Winnipeg, *The Higgs Boson: Road to the 2013 Nobel Prize in Physics*, 2015.
9. University of Manitoba, *The Higgs Boson: Road to the 2013 Nobel Prize in Physics*, 2015.
10. Jeda, Saudi Arabia, *Road to the 2013 Nobel Prize in Physics*, 2013.
11. Jazan, Saudi Arabia, *Road to the 2013 Nobel Prize in Physics*, 2013.
12. Perimeter Institute, *Search for nonperturbative gravity states at the LHC*, 2012.
13. Perimeter Institute, *Transplanckian Physics in Early ATLAS Data*, 2009.
14. Royal Holloway University of London, *Black Hole Production and Decay at the LHC*, 2007.

15. University College London, *VHE Gamma-Ray Astronomy with STACEE*, 2007.
16. University of Regina, *Very High-Energy Gamma-Ray Astronomy with STACEE*, 2007.
17. University of Cambridge, *VHE Gamma-Ray Astronomy with STACEE*, 2006.
18. University of Alberta, *The Unobserved Gamma-Ray Sky*, 2000.
19. University of Toronto, *ATLAS Calorimeter Electronics*, 1996.
20. University of Alberta, *The ATLAS Project in Canada*, 1996.
21. University of Alberta, *Measuring the Structure of the Proton*, 1992.
22. University of Alberta, *How to Measure Structure Functions at HERA*, 1992.
23. University of Pittsburgh, *Measuring the Structure of the Proton*, 1992.
24. University of Oxford, *Software Tools for Transputer Networks*, 1992.
25. Imperial Coll, Univ. of London, *Sensitivity to Leptoquark Detection in ZEUS*, 1991.
26. TRIUMF, *How to Measure Structure Functions at HERA*, 1990.
27. University of Toronto, *How to Measure Structure Functions at HERA*, 1990.
28. McGill University, *How to Measure Structure Functions at HERA*, 1990.
29. Carleton University, *How to Measure Structure Functions at HERA*, 1990.
30. University of Liverpool, *Experimental Evidence for $b \rightarrow u$ Transitions*, 1988.
31. University of Oxford, *Observation of Charmless B Decay*, 1988.
32. Stanford Linear Accelerator Center, *D_S Production in B Meson Decay*, 1987.
33. Enrico Fermi Institute, *D_S Production in B Meson Decay and Observation of Charmless B Decay*, 1987.
34. University of Maryland, *D_S Production in B Meson Decay and Observation of Charmless B Decay*, 1987.
35. University of Syracuse, *D_S Production in B Meson Decay and Observation of Charmless B Decay*, 1987.
36. Université de Montréal, *Observation of Charmless B Decay*, 1987.

Talks Given at Professional Conferences

1. (Invited) Large Hadron Collider Physics Conference LHCP2015, St. Petersburg, Russia, 2015. *Search for new physics in dijet resonant signatures and recent results from Run2 with the ATLAS experiments.*
2. (Invited) Canadian Association of Physicists Congress, Edmonton, Canada, 2015. *Low-scale gravity phenomenology.*
3. (Invited) TSIMFP2014, Jazan, Saudi Arabia, 2013. *The High-Energy Frontier.*
4. Black Holes VII: Theory and Mathematical Aspects, Banff, Canada, 2013. *Black holes in earl ATLAS data.*
5. Canadian Association of Physicists Congress, St. Johns, Canada, 2011. *Noncommutative geometry inspired black holes in higher dimensions at the LHC.*
6. (Invited) Moriond EW 2011, La Thuile Italy, 2011. *Exotic Searches at ATLAS.*
7. (Invited) Excited QCD 2011, Les Houches, France, 2011. *Noncommutative geometry inspired black holes in higher dimensions at the LHC.*
8. (Invited) Hengstberger Symposium Extra Dimensions and Mini Black Holes, Heidelberg, 2009. *String Balls.*
9. Black Holes VII: Theory and Mathematical Aspects, Banff, 2009. *Black holes in Early ATLAS Data.*
10. (Invited) TRIUMF, 2007. *Signatures of Singlet Neutrinos in Large Extra Dimensions at the LHC.*
11. CTP Symposium on Supersymmetry at LHC: Theoretical and Experimental Perspectives, British University, Egypt, 2007. *Black Hole Production at the Large Hadron Collider.*

12. APCTP-TPI Joint Meeting, Edmonton, Canada, 2006. *Black Hole Production at the Large Hadron Collider*.
13. Canadian Association of Physicists Congress, Winnipeg, Canada, 2004. *Radiation Tolerant Microelectronics by Design*.
14. IEEE 2004 Nuclear Science Symposium and Medical Imaging Conference, Rome, Italy, 2004. *The STACEE Ground-Based Gamma-Ray Detector*, published in Conference Record (CD format).
15. (Poster) IEEE 2004 Nuclear Science Symposium and Medical Imaging Conference, Rome, Italy, 2004. *Study of n-channel MOSFETs with an enclosed-gate layout in a 0.18 micron CMOS technology*, published in Conference Record (CD format).
16. IEEE 2003 Nuclear Science Symposium and Medical Imaging Conference, Portland, Oregon, U.S.A., 2003. *Radiation Tolerant ASIC for Controlling Switched-Capacitor Arrays*, published in Conference Record (CD format).
17. (Poster) 2002 IEEE Radiation Effects Data Workshop, Phoenix, Arizona, U.S.A., 2002. *Ionizing Radiation Effects in EPF10K50E and XC2S150 Programmable Logic Devices*, published in Workshop Record (2002) 41-44.
18. Single Event Effects Symposium, Los Angeles, U.S.A., 2002. *A Radiation Tolerant Controller for a Switched Capacitor Array*, published in Proceedings (CD format).
19. (Invited) Canadian Association of Physicists Congress, Victoria, Canada, 2001. *Status of the STACEE Project*.
20. Military and Aerospace Applications of Programmable Devices and Technologies Conference, Laurel, Maryland, 2000. *Problems and Solutions to the Radiation Tolerance of the ATLAS Liquid Argon Calorimeter Electronics*, published in MAPLD 2000 Proceedings (CD format).
21. (Invited) Canadian Association of Physicists Congress, York, Canada, 2000. *Search for Higgs Bosons and New Particles with OPAL*.
22. Military and Aerospace Applications of Programmable Devices and Technologies Conference, Laurel, Maryland, 1999. *Total Ionizing Dose Effects in a SRAM-Based FPGA*, published in MAPLD 1999 Proceedings (CD format).
23. (Invited) Canadian Association of Physicists Congress, Waterloo, Canada, 1998. *Canada's High-Energy Frontier*.
24. International Conference on Electronics for Future Colliders, New York, U.S.A., 1997. *SCA Controller for the ATLAS Calorimeter*, published in Conference Proceeding (1997) 43-51.
25. (Invited) 2nd International Conference on Hyperons, Charm and Beauty Hadrons, Montréal, Canada, 1996. *Status and Future Plans of the Canadian ATLAS Group*, published in Nuclear Physics B (Proc. Suppl.) 55A (1997) 281-285.
26. (Invited) 33rd Western Regional Nuclear and Particle Physics Conference, Lake Louise, Canada, 1996. *TeV Physics in Canada*.
27. (Poster) IEEE 1995 Nuclear Science Symposium and Medical Imaging Conference, San Francisco, U.S.A., 1995. *A Pipeline Controller for the ATLAS Calorimeter*, published in Conference Record (1996) 277-279.
28. RTD'94 ESONE's International Conference on Real Time Data with emphasis on Distributed Front-End Processing, Dubna, Russia, 1994. *An Analog Pipeline Readout Module for the ATLAS Calorimeter*, published in Conference Record (1994) 141-146.
29. International Conference on Electronics for Future Colliders, New York, U.S.A., 1994. *An Analog Pipeline Readout Module for Calorimetry at LHC*, published in Conference Proceeding (1994) 189-201.

30. (Invited) Real-time Computer Applications in Nuclear, Particle and Plasma Physics, Vancouver, Canada, 1993. *The Application of Transputers in the ZEUS Experiment*, published in Conference Record (1993) 458-466.
31. (Invited) Canadian Association of Physicists Congress, Vancouver, Canada, 1993.
 - a. *First Results from ZEUS*,
 - b. *Pipeline Readout for RD3/ATLAS*.
32. Lake Louise Winter Institute, Lake Louise, Canada, 1993. *Physics with ZEUS and H1 at HERA*, presented lectures for J.F. Martin who became sick.
33. Computing in High Energy Physics, Annecy, France, 1992. *Initial Experience with the ZEUS Central Tracking Detector Second Level Trigger and Data Acquisition System*, published in CERN Yellow Report 92-07.
34. Second International Workshop on Software Engineering, Artificial Intelligence and Expert Systems for High Energy and Nuclear Physics, L'Agelonde, France, 1992. *Software Tools for Transputer Networks*, published in "New Computing Techniques in Physics Research II", World Scientific Pub. (1992) 209-214.
35. Computing in High Energy Physics, Santa Fe, U.S.A., 1990. *ZEUS Central Tracking Detector Second Level Trigger and Readout Architectures*, published in AIP Con. Proc. 209 (1990) 155-162.
36. Lake Louise Winter Institute, Lake Louise, Canada, 1987. *Observation of Inclusive D_S Production in B Meson Decay*, published in "Selected Topics in Electroweak Interactions", World Scientific Pub. (1987) 396-405.
37. American Physical Society (DPF), Salt Lake City, U.S.A., 1987.
 - a. *Inclusive D_S Meson Production from B Meson Decay*,
 - b. *D and D^* Production in e^+e^- Annihilation*.
38. Canadian Association of Physicists Congress, Toronto, Canada, 1987. *D_S Production in B Meson Decay*.

Contributions to International Workshops

1. Workshop on Physics at LEP2, CERN, Geneva, Switzerland, 1995.
Event Generators for Discovery Physics - Leptoquarks.
2. First Workshop on Electronics for LHC Experiments, Lisbon, 1995.
A Pipeline Controller for the ATLAS Calorimeter.
3. Workshop on the Physics at HERA, DESY, Hamburg, Germany, 1991.
Sensitivity to Leptoquark Detection in ZEUS.
Monte Carlo Generator for Leptoquark Production in Lepton-Proton Collisions.

Academic Experience

University of Alberta, Department of Physics (1993-present).

- String phenomenology.
- Black hole production and decay in higher dimensions.
- The ATLAS Experiment at the Large Hadron Collider.
- Studied the effects of radiation on digital electronics.
- Gamma-ray astronomy with the Solar Tower Atmospheric Cherenkov Effect Experiment - STACEE.
- Designed pipeline readout electronics for the liquid argon calorimeter of the ATLAS detector at Large Hadron Collider.
- Searched for leptoquarks in electron-positron annihilations with the OPAL detector at the LEP II collider.
- Searched for leptoquarks in electron-proton collisions with the ZEUS detector at the HERA collider.

University of Oxford, Department of Particle & Nuclear Physics (1988-1993).

- Developed the trigger for the central tracking detector of the ZEUS experiment at the electron-proton collider HERA.
- Programmed multi-processor transputer systems for real-time trigger applications in the occam programming language.
- Wrote simulation software for the central tracking detector, and its associated trigger and electronics.

University of Toronto, Department of Physics (1983-1988).

- Researched electron-positron hadronic interactions at 10 GeV centre-of-mass energy with the ARGUS spectrometer at DESY.
- Studied D_s production in B-meson decay (thesis and publication in Physics Letters).
- Managed a VAX 11/780 computer system and developed online computer interface and network communication software.

University of Toronto, Department of Physics (summer 1981; 1982-1983).

- Researched charm hadrons and strong interactions using a high energy photon beam with E516 at Fermilab.
- Studied the resolution and efficiency of a proton recoil detector.
- Managed high energy physics software and converted programs running on a CDC computer to run a VAX computer.

Engineering Experience

Experience with Computer Aided Design tools for field programmable gate arrays and application specific integrated circuit designs.

CAE Electronics Ltd., Montreal, Power Systems Dept. (Sept.-Dec. 1980).

- Designed, coded, and tested Bruce-A nuclear generating station electromagnetic equipment models for the training simulator.
- Simulated the emergency transfer scheme and the standby generators.

Ontario Hydro, Toronto.

- Nuclear Studies & Safety Dept., Radiation Protection (Jan.-Apr. 1980).
 - Developed a model for the evaluation of the radiological consequences from a release of airborne radioactive material under accident conditions.
- Nuclear Studies & Safety Dept., Thermal-Hydraulics (Sept.-Dec. 1979).
 - Performed analysis in thermalhydraulics.
 - Handled code development, model implementation and analysis of specific problems related to CANDU reactors.
- Fuel & Physics Dept., Analysis Section (Jan.-Apr. 1979).
 - Developed a simulation computer model to predict reactor channel flows and critical channel powers for the Bruce-A nuclear generating station.

University of Waterloo, Dept. of Chemical Eng. (May-Aug. 1978).

- Pilot plant testing of a low energy wet scrubber design.
- Iso-kinetic sampling of gaseous emissions.

TEACHING**Students Supervised at the University of Alberta**

1. Fairhurst Lyons (2019-) M.Sc., Department of Physics.
2. Haojie Ni (2019-) M.Sc., Department of Physics.
3. Pourya Vakili-pourtakalou (2017-2019) M.Sc., Department of Physics.
Now with Department of Computer Science, University of Alberta.
4. Sina Safarabadi Farahani (2017-2019) M.Sc., Department of Physics.
Now PhD student University of Alberta.
5. Aatif Butt (2010-16) Ph.D., Department of Physics.
Now at National Centre for Physics (NCP) Pakistan.
6. Asif Saddique (2009-14) Ph.D., Department of Physics.
Now at National Centre for Physics (NCP) Pakistan.
7. Kingsley Emelideme (2011-13) MSc., Department of Physics.
Now with Alberta Investment Management Corp.
8. Hossain Ahmed (2005-9) Ph.D., Department of Physics.
Now Assistant Professor St. Francis Xavier University.
9. Sang He Han (2005-2008) M.Sc., Department of Physics.
10. Daniel Wakeford (2003-5) M.Sc., Department of Physics.
Now with Bubble Technology Industries.
11. Kaston Leung (2002-5) M.Sc., Department of Electrical and Computer Engineering.
Now PhD student at University of British Columbia.
12. Li Chen (2000-4) Ph.D., Department of Electrical and Computer Engineering.
Now Assistant Professor at University of Saskatchewan.
13. Norman Buchanan (1999-2003) Ph.D., Department of Physics.
Now Assistant Professor Louisiana State University.
14. Claudiu Cojocar (2001-2) Ph.D., Department of Physics.
Became Ph.D. student at Carlton University.
15. Dawn Macdonald (1998-2000) M.Sc., Department of Physics.
Took medical leave and then left graduate program.
16. Daniel MacQueen (1997-2000) M.Sc., Department of Physics.
Now Ph.D. student at University of Toronto.
17. Philip Kayal (1996-8) Ph.D., Department of Physics.
Now Director of Reflections Research Inc, Victoria.
18. Norman Buchanan (1996-8) M.Sc., Department of Physics.
19. Trevor Nickle (1995-7) M.Sc., Department of Physics.
Now teacher in Alberta.
20. Philip Kayal (1994-6) M.Sc., Department of Physics.
21. Kevin Klapstein (1994-5) Ph.D., Department of Physics.
Became Ph.D. student at University of California.

Students Supervised at the University of Oxford

1. Alex Byrne (1991-94) M.Sc. & D.Phil., Department of Particle & Nuclear Physics.
Now employed at Oxford Magnets, UK.
2. Jon Butterworth (1989-92) M.Sc. & D.Phil., Dep. of Particle & Nuclear Physics.
Now Group Leader at University College London.

Student Examination Committees

1. Pawel Mekarski	(2013-)	Ph.D.,	Department of Physics, Alberta
2. Samina Jabbar	(2012-17)	Ph.D.,	Department of Physics, Alberta
3. M. Malehmir	(2012-)	Ph.D.,	Department of Physics, Alberta
4. Kevin Chan	(2007-)	Ph.D.,	Department of Physics, Alberta
5. Wei-yuan Ting	(2000-)	Ph.D.,	Department of Physics, Alberta
6. Chris Howard	(2005-10)	Ph.D.,	Department of Physics, Alberta
7. Yushu Yao	(2002-08)	Ph.D.,	Department of Physics, Alberta
8. Ernest Jankowski	(2000-05)	Ph.D.,	Department of Physics, Alberta
9. Andrei Gaponenko	(2000-05)	Ph.D.,	Department of Physics, Alberta
10. Marko Mah	(1999-05)	Ph.D.,	Department of Physics, Alberta
11. M. Belovn	(2000-04)	Ph.D.,	Department of Physics, Alberta
12. R. Hossain	(1997-01)	Ph.D.,	Department of Physics, Alberta
13. El Aaoud El Hassan	(1995-00)	Ph.D.,	Department of Physics, Alberta
14. Farook Al-Shamali	(1994-98)	Ph.D.,	Department of Physics, Alberta
15. Richard Soluk	(1988-98)	Ph.D.,	Department of Physics, Alberta
16. Mahar Qurann	(1993-96)	Ph.D.,	Department of Physics, Alberta
17. Alick Macpherson	(1992-96)	Ph.D.,	Department of Physics, Alberta
18. Catherine Bina	(2015-18)	M.Sc.,	Department of Physics, Alberta
19. R. Chouinard	(2011-13)	M.Sc.,	Department of Physics, Alberta
20. Evan Bianco	(2005-08)	M.Sc.,	Department of Physics, Alberta
21. Kevin Chan	(2005-07)	M.Sc.,	Department of Physics, Alberta
22. Aditya Saha	(2002-05)	M.Sc.,	Department of Physics, Alberta
23. G. Solano	(2003-04)	M.Sc.,	Department of Physics, Alberta
24. Andrew Johonston	(2001-02)	M.Sc.,	Department of Physics, Alberta
25. Rob MacDonald	(1999-02)	M.Sc.,	Department of Physics, Alberta
26. F. Sobratee	(1997-98)	M.Sc.,	Department of Physics, Alberta
27. Dugan O'Neil	(1994-96)	M.Sc.,	Department of Physics, Alberta
28. Reza Paiam	(1994-97)	Ph.D.,	Electrical Engineering, Alberta
29. M.W.M. Yiu	(2003-06)	M.Sc.	Electrical Engineering, Alberta
30. Lin Fu	(2002-04)	M.Sc.,	Electrical Engineering, Alberta
31. Christian Giasson	(2001-04)	M.Sc.,	Electrical Engineering, Alberta
32. Sue Ann Ung	(2001-03)	M.Sc.,	Electrical Engineering, Alberta
33. Yu Nan Xiang	(1999-02)	M.Sc.,	Electrical Engineering, Alberta
34. Hongfan Wang	(1999-00)	M.Sc.,	Electrical Engineering, Alberta
35. Yiu Chan	(1995-97)	M.Sc.,	Electrical Engineering, Alberta
36. Tom Seniuk	(1992-94)	M.Sc.,	Electrical Engineering, Alberta
37. Cheng Hu	(2003-05)	M.Sc.,	Computer Science, Alberta
38. Richard Teuscher	(1990-96)	Ph.D.,	Department of Physics, Toronto
39. C. Zhou	(2010)	Ph.D.,	Department of Physics, McGill
40. Ling-Wai Hung	(1991-97)	Ph.D.,	Department of Physics, McGill
41. Kostas Kordas	(1991-93)	M.Sc.,	Department of Physics, McGill

Graduate Course

- PHYS 673, Real-time Computing and Experiment Data Acquisition, 1996.
- PHYS 590, Particle Physics II - Gauge Theories, 1997, 2009.
- PHYS 547, Particle Detectors, 2012.
- PHYS 530, Statistical Mechanics, 2011-12.

- PHYS 524, Classical Electrodynamics, 2018-2019.
- PHYS 512, Advanced Quantum Mechanics II, 2001, 2003-05.

Undergraduate Teaching

University of Alberta

- PHYS 499, Special Projects: J. Patel 2018, A. MacPherson 2017, M. Elgie 2016, D. Podkowka 2015, Zihui Want 2015, B. Ewanchuk 2013, K. Martell 2009, M. Larocque 2004, C. Bostik 1998, K. Reil 1997, H. Olsen 1996, A. Kwan 1995, T. Nickle 1995.
- PHYS 493, Instrumentation B: K. Reil 1997, A. Kwan, 1995.
- PHYS 485, Introductory Particle Physics, 2008-10.
- PHYS 397, Projects in Experimental Physics, 2001.
- PHYS 395, Electronics, 1994-98.
- PHYS 372, Quantum Mechanics A, 2006.
- PHYS 234, Introductory Computational Physics, 2015
- PHYS 200, Relativistic Aspects of Modern, 2005.
- PHYS 124, Particles and Waves, 2002-03.
- PHYS 105, Introduction General Physics I (mechanics), 1993-94.
- ENPH 131, Engineering Mechanics, 2016-18.
- NSERC summer students: B. Undseth 2018, D. Wandler 2017, Y.T. Bai 2013, B.J. Jung 2011, J. Hutchinson 2010, S. Marcu, 2008, K. Martell 2007-8, H. Clark 2006, T. Martin 2004, D. Gish 2002-3, K. Stevens 2001, D. MacQueen 1995, A. Kwan 1993-94, C. Tran 1994.
- Summer students: V. Mackay 2017, J. Edwards 2015, S. Sevova 2012, R. Pavelich 2012, K. Martel 2009, H. Clark 2005, D. Wakeford 2003, W. Syed 2002, L. Chen 2000, A. Murphy 1998, K. Reil 1997, R. Zemp 1997, N. Buchanan 1996, B. Hunter 1996, P. Kayal 1994.

University of Oxford (Hertford College) (undergraduate studies run at 3 levels)

- 3'rd year: electromagnetism, and nuclear and particle physics, 1988-92.
- 2'nd year: electromagnetism, optics, and nuclear and particle physics, 1988-92.
- 1'st year: mathematics, 1988-92.

University of Toronto

- tutored first year physics 1982-1984 and Drop-in Tutoring Centre 1987.

University of Waterloo

- tutored first year physics 1978-1980 and Drop-in Tutoring Centre 1980-1982.

Postdoctoral Fellows and Research Associates Co-Supervised

J. Biswal	Postdoctoral Fellow	University of Alberta
M. Villaplana	Postdoctoral Fellow	University of Alberta
X. Sun	Postdoctoral Fellow	University of Alberta (now Postdoctoral Fellow at University of Manchester)
H. Wang	Postdoctoral Fellow	University of Alberta (now at University of Wuhan)
J. Dassoulos	Postdoctoral Fellow	University of Alberta
M. Cardaci	Postdoctoral Fellow	University of Alberta
P. Czodrowski	Postdoctoral Fellow	University of Alberta
F. Vives	Postdoctoral Fellow	University of Alberta
A. Sbrizzi	Contractor	University of Alberta
S. Subramania	Postdoctoral Fellow	University of Alberta

S. Bahinipati	Postdoctoral Fellow	University of Alberta (now Assistant Professor at Indian Institute of Technology (IIT), Bhubaneswar)
N. Soni	Research Associate	University of Alberta
M. Kim	Research Associate	University of Alberta
S. Iqbal	Research Associate	University of Alberta
R. Hakobyan	Research Associate	University of Alberta
Jiansen Lu	Research Associate	University of Alberta (started 2005)
Richard Soluk	Research Associate	University of Alberta (started 2001)
Shengli Liu	Research Associate	University of Alberta (2001-4)
Sarah Wheeler	Research Associate	University of Alberta (2001-4)
Bo Zhang	Research Associate	University of Alberta (2001-2)
Alick Macpherson	Research Associate	University of Alberta (1996-2000)
W. Springer	Research Associate	University of Alberta
H. Przysieznik	Research Associate	University of Alberta
P. Routenberg	Research Associate	University of Alberta

ADMINISTRATIVE AND SERVICE EXPERIENCE**University Service**

Association of Academic Staff University of Alberta	2009-13
Academic Faculty Committee	2009-10
University President Review Committee	2009
Dean of Science Selection Committee	2008

Faculty of Science Service

Engineering Faculty Council	2009 -11
CCIS Building Committee	2004-09
Chair of Physics Selection Committee	2004

Department of Physics Service

Graduate Awards Committee	2017-20
Graduate Affairs Committee	2016-17
Director of the Centre for Particle Physics	2004-13
Department Planning Committee	2006-13
Mentorship Committee	2007-13
Space Committee	2009-13
Move-in CCIS Committee	2009-13
CCIS Building Physics Committee	2004-08
Scholarship and Awards Evaluation Committee	2007-08
Director of the Centre for Subatomic Research	2004-06
Coordinator Subatomic Physics Research Focus Group	2001-04
Computing Planning Committee	2002-03
Computing Operations Committee	2002-03
Review of Undergraduate Laboratories	2001-02
Graduate Affairs Committee	2001-02
Computing Committee (chair)	1997-99
Graduate Affairs Committee	1997-98
Physics Education, Research & Management Committee	1996-97
Long Term Physics Planning Committee	1995-96
Physics Service Courses Committee	1994-95
Advisory Selection Committee (chair) (Astroparticle)	2007-08
Advisory Selection Committee (chair) (CRC Subatomic)	2005-06
Advisory Selection Committee (chair) (Subatomic)	2005-06
Advisory Selection Committee (CRC Subatomic)	2003-04
Advisory Selection Committee (chair) (Subatomic)	2003
Advisory Selection (CRC Space Physics)	2002
Advisory Selection (CRC Condensed Matter)	2002
Advisory Selection Committee (Subatomic)	2001
Advisory Selection Committee (Geophysics)	2001
Advisory Selection Committee (Cosmology)	1998-99
Advisory Selection Committee (Subatomic)	1998

Service in Particle Physics

MRS	Ontario Ministry of Research and Innovation	2008
ECCTD	European Conference on Circuit Theory and Design	2008
TRIUMF	Search and Hiring Committee (twice)	2007

TRIUMF	Carl H. Westcott Fellowship Committee (chair)	2002-2013
TRIUMF	Operating Committee	2002-07
IRCSET	Irish EMBARK Initiative Reviewer (Astrophysics)	2005
NSF	Particle Astrophysics Proposals Reviewer	2004, 2008-9
IPP	Institute of Particle Physics Institutional Proxy	2003 to present
IPP	Research Scientist tenure review (chair)	2005-06
IPP	IPP co-chair for TRIUMF director search	2000
IPP	Research Scientist tenure review	1999-00
IPP	Institute of Particle Physics Council	1998-01, 2012-16
NSERC	Subatomic Physics Reviewer	2006, 2002
NSERC	Subatomic Physics BaBar Review Committee	1995-96
APS	Advisory Committee for the 1997 DPF Conf.	1997
ATLAS	TeV-Scale Gravity Group Co-convener	2007-09
ATLAS	Radiation Steering Committee	2000-01
ATLAS	Electronics Steering Committee	1994-01
ATLAS-Canada	Deputy Spokesperson	2006-09
ATLAS-Canada	Acting Spokesperson (10-23 July)	2007
ATLAS-Canada	Spokesperson Election Committee	2007
ATLAS-Canada	By-laws Committee	2007

Book Publisher Referee

- Taylor and Francis (Particle Physics Book – proposal)
- Pearson Prentice Hall (Electronics Textbook – new edition)

Journal Referee

- International Journal of Theoretical Physics
- Physics Letters B
- The European Physical Journal C
- Journal of High Energy Physics
- Universe
- Entropy
- Symmetry
- Physical Review & Research International
- Astrophysics and Space Science (Springer)
- Measurement Science and Technology (IOP)
- Semiconductor Science and Technology (IOP)
- IEEE Transactions on Circuits and Systems II
- IEEE Transactions on Nuclear Science
- Nuclear Instruments and Methods in Physics Research, Section A
- Canadian Journal of Physics

REFERENCES

Dr. Robert S. Orr, Professor
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Dr. Richard Keeler, Professor
Department of Physics and Astronomy
University of Victoria
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