

CURRICULUM VITAE

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Degrees

B.Sc. 1963 University of Toronto

Ph.D. 1966 Yale University

Professional Society, Committee Memberships, etc. 1990 - present

- Board of Trustees, Associated Universities, Inc., 1990-1997
- DOE Basic Energy Science Advisory Committee, 1991-1994
- Board of Trustees, Boston Museum of Science, 1992-2001
- Board of Governors, Argonne National Laboratory, 1992-2001
- Advisory Council, NEC Research Institute, 1995-2000
- Sloan Foundation, Physics Fellow Selection Committee, 1995-2001
- Chair BESAC Panel on Research Reactors, 1996
- Chair BESAC Panel on Synchrotron Radiation Sources & Science, 1997
- Board of Trustees, Brookhaven Science Associates, 1997-2000
- Science Policy Committee, LBNL, Advanced Light Source, 1997-2000
- Co-Chair, Polaroid Science and Technology Board, 1998-2004
- Oxford University, Physics Department, Member, External Advisory Committee, 2000
- Board of Trustees, University Health Network, 2000-2004
- Board of Directors, St. Michael's Hospital, 2000-2004
- Board of Trustees, Royal Ontario Museum, 2000-2004
- United Way of Greater Toronto Campaign Cabinet, 2000-2002
- Chair, Columbia University Science Planning Review Committee, 2001
- Board of Trustees, URA, 2000-2004
- Chair, Visiting Committee, ETH Domain, Switzerland, 2002-2004
- DOE Task Force on the Future of Science Programs, 2003
- Helmholtz Review Committee, Germany, Chair 2004
- Independent Citizens Oversight Committee (Stem Cells) 2005-2013
- Cabot Microelectronics Corporation Board of Directors 2005-2017
- Chair, Council of Presidents, Universities Research Association, Inc., 2009
- Member, American Academy of Arts and Sciences Commission on the Humanities and Social Sciences 2011-2015
- Senior Visiting Scholar, American Academy of Arts and Sciences, 2013-2015
- Co-Chair, American Academy of Arts and Sciences Lincoln Project, 2013-2017
- University-Foundation Liaison, Science Philanthropy Alliance, 2013-2017
- Member, NAS Committee on Women in Science, Engineering and Medicine, 2013-2017
- Member, Science Advisory Board, Heising-Simons Foundation, 2014-

- Member, Advisory Panel on the Review of Canadian Federal Support for Fundamental Science, 2016-2017
- Member, Underground Scholars Initiative (USI) Faculty Advisory Board, 2016-
- Consultant, Science Philanthropy Alliance, 2018-
- Co-Chair, “High Temperature Superconductivity – Unifying Themes in Diverse Materials,” Aspen Center for Physics, 2018
- Chair, DOE-BESAC Committee on a U.S. Domestic High-Performance Reactor-Based Research Facility, 2019-2020
- Member, NASEM Committee on Protecting Critical Technologies for National Security in an Era of Openness and Competition, 2021

Awards, Honors 1980 - Present

- Yale Science and Engineering Alumni Achievement Award, 1981
- Wilbur Lucius Cross Medal, Yale University, June 1986
- Morris Loeb Lecturer, Harvard University, 1986
- Oliver E. Buckley Prize for Condensed Matter Physics, APS, 1987
- Bertram Eugene Warren Award, ACA, 1988
- Richtmyer Lecturer, AAPT, 1989
- E.W. Guptill Lecturer, Dalhousie University, 1990
- H.L. Welsh Lecturer, University of Toronto, 1994
- Emilio Segré Distinguished Lecturer in Physics, Tel Aviv Univ., 1995
- IUPAP Magnetism Award, 1997
- APS Centennial Speaker, 1998-1999
- A.W. Scott Lecturer, Cambridge University, 2000
- J.E. Lilienfeld Award, APS, 2000
- Tercentennial Lecturer, Yale University, 2001
- Distinguished Alumnus Award, TCDSB, 2004
- Fellow, American Physical Society
- Fellow, American Association for the Advancement of Science
- Fellow, American Academy of Arts and Sciences, 1987
- Fellow, Royal Society of London, 2001
- Fellow, Institute of Physics, 2001
- Fellow, Royal Society of Canada, 2002
- Fellow, National Academy of Sciences, 2004
- Fellow, American Philosophical Society, 2006
- Fellow, Neutron Scattering Society of America, 2008
- Founders Award, American Academy of Arts and Sciences, 2006
- “First in Family Award,” Bay Area Youth Fund, 2006
- National Forum of Black Public Administrators’ Achiever in Public Service Award, 2006
- Honorary Doctorate, Tsinghua University, Beijing, China, 2007
- Lux Award, Level Playing Field Institute, San Francisco, CA 2007
- Honorary Doctorate in Engineering, Colorado School of Mines, Golden, Colorado, 2007
- Carnegie Corporation, 2008 Academic Leadership Award
- Honorary Doctorate of Science, University of Waterloo, Waterloo, Ontario, Canada 2009
- Shinnyo-en Foundation’s 2009 Pathfinders to Peace Prize
- Cal Spirit Recognition Award 2009 with Mary Catherine Birgeneau
- Founder’s Award, K to College, Berkeley, California 2012
- Clifford G. Shull Prize of the Neutron Scattering Society of America 2012
- The Karl Taylor Compton Medal for Leadership in Physics, AIP, 2012

- Chief Executive Officer Leadership Award from District VII of the Council for Advancement and Support of Education (CASE), 2013
- Centro Legal de La Raza 2013 Lifetime Achievement Award
- Rising Immigrant Scholars through Education 2013 Lifetime Achievement Award
- Honorary Doctorate, University of Toronto, 2013
- Segrè Lecture, UC Berkeley, 2014
- Amundsen Lecture, University of Minnesota, 2015
- Honorary Doctor of Laws, University of Western Ontario, 2015
- Anderson Distinguished Service Award, IGS, UC Berkeley 2015
- Vannevar Bush Award, National Science Board, 2016

Employment

1963 - 1966 Graduate Student, Yale University, Department of Physics, Werner P. Wolf, Supervisor
 1965 Visiting Lecturer, Benedict College, Columbia, South Carolina
 1966 - 1967 Instructor, Yale University Department of Engineering and Applied Science
 1967 - 1968 Nat'l. Research Council of Canada, Rutherford Memorial Postdoctoral Fellow, Oxford University
 1968 - 1974 Member of Technical Staff, Physical Research Laboratory, Bell Laboratories, Murray Hill, New Jersey
 1968 - 2000 Guest Senior Physicist, Brookhaven National Laboratory, Upton, New York
 1971 - 1979 Visiting Scientist, Risø National Laboratory, Roskilde, Denmark
 1975 Research Head, Scattering and Low Energy Physics Department, Bell Laboratories
 1975 - 2000 Professor of Physics, MIT, Cambridge, Massachusetts
 1977 - 1980 Consultant, Bell Laboratories
 1980 - 1983 Consultant, IBM Research Laboratories, Yorktown Heights, New York
 1982 - 2000 Cecil and Ida Green Professor of Physics, MIT
 1983 - 1986 Associate Director, Research Laboratory of Electronics, MIT
 1985 - 1990 Consultant, Sandia National Laboratories, Albuquerque, New Mexico
 1987 - 1988 Head, Solid State, Atomic, and Plasma Physics, MIT
 1988 - 1991 Head, Department of Physics, MIT
 1991 - 2000 Dean, School of Science, MIT
 2000 - 2004 President and Professor of Physics, University of Toronto
 2004 - 2013 Chancellor, University of California, Berkeley
 2004 - present Arnold and Barbara Silverman Professor of Physics, Materials Science and Engineering, and Public Policy, University of California, Berkeley

Selected Recent Publications

D. Yi, J. Liu, S.L. Hsu, L.P. Zhang, Y. Choi, J.W. Kim, Z.H. Chen, J.D. Clarkson, C.R. Serrao, E. Arenholz, P.J. Ryan, H.X. Xu, R.J. Birgeneau, R. Ramesh. Atomic-scale control of magnetic anisotropy via novel spin-orbit coupling effect in $\text{La}_2/3\text{Sr}_{1/3}\text{MnO}_3/\text{SrIrO}_3$ superlattices. *Proceedings of the National Academy of Sciences of the United States of America* 113, 6397 (2016). DOI: 10.1073/pnas.1524689113.

C. Jozwiak, J.A. Sobota, K. Gotlieb, A.F. Kemper, C.R. Rotundu, R.J. Birgeneau, Z. Hussain, D.-H. Lee, Z.X. Shen, A. Lanzara. Spin-polarized surface resonances accompanying topological surface state formation. *Nature Communications* 7, 13143 (2016). DOI: 10.1038/ncomms13143.

- N.P. Breznay, A. Ruiz, A. Frano, W.L. Bi, R.J. Birgeneau, D. Haskel, J.G. Analytis. Resonant x-ray scattering reveals possible disappearance of magnetic order under hydrostatic pressure in the Kitaev candidate gamma -Li₂IrO₃. *Physical Review B* 96, 020402 (2017). DOI: 10.1103/PhysRevB.96.020402.
- A. Ruiz, A. Frano, N.P. Breznay, I. Kimchi, T. Helm, I. Oswald, J.Y. Chan, R.J. Birgeneau, Z. Islam, J.G. Analytis. Correlated states in beta-Li₂IrO₃ driven by applied magnetic fields. *Nature Communications* 8, 961 (2017). DOI: 10.1038/s41467-017-01071-9.
- M. Yi, H. Pfau, Y. Zhang, Y. He, H. Wu, T. Chen, Z.R. Ye, M. Hashimoto, R. Yu, Q. Si, D.-H. Lee, P.C. Dai, Z.-X. Shen, D.H. Lu, R.J. Birgeneau. Nematic Energy Scale and the Missing Electron Pocket in FeSe. *Physical Review X* 9, 041049 (2019). DOI: 10.1103/PhysRevX.9.041049.
- P.P. Liu, M.L. Klemm, L. Tian, X.Y. Lu, Y. Song, D.W. Tam, K. Schmalzl, J.T. Park, Y. Li, G.T. Tan, Y.X. Su, F. Bourdarot, Y. Zhao, J.W. Lynn, R.J. Birgeneau, P.C. Dai. In-plane uniaxial pressure-induced out-of-plane antiferromagnetic moment and critical fluctuations in BaFe₂As₂. *Nature Communications* 11, 5728 (2021). DOI: 10.1038/s41467-020-19421-5.
- B. Freelon, R. Sarkar, S. Kamusella, F. Bruckner, V. Grinenko, S. Acharya, M. Laad, L. Craco, Z. Yamani, R. Flacau, I. Swainson, B. Frandsen, R.J. Birgeneau, Y.H. Liu, B. Karki, A. Alfailakawi, J.C. Neuefeind, M. Everett, H.D. Wang, B.J. Xu, M.H. Fang, H.H. Klauss. Nematic fluctuations in iron-oxychalcogenide Mott insulators. *NPJ Quantum Materials* 6, 4 (2021). DOI: 10.1038/s41535-020-00302-5.
- Y. Song, W.Y. Wang, E. Paris, X.Y. Lu, J. Pelliciari, Y. Tseng, Y.B. Huang, D. McNally, M. Dantz, C.D. Cao, R. Yu, R.J. Birgeneau, T. Schmitt, P.C. Dai. Spin dynamics in NaFeAs and NaFe_{0.53}Cu_{0.47}As probed by resonant inelastic x-ray scattering. *Physical Review B* 103, 075112 (2021). DOI: 10.1103/PhysRevB.103.075112.
- S. Wu, Y. Song, Y. He, A. Frano, M. Yi, X. Chen, H. Uchiyama, A. Alatas, A.H. Said, L.R. Wang, T. Wolf, C. Meingast, R.J. Birgeneau. Short-Range Nematic Fluctuations in Sr_{1-x}NaxFe₂As₂ Superconductors. *Physical Review Letters* 126, 107001 (2021). DOI: 10.1103/PhysRevLett.126.107001
- J.W. Huang, Z.C. Wang, H.S. Pang, H. Wu, H.B. Cao, S.K. Mo, A. Rustagi, A.F. Kemper, M. Wang, M. Yi, R.J. Birgeneau. Flat-band-induced itinerant ferromagnetism in RbCo₂Se₂. *Physical Review B* 103, 165105 (2021). DOI: 10.1103/PhysRevB.103.165105
- A. Ruiz, N.P. Breznay, M.Q. Li, I. Rousochatzakis, A. Allen, I. Zinda, V. Nagarajan, G. Lopez, Z. Islam, M.H. Upton, J. Kim, A.H. Said, X.R. Huang, T. Gog, D. Casa, R.J. Birgeneau, J.D. Koralek, J.G. Analytis, N.B. Perkins, A. Frano. Magnon-spinon dichotomy in the Kitaev hyperhoneycomb beta-Li₂IrO₃. *Physical Review B* 103, 184404 (2021). DOI: 10.1103/PhysRevB.103.184404.
- X. Chen, Y. He, S. Wu, Y. Song, D.S. Yuan, E. Bourret-Courchesne, J.P.C. Ruff, Z. Islam, A. Frano, R.J. Birgeneau. Structural and magnetic transitions in the planar antiferromagnet Ba₄Ir₃O₁₀. *Physical Review B* 103, 224020 (2021). DOI: 10.1103/PhysRevB.103.224020.
- Y. Song, W.Y. Wang, C.D. Cao, Z. Yamani, Y.J. Xu, Y.T. Sheng, W. Loser, Y.M. Qiu, Y.F. Yang, R.J. Birgeneau, P.C. Dai. High-energy magnetic excitations from heavy quasiparticles in CeCu₂Si₂. *NPJ Quantum Materials* 6, 60 (2021). DOI: 10.1038/s41535-021-00358-x.
- R. Chen, F.C. Luo, Y.Z. Liu, Y. Song, Y. Dong, S. Wu, J.H. Cao, F.Y. Yang, A. N'Diaye, P. Shafer, Y. Liu, S. Lou, J.W. Huang, X. Chen, Z.X. Fang, Q.J. Wang, D.F. Jin, R. Cheng, H.T. Yuan, R.J. Birgeneau, J. Yao.

Tunable room-temperature ferromagnetism in Co-doped two-dimensional van der Waals ZnO. *Nature Communications* 12, 3952 (2021). DOI: 10.1038/s41467-021-24247-w.

J.W. Huang, S. Li, C. Yoon, J. S. Oh, H. Wu, X.Y. Liu, N. Dhale, Y.F. Zhou, Y.C. Guo, Y.C. Zhang, M. Hashimoto, D.H. Lu, J. Denlinger, X.Q. Wang, C.N. Lau, R.J. Birgeneau, F. Zhang, B. Lv, M. Yi. Room-Temperature Topological Phase Transition in Quasi-One-Dimensional Material Bi4I4. *Physical Review X* 11, 031042 (2021). DOI: 10.1103/PhysRevX.11.031042.

Publications

1. R.J. Birgeneau, J. Cordes, G. Dolling and A.D.B. Woods. Normal Modes of Vibration in Nickel. *Phys. Rev.* 136, A1359 (1964).
2. R.J. Birgeneau, M. T. Hutchings and R. N. Rogers. Electric Quadrupole-Quadrupole Interaction between Cerium Pairs in Lanthanum Chloride. *Phys. Rev. Lett.* 16, 584 (1966).
3. R.J. Birgeneau, M.T. Hutchings and W.P. Wolf. Temperature Variation and Separation Dependence of Exchange Interactions between Gd^{3+} Pairs in $LaCl_3$. *Phys. Rev. Lett.* 17, 308 (1966).
4. Magnetic Interactions in Rare Earth Insulators. Thesis, Yale University, 1966.
5. R.J. Birgeneau, M.T. Hutchings and W.P. Wolf. Magnetic Properties of $GdCl_3$ from Gd^{3+} Pair Measurements in $LaCl_3$ and $EuCl_3$. *J. Appl. Phys.* 38, 957 (1967).
6. R.J. Birgeneau. Magnetic Moment Reduction via the Orbit-Lattice Interaction for Ce^{3+} in Rare-Earth Ethyl Sulphates. *Phys. Rev. Lett.* 19, 160 (1967).
7. R.J. Birgeneau. Tables of Matrix Elements of Racah Operator Equivalents. *Can. J. Phys.* 45, 3761 (1967).
8. R.J. Birgeneau. Racah Operator Equivalents in Spin-Lattice Relaxation and Electrostatic Coupling Calculations. *J. Phys. Chem. Solids* 28, 2429 (1967).
9. W.P. Wolf and R.J. Birgeneau. Electric Multipole Interactions between Rare-Earth Ions. *Phys. Rev.* 166, 376 (1968).
10. D.P. Landau, R.J. Birgeneau, M.T. Hutchings and W.P. Wolf. Interaction Constants in $CeCl_3$. *J. Appl. Phys.* 39, 975 (1968).
11. J.M. Baker, R.J. Birgeneau, M.T. Hutchings and J.D. Riley. High-Degree Exchange Interaction between Rare-Earth Ions. *Phys. Rev. Lett.* 21, 620 (1968).
12. M.T. Hutchings, R.J. Birgeneau and W.P. Wolf. Magnetic Interactions between Rare-Earth Ions in Insulators. I. Accurate Electron-Paramagnetic-Resonance Determination of Gd^{3+} Pair-Interaction Constants in $LaCl_3$. *Phys. Rev.* 168, 1026 (1968).
13. R.J. Birgeneau, M.T. Hutchings and W.P. Wolf. Magnetic Interactions between Rare-Earth Ions in Insulators. II. Electron- Paramagnetic-Resonance Measurements of Gd^{3+} Pair and Gd^{3+} - Eu^{3+} Interaction Constants in $EuCl_3$. *Phys. Rev.* 179, 275 (1969).
14. R.J. Birgeneau, M.T. Hutchings and R.N. Rogers. Magnetic Interactions between Rare-Earth Ions in Insulators. III. EPR Measurements of Ce^{3+} Pair-Interaction Constants in $LaCl_3$. *Phys. Rev.* 175, 1116 (1968).
15. R.J. Birgeneau. Mechanisms of Energy Transport between Rare-Earth Ions. *Appl. Phys. Lett.* 13, 193 (1968); Erratum 14, 41 (1969).

16. R.J. Birgeneau, M.T. Hutchings, J.M. Baker and J.D. Riley. High Degree Electrostatic and Exchange Interactions in Rare-Earth Compounds. *J. Appl. Phys.* 40, 1070 (1969).
17. R.B. Clover and R.J. Birgeneau. Magnetic Interactions in CeBr₃. *J. Appl. Phys.* 40, 1151, (1969).
18. R.J. Birgeneau, H.J. Guggenheim and G. Shirane. Neutron Scattering from K₂NiF₄: A Two-Dimensional Heisenberg Antiferromagnet. *Phys. Rev. Lett.* 22, 720 (1969).
19. R.J. Birgeneau. Mechanisms of Energy Transport in Ruby. *J. Chem. Phys.* 50, 4282 (1969).
20. J. Skalyo, Jr., G. Shirane, R.J. Birgeneau and H.J. Guggenheim. Magnons at Low and High Temperatures in the Planar Antiferromagnet K₂NiF₄. *Phys. Rev. Lett.* 23, 1394 (1969).
21. D.E. Cox, G. Shirane, R.J. Birgeneau and J.B. MacChesney. Neutron-Diffraction Study of Magnetic Ordering in Ca₂MnO₄. *Phys. Rev.* 188, 930 (1969).
22. R.J. Birgeneau, F. DeRosa and H.J. Guggenheim. Antiferromagnetic Resonance in K₂NiF₄. *Solid State Comm.* 8, 13 (1970).
23. R.J. Birgeneau, H.J. Guggenheim and G. Shirane. Neutron Scattering Investigation of Phase Transitions and Magnetic Correlations in the Two-Dimensional Antiferromagnets K₂NiF₄, Rb₂MnF₄, Rb₂FeF₄. *Phys. Rev. B* 1, 2211 (1970).
24. R.J. Birgeneau, J. Skalyo, Jr. and G. Shirane. Phase Transitions and Magnetic Correlations in Two-Dimensional Antiferromagnets. *J. Appl. Phys.* 41, 1303 (1970).
25. R.J. Birgeneau, E. Bucher, L. Passell, D.L. Price and K.C. Turberfield. Spectroscopic Determination of Crystal-Field Levels of Pr³⁺ in the Paramagnetic Metallic Compound PrBi. *J. Appl. Phys.* 41, 900 (1970).
- 26a. J.D. Riley, J.M. Baker and R.J. Birgeneau. Interactions between Ce³⁺ pairs and Nd³⁺ pairs in LaCl₃ and LaBr₃. *Proc. Roy. Soc. Lond. A* 320, 369-395 (1970).
26. K.C. Turberfield, L. Passell, R.J. Birgeneau and E. Bucher. Crystal Fields in Rare-Earth Metallic Compounds. *Phys. Rev. Lett.* 25, 752 (1970).
27. R.J. Birgeneau, R. Dingle, M.T. Hutchings, G. Shirane and S.L. Holt. Spin Correlations in a One-Dimensional Heisenberg Antiferromagnet. *Phys. Rev. Lett.* 26, 718, (1971); *J. Appl. Phys.* 42, 1265 (1971).
28. R.J. Birgeneau, J. Skalyo, Jr. and G. Shirane. Critical Magnetic Scattering in K₂NiF₄. *Phys. Rev. B* 3, 1736, (1971); *J. de Physique* 32, C1-882 (1971).
29. K.C. Turberfield, L. Passell, R.J. Birgeneau and E. Bucher. Neutron Crystal-Field Spectroscopy in Rare-Earth Metallic Compounds. *J. Appl. Phys.* 42, 1746 (1971).
30. G. Shirane, J.D. Axe and R.J. Birgeneau. Neutron Scattering Study of the Lattice Dynamical Phase Transition in V₃Si. *Sol. State Comm.* 9, 397 (1971).
31. R.J. Anderson, J.M. Baker and R.J. Birgeneau. Interactions between Cerium Ions in Rare Earth Ethyl Sulphates. *J. Phys. C* 4, 1618 (1971).
32. R.J. Birgeneau, E. Bucher, L. Passell and K.C. Turberfield. Neutron-Scattering Study of TmSb: a Model Crystal-Field Only Metallic Paramagnet. *Phys. Rev. B* 4, 718 (1971).
33. R.J. Birgeneau, J. Als-Nielsen and E. Bucher. Magnetic Excitons in Singlet–Ground-State Ferromagnets. *Phys. Rev. Lett.* 27, 1530 (1971).

34. R.J. Birgeneau. Transition Probabilities for f-Electron J-Multiplets in Cubic Crystal Fields. *J. Phys. Chem. Solids* 33, 59 (1972).
35. M.T. Hutchings, G. Shirane, R.J. Birgeneau and S.L. Holt. Spin Dynamics in the One-Dimensional Antiferromagnet $(\text{CD}_3)_4\text{NMnCl}_3$. *Phys. Rev. B* 5, 1999 (1972).
36. E. Bucher, R.J. Birgeneau, J.P. Maita, G.P. Felcher and T.O. Brun. Magnetic and Structural Phase Transition in DySb. *Phys. Rev. Lett.* 28, 746 (1972).
37. R.J. Birgeneau, W.B. Yelon, E. Cohen and J. Makovsky. Magnetic Properties of FeCl_2 in Zero Field. I. Excitations. *Phys. Rev. B* 5, 2607, (1972).
38. W.B. Yelon and R.J. Birgeneau. Magnetic Properties of FeCl_2 in Zero Field. II. Long-Range Order. *Phys. Rev. B* 5, 2615 (1972).
39. R.J. Birgeneau, E. Bucher, L.W. Rupp, Jr. and W.M. Walsh, Jr. Exchange Interactions in the Samarium Monochalcogenides. *Phys. Rev. B* 5, 3412 (1972).
40. J. Als-Nielsen, R.J. Birgeneau and H.J. Guggenheim. Neutron Scattering Study of Spin Waves in the Ferrimagnet RbNiF_3 . *Phys. Rev. B* 6, 2030 (1972).
41. R.J. Birgeneau, J. Als-Nielsen and E. Bucher. Neutron Scattering from fcc Pr and Pr_3Tl . *Phys. Rev. B* 6, 2724, (1972). Also appeared in *Precis in Neutron Inelastic Scattering*. IAEA Vienna, p. 543 (1972).
42. R.J. Birgeneau. Singlet Ground State Dynamics. In *Magnetism and Magnetic Materials* (1972), AIP Conf. Proc. 10, pp. 1664-1668 (1973).
43. R.J. Birgeneau, L.W. Rupp, Jr., H.J. Guggenheim, P.A. Lindgard and D.L. Huber. Critical Electron-Paramagnetic-Resonance Spin Dynamics in NiCl_2 . *Phys. Rev. Lett.* 30, 1252 (1973).
44. R.J. Birgeneau, H.J. Guggenheim and G. Shirane. Spin Waves and Magnetic Ordering in K_2MnF_4 . *Phys. Rev. B* 8, 304 (1973).
45. J.K. Kjems, G. Shirane, R.J. Birgeneau and L.G. Van Uitert. Quadrupole Exciton-Phonon Dynamics at the 151 K Phase Transition in PrAlO_3 . *Phys. Rev. Lett.* 31, 1300 (1973).
46. E. Bucher, J.P. Maita, L. Passell and K.C. Turberfield. Crystal Fields and the Effective Point Charge Model in the Rare Earth Pnictides. *Phys. Rev. B* 8, 5345, (1973); extended abstract in *Proceedings of International Conf. on Magnetism, Moscow, 1973*, Vol. 5, p. 5.
47. R.J. Birgeneau, G. Shirane and T.A. Kitchens. Fluctuations in One-Dimensional Magnets: Low Temperatures and Long Wavelengths. In *Proceedings of Low Temperature Physics-LT 13, Boulder, Colorado*, K.D. Timmerhaus, W.J. O'Sullivan and E.F. Hammel (eds.). Plenum Press, Vol. 2, p. 371 (1973).
48. J.K. Kjems, G. Shirane, R.J. Birgeneau and L.G. Van Uitert. Quadrupole Exciton Dispersion and the 151-K Phase Transition in PrAlO_3 . In *Magnetism and Magnetic Materials* (1973). AIP Conf. Proc. 18, p. 1299 (1974).
49. Y. Endoh, G. Shirane, R.J. Birgeneau, Peter M. Richards and S.L. Holt. Dynamics of an $S = 1/2$, One-Dimensional Heisenberg Antiferromagnet. *Phys. Rev. Lett.* 32, 170 (1974).
50. E. Cohen, M.D. Sturge, R.J. Birgeneau, L.G. Van Uitert and J.K. Kjems. Internal-Displacement Order Parameter below the 151-K Phase Transition in PrAlO_3 . *Phys. Rev. Lett.* 32, 232 (1974).

51. R.J. Birgeneau, L.W. Rupp, Jr. Antiferromagnetic Resonance in NiCl₂. In *Proceeding of the International Conf. on Magnetism, Moscow, 1973*. Vol. IV, p. 287.
52. R.J. Birgeneau and J.K. Kjems. A Mechanism for the Q-Dependent Anisotropies in the Rare Earth Metals. In *AIP Conf. Proc.* 18, p. 1066 (1974).
53. M. Blume and R.J. Birgeneau. On the Dynamics of the Singlet-Triplet Ferromagnet. *J. Phys. C* 7, L282 (1974).
54. R.J. Birgeneau, J.K. Kjems, G. Shirane and L.G. Van Uitert. Cooperative Jahn-Teller Phase Transition in PrAlO₃. *Phys. Rev. B* 10, 2512 (1974).
55. R.J. Birgeneau, G. Shirane, M. Blume and W. Koehler. Tricritical Point Phase Diagram in FeCl₂. *Phys. Rev. Lett.* 33, 1098 (1974).
56. K.B. Lyons, R.J. Birgeneau, E.I. Bount and L.G. Van Uitert. Electronic Excitations in PrAlO₃. *Phys. Rev. B* 11, 891 (1975).
57. S.M. Shapiro, R.J. Birgeneau and E. Bucher. Magnetic Excitations in Semiconducting SmS. *Phys. Rev. Lett.* 34, 470 (1975).
58. D.B. McWhan, R.J. Birgeneau, W.A. Bonner, H. Taub and J.D. Axe. Neutron Scattering Study at High Pressure of the Structural Phase Transition in Paratellurite. *J. Phys. C* 8, L81 (1975).
59. P.A. Lindgard, R.J. Birgeneau, J. Als-Nielsen and H.J. Guggenheim. Spin-Wave Dispersion and Sublattice Magnetization in NiCl₂. *J. Phys. C* 8, 1059 (1975).
60. R.J. Birgeneau, L.R. Walker, H.J. Guggenheim, J. Als-Nielsen and G. Shirane. Excitations in a Two-Dimensional Random Antiferromagnet. *J. Phys. C* 8, L328 (1975).
61. R.J. Birgeneau. Critical and Tricritical Behavior in FeCl₂ - A Summary. *AIP Conf. Proc.* 24, 258 (1975).
62. J. Als-Nielsen, R.J. Birgeneau, H.J. Guggenheim and G. Shirane. Spin Dynamics and Critical Fluctuations in a Two-Dimensional Random Antiferromagnet. *Phys. Rev. B* 12, 4963 (1975).
63. J. Als-Nielsen, R.J. Birgeneau, H.J. Guggenheim and G. Shirane. Critical Behaviour of a Two-Dimensional Random Antiferromagnet: Rb₂Mn_{0.5}Ni_{0.5}F₄. *J. Phys. C* 9, L121 (1976).
64. J.W. Lynn, G. Shirane, R.J. Birgeneau and S. Chen. Neutron Scattering Study of Spin Waves in the Amorphous Ferromagnet (Fe_{0.3}Ni_{0.7})_{0.75}Po_{0.16}B_{0.06}Al_{0.03}. *AIP Conf. Proc.* 34, p. 313 (1976).
65. R.J. Birgeneau, R.A. Cowley, G. Shirane and H.J. Guggenheim. Spin Correlations near the Percolation Concentration in Two Dimensions. *Phys. Rev. Lett.* 37, 940, (1976); also *Precis in Physica* 86-88B, 727 (1977).
66. H.E. Stanley, R.J. Birgeneau, P.J. Reynolds and J.F. Nicoll. Thermally Driven Phase Transitions near the Percolation Threshold in Two Dimensions. *J. Phys. C* 9, L553 (1976).
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Non-Technical Major Addresses and Articles

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2. “Dare to Be Great,” Time Magazine (Canada), March 19, 2001.
3. “Basic Research and the Economy,” OPAS-University Form, National Club, May 8, 2001.
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7. “Research and Research Universities in Canada,” Rotary Club Address, Royal York Hotel, October 19, 2001.
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9. “Innovation, Research and National Security,” Gairdner Awards Keynote Address, October 25, 2001.
10. Keynote Address. Science Teachers' Association of Ontario, Constellation Hotel, November 1, 2001.
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13. “The Canadian University System,” AAU Address, Canadian Embassy, Washington D.C., April 19, 2002.
14. “Research Universities and the Economy,” The Granite Club, Toronto, May 6, 2002.
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16. “A University Education that Canadians Deserve,” Empire Club Address, February 6, 2003 (excerpted in National Post, February 7, 2003; and Ottawa Citizen, February 8, 2003; subject of the following articles: Paul Kedrosky, “Let the Best Schools Get Better,” National Post, February 8, 2003; Sarah Schmidt, “Elite Schools Deserve the Most Money: U of T Chief,” National Post, February 7, 2003).

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25. "The Meaning of Inclusion," March 4, 2005.
26. "Anti-bias Law Has Backfired at Berkeley," Opinion/Editorial, Los Angeles Times, March 27, 2005.
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