

CURRICULUM VITAE

Pekka K. Sinervo, C.M., FRSC

Biographical Information

Personal

Personal Data:

Pekka K. Sinervo, C.M., FRSC

Born: May 24, 1958

Canadian citizen

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Department of Physics

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Degrees

Degree : Ph.D. Elementary Particle Physics

Institution : Stanford University

Date : May 1986

Advisor : D. W. G. S. Leith

Thesis : Study of Strange Meson Spectrum as Observed in the Reaction $K^-p \rightarrow K^0\pi^+\pi^-n$ at 11 GeV/c

Degree : B.Sc. (4 year) Mathematics and Physics

Institution : University of Toronto

Date : May 1980

Employment

- Professor of Physics, University of Toronto (Nov 2016 - present)
- Senior Vice-President, Research, Canadian Institute for Advanced Research (May 2009 - Oct 2016)
- Rosi and Max Varon Visiting Professor, Weizmann Institute of Science, Rehovot, Israel (Sep 2008 - Apr 2009)
- Vice-Provost, First-Entry Programs, University of Toronto (Nov 2006 - Feb 2008)
- Dean, Faculty of Arts and Science, University of Toronto (Jan 2004 - Feb 2008)
- Interim Dean, Faculty of Arts and Science, University of Toronto (May 2003 - Dec 2003)
- Vice-Dean, Academic, Faculty of Arts and Science, University of Toronto (Jan 2003 - Apr 2003)
- Vice-Dean, Graduate Education and Research, Faculty of Arts and Science, University of Toronto (Sep 2000 - Dec 2002)

- Chair, Department of Physics, University of Toronto (Jul 1997 - Aug 2000)
- Visiting Scientist, Lawrence Berkeley National Laboratory, Berkeley, CA (Jan 1997 - Jun 1997)
- Professor of Physics, University of Toronto (Jul 1995 - Apr 2009)
- Associate Professor of Physics, Department of Physics, University of Toronto (Jul 1990 - Jun 1995)–tenure awarded May 1993
- Visiting Scientist, Fermi National Accelerator Laboratory, Batavia, IL, (Feb 1994 - Jul 1994)
- Assistant Professor, Department of Physics, University of Pennsylvania (Jul 1988 - Jun 1990)
- Postdoctoral Researcher, Department of Physics, University of Pennsylvania (Jun 1986 - Jun 1988)

Honours

- Mar 2019 Member, Order of Canada
- Feb 2012 Fellow, American Association for the Advancement of Science
- Jan 2008 Acenberg Award, Rotman Research Institute
- Jun 2007 Patron of the Society, Canadian Astronomical Society
- Jul 2004 Senior Fellow, Massey College, University of Toronto
- May 2004 Fellow, American Physical Society
- Nov 1999 Fellow, Royal Society of Canada
- Nov 1995 Rutherford Memorial Medal in Physics, Royal Society of Canada
- Feb 1995 Outstanding Teaching Award, Faculty of Arts and Science, University of Toronto
- Jun 1980 Reuben Wells Leonard Scholarship for the Physical Sciences
University College, University of Toronto
- Mar 1980 NSERC Postgraduate Scholarship (renewed 1982)
Natural Sciences and Engineering Research Council
- Mar 1980 NSERC 1967 Science Scholarship (declined)
Natural Sciences and Engineering Research Council
- Mar 1979 Harry M. Boxen Memorial Scholarship, University College, University of Toronto
- Apr 1976 C.L. Burton Scholarship, University College, University of Toronto

Professional Affiliations

- Member, Canadian Association of Physicists
- Member, Institute of Particle Physics
- Member and Fellow, American Association for the Advancement of Science
- Member and Fellow, American Physical Society
- Fellow, Royal Society of Canada

Academic History

My research tries to understand the basic building blocks of our world and the forces that hold them together.

My primary research interest is the direct detection of dark matter using the SuperCDMS detector located 2 km underground in the SNOLAB Laboratory. This detector is one of the most sensitive detectors for dark matter and will begin taking data in 2024. My team is involved in the modelling of the detector response to dark matter and commissioning of the experiment.

I am also a member of the ATLAS collaboration at the CERN Large Hadron Collider (LHC) in Geneva, Switzerland, where we are studying 13 TeV proton-proton collisions. I am particularly interested in the top quark, the most massive of the fundamental building blocks predicted by the “Standard Model” of high energy physics and the last quark to be discovered. Having published conclusive evidence of its existence in 1995, I am now studying the top quark with data collected by the ATLAS experiment. My students and I have developed techniques for making innovative measurements of top quark properties. A secondary research interest is the Higgs boson, given its strong interactions with the top quark, and the search for dark matter.

I am also involved in the development of advanced statistical techniques applied to the analysis of particle physics data.

I was a member of the CDF collaboration from 1986 to 2012, which studied high-energy proton-antiproton collisions produced at the Fermilab Tevatron Collider. I had a lead role in the 1995 discovery of the top quark and in subsequent measurements of its properties.

My research interests prior to 1986 focused on the study of strange mesons, which formed the topic of my Ph.D. dissertation. I studied the orbitally and radially excited states of the K^* meson, as this system provided us with the cleanest experimental view of the spectroscopy of a light quark-antiquark state.

During the period 1978 through 1980, I participated in the first measurements of the lifetimes of charmed hadrons as a member of a University of Toronto research group.

My secondary research activity is the development of advanced detectors and computational systems for the particle physics experiments. My group designed parts of the data collection systems for the SDC detector, a device that was intended to search for the Higgs boson at the Superconducting Super Collider (SSC). I have collaborated on the development of a Grid computing model for the ATLAS experiment, and have developed high-speed electronics and data acquisition systems.

I have held various leadership and administrative roles in my field, serving most recently as chair of the Board of Management of SNOLab, an underground laboratory located in Sudbury, Ontario dedicated to the search for dark matter and other difficult-to-detect phenomena.

Scholarly and Professional Work

Refereed Publications (total of 1688)

The following publications are my most relevant publications, following the guidelines developed by the Commission of Particles and Fields (C11) of the International Union of Pure and Applied Physics, September 2008. I have either been a primary author of the publication, or made significant specific contributions to the work therein, either as one of the working co-authors or through specific intellectual contributions to the study.

55. *Measurement of the $t\bar{t}$ production cross-section in pp collisions at $\sqrt{s} = 5.02$ TeV with the ATLAS detector*,
G.Aad *et al.* (ATLAS Collaboration), <https://arxiv.org/abs/2207.01354> [hep-ex] (2022). Accepted by JHEP.
54. *“Measurement of the Higgs boson mass in the $H \rightarrow ZZ^* \rightarrow 4\ell$ decay channel using 139 fb^{-1} of $\sqrt{s} = 13$ TeV pp collisions recorded by the ATLAS detector at the LHC”*,
G.Aad *et al.* (ATLAS Collaboration), *Phys. Lett. B* **843**, 137880 (2023).
<https://doi.org/10.1016/j.physletb.2023.137880>, <https://arxiv.org/abs/2207.00320> [hep-ex].
53. *“Differential $t\bar{t}$ cross-section measurements using boosted top quarks in the all-hadronic final state with 139 fb^{-1} of ATLAS data”*,
G.Aad *et al.* (ATLAS Collaboration) *JHEP* **2023**, 04 (2023).
[https://doi.org/10.1007/JHEP04\(2023\)080](https://doi.org/10.1007/JHEP04(2023)080), <https://arxiv.org/abs/2205.02817> [hep-ex]
52. *“Search for single production of a vectorlike T quark decaying into a Higgs boson and top quark with fully hadronic final states using the ATLAS detector”*
G.Aad *et al.* (ATLAS Collaboration), *Phys. Rev. D* **105**, 092012 (2022),
DOI:10.1103/PhysRevD.105.092012, <https://arxiv.org/abs/2201.07045>.
51. *“Measurements of $t\bar{t}$ differential cross-sections of highly boosted top quarks decaying to all-hadronic final states in pp collisions at $\sqrt{s} = 13$ TeV using the ATLAS detector”*, M. Aaboud *et al.* (ATLAS Collaboration). arXiv:1801.02052 [hep-ex]
DOI:10.1103/PhysRevD.98.012003
Phys. Rev. D **98**, no. 1, 012003 (2018), CERN-EP-2017-226
50. G. Aad *et al.* (ATLAS Collaboration) (secondary author), *“Differential top-antitop cross-section measurements as a function of observables constructed from final-state particles using pp collisions at $\sqrt{s} = 7$ TeV in the ATLAS detector”*, *JHEP* **1506**, 100 (2015).
arXiv:1502.05923 [hep-ex], DOI: 10.1007/JHEP06(2015)100. HEP entry
49. T. A. Aaltonen *et al.* [CDF Collaboration] (primary author), *“Studies of high-transverse momentum jet substructure and top quarks produced in 1.96 TeV proton-antiproton collisions”*, *Phys. Rev. D* **91**, no. 3, 032006 (2015).
arXiv:1407.3484 [hep-ex], 10.1103/PhysRevD.91.032006.

48. G. Aad *et al.* (ATLAS Collaboration) (secondary author), “Performance of jet substructure techniques for large- R jets in proton-proton collisions at $\sqrt{s} = 7$ TeV using the ATLAS detector”, JHEP **1309**, 076 (2013).
arXiv:1306.4945 [hep-ex], 10.1007/JHEP09(2013)076.
47. G. Aad *et al.* (ATLAS Collaboration) (primary author), “Search for resonances decaying into top-quark pairs using fully hadronic decays in pp collisions with ATLAS at $\sqrt{s} = 7$ TeV”, JHEP **1301**, 116 (2013).
arXiv:1211.2202 [hep-ex], 10.1007/JHEP01(2013)116.
46. G. Aad *et al.* (ATLAS Collaboration) (primary author), “ATLAS measurements of the properties of jets for boosted particle searches”, Phys. Rev. D **86**, 072006 (2012).
arXiv:1206.5369 [hep-ex], 10.1103/PhysRevD.86.072006.
45. G. Aad *et al.* (ATLAS Collaboration) (secondary author), “Jet mass and substructure of inclusive jets in $\sqrt{s} = 7$ TeV pp collisions with the ATLAS experiment”, JHEP **1205**, 128 (2012).
arXiv:1203.4606 [hep-ex], 10.1007/JHEP05(2012)128.
44. A. Altheimer, S. Arora, L. Asquith, G. Brooijmans, J. Butterworth, M. Campanelli, B. Chapeau and A. E. Cholakian *et al.* (secondary author), “Jet Substructure at the Tevatron and LHC: New results, new tools, new benchmarks”, J. Phys. G **39**, 063001 (2012).
arXiv:1201.0008 [hep-ph], 10.1088/0954-3899/39/6/063001.
43. T. Aaltonen *et al.* [CDF Collaboration] (primary author), “Study of Substructure of High Transverse Momentum Jets Produced in Proton-Antiproton Collisions at $\sqrt{s} = 1.96$ TeV”, Phys. Rev. D **85**, 091101 (2012).
arXiv:1106.5952 [hep-ex], 10.1103/PhysRevD.85.091101.
42. G. Aad *et al.* (ATLAS Collaboration) (primary author), “Measurement of the top quark pair production cross section in pp collisions at $\sqrt{s} = 7$ TeV in dilepton final states with ATLAS”, Phys. Lett. B **707**, 459 (2012).
arXiv:1108.3699 [hep-ex].
41. G. Aad *et al.* (ATLAS Collaboration) (primary author), “Search for New Physics in Dijet Mass and Angular Distributions in pp Collisions at $\sqrt{s} = 7$ TeV Measured with the ATLAS Detector,” New J. Phys. **13**, 053044 (2011).
arXiv:1008.2461 [hep-ex].
40. R. Alon, E. Duchovni, G. Perez, A. P. Pranko, P. K. Sinervo (primary author), “A Data-Driven Method of Pile-Up Correction for the Substructure of Massive Jets,” Phys. Rev. D **84**, 114025 (2011).
arXiv:1101.3002 [hep-ph].
39. A. Abdesselam, E. B. Kuutmann, U. Bitenc, G. Brooijmans, J. Butterworth, P. Bruckman de Renstrom, D. Buarque Franzosi, R. Buckingham *et al.* (secondary author), “Boosted Objects:

- A Probe of Beyond the Standard Model Physics*,” Eur. Phys. J. C **71**, 1661 (2011).
arXiv:1012.5412 [hep-ph].
38. T. Aaltonen *et al.* [CDF Collaboration] (secondary author), “*Measurement of $t\bar{t}$ Spin Correlation in $p\bar{p}$ Collisions Using the CDF II Detector at the Tevatron*,” Phys. Rev. **D83**, 031104 (2011).
arXiv:1012.3093 [hep-ex].
 37. G. Aad *et al.* (ATLAS Collaboration) (primary author), “*Search for New Particles in Two-Jet Final States in 7 TeV Proton-Proton Collisions with the ATLAS Detector at the LHC*,” Phys. Rev. Lett. **105**, 161801 (2010).
arXiv:1008.2461 [hep-ex].
 36. T. Aaltonen *et al.* (secondary author), “*Measurement of the Fraction of $t\bar{t}$ Production via Gluon-Gluon Fusion in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV*,” Phys. Rev. D **79**, 031101 (2009).
arXiv:0807.4262 [hep-ex].
 35. T. Aaltonen *et al.* (primary author), “*First Measurement of the Fraction of Top Quark Pair Production Through Gluon-Gluon Fusion*,” Phys. Rev. D **78**, 111101 (2008).
arXiv:0712.3273 [hep-ex].
 34. A. Abulencia *et al.* (primary author), “*Precise Measurement of the Top Quark Mass in the Lepton + Jets Topology at CDF II*,” Phys. Rev. Lett. **99**, 182002 (2007).
 33. A. Abulencia *et al.* (primary author), “*Top Quark Mass Measurement Using the Template Method in the Lepton + Jets Channel at CDF II*,” Phys. Rev. D **73**, 032003 (2006).
 32. A. Abulencia *et al.* (primary author), “*Precision Top Quark Mass Measurement in the Lepton + Jets Topology in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV*,” Phys. Rev. Lett. **96**, 022004 (2006).
 31. *Search for a W' Boson Decaying to a Top and Bottom Quark Pair in 1.8 TeV $p\bar{p}$ Collisions*, D. Acosta *et al.* (primary author), Phys. Rev. Lett. **90**, 081802 (2003).
 30. *Signal Significance in Particle Physics*,
P. K. Sinervo, hep-ex/0208005 (August 2002). Published in the Proceedings of the Conference on Advanced Statistical Techniques in Particle Physics, Durham England, Mar 16-22 (2002).
 29. *Search for Single Top Quark Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV*,
D. Acosta *et al.* (secondary author), Phys. Rev. D **65**, 091102 (2002).
 28. *Measurement of the Top Quark P_T Distribution in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV*,
T. Affolder *et al.* (primary author), Phys. Rev. Lett. **87**, 102001 (2001).
 27. *Search for a W' Boson via the Decay Mode $W' \rightarrow \mu\nu_\mu$ in 1.8-TeV $p\bar{p}$ Collisions*,
F. Abe *et al.* (primary author), Phys. Rev. Lett. **84**, 5716-5721 (2000).
 26. *Measurement of b Quark Fragmentation Fractions in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV*,
T. Affolder *et al.* (primary author), Phys. Rev. Lett. **84**, 1663-1668 (2000).

25. *Measurement of b Quark Fragmentation Fractions in the Production of Strange and Light B Mesons in Proton Anti-Proton Collisions at $\sqrt{s} = 1.8$ TeV*,
F. Abe *et al.* (primary author), Phys. Rev. D. **60**, 092005 (1999).
24. *CVD Diamond Pixel Detectors for LHC Experiments*,
R. Wedenig *et al.* (secondary author), Nucl. Phys. Proc. Suppl. **78**, 497-504 (1999).
23. *The First Bump Bonded Pixel Detectors on CVD Diamond*,
W. Adam *et al.* (secondary author), Nucl. Instrum. Methods **A43**, 326-335 (1999).
22. *Observation of $B^+ \rightarrow \psi(2S)K^+$ and $B^0 \rightarrow \psi(2S)K^{*0}(892)$ Decays and Measurements of B Meson Branching Fractions into J/ψ and $\psi(2S)$ Final States*,
F. Abe *et al.* (primary author), Phys. Rev. D **58**, 072001 (1998).
21. *Ratios of Bottom Meson Branching Fractions Involving J/ψ Mesons and Determination of b Quark Fragmentation Fractions*, F. Abe *et al.* (primary author), Phys. Rev. D **54**, 6596-6609 (1996).
20. *Observation of Top Quark Production in $p\bar{p}$ Collisions with the Collider Detector at Fermilab*,
F. Abe *et al.* (primary author), Phys. Rev. Lett. **74**, 2626-2631 (1995).
19. *Evidence for top quark production in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV*,
F. Abe *et al.* (primary author), Phys. Rev. **D50**, 2966-3026 (1994).
18. *Evidence for Top Quark Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV*,
F. Abe *et al.* (primary author), Phys. Rev. Lett. **73**, 225-231 (1994).
17. *Limit on the Top Quark Mass from $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV*,
F. Abe *et al.* (primary author), Phys. Rev. **D45**, 3921-3948 (1992).
16. *Performance and System Flexibility of the CDF Hardware Event Builder*,
T. M. Shaw, K. Schurecht and P. K. Sinervo, FERMILAB-CONF-91-314 (Nov 1991). To be published in the proceedings of the IEEE Nuclear Science Symposium, Sante Fe, NM (Nov 1991).
15. *Top Quark Search in the Electron + Jets Channel in Proton-Antiproton Collisions at $\sqrt{s} = 1.8$ TeV*, F. Abe *et al.* (primary author), Phys. Rev. **D43**, 664-686 (1991).
14. *A Search for the Top Quark in the Reaction $\bar{p}p \rightarrow$ Electron + Jets at $\sqrt{s} = 1.8$ TeV*,
F. Abe *et al.* (primary author), Phys. Rev. Lett. **64**, 192-196 (1990).
13. *Fast Data Acquisition with the CDF Event Builder*,
P. K. Sinervo *et al.* (primary author), IEEE Trans. Nucl. Sci. **36**, 440-445 (1989).
12. *Evidence for a $J^{PC} = 4^{++}$ State at ~ 2.2 GeV c^2 From K^-p Interactions at 11 GeV c* ,
D. Aston *et al.* (joint author), Phys. Lett. **215B**, 199-204 (1988).

11. *The CDF Event Builder*,
A.W.Booth *et al.* (primary author), IEEE Trans. Nucl. Sci. **NS-34**, 790-795 (1987).
10. *The Organization and Maintenance of the CDF Offline Code on IBM VM and DEC VAX/VMS Operating Systems*,
K. Chadwick, R. Hollebeek and P.K. Sinervo (primary author), Comput. Phys. Commun. **45**, 409-415 (1987).
9. *The Strange Meson Resonances Observed in the Reaction $K^-p \rightarrow \bar{K}^0\pi + \pi^-n$ at 11 GeV c*,
D. Aston *et al.* (primary author), Nucl. Phys. **B292**, 693-713 (1987).
8. *Observation of the Leading K^* L-Excitation Series from $J^P = 1^-$ Through 5^- in the Reaction $K^-p \rightarrow K^-\pi pn$ at 11 GeV c*,
D. Aston *et al.* (joint author), Phys. Lett. **180B**, 308-312 (1986).
7. *A Study of the Strange Meson Spectrum as Observed in the Reaction $K^-p \rightarrow \bar{K}^0\pi + \pi^-n$ at 11 GeV c*, P.K. Sinervo, SLAC report 299, 1-233 (May 1986). Ph.D. Thesis.
6. *The SLAC Three-Body Partial Wave Analysis System*,
D. Aston, T. Lasinski and P.K. Sinervo (primary author), SLAC report 222, 1-66 (Oct 1985).
5. *The 3081/E Emulator: A Processor for use in On-line and Off-line Arrays*,
P.M. Ferran *et al.* (secondary author), SLAC preprint 3753, contributed to Conf. on Computing in High Energy Physics, Amsterdam, Netherlands, Jun 25-28, 1985.
4. *Partial Wave Analysis of the $\bar{K}^0\pi + \pi^-$ System Produced in K^-p Interactions at 11 GeV c*,
D. Aston *et al.* (primary author), Nucl. Phys. **B247**, 261-292 (1984).
3. *Observation of Two Non-leading Strangeness-one Vector Mesons*,
D. Aston *et al.* (primary author), Phys. Lett. **149B**, 258-262 (1984).
2. *Measurement of the D^+ , F^+ and Λ_c^+ Charmed Particle Lifetimes*,
N. Ushida *et al.* (joint author), Phys. Rev. Lett. **45**, 1053-1056 (1980).
1. *Measurement of the D^0 Lifetime*,
N. Ushida *et al.* (joint author), Phys. Rev. Lett. **45**, 1049-1052 (1980).

N.B. A complete list of refereed publications is available upon request.

Student Supervision

I have been primary advisor for the following graduate students:

- S. Singh, M.Sc. and Ph.D. candidate at the University of Toronto (Sep 2019–).
- O. Miu, Ph.D. candidate at the University of Toronto (Sep 2017–).

- B. Ciungu, M.Sc. (2018) and Ph.D. candidate at the University of Toronto (Sep 2018–Feb 2022). Her thesis is titled *Studies of the Higgs Boson Properties in $\sqrt{s} = 13$ TeV pp Collisions*.
- J. Foo, M.Sc. (2017) and Ph.D. candidate at the University of Toronto (Sep 2017–).
- C. Garner, Ph.D. candidate at the University of Toronto (Jan 2017–).
- N. Thorpe, M.Sc. (2009) and Ph.D. candidate at the University of Toronto (2009-2011).
- T. Farooque, Ph.D. candidate at the University of Toronto (2007-2013). Her thesis is titled *Search for Heavy Resonances Decaying to Top Quark Pairs in the Boosted All-Hadronic Decay Channel*, Jun 2013.
- B. Guo, M.Sc. (2006-2007) and Ph.D. candidate at the University of Toronto (2006-2011). His thesis is titled *Measurement of the Top Quark Pair Production Cross Section and an in-situ B-tagging efficiency Calibration with ATLAS in pp collisions at $\sqrt{s} = 7$ TeV in Dilepton Final States*, Jul 2011.
- S. Pashapour, M.Sc. (1999-2001) and Ph.D. graduate at the University of Toronto (2001-2008). Her thesis is titled *First Measurement of $\sigma(gg \rightarrow t\bar{t})/\sigma(p\bar{p} \rightarrow t\bar{t})$* , Apr 2008.
- S. Lai, M.Sc. (2000-2001) and Ph.D. graduate at the University of Toronto (2001-2006). His thesis is titled *The Search for the Standard Model Higgs Boson Produced in Association with a Top Anti-Top Quark Pair in 1.96 TeV Proton-Antiproton Collisions*, Dec 2006.
- J. Arguin, Ph.D. graduate at the University of Toronto (2001-2005). His thesis is titled *Measurement of the Top Quark Mass Using In Situ Jet Energy Scale Calibration*, Dec 2005. This thesis won the 2006 Universities Research Association (URA) Thesis Award for “most outstanding doctoral thesis written on research conducted at Fermilab or in collaboration with Fermilab scientists” and the American Physical Society Tanaka Thesis Prize.
- A. Robinson, M.Sc. (1996-1997) and Ph.D. graduate at the University of Toronto (1997-2000). His dissertation is titled *Measurement of the Top Quark Transverse Momentum Distribution*.
- W. Taylor, M.Sc. (1993-1994) and Ph.D. graduate at the University of Toronto (1994-1999). Her dissertation is titled *A Measurement of b-quark Fragmentation Fractions in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV*.
- A. Warburton, M.Sc. (1991-1992) and Ph.D. graduate at the University of Toronto (1992-1997). His dissertation is titled *A Study of Exclusive Nonleptonic Decays of B Mesons into Final States of Strange Mesons and 1S or 2S Charmonia*.
- H. Kim, M.Sc. (1991-1992) and Ph.D. graduate at the University of Toronto (1993-1999). His dissertation is titled *Search for a New Charged Heavy Vector Boson Decaying to a $\mu\nu_\mu$ Pair*.
- R. Grindley, Ph.D. candidate at the University of Toronto (1990-1992).
- G. Sganos, M.Sc. (1990-1991) and Ph.D. graduate at the University of Toronto (1991-1996). His dissertation is titled *Measurement of Ratios of Branching Fractions in B Meson Decays*.
- A. Krumins, Ph.D. candidate at the University of Toronto (1990-1991). Mr. Krumins transferred to the Department of History and Philosophy of Science and Technology in fall 1991.

I have also acted as co-advisor for the following graduate students:

- Lingfeng Song, Ph.D. dissertation at the University of Pennsylvania. Dr. Song defended his dissertation on “ $B^0\bar{B}^0$ Mixing” in Sep 1991.

- David Connor, Ph.D. dissertation at the University of Pennsylvania. His thesis, completed in 1991, is on the “Study of Multi-Jet Final States Observed at CDF.” I was his secondary supervisor for the period 1987 through 1990.
- John Walsh, Ph.D. dissertation at the University of Pennsylvania. His thesis is titled “Search for the Top Quark in Electron + Jet Events,” and was completed in Apr 1990. I was his secondary supervisor for the period 1988 through 1990.

I have supervised the following undergraduate students:

- Angela Xiang, supervised USRA student working on Higgs boson-top quark production, May 2022-Apr 2023.
- Harsh Jakula, supervised USRA student working on Higgs boson-top quark production, May 2022-Apr 2023.
- Kelvin Liand supervised USRA student working on measurement of single-top-quark production at 5 TeV, May 2022-Apr 2023.
- Lily Gong, supervised USRA student working on background estimates for vector-like quark search, May 2021-Aug 2021.
- Maggie Wang, supervised USRA student working on machine-learning approaches to top quark, May 2021-Apr 2022.
- Darren Chan. supervised USRA student working on machine-learning approaches to top quark, May 2021-Aug 2021.
- Lily Gong, supervised USRA student working on background estimates for vector-like quark search, May 2021-Aug 2021.
- Maggie Wang, supervised USRA student working on machine-learning approaches to top quark, May 2021-Apr 2022.
- Lucy Liu supervised USRA student working on machine-learning approaches to top quark reconstruction, May 2020-Aug 2020.
- Brandon Hian, supervised research assistant working on machine-learning approaches to top quark reconstruction, May 2020-Aug 2020.
- Baria Khan, supervised research assistant working on Higgs boson identification using machine learning techniques, May 2020-Aug 2020.
- Farden Syed, supervised USRA student working on machine-learning approaches to top quark reconstruction, May 2019-Aug 2019.
- Shannon Egan, supervised USRA student working on statistical techniques for searches of vector-like quarks at the Large Hadron Collider, May 2019-Aug-2019.
- Daniel Levy, supervised USRA student working on Higgs boson selection strategies in vector-like quark searches, May 2019-Aug-2019.
- Lindsay Kuramoto, co-supervised Woodsworth Science Abroad student working on the development of electronics for the Phase II ATLAS Upgrade, May 2018-Aug 2018.
- Smik Patel, co-supervised Woodsworth Science Abroad student working on the development of electronics for the Phase II ATLAS Upgrade, May 2018-Aug 2018.
- Arthur Qiu, supervised USRA student working on ATLAS boosted top-quark tagging, May 2018-July 2018.

- Anuhbav Mathur, co-supervised Woodsworth Science Abroad student working on the development of electronics for the Phase II ATLAS Upgrade, May 2017-Aug 2017.
- Andrey Khesin, NSERC summer research assistant working on the search for mass particles decaying to top quark pairs, May 2017-Aug 2017.
- Austin Long, co-supervised Woodsworth Science Abroad student working on the development of electronics for the Phase II ATLAS Upgrade, May 2016-Aug 2016.
- Joanna Huang, co-supervised Woodsworth Science Abroad student working on the development of electronics for the Phase II ATLAS Upgrade, May 2015-Aug 2015.
- Jung-Yook Yoon, co-supervised Woodsworth Science Abroad student working on the development of beam condition monitors for ATLAS, May 2013-Aug 2013.
- Ryan Underwood, Woodsworth Science Abroad program working on the search for massive particles decaying to top quark pairs, May 2012-Aug 2012 and May 2013-Aug-2013.
- Jeff Dror, NSERC summer research assistant working on the search for mass particles decaying to top quark pairs, May 2012-Aug 2012.
- Aysha Adel-Aziz, Woodsworth Science Abroad program working on the development of diamond pixel detectors, May 2011-Aug 2011 (co-supervised with Prof. William Trischuk).
- Jennifer Jing Fei Yu, NSERC summer research assistant, working on ATLAS detector calibrations of jets, May 2010-Aug 2010.
- Keith Ng, NSERC summer research assistant, working on ATLAS detector missing transverse energy calibrations, May 2010-Aug 2010.
- Trisha Farooque, NSERC summer research scholar working on the CDF II top quark mass measurement, May 2006-Aug 2006.
- Si Xie, NSERC summer research scholar working on the CDF II top quark mass measurement, May 2004-Apr 2006.
- Ian Blumenfeld, B.A.Sc. thesis at the University of Toronto. Mr. Blumenfeld completed his thesis “Top Quark Mass Measurements” in Apr 2004.
- Timothy Little, B.A.Sc. thesis at the University of Toronto. Mr. Little completed his thesis “Calorimetry Calibration” in Apr 2003.
- Wojciech Fedorko, NSERC summer research scholar working on the CDF II calorimeter software development project, May 2002-Aug 2002 and May 2002-Aug 2003.
- John Berdeklis, research assistant on the CDF software development project, May 2000-Aug 2000.
- James Gordon, NSERC summer research scholar working on ATLAS pixel detector development, May 2000-Jul 2000.
- Aidan Robson, research assistant on the ATLAS pixel project, May 1999-Aug 1999. Also worked on the CDF II calorimetry software development project, May 2000-Aug 2000.
- Debbie Chachra, B.A.Sc. thesis at the University of Toronto. Ms. Chachra completed her thesis on “A Feasability Study of the Use of Scintillator in the Sudbury Neutrino Observatory” in Apr 1991.

Conference Presentations

30. *Searches using Boosted Objects by ATLAS and CMS*, BLOIS2017, Blois, France (May 2017).
29. *Recent QCD Results from ATLAS*, PHENO2016, University of Pittsburgh (May 2016).
28. *Recent LHC Results: Beyond the Standard Model with Boost*, Invited Review for BOOST 2013, Flagstaff, AZ (Aug 2013).
27. *CMS and ATLAS Searches for Exotic States with Jets+X*, Tohoku Workshop on Higgs and Beyond, Sendai, Japan (Jun 2013).
26. *Really Understanding Boosted Objects*, 2011 Aspen Centre for Physics, Aspen, CO (Jul 2011).
25. *Search for Boosted Top Quarks at CDF*, BOOST 2011, Princeton University, New Jersey, USA (May 2011).
24. *Massive High p_T Jets: An Update from CDF*, Boston Jets Workshop, Harvard University, USA (Jan 2011).
23. *Massive High p_T Jets: Preliminary Results from CDF*, BOOST 2010, Oxford University, England (Jun 2010).
22. *The Search for New Physics Using the Top Quark at the Tevatron*, representing the CDF and DZero collaborations at TOP 2010, Bruges, Belgium (Jun 2010).
21. *Weighing the Top Quark at CDF*, SUSY 09, Northeastern University, USA (Jun 2009). Published in AIP Conf. Proc. **1200**, 670-673 (2010).
20. *Measurement of the Top Production Cross Section Rate from Gluon Fusion at CDF* (poster session), Particles and Nuclei in Collision Conference, Eilat, Israel (Nov 2008).
19. *Measurement of Single Top Quark Production at CDF* (poster session), Particles and Nuclei in Collision Conference, Eilat, Israel (Nov 2008).
18. *Measurement of the Top Quark Mass with in situ $W \rightarrow q\bar{q}'$ Calibration*, Canadian Association of Physicists Congress, York University (Jun 2005).
17. *Definition and Treatment of Systematic Uncertainties in High Energy Physics and Astrophysics*, invited talk at PhyStat2003, Stanford University, USA (Sep 2003).
16. *Significance in Particle Physics Experiments*, invited talk at the Conference on Advanced Statistical Techniques in Particle Physics, University of Durham, England (Mar 2002).
15. *The High Energy Frontier – CDF II at the Tevatron Collider*, contributed talk at the Canadian Association of Physicists Congress, University of Victoria, BC (Jun 2001).
14. *Tevatron Higgs Searches in Run II*, invited talk at Higgs-Supersymmetry Workshop, LAL, Orsay, France (Mar 2001).
13. *The Search for Single Top Production*, contributed talk at the Canadian Association of Physicists Congress, York University, ON (Jun 2000).

12. *What We Know About Truth*, invited talk at the Western Regional Nuclear and Particle Physics Conference, Lake Louise, AL (Feb 2000).
11. *Calorimetry in Top Quark Physics*, invited talk at CALOR99, Conference on Calorimetry in High Energy Physics, Lisbon, Portugal (Jun 1999).
10. *Bottom Quark Fragmentation Fractions in $p\bar{p}$ Collisions with CDF at $\sqrt{s} = 1.8$ TeV*, W. Taylor, P. Sinervo, *et al.* (CDF Collaboration), contributed talk to the International Conference in High Energy Physics, Vancouver, Canada (Aug 1998).
9. *The CDF Top Quark Search*, paper presented at the Workshop on the Origin of Fermion Masses and Mixings, Fermilab, USA (Oct 1994).
8. *The Status of the Top Quark Search*, paper presented at the Canadian Association of Physicists 1994 Congress, Regina, Canada (Jun 1994).
7. *The Status of the Top Quark Search*, paper presented at the Canadian Association of Physicists 1994 Congress, Regina, Canada (Jun 1994).
6. *Results from the CDF Experiment*, paper presented at the Canadian Association of Physicists 1993 Congress, Vancouver, Canada (Jun 1993).
5. *Top at the SSC and LHC*, paper presented at the Workshop on Collider Top Physics, Madison, WI (Nov 1992).
4. *The Search for Physics Beyond the Standard Model with CDF*, paper presented at the conference *Beyond the Standard Model III*, Ottawa, Canada (Jun 1992).
3. *The Search for the Top Quark*, paper presented at the 12th Nordic Meeting on Particle Physics, Spatind, Norway (Jan 1992).
2. *Bottom Physics at Hadron Colliders*, paper presented at the conference on *Results and Perspectives in Particle Physics*, La Thuile, Italy (Mar 1991).
1. *The Search for the Top Quark at CDF*, paper presented at the annual meeting of the Division of Particles and Fields, Storrs, CN (Jul 1988).

Invited Lectures

71. *Boosted Top Jets: Precision Measurements of Top Quark Pair Production*, Department of Physics, University of Rochester, Apr 2018.
70. *Transforming Energy at the Large Hadron Collider: Creating Mass*, Fields Institute, University of Toronto, Sep 2016.
69. *Transforming Energy at the Large Hadron Collider: Creating Mass*, Simbiosis 2016, Hidalgo, Mexico, Nov 2016

68. *Genesis and Big Bang Cosmology*, Science and Judaism Research Workshop, Institute for the Philosophy and History of Science, University of Toronto, 28 Mar 2017.
67. *ATLAS Progress in Boosted Top Quark Physics: A First Look at 13 TeV pp Collisions*, Technion University, Haifa, Israel, 14 Dec 2015.
66. *ATLAS Progress in Boosted Top Quark Physics: A First Look at 13 TeV pp Collisions*, Joint Tel Aviv University and Weizmann Particle Seminar, Tel Aviv, Israel, 16 Dec 2015.
65. *What we Know (and Don't Know) About the Higgs Boson*, CIFAR Cosmology and Gravity Meeting, Quebec City, QC, 22-24 May 2014.
64. *What Finding the God Particle Means*, Temple Emanu-El Public Lecture, 5 May 2013.
63. *What Finding the God Particle Means*, Massey College Fellows Lunch Lecture Series, Mar 2013.
62. *The Discovery of the Higgs Boson*, Vic One Colloquium, Victoria College, University of Toronto, Jan 2013.
61. *The Search for the Higgs Boson*, CIFAR Brown-Bag Lunch Series, Canadian Institute for Advanced Research, Jan 2012.
60. *The Search for the Higgs Boson*, Vic One Colloquium, Victoria College, University of Toronto, Oct 2011.
59. *Top and Higgs at CDF and ATLAS*, series of three seminars given in the Department of Particle Physics, Weizmann Institute of Science, Rehovot, Israel, Sep-Dec 2008.
58. *Top Quark Physics*, two invited lectures at the TRIUMF Summer Institute 2009, Vancouver, BC, Jul 2009.
57. *The Race for the Higgs Boson*, colloquium in the Department of Particle Physics, Weizmann Institute of Science, Rehovot, Israel, Apr 2009.
56. *Study of Anomalous Production of Multi-Muon Events*, colloquium in the Department of Physics, Technion, Haifa, Israel, Feb 2008.
55. *Search for Truth: What We Know About the Top Quark*, colloquium in the Department of Physics, Tel Aviv University, Tel Aviv, Israel, Jan 2009.
54. *Study of Anomalous Production of Multi-Muon Events*, seminar in the Department of Particle Physics, Weizmann Institute of Science, Rehovot, Israel, Nov 2008.
53. *Top and Higgs at CDF and ATLAS*, series of three seminars given in the Department of Particle Physics, Weizmann Institute of Science, Rehovot, Israel, Sep-Dec 2008.
52. *Weighty Matter: The Top Quark and its Mass*, colloquium given at Tec de Monterrey, Monterrey, Mexico, 21 Mar 2007.
51. *Weighty Matter: The Top Quark and its Mass*, colloquium given at Waseda University, Tokyo, Japan, 15 Oct 2006.

50. *Weighty Matter: The Top Quark and its Mass*, colloquium given at the Weizmann Institute, Rehovot Israel, 5 Jul 2006.
49. *Weighty Matter: The Top Quark and its Mass*, colloquium given at Cornell University, USA, 29 Jan 2006.
48. *Weighty Matter: Measuring the Top Quark Mass*, colloquium given at Tsinghua University, Beijing, 5 Dec 2005.
47. *Weighty Matter: Measuring the Top Quark Mass*, colloquium given at the Institute for High Energy Physics, Beijing, 7 Dec 2005.
46. *Weighty Matter: Measuring the Top Quark Mass*, colloquium given at Shanghai Jiaotong University, Shanghai, 15 Dec 2005.
45. *Weighty Truth: Measuring the Top Quark Mass*, colloquium given at Hong Kong University, Nov 2004.
44. *Weighty Truth: Measuring the Top Quark Mass*, colloquium given at National University of Singapore, Nov 2004.
43. *Weighty Truth: Measuring the Top Quark Mass*, colloquium given at Seoul National University, Nov 2004.
42. *Weighty Truth: Measuring the Top Quark Mass*, colloquium given at University of Jyväskylä, Oct 2004.
41. *Emerging Top Results from CDF II*, colloquium given in the Physics Institute, University of Bonn, Feb 2004.
40. *Search for Truth*, colloquium in the Institute of Physics, University of Helsinki, Oct 2003.
39. *The Mysteries of the Top Quark*, colloquium in the Department of Astronomy and Physics, St. Mary's University, Mar 2003.
38. *Frontiers in Particle Physics: Some Old Statistical Problems*, colloquium in the Department of Statistics, University of Toronto, Jan 2002.
37. *The Discovery of the Top Quark*, CAP Undergraduate Lecture, Trent University, Mar 2001.
36. *The Discovery of the Top Quark*, colloquium at the University of Guelph, Feb 2001.
35. *The Top Quark: Scientific Success or Failure?*, invited lecture at the Institute for the History and Philosophy of Science and Technology, University of Toronto, Oct 1999.
34. *The Debut of Top*, colloquium at the University of British Columbia, May 1999.
33. *Observations on Top*, colloquium at Carleton University, Feb 1999.
32. *The Nature of Truth and Beauty (quarks, that is)*, Senior Common Room talk, University College, Oct 1998.
31. *Careers in Physics*, lecture at Upper Canada College, Toronto, Feb 1998.

30. *Careers in Physics*, lecture at Upper Canada College, Toronto, Feb 1998.
29. *The Stuff We are Made of*, public lecture at Ernescliffe College, University of Toronto, Nov 1997.
28. *Physics with Secondary Vertices*, colloquium at California Institute of Technology, Jun 1997.
27. *Search for Fundamental Structure*, colloquium at Simon Fraser University, Oct 1996.
26. *Search for Fundamental Structure*, colloquium at University of British Columbia, Oct 1996.
25. *Top to Bottom*, High energy physics seminar at University of British Columbia, Oct 1996.
24. *Search for Fundamental Structure*, colloquium at University Victoria, Oct 1996.
23. *Top to Bottom*, High energy physics seminar at University of Toronto, Oct 1996.
22. *Top to Bottom*, High energy physics seminar at University of Rochester, Sep 1996.
21. *The Discovery of Truth: How the Top Quark was Found*, invited lecture, Royal Canadian Institute, University of Toronto, Oct 1995.
20. *Quarks and Cosmos*, invited lecture in the Frontiers in Physics lecture series, Learning Unlimited, Etobicoke, ON, Oct 1995.
19. *The Physics of CDF*, a series of five lectures presented at the 1995 TRIUMF Summer Institute, Jul 1995.
18. *Top Studies at Hadron Colliders*, a series of three lectures presented at the 1995 SLAC Summer Institute. Proceedings to be published.
17. *The Search for Top*, a series of two lectures presented at the 1995 Lake Louise Winter Institute. Proceedings to be published.
16. *New Results from CDF*, colloquium at Carleton University, Apr 1995.
15. *Observation of Top Quark Production*, colloquium at the University of Toronto, Mar 1995.
14. *What is Our World Made Of?*, invited lecture given at the Annual Meeting of the Science Teachers Association of Ontario, Toronto, ON, Nov 1994.
13. *Have We Reached the Top Yet?*, colloquium at Guelph University, Nov 1994.
12. *Status of the Top Quark Search*, invited talk at the Workshop on the Origins of Fermion Masses and Couplings, Fermilab, IL, Oct 1994.
11. *Status of the Top Quark Search*, colloquium presented at University of Alberta Physics Department, Sep 1994.
10. *Networking and HEP Data Collection*, invited talk presented at the Fermilab Affiliates Meeting, Sep 1994.
9. *Status of the Top Quark Search*, colloquium at University of Alberta, Sep 1994.

8. *Status of the Top Quark Search*, invited talk at the Canadian Association of Physicists Symposium, University of Regina, Jun 1994.
7. *Have We Seen the Top Quark?*, invited colloquium at TRIUMF, Vancouver BC, May 1994.
6. *Have We Seen the Top Quark?*, invited colloquium at the University of Waterloo, May 1994.
5. *Have We Found the Top Quark*, seminar presented at University of Toronto Physics Department, Apr 1994.
4. *Finding Truth by Searching for Beauty*, invited colloquium at McMaster University, Sep 1993.
3. *What Have We Learned from Studying High Energy Proton-antiproton Collisions?*, invited colloquium at Harvard University, Oct 1991.
2. *Experimental Particle Physics*, a series of four lectures presented at the 1990 Theoretical Advanced Study Institute, in “Proceedings of the 1990 Theoretical Advanced Study Institute in Elementary Particle Physics,” ed. M. Cvetič and P. Langacker (World Scientific, Singapore, 1991), pp. 591-632.
1. *Experimental Techniques in Hadron Spectroscopy*, a series of three lectures presented at the 1988 Summer School on Hadron Spectroscopy, University of Maryland, Jul 1988 (to be published).

Committees External to University

- Member, NSERC Scholarships and Fellowships Committee, Physical Sciences, Sep 2022 to present.
- Chair, Researcher Council Governance Sub-Committee, Digital Research Alliance, Jun 2022 to present.
- Member, Researcher Council, Digital Research Alliance, Sep 2020 to present.
- Chair, Computer Resources Scrutiny Group, CERN, Jan 2019 to present.
- Chair, SNO+ Director’s Review, SNOLAB, Mar 2021.
- Chair, ATLAS Authorship Committee, Mar 2019 to Feb 2020.
- Member, ATLAS Authorship Committee and Publication Committee, Mar 2017 to Feb 2019.
- Chair, SNO+ Director’s Review, SNOLAB, Apr 2018.
- Chair, Institute for Particle Physics Director Search Committee, 2017-18.
- Member and vice-president, IPP Board of Trustees, Jun 2016-18.
- Member, Fields Institute Director Search Committee, 2017-18.
- Member, Government of Alberta Research Capacity Multidisciplinary Assessment Committee, Sep 2016 to present.
- Member (and Chair Feb. 2016 to Feb 2018), Royal Society of Canada Committee on Interventions in the Public Interest, 2012 to 201.
- Member, McGill University CFI VIII Joint Selection Committee, Mar 2014 to June 2014 and Mar 2016 to Jun 2016.

- Chair, Canada Foundation for Innovation Multidisciplinary Assessment Committee, Sep 2012.
- Chair, SNOLAB Institute Board of Management, Sep 2010 to Feb 2016.
- Chair, Selection Committee for the TRIUMF-CAP Vogt Medal, spring 2011 to 2013.
- Chair, Academic Advisory Committee, Baycrest Health Science Centre and Hospital, Jul 2009 to Oct 2013.
- Member, Board of Directors, Baycrest Health Science Centre and Hospital, Jul 2009 to Oct 2013.
- Lead Reviewer, External Assessment of the Faculty of Science, University of Alberta, Feb 2010.
- Member, NSERC Steacie Fellowship Selection Committee, fall 2009.
- Member, NRC Steacie Prize Selection Committee, fall 2009 and fall 2010.
- Chair, NSERC Discovery Accelerator Supplements Review Committee for Physical Sciences, May 2009.
- Member, Helmholtz Association Review Committee of Particle Physics Program, DESY, Feb 2009.
- Chair, Expert Panel on Nanotechnology, Canadian Council of Academies, Jun 2007 to Jun 2008.
- External Reviewer, Department of Physics and Astronomy, University of Pennsylvania, Feb 2008.
- External Reviewer, Department of Physics and Astronomy, University of Victoria, Nov 2007.
- External Reviewer, Arts in Science Programs, McGill University, Apr 2007.
- Member, DOE Expert Review Committee, Stanford Linear Accelerator Center, Jun 2006 and Jun 2007.
- Chair, Tory Medal Selection Committee, Division of Mathematical and Physical Science, Royal Society of Canada, May 2006 - Jun 2009.
- Member, External Review Committee for the Faculty of Science, Jyväskylä University, Oct 2005.
- Chair, Institutional Council of the Association of Canadian Universities for Research in Astronomy, May 2004 - Jun 2008.
- Director, Division of Mathematical and Physical Science, Royal Society of Canada, May 2003 - Nov 2005.
- Chair, Fellowship Selection Committee, Division of Mathematical and Physical Science, Royal Society of Canada, May 2001 - Nov 2005.
- Member, NSERC Council for Research Grants (Group Chair for Physics), Feb 2003 - Jun 2006.
- Member, NSERC Steacie Fellowship Selection Committee, Sep 2003 - Dec 2003.
- Member, Rotman Research Institute Advisory Committee, Sep 2001 - Jun 2008.
- Member, International Advisory Committee, Conference on Statistical Problems in Particle Physics, Astrophysics and Cosmology, Stanford Linear Accelerator Center, Sep 2003.
- Member, Fermilab Run II Computing Review Panel, May 2002.
- Member, Swiss Science Study Tour, a week-long tour of the federal Swiss research laboratories, organized by the Swiss government and led by Dr. Arthur Carty, president of the National

Research Council, Apr 2002.

- Chair, External Review Committee for the UBC Department of Physics and Astronomy, Nov 2001.
- Member, NSERC Scholarships and Fellowships Selection Committee (Chemistry and Physics), Feb 2001 - Feb 2002.
- Chair, NSERC Reallocation Steering Committee for Subatomic Physics Jul 2000 - Jun 2002.
- Chair, SNO-ARC Science Subcommittee, Dec 1999 to Jun 2006.
- Chair, NRC Advisory Committee on TRIUMF, Jun 1999 to Jun 2004.
- Member, International Advisory Committee, 5th International Conference on Hyperons, Charm and Beauty Hadrons, University of British Columbia, Jun 2001 to Jul 2002.
- Member, International Advisory Committee, Conference on Advanced Statistical Techniques in Particle Physics, University of Durham, England, Jun 2001 to Jun 2002.
- Chair, CDF II Data Handling Review Committee, Fermi National Accelerator Laboratory, Sep 2001 to Jun 2002.
- Member, CDF II Statistics Committee, Fermi National Accelerator Laboratory, Jan 2001 to Jun 2006.
- Member, Director's Review of the Physics Division, Lawrence Berkeley National Laboratory, Nov 1999-2000.
- Session Chair, American Physical Society Meeting, Atlanta, GA, Mar 1999.
- Member, NSERC Doctoral Prizes Selection Committee, Nov 1998.
- Member, TRIUMF Board of Management, representing University of Toronto (Dec 1997 - Dec 2000).
- Chair, NSERC Subatomic Physics Grant Selection Committee (Jul 1997-Jun 1998).
- Chair, NSERC Reallocation Steering Committee for Subatomic Physics (Jul 1997-Jan 1998).
- Member, NSERC Subatomic Physics Grant Selection Committee (Jul 1996-Jun 1998).
- Member, BABAR Experiment Software and Computing Review Committee (Nov 1996).
- Vice-Chair, NSERC and Canadian Association of Physicists Subatomic Physics Review Committee (May 1996-Jun 1998).
- Chair, BABAR Experiment Reconstruction Software Review Committee (Apr 1996).
- Member, Software Infrastructure Review Committee for the STAR Collaboration, Lawrence Berkeley Laboratory (Aug 1995).
- Member, Stanford Linear Accelerator Center BABAR Technical Review Committee (Mar 1995-May 1998).
- Chair, Particle Physics Division, Canadian Association of Physicists (Jul 1994-Jun 1995).
- Member, NSERC/NRC SNO Review Committee (Nov 1994 to Nov 1999).
- Member, NSERC OPAL Review Committee (Nov 1993 and 1994).
- Member, NSERC ATLAS Review Committee (Nov 1993).
- CDF Collaboration Offline Group Leader (Aug 1993-Sep 1996).
- Member, Fermilab User's Executive Committee (Sep 1993 - Aug 1995).
- Conference session organizer, International Industrial Symposium on the Super Collider, San Francisco, CA (May 1993).
- Representative for University of Toronto on the Solenoid Detector Collaboration Institutional

Board (Jan 1991-Oct 1993).

- Member, Technical Steering Committee for the Solenoid Detector Collaboration Electronics Group (Jun 1992-Oct 1993).
- Representative for University of Toronto on the Collider Detector at Fermilab Executive Board (May 1991 to Jun 1998).
- Conference session organizer, APS Division of Particles and Fields meeting, Vancouver BC (Aug 1991).
- Representative for University of Toronto on the Institutional Board of the Solenoid Detector Collaboration (1990-1993).
- Co-chair of the Heavy Flavour Analysis Group of the CDF collaboration (1990-1992).
- Co-chair of the Top Quark subgroup at the “Physics in the 1990’s” workshop held in Breckenridge, CO (Aug 1989).