Christopher C. Homes

Education:

University of British Columbia, BC, Canada
M.Sc. and Ph.D. in Physics — 1985, 1990

McMaster University, Hamilton, ON, Canada
B.Sc. (Hons) in Physics (Summa cum laude) — 1983

Professional Experience:

Brookhaven National Laboratory
Physicist — 2001–present (with tenure, March 2003)
Associate Physicist — 1998–2001
Assistant Physicist — 1996–2001
Simon Fraser University
NSERCC Postdoctoral Fellow — 1992–1996
McMaster University
Postdoctoral Fellow — 1990–1992

Research Interests:

Optical properties (electronic and vibrational) of a wide class of correlated-electron systems with a special emphasis on the high-temperature cuprate and newly-discovered iron-based superconductors. The role of competing orders in many transition-metal oxides (cuprates, nickelates, mangnates, etc.). Organic conductors and superconductors, heavy-Fermion materials, quasicrystals and intermetallics, thermoelectric materials and topological insulators, *ab initio* electronic and phonon calculations. Development of instrumentation and techniques for infrared spectroscopy.

Author of more than 110 articles in refereed journals.

Honours & Awards:

APS Fellow, 2008
Brookhaven Science and Technology Award, 2007
NSERCC Postdoctoral Fellowship, 1992–1994
University Gradate Fellowship, UBC, 1989–1990
British Columbia Government Scholarship, UBC, 1987–1988
NSERCC Postgraduate Scholarship, 1983–1985

Professional Activities:

Editorial Board, ISRN Condensed Matter Physics, 2010–present
Visiting Professor, LPEM, ESPCI, University of Paris VI, 2007
Human Performance Advocate, BNL, 2008 - present
Local contact, NSLS beamline U10A, 1998 - 2005
Member: American Physical Society, American Association for the Advancement of Science, Canadian Association of Physicists

Conferences Organized:

Program Committee, International Conference on the Low Energy Electrodynamics in Solids (LEES '02), Montauk, New York, October 2002
Organizing Committee, NSLS Scientific Strategic Planning Workshop, Hard Condensed Matter and Materials Physics, Brookhaven National Laboratory, February 2008

Local Organizer, Telluride Science Research Workshop on Competing Interactions and Colossal Responses in Transition Metal Compounds, Telluride, Colorado, July 2011.
International Organizing Committee, International Conference on the Low Energy Electrodynamics in Solids (LEES '12), Napa, CA, July 2012
Program Committee, International Conference on the Low Energy Electrodynamics in Solids (LEES '14)

Committees: Condensed Matter Physics Future Committee (2001)
Condensed Matter Seminar Committee (2001), Chair (2002)
Colloquium Committee (2002), Chair (2003)
Chair and member, tenure committees and subcommittees (2004–present)
Computer Security Liaison and System Administration (2001–present)
Ad-hoc Accelerator Test Facility Safety Committee (2004)
ALD/BES Employee Communications Committee (2004, 2009)
Brookhaven Council (2006–2009), Chair (2009)
Brookhaven Lecture Committee (2009 - present)
Goldhaber Fellowship Committee (2006–2009)
Experiment Safety Review Committee, CMPMSD (2007–present)
OPSEC Working Committee (2008–present)
Library Committee (2013–present)

PUBLICATIONS

A. Letters

1. C. C. Homes, T. Timusk, X. Wu, Z. Altounian, A. Sahnoune, and J. O. Ström-Olsen, *Optical conductivity of the stable icosahedral quasicrystal* $Al_{63.5}Cu_{24.5}Fe_{12}$, Phys. Rev. Lett. **67**, 2694–2696 (Nov 1991).

2. C. C. Homes, T. Timusk, R. Liang, D. A. Bonn, and W. N. Hardy, *Optical conductivity of c axis oriented* $YBa_2Cu_3O_{6.70}$*: Evidence for a pseudogap*, Phys. Rev. Lett. **71**, 1645–1648 (Sep 1993).

3. C. C. Homes, P. J. Horoyski, M. L. W. Thewalt, and B. P. Clayman, *Anomalous splitting of the* $F_{1u}(\rightarrow 3F_u)$ *vibrations in single-crystal* C_{60} *below the orientational-ordering transition*, Phys. Rev. B: Rapid Commun. **49**, 7052–7055 (Mar 1994).

4. D. N. Basov, S. I. Woods, A. S. Katz, E. J. Singley, R. C. Dynes, M. Xu, D. G. Hinks, C. C. Homes, and M. Strongin, *Sum Rules and Interlayer Conductivity of High-*T_c *Cuprates*, Science **283**(5398), 49–52 (1999).

5. P. F. Henning, C. C. Homes, S. Maslov, G. L. Carr, D. N. Basov, B. Nikolić, and M. Strongin, *Infrared Studies of the Onset of Conductivity in Ultrathin Pb Films*, Phys. Rev. Lett. **83**, 4880–4883 (Dec 1999).

6. C. C. Homes, A. W. McConnell, B. P. Clayman, D. A. Bonn, R. Liang, W. N. Hardy, M. Inoue, H. Negishi, P. Fournier, and R. L. Greene, *Phonon Screening in High-Temperature Superconductors*, Phys. Rev. Lett. **84**, 5391–5394 (Jun 2000).

7. J. J. Tu, G. L. Carr, V. Perebeinos, C. C. Homes, M. Strongin, P. B. Allen, W. N. Kang, E.-M. Choi, H.-J. Kim, and S.-I. Lee, *Optical Properties of c-Axis Oriented Superconducting* MgB_2 *Films*, Phys. Rev. Lett. **87**, 277001 (Dec 2001).

8. C. C. Homes, T. Vogt, S. M. Shapiro, S. Wakimoto, and A. P. Ramirez, *Optical Response of High-Dielectric-Constant Perovskite-Related Oxide*, Science **293**(5530), 673–676 (Jul 2001).

9. J. J. Tu, C. C. Homes, and M. Strongin, *Optical Properties of Ultrathin Films: Evidence for a Dielectric Anomaly at the Insulator-to-Metal Transition*, Phys. Rev. Lett. **90**, 017402 (Jan 2003).

10. C. C. Homes, S. V. Dordevic, M. Strongin, D. A. Bonn, R. Liang, W. N. Hardy, S. Komiya, Y. Ando, G. Yu, N. Kaneko, X. Zhao, M. Greven, D. N. Basov, and T. Timusk, *A universal scaling relation in high-temperature superconductors*, Nature (London) **430**, 539–541 (2004).

11. I. Kézsmárki, G. Mihály, R. Gaál, N. Barišić, A. Akrap, H. Berger, L. Forró, C. C. Homes, and L. Mihály, *Separation of Orbital Contributions to the Optical Conductivity of $BaVS_3$*, Phys. Rev. Lett. **96**, 186402 (May 2006).

12. C. C. Homes, S. V. Dordevic, G. D. Gu, Q. Li, T. Valla, and J. M. Tranquada, *Charge Order, Metallic Behavior, and Superconductivity in $La_{2-x}Ba_xCuO_4$ with $x = 1/8$*, Phys. Rev. Lett. **96**, 257002 (Jun 2006).

13. K. W. Kim, G. D. Gu, C. C. Homes, and T. W. Noh, *Bound Excitons in Sr_2CuO_3*, Phys. Rev. Lett. **101**, 177404 (Oct 2008).

14. A. Akrap, J. J. Tu, L. J. Li, G. H. Cao, Z. A. Xu, and C. C. Homes, *Infrared phonon anomaly in $BaFe_2As_2$*, Phys. Rev. B: Rapid Commun. **80**, 180502(R) (Nov 2009), Editor's Suggestion.

15. C. C. Homes, *Scaling of the superfluid density in strongly underdoped $YBa_2Cu_3O_{6+y}$: Evidence for a Josephson phase*, Phys. Rev. B: Rapid Commun. **80**, 180509(R) (Nov 2009).

16. C. C. Homes, A. Akrap, J. S. Wen, Z. J. Xu, Z. W. Lin, Q. Li, and G. D. Gu, *Electronic correlations and unusual superconducting response in the optical properties of the iron chalcogenide $FeTe_{0.55}Se_{0.45}$*, Phys. Rev. B: Rapid Commun. **81**, 180508(R) (May 2010).

17. A. A. Schafgans, C. C. Homes, G. D. Gu, S. Komiya, Y. Ando, and D. N. Basov, *Breakdown of the universal Josephson relation in spin-ordered cuprate superconductors*, Phys. Rev. B: Rapid Commun. **82**, 100505(R) (Sep 2010).

18. S. J. Moon, C. C. Homes, A. Akrap, Z. J. Xu, J. S. Wen, Z. W. Lin, Q. Li, G. D. Gu, and D. N. Basov, *Incoherent c-Axis Interplane Response of the Iron Chalcogenide $FeTe_{0.55}Se_{0.45}$ Superconductor from Infrared Spectroscopy*, Phys. Rev. Lett. **106**, 217001 (May 2011).

19. V. K. Thorsmølle, C. C. Homes, A. Gozar, G. Blumberg, J. L. M. van Mechelen, A. B. Kuzmenko, S. Vanishri, C. Marin, and H. M. Rønnow, *Phonon Energy Gaps in the Charged Incommensurate Planes of the Spin-Ladder $Sr_{14}Cu_{24}O_{41}$ Compound by Raman and Infrared Spectroscopy*, Phys. Rev. Lett. **108**, 217401 (May 2012).

20. C. C. Homes, Z. J. Xu, J. S. Wen, and G. D. Gu, *Optical conductivity of superconducting $K_{0.8}Fe_{2-y}Se_2$ single crystals: Evidence for a Josephson-coupled phase*, Phys. Rev. B: Rapid Commun. **85**, 180510(R) (May 2012), also see erratum in Phys. Rev. B **86** (2012) 099903(E).

21. Y. Imry, M. Strongin, and C. C. Homes, *$n_s - T_c$ Correlations in Granular Superconductors*, Phys. Rev. Lett. **109**, 067003 (Aug 2012).

22. U. Nagel, T. Uleksin, T. Rm, R. P. S. M. Lobo, P. Lejay, C. C. Homes, J. S. Hall, A. W. Kinross, S. K. Purdy, T. Munsie, T. J. Williams, G. M. Luke, and T. Timusk, *Optical spectroscopy shows that the normal state of URu_2Si_2 is an anomalous Fermi liquid*, Proc. Nat. Acad. Sci. **109**, 19161–19165 (2012).

23. S. V. Dordevic, D. N. Basov, and C. C. Homes, *Do organic and other exotic superconductors fail universal scaling relations?*, Sci. Rep. **3**, 1713 (2013).

24. X. Xi, Y. M. Dai, C. C. Homes, M. Kidszun, S. Haindl, and G. L. Carr, *Evidence of a full gap in $LaFeAsO_{1-x}F_x$ thin films from infrared spectroscopy*, Phys. Rev. B: Rapid Commun. **87**, 180509(R) (May 2013).

25. C. C. Homes and T. Vogt, *Colossal permittivity materials: Doping for superior dielectrics*, Nat. Mater. **12**, 782–783 (Aug 2013).

26. Y. M. Dai, B. Xu, B. Shen, H. Xiao, H. H. Wen, X. G. Qiu, C. C. Homes, and R. P. S. M. Lobo, *Hidden T-Linear Scattering Rate in $Ba_{0.6}K_{0.4}Fe_2As_2$ Revealed by Optical Spectroscopy*, Phys. Rev. Lett. **111**, 117001 (Sep 2013).

27. C. C. Homes, J. J. Tu, J. Li, G. D. Gu, and A. Akrap, *Optical conductivity of a nodal metal*, Sci. Rep. **3**, 3446 (Dec 2013).

28. C. Ma, L. Wu, W.-G. Yin, H. Yang, H. Shi, Z. Wang, J. Li, C. C. Homes, and Y. Zhu, *Strong Coupling of the Iron-Quadrupole and Anion-Dipole Polarizations in $Ba(Fe_{1-x}Co_x)_2As_2$*, Phys. Rev. Lett. **112**, 077001 (Feb 2014).

B. Articles

1. J. E. Eldridge, C. C. Homes, F. E. Bates, and G. S. Bates, *Far-infrared powder absorption measurements of some tetramethyltetraselenafulvalene salts $[(TMTSF)_2X]$*, Phys. Rev. B **32**, 5156–5162 (Oct 1985).

2. K. Kornelsen, J. Eldridge, C. Homes, H. H. Wang, and J. Williams, *Optical properties of the 10 K organic superconductor $(BEDT\text{-}TTF)_2[Cu(SCN)_2]$*, Solid State Commun. **72**(5), 475–480 (1989).

3. J. Eldridge and C. Homes, *Low-temperature, small-sample reflectivity measurements in a commercial rapid-scan Michelson interferometer*, Infrared Phys. **29**(1), 143–148 (1989).

4. C. C. Homes and J. E. Eldridge, *Lattice-mode coupling to the charge-density wave in $(TMTSF)_2ReO_4$ (where TMTSF is bis-tetramethyltetraselenafulvalene)*, Phys. Rev. B **40**, 6138–6143 (Sep 1989).

5. C. C. Homes and J. E. Eldridge, *Infrared optical properties of $(TMTSF)_2ReO_4$ and $(TMTSF)_2BF_4$ (where TMTSF is tetramethyltetraselenafulvalene) compared with several model calculations*, Phys. Rev. B **42**, 9522–9533 (Nov 1990).

6. J. E. Eldridge and C. C. Homes, *Vibrational assignments in the conductivity spectra of semiconducting $(TMTSF)_2ReO_4$ and $(TMTSF)_2BF_4$ (where TMTSF is tetramethyltetraselenafulvalene) for radiation polarized perpendicular to the chains*, Phys. Rev. B **43**, 13971–13977 (Jun 1991).

7. J. L. Musfeldt, C. C. Homes, M. Almeida, and D. B. Tanner, *Temperature dependence of the infrared and optical properties of N-dimethyl thiomorpholinium(tetracyanoquinodimethane)$_2$*, Phys. Rev. B **46**, 8777–8789 (Oct 1992).

8. X. Wu, C. C. Homes, S. E. Burkov, T. Timusk, F. S. Pierce, S. J. Poon, S. L. Cooper, and M. A. Karlow, *Optical conductivity of the icosahedral quasicrystal $Al_{75.5}Mn_{20.5}Si_4$ and its 1/1 crystalline approximant α-$Al_{72.5}Mn_{17.4}Si_{10.1}$*, J. Phys.: Condens. Matter **5**(32), 5975–5990 (1993).

9. C. C. Homes, M. Reedyk, D. A. Crandles, and T. Timusk, *Technique for measuring the reflectance of irregular, submillimeter-sized samples*, Appl. Opt. **32**(16), 2976–2983 (Jun 1993).

10. C. C. Homes, J. L. Musfeldt, and D. B. Tanner, *Electron-phonon coupling in the quarter-filled TCNQ salt $NPrQ(TCNQ)_2$*, Phys. Rev. B **48**, 16799–16802 (Dec 1993).

11. K. Kamarás, D. van der Marel, C. Homes, and T. Timusk, *The use of far-infrared ellipsometry in the study of high-temperature superconductors: possibilities and limitations*, Physica C **235–240, Part 2**, 1085–1086 (1994).

12. T. Timusk, D. Basov, C. Homes, A. Puchkov, and M. Reedyk, *Gap states in HTSC by infrared spectroscopy*, J. Superconductivity **8**, 437–440 (1995).

13. T. Timusk, D. Basov, and C. Homes, *The strange interplane conductivity of HTSC*, J. Phys. Chem. Solids **56**(12), 1821–1823 (1995), Proceedings of the Conference on Spectroscopies in Novel Superconductors.

14. C. C. Homes, T. Timusk, D. A. Bonn, R. Liang, and W. N. Hardy, *Optical phonons polarized along the c axis of $YBa_2Cu_3O_{6+x}$, for $x = 0.5 \rightarrow 0.95$*, Can. J. Phys. **73**(11-12), 663–675 (1995).

15. C. Homes, T. Timusk, D. Bonn, R. Liang, and W. Hardy, *Optical properties along the c-axis of $YBa_2Cu_3O_{6+x}$, for $x = 0.50 \rightarrow 0.95$: evolution of the pseudogap*, Physica C **254**(3–4), 265–280 (1995), also see erratum in Physica C **432** (2005) 316.

16. J. Eldridge, C. Homes, J. M. Williams, A. Kini, and H. Wang, *The assignment of the normal modes of the BEDT-TTF electron-donor molecule using the infrared and Raman spectra of several isotopic analogs*, Spectrochim. Acta **51A**(6), 947–960 (1995).

17. C. C. Homes, M. Ziaei, B. P. Clayman, J. C. Irwin, and J. P. Franck, *Softening of a Reststrahlen band in CuO near the Néel transition*, Phys. Rev. B **51**, 3140–3150 (Feb 1995).

18. C. C. Homes, P. J. Horoyski, M. L. W. Thewalt, B. P. Clayman, and T. R. Anthony, *Effect of isotopic disorder on the F_u modes in crystalline C_{60}*, Phys. Rev. B **52**, 16892–16900 (Dec 1995).

19. D. A. Bonn, S. Kamal, A. Bonakdarpour, R. Liang, W. N. Hardy, C. C. Homes, D. N. Basov, and T. Timusk, *Surface Impedance Studies of YBCO*, Czech. J. Phys. **46**, 3195–3202 (1996).

20. J. Eldridge, Y. Xie, Y. Lin, C. Homes, H. Wang, J. Williams, A. Kini, and J. Schlueter, *Infrared and Raman studies of the organic superconductor κ-(BEDT-TTF)$_2$[Cu(NCS)$_2$] and its $^{13}C(4)$ isotopic analog*, Spectrochim. Acta **53A**(4), 565–573 (1997).

21. C. C. Homes, B. P. Clayman, J. L. Peng, and R. L. Greene, *Optical properties of $Nd_{1.85}Ce_{0.15}CuO_4$*, Phys. Rev. B **56**, 5525–5534 (Sep 1997).

22. C. C. Homes, J. L. Peng, R. L. Greene, and B. P. Clayman, *Optical conductivity of $Nd_{1.85}Ce_{0.15}CuO_4$: Strength of the condensate*, J. Phys. Chem. Solids **59**(10–12), 1979–1981 (1998).

23. C. C. Homes, B. P. Clayman, J. L. Peng, and R. L. Greene, *Reply to "Comment on 'Optical properties of $Nd_{1.85}Ce_{0.15}CuO_4$' "*, Phys. Rev. B **58**, 14623–14624 (Dec 1998).

24. C. Homes, S. Kamal, D. Bonn, R. Liang, W. Hardy, and B. Clayman, *Determination of the condensate from optical techniques in unconventional superconductors*, Physica C **296**(3–4), 230–240 (1998).

25. A. W. McConnell, B. P. Clayman, C. C. Homes, M. Inoue, and H. Negishi, *Polarized reflectance measurements of the CDW transitions in η-Mo_4O_{11} and γ-Mo_4O_{11}*, Phys. Rev. B **58**, 13565–13573 (Nov 1998).

26. J. P. Franck, I. Isaac, W. Chen, J. Chrzanowski, J. C. Irwin, and C. C. Homes, *Isotope studies of the CMR compounds $La_{1-x}Ca_xMnO_{3+\delta}$*, J. Superconductivity **12**, 263–267 (1999).

27. V. Golovanov, L. Mihaly, C. C. Homes, W. H. McCarroll, K. V. Ramanujachary, and M. Greenblatt, *Temperature and magnetic field dependent optical spectral weight in the cation-deficient colossal-magnetoresistance material $La_{0.936}Mn_{0.982}O_3$*, Phys. Rev. B **59**, 153–156 (Jan 1999).

28. D. A. Crandles, B. Nicholas, C. Dreher, C. C. Homes, A. W. McConnell, B. P. Clayman, W. H. Gong, and J. E. Greedan, *Optical properties of highly reduced $SrTiO_{3-x}$*, Phys. Rev. B **59**, 12842–12846 (May 1999).

29. C. C. Homes, D. A. Bonn, R. Liang, W. N. Hardy, D. N. Basov, T. Timusk, and B. P. Clayman, *Effect of Ni impurities on the optical properties of $YBa_2Cu_3O_{6+y}$*, Phys. Rev. B **60**, 9782–9792 (Oct 1999).

30. G. Cao, J. E. Crow, R. P. Guertin, P. F. Henning, C. C. Homes, M. Strongin, D. N. Basov, and E. Lochner, *Charge density wave formation accompanying ferromagnetic ordering in quasi-one-dimensional $BaIrO_3$*, Solid State Commun. **113**(11), 657–662 (2000).

31. D. N. Basov, C. C. Homes, E. J. Singley, M. Strongin, T. Timusk, G. Blumberg, and D. van der Marel, *Unconventional energetics of the pseudogap state and superconducting state in high-T_c cuprates*, Phys. Rev. B **63**, 134514 (Mar 2001).

32. R. S. Jackson, K. H. Michaelian, and C. C. Homes, *Photoacoustic spectroscopy using a synchrotron light source*, in *in* Fourier Transform Spectroscopy, pages 161–163, 2001, OSA Technical Digest (Optical Society of America, Washington DC, 2001).

33. K. H. Michaelian, R. S. Jackson, , and C. C. Homes, *Synchrotron infrared photoacoustic spectroscopy*, Rev. Sci. Instrum. **72**, 4331–4336 (2001).

34. J. M. Pigos, B. R. Jones, Z.-T. Zhu, J. L. Musfeldt, C. C. Homes, H.-J. Koo, M.-H. Whangbo, J. A. Schlueter, B. H. Ward, H. H. Wang, U. Geiser, J. Mohtasham, R. W. Winter, and G. L. Gard, *Infrared and Optical Properties of β'-$(ET)_2SF_5CF_2SO_3$: Evidence for a 45 K Spin-Peierls Transition*, Chem. Mater, **13**(4), 1326–1333 (2001).

35. G. Tzamalis, N. A. Zaidi, C. C. Homes, and A. P. Monkman, *Infrared optical properties of polyaniline doped with 2-acrylamido-2-methyl-1-propanesulfonic acid (AMPSA)*, J. Phys.: Condens. Matter **13**(29), 6297–6306 (2001).

36. C. Bernhard, T. Holden, J. Humlicek, D. Munzar, A. Golnik, M. Klaser, T. Wolf, L. Carr, C. Homes, B. Keimer, and M. Cardona, *In-plane polarized collective modes in detwinned $YBa_2Cu_3O_{6.95}$ observed by spectral ellipsometry*, Solid State Commun. **121**(2–3), 93–97 (2002).

37. D. N. Basov, A. M. Bratkovsky, P. F. Henning, B. Zink, F. Hellman, Y. J. Wang, C. C. Homes, and M. Strongin, *Infrared probe of metal-insulator transition in $Si_{1-x}Gd_x$ and $Si_{1-x}Y_x$ amorphous alloys in magnetic field*, EPL (Europhys. Lett.) **57**(2), 240–246 (2002).

38. J. J. Tu, C. C. Homes, G. D. Gu, and M. Strongin, *A systematic optical study of phonon properties in optimally doped $Bi_2Sr_2CaCu_2O_{8+\delta}$ single crystals*, Physica B **316–317**, 324–327 (2002), Proceedings of the 10th International Conference on Phonon Scatte ring in Condensed Matter.

39. S. V. Dordevic, E. J. Singley, D. N. Basov, S. Komiya, Y. Ando, E. Bucher, C. C. Homes, and M. Strongin, *Global trends in the interplane penetration depth of layered superconductors*, Phys. Rev. B **65**, 134511 (Mar 2002).

40. L. He, J. B. Neaton, M. H. Cohen, D. Vanderbilt, and C. C. Homes, *First-principles study of the structure and lattice dielectric response of $CaCu_3Ti_4O_{12}$*, Phys. Rev. B **65**, 214112 (Jun 2002).

41. G. Tzamalis, N. A. Zaidi, C. C. Homes, and A. P. Monkman, *Doping-dependent studies of the Anderson-Mott localization in polyaniline at the metal-insulator boundary*, Phys. Rev. B **66**, 085202 (Aug 2002).

42. C. C. Homes, Q. Li, P. Fournier, and R. L. Greene, *Infrared optical properties of Pr_2CuO_4*, Phys. Rev. B **66**, 144511 (Oct 2002).

43. J. J. Tu, C. C. Homes, G. D. Gu, D. N. Basov, and M. Strongin, *Optical studies of charge dynamics in optimally doped $Bi_2Sr_2CaCu_2O_{8+\delta}$*, Phys. Rev. B **66**, 144514 (Oct 2002).

44. C. C. Homes, T. Vogt, S. M. Shapiro, S. Wakimoto, M. A. Subramanian, and A. P. Ramirez, *Charge transfer in the high dielectric constant materials $CaCu_3Ti_4O_{12}$ and $CdCu_3Ti_4O_{12}$*, Phys. Rev. B **67**, 092106 (Mar 2003).

45. N. L. Wang, P. Zheng, T. Feng, G. D. Gu, C. C. Homes, J. M. Tranquada, B. D. Gaulin, and T. Timusk, *Infrared properties of $La_{2-x}(Ca,Sr)_xCaCu_2O_{6+\delta}$ single crystals*, Phys. Rev. B **67**, 134526 (Apr 2003).

46. C. C. Homes, J. M. Tranquada, Q. Li, A. R. Moodenbaugh, and D. J. Buttrey, *Mid-infrared conductivity from mid-gap states associated with charge stripes*, Phys. Rev. B **67**, 184516 (May 2003).

47. T. Timusk and C. C. Homes, *The role of magnetism in forming the c-axis spectral peak at 400 cm^{-1} in high temperature superconductors*, Solid State Commun. **126**(1–2), 63–69 (2003), Proceedings of the High-Tc Superconductivity Workshop.

48. C. C. Homes, S. V. Dordevic, D. A. Bonn, R. Liang, and W. N. Hardy, *Sum rules and energy scales in the high-temperature superconductor $YBa_2Cu_3O_{6+x}$*, Phys. Rev. B **69**, 024514 (Jan 2004).

49. S. V. Dordevic, E. J. Singley, J. H. Kim, M. B. Maple, S. Komiya, S. Ono, Y. Ando, T. Rõõm, R. Liang, D. A. Bonn, W. N. Hardy, J. P. Carbotte, C. C. Homes, M. Strongin, and D. N. Basov, *Signatures of bilayer splitting in the c-axis optical conductivity of double layer cuprates*, Phys. Rev. B **69**, 094511 (Mar 2004).

50. J. Hwang, T. Timusk, A. V. Puchkov, N. L. Wang, G. D. Gu, C. C. Homes, J. J. Tu, and H. Eisaki, *Marginal Fermi liquid analysis of 300 K reflectance of* $Bi_2Sr_2CaCu_2O_{8+\delta}$, Phys. Rev. B **69**, 094520 (Mar 2004).

51. A. Zimmers, R. P. S. M. Lobo, N. Bontemps, C. C. Homes, M. C. Barr, Y. Dagan, and R. L. Greene, *Infrared signature of the superconducting state in* $Pr_{2-x}Ce_xCuO_4$, Phys. Rev. B **70**, 132502 (Oct 2004).

52. J.-H. Kim, Y. Lee, C. C. Homes, J.-S. Rhyee, B. K. Cho, S.-J. Oh, and E. J. Choi, *Optical spectroscopy study of the electronic structure of* $Eu_{1-x}Ca_xB_6$, Phys. Rev. B **71**, 075105 (Feb 2005).

53. S. V. Dordevic, C. C. Homes, J. J. Tu, T. Valla, M. Strongin, P. D. Johnson, G. D. Gu, and D. N. Basov, *Extracting the electron-boson spectral function* $\alpha^2F(\omega)$ *from infrared and photoemission data using inverse theory*, Phys. Rev. B **71**, 104529 (Mar 2005).

54. C. C. Homes, S. V. Dordevic, D. A. Bonn, R. Liang, W. N. Hardy, and T. Timusk, *Coherence, incoherence, and scaling along the c axis of* $YBa_2Cu_3O_{6+x}$, Phys. Rev. B **71**, 184515 (May 2005).

55. I. Kézsmárki, G. Mihály, R. Gaál, N. Barišić, H. Berger, L. Forró, C. C. Homes, and L. Mihály, *Pressure-induced suppression of the spin-gapped insulator phase in* $BaVS_3$*: An infrared optical study*, Phys. Rev. B **71**, 193103 (May 2005).

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46. D. N. Basov, S. V. Dordevic, E. J. Singley, J. H. Kim, M. B. Maple, S. Komiya, Y. Ando, T. R. o. om, R. Liang, D. A. Bonn, W. N. Hardy, J. P. Carbotte, T. Timusk, C. C. Homes, and M. Strongin, *Signatures of bilayer splitting in the c-axis infrared response of multilayer cuprates*, Bull. Am. Phys. Soc. **48**, 93 (2003), March Meeting of the American Physical Society, Austin, Texas; March 3-7, 2003.

47. R. P. S. M. Lobo, A. Zimmers, N. Bontemps, C. P. Hill, R. L. Greene, and C. C. Homes, *Opening of a partial gap in the optical conductivity of* $(Pr,Ce)_2CuO_4$, Bull. Am. Phys. Soc. **49**, 818 (2004), March Meeting of the American Physical Society, Montreal, PQ, Canada; March 22-26, 2004.

48. S. V. Dordevic, C. C. Homes, J. J. Tu, T. Valla, M. Strongin, P. D. Johnson, G. D. Gu, and D. N. Basov, *A new method of extracting electron-boson spectral function* $\alpha^2F(\omega)$ *from infrared and ARPES spectra using inverse theory*, Bull. Am. Phys. Soc. **49**, 818 (2004), March Meeting of the American Physical Society, Montreal, PQ, Canada; March 22-26, 2004.

49. C. C. Homes, S. V. Dordevic, X. Z. G. Yu, and M. Greven, *Infrared optical properties of* $HgBa_2CuO_{4+\delta}$, Bull. Am. Phys. Soc. **49**, 818 (2004), March Meeting of the American Physical Society, Montreal, PQ, Canada; March 22-26, 2004.

50. J. Tu, C. Homes, G. Gu, and M. Strongin, *A systematic infrared study of phonon properties in optimally-doped* $Bi_2Sr_2CaCu_2O_{8+\delta}$ *single crystals*, Bull. Am. Phys. Soc. **49**, 819 (2004), March Meeting of the American Physical Society, Montreal, PQ, Canada; March 22-26, 2004.

51. J. H. Kim, S.-J. Oh, Y. Lee, M. G. Kim, E. J. Choi, J.-S. Rhyee, G. K. Cho, and C. C. Homes, *Optical spectroscopy study on the electronic structure of* $Eu_{1-x}Ca_xB_6$, Bull. Am. Phys. Soc. **50**, 224 (2005), March Meeting of the American Physical Society, Los Angeles, California; March 21-25, 2005.

52. Z. Q. Li, W. Padilla, S. Dordevic, P. Esquinazi, C. C. Homes, and D. N. Basov, *Infrared spectroscopy of 2D electron gas in high magnetic field: a case study of graphite*, Bull. Am. Phys. Soc. **50**, 946 (2005), March Meeting of the American Physical Society, Los Angeles, California; March 21-25, 2005.

53. R. P. S. M. Lobo, N. Bontemps, A. Zimmers, M. C. Barr, Y. Dagan, R. L. Greene, C. C. Homes, and A. J. Millis, *Optical signature of the quantum critical point in electron doped cuprates*, Bull. Am. Phys. Soc. **50**, 1241 (2005), March Meeting of the American Physical Society, Los Angeles, California; March 21-25, 2005.

54. Y. Lee, Z. Q. Li, W. J. Padilla, D. N. Basov, S. V. Dordevic, C. C. Homes, K. Segawa, and Y. Ando, *Probing strong coupling effects in high-Tc superconductors using infrared spectroscopy in high magnetic field*, Bull. Am. Phys. Soc. **50**, 1243 (2005), March Meeting of the American Physical Society, Los Angeles, California; March 21-25, 2005.

55. C. C. Homes, *Universal scaling relation in high-temperature superconductors*, Bull. Am. Phys. Soc. **50**, 1135 (2005), March Meeting of the American Physical Society, Los Angeles, California; March 21-25, 2005.

56. C. C. Homes, S. V. Dordevic, G. D. Gu, Q. Li, T. Valla, , and J. M. Tranquada, *Evidence for anisotropic charge-excitation gap in $La_{2-x}Ba_xCuO_4$ for $x = 1/8$*, Bull. Am. Phys. Soc. **51**, 1027 (2006), March Meeting of the American Physical Society, Baltimore, Maryland; March 13-17, 2006.

57. S. V. Dordevic, A. Gozar, I. Bozovic, C. C. Homes, G. D. Gu, W. Si, and Y. J. Wang, *Magneto-optical studies of High-Tc cuprates in 33 Tesla*, Bull. Am. Phys. Soc. **51**, 1187 (2006), March Meeting of the American Physical Society, Baltimore, Maryland; March 13-17, 2006.

58. T. R. o. om, D. Huvonen, U. Nagel, S. V. Dordevic, C. C. Homes, A. Gozar, G. Blumberg, N. Drichko, M. Dressel, and H. Kageyama, *Infrared studies of a quantum magnet $SrCu_2(BO_3)_2$*, Bull. Am. Phys. Soc. **51**, 1249 (2006), March Meeting of the American Physical Society, Baltimore, Maryland; March 13-17, 2006.

59. C. C. Homes, *Nature of the electronic gap in stripe-ordered cuprates*, Bull. Am. Phys. Soc. **52**, 58 (2007), A1.3, March Meeting of the American Physical Society, Denver, Colorado; March 5-9, 2007.

60. T. Sun, P. B. Allen, D. G. Stahnke, S. D. Jacobsen, and C. C. Homes, *Infrared reflectance of magnesiowustite ($Mg_{1-x}Fe_xO$): Experiment and theory*, Bull. Am. Phys. Soc. **52**, 109 (2007), B23.2, March Meeting of the American Physical Society, Denver, Colorado; March 5-9, 2007.

61. S. V. Dordevic, C. C. Homes, T. Rõõm, D. Huvonen, U. Nagel, A. Gozar, G. Blumberg, A. LaForge, D. N. Basov, N. Dirchko, M. Dressel, and H. Kageyama, *Signatures of phonon splitting in the infrared spectra of a quantum magnet $SrCu_2(BO_3)_2$*, Bull. Am. Phys. Soc. **52**, 311 (2007), N15.15, March Meeting of the American Physical Society, Denver, Colorado; March 5-9, 2007.

62. E. van Heumen, R. Lortz, F. Carbone, A. B. Kuzmenko, D. van der Marel, X. Zhao, G. Yu, Y. Cho, N. Barisic, M. Greven, C. C. Homes, and S. V. Dordevic, *Optical and thermodynamic properties of Hg-1201*, Bull. Am. Phys. Soc. **52**, 499 (2007), W9.5, March Meeting of the American Physical Society, Denver, Colorado; March 5-9, 2007.

63. C. C. Homes, M. Hücker, J. Wen, Z. Xu, G. D. Gu, and J. M. Tranquada, *Superconducting plasma edge along the c axis in $La_{2-x}Ba_xCuO_4$*, Bull. Am. Phys. Soc. **53** (2008), S9.1, March Meeting of the American Physical Society, New Orleans, Louisiana; March 10-14, 2008.

64. C. C. Homes, M. Hucker, J. Wen, Z. Xu, G. D. Gu, and J. M. Tranquada, *Optical properties of $La_{2-x}Ba_xCuO_4$*, International Conference on Low-Energy Electrodynamics in Solids, Vancouver - Whistler, British Columbia, Canada; June 30 - July 4, 2008.

65. C. C. Homes, W. A. Huttema, P. J. Turner, D. M. Broun, R. Liang, W. N. Hardy, and D. A. Bonn, *Scaling of the superfluid density in severely underdoped $YBa_2Cu_3O_{6+y}$*, Bull. Am. Phys. Soc. **54**, 386 (2009), Q33.7, March Meeting of the American Physical Society, Pittsburgh, Pennsylvania; March 16-20, 2009.

66. R. P. S. M. Lobo, C. C. Homes, and P. Lejay, *Optical conductivity of the Hidden order phase in URu_2Si_2*, Bull. Am. Phys. Soc. **55**, 143 (2010), B38.1, March Meeting of the American Physical Society, Portland, Oregon; March 15-19, 2010.

67. C. C. Homes, A. Akrap, J. J. Tu, L. J. Li, G. H. Cao, and Z. A. Xu, *Infrared phonon anomaly in $BaFe_2As_2$*, Bull. Am. Phys. Soc. **55**, 625 (2010), Y39.11, March Meeting of the American Physical Society, Portland, Oregon; March 15-19, 2010.

68. J. Tranquada, G. Gu, C. Homes, M. Heucker, Q. Li, J. Weng, G. Xu, and Z. Xu, *Evolving Picture of Striped Superconductivity in $La_{2-x}Ba_xCuO_4$*, Bull. Am. Phys. Soc. **55**, 660 (2010), Z40.1, March Meeting of the American Physical Society, Portland, Oregon; March 15-19, 2010.

69. C. C. Homes, A. Akrap, J. S. Wen, Z. J. Xu, Z. W. Lin, Q. Li, and G. D. Gu, *Electronic correlations and superconducting response in the optical properties of $FeTe_{0.55}Se_{0.45}$*, Bull. Am. Phys. Soc. **56**, 190 (2011), D26.8, March Meeting of the American Physical Society, Dallas, Texas; March 21-25, 2011.

70. S. J. Moon, C. C. Homes, A. Akrap, Z. J. Xu, J. S. Wen, Z. W. Lin, Q. Li, G. D. Gu, and D. Basov, *Incoherent Interplane Response of* $FeTe_{0.55}Se_{0.45}$, Bull. Am. Phys. Soc. **56**, 265 (2011), J26.14, March Meeting of the American Physical Society, Dallas, Texas; March 21-25, 2011.

71. T. Timusk, J. Hall, S. Purdy, T. Williams, G. Luke, T. Rõõm, T. Uleksin, U. Nagel, R. Lobo, P. Lejay, and C. Homes, *Optical evidence of Fermi liquid scattering in* URu_2Si_2, Bull. Am. Phys. Soc. **56**, 315 (2011), L22.5, March Meeting of the American Physical Society, Dallas, Texas; March 21-25, 2011.

72. A. Akrap, C. C. Homes, R. P. S. M. Lobo, and P. Simon, *Infrared spectroscopy of KDP under high pressure*, Bull. Am. Phys. Soc. **56**, 325 (2011), L33.12, March Meeting of the American Physical Society, Dallas, Texas; March 21-25, 2011.

73. J. J. Tu, L. J. Li, G. H. Cao, Z. A. Xu, and C. C. Homes, *Optical properties of* $BaFe_{1.85}Co_{0.15}As_2$, Bull. Am. Phys. Soc. **56**, 396 (2011), Q26.5, March Meeting of the American Physical Society, Dallas, Texas; March 21-25, 2011.

74. A. Gozar, C. C. Homes, G. Blumberg, V. Thorsmolle, and H. Ronnow, *Gapped sliding phononic modes in the incommensurate structure of the ladder-chain system* $Sr_{14}Cu_{24}O_{41}$, Bull. Am. Phys. Soc. **57**, 441 (2012), P37.14, March Meeting of the American Physical Society, Boston, Massachusetts; February 27-March 2, 2012.

75. C. C. Homes, J. S. Wen, Z. J. Zu, and G. D. Gu, *Hint of a condensate in* $K_{0.8}Fe_{2-y}Se_2$, Bull. Am. Phys. Soc. **57**, 751 (2012), Z22.8, March Meeting of the American Physical Society, Boston, Massachusetts; February 27-March 2, 2012.

76. T. Timusk, J. Carbotte, C. Homes, D. Basov, and S. Sharapov, *The optical conductivity of quasicrystals: evidence of a Weyl semimetal with 3D Dirac spectrum*, Bull. Am. Phys. Soc. **58**, 230 (2013), F13.3, March Meeting of the American Physical Society, Baltimore, Maryland; March 18-22, 2013.

77. X.Xi, Y. M. Dai, C. C. Homes, M. Kidszun, S. Haindl, and G. L. Carr, *Conventional and Time-Resolved Infrared Spectroscopy of La-1111 Thin Films*, Bull. Am. Phys. Soc. **58**, 611 (2013), V1.155, March Meeting of the American Physical Society, Baltimore, Maryland; March 18-22, 2013.

78. S. V. Dordevic, D. N. Basov, and C. C. Homes, *Universal scaling relations in exotic superconductors*, Bull. Am. Phys. Soc. **58**, 653 (2013), W35.3, March Meeting of the American Physical Society, Baltimore, Maryland; March 18-22, 2013.

Invited Conference Talks

1. *Electron-phonon coupling in organic conductors and superconductors*, Canadian Institute for Advanced Research, Superconductivity Meeting, January, 1991.

2. *Optical properties along the c-axis of* $YBa_2Cu_3O_{6+x}$ *for* $x = 0.6 \rightarrow 0.95$, Aspen Winter Condensed Matter Physics Conference, *High-Temperature Superconductors and Related Materials*, Aspen, Colorado, USA, January, 1994.

3. *Pseudogap in the c-axis optical conductivity of oxygen-reduced* $YBa_2Cu_3O_{6+x}$, APS March Meeting, Pittsburgh, Pennsylvania, USA, March , 1994.

4. *Charge transport and the optical properties of cuprate superconductors*, Invited talk at the Asia Pacific Center for Theoretical Physics Winter Workshop on Strongly Correlated Electron Systems, Bokwang Pheonix Park, Kangwon-do, Korea, February 8-13, 1999.

5. *Charge transport and screening effects in the high-temperature superconductors*, National Synchrotron Light Source Annual Users Meeting, Complex Materials Workshop, May 24–26, 1999.

6. *Infrared studies of correlated systems at very long wavelengths at the NSLS*, Future Directions for Far-infrared Sources, ALS Users' Meeting Workshop, October 18, 2000.

7. *Infrated Spectroscopy at the National Synchrotron Light Source* (keynote talk), Canadian Light Source: 3rd Users' Meeting, Infrared Spectroscopy and Microscopy Workshop, University of Saskatchewan, Saskatoon, Canada, November 17–18, 2000.

8. *Optical properties of curpate superconductors and related materials*, VII Internal Conference on Advanced Materials, Cancun, Q.R., Mexico, August 26–30, 2001.

9. *Optical properties of the giant dielectric materials* $CaCu_3Ti_4O_{12}$ *and* $CdCu_3Ti_4O_{12}$ (symposium), APS March Meeting, Indianapolis, IN, March18–22, 2002.

10. *The role of phonons in high-temperature superconductors — is there one?*, International Conference on Low Energy Electrodynamics in Solids (LEES 02), Montauk, LI, NY, October 13–18, 2002.

11. *Energy scales in High-Tc Superconductors*, International Conference on Dynamic Inhomogeneities in Complex Oxides and Related systems, Bled, Slovenia, June 14–20, 2003.

12. *A universal scaling relation in high-temperature superconductors*, Aspen Winter Conference in Condensed Matter Physics: High-Temperature Superconductivity, January 9–15, 2005.

13. *Universal scaling relation in high-temperature superconductors*, APS March Meeting, Los Angeles, CA, March 21–25, 2005.

14. *Scaling of the superfluid density in high-temperature superconductors*, Strongly Correlated Electron Materials: Physics and Nanoengineering, SPIE International Symposium on Optics and Photonics, San Diego, CA, July 31 – August 4, 2005.

15. *Scaling of the superfluid density in high-temperature superconductors*, International Symposium on Superconductivity, Tsukuba, Japan, October 24–26, 2005.

16. *High-field magneto-optical studies in high-temperature superconductors*, Lattice Effects in Superconductors, Santa Fe, NM, April 17–20, 2006.

17. *Scaling of the superfluid density in high-temperature superconductors and related materials*, Low Energy Electrodynamics in Solids (LEES 06), Tallinn, Estonia, July 1–6, 2006.

18. *Nature of the electronic gap in stripe-ordered cuprates*, March Meeting of the American Physical Society, Denver, Colorado, March, 2007.

19. *Scaling of the superfluid density in high-temperature superconductors and other materials*, Workshop on routes to superconductivity at ambient conditions, University of Brasilia, Brasilia/DF, Brazil, April 13–24, 2009.

20. *Electronic and vibrational properties of* $BaFe_2As_2$ *and related materials*, Frontiers in Density Functional Theory, Montauk, NY, September 2009.

21. *Optical properties and determination of the superconducting gap in* $FeTe_{1-x}Se_x$, The 9$^{\text{th}}$ International Conference on Spectroscopies in Novel Superconductors, Shanghai, P. R. China, May 23–28, 2010.

22. *Scaling of the superfluid density in the iron-based superconductors*, Villa Conference on Iron Pnictide Superconductors, Las Vegas, Nevada, April 2011.

23. *Superconductivity, charge and spin order: optical conductivity and spectral weight as a method of determining the nature of the gap*, Telluride Science Research Workshop on Competing Interactions and Colossal Responses in Transition Metal Compounds, Telluride, Colorado, July 2011.

24. *Evidence for a Josephson phase in the optical conductivity of the iron-selenide* $K_{0.8}Fe_{2-y}Se_2$, Villa Conference on Iron-based Superconductors, Orlando, Florida, April 2012.

25. *Gap signatures in the IR and THz properties of the cuprate andiron-based superconductors*, Low Energy Electrodynamics in Solids 2012, Napa, California, July 2012.

26. *Optical properties and electronic correlations in the cuprate and iron-based superconductors*, International Workshop on Strongly Correlated Physics in the Cuprates, Montauk, Long Island, New York, September 4–7, 2012.

27. *Fractional power law in the optical conductivity of iron-based superconductors*, Energy Materials Nanotechnology West Meeting, Houston, TX, January 7–10, 2013.

28. *Scattering rate in iron-based superconductors*, Recent developments in Fe-based high-temperature superconductors, Riverhead, NY, September 3–6, 2013.

Seminars and Colloquia

1. *Electron-phonon coupling in the conducting organic $(TMTSF)_2X$ salts*, McMaster University, *Superconductivity Study Group*, October, 1990.
2. *The optical conductivity of the icosahedral quasicrystals AlCu(Fe,Ru), and AlMnSi and its crystalline approximant*, Cornell University, July 1992.
3. *Optical Properties of quasicrystals*, University of British Columbia, Condensed Matter Seminar, September, 1992.
4. *Optical properties along the c-axis of $YBa_2Cu_3O_{6.70}$: evidence for a pseudogap*, University of British Columbia, *Condensed Matter Seminar*, March 1993.
5. *The effect of impurities on the optical properties of $YBa_2Cu_3O_{6+x}$*, SUNY at Stony Brook, *Solid State Seminar*, April 1997.
6. *Infrared spectroscopy of solids*, SUNY at Binghamton, *Chemistry Colloquium*, November 1997.
7. *Charge transport and screening effects in cuprate superconductors*, NSLS, Brookhaven National Laboratory, May, 1999.
8. *Screening effects in high-temperature superconductors*, University of Connecticut, *Physics Colloquium*, February 2000.
9. *Optical conductivity sum rules and kinetic energy mechanisms in high-Tc materials*, R.G. Herb Materials Physics seminar, University of Wisconsin, Madison, February 2003.
10. *Energy scales and scaling relations in high-temperature superconductors*, Walther Meissner Institut, Munich, Germany, February 2004.
11. *Universal scaling in high-temperature superconductors*, SUNY Stony Brook, *Physics Colloquium*, October 2004.
12. *Universal scaling relation in high-temperature superconductors*, Princeton, November 2004.
13. *Scaling in high-temperature superconductors*, Boston College, November 2004.
14. *Scaling in high-temperature superconductors*, Simon Fraser University, February 2006.
15. *Scaling in high-temperature superconductors*, University of British Columbia, March 2006.
16. *Scaling laws in the high-temperature superconductors: possible insights into a mechanism*, University of Toronto, November 2006.
17. *Scaling laws in the high-temperature superconductors: energy scales and the pseudogap*, University of California at San Diego, February 2007.
18. *Scaling laws in the high-temperature superconductors: energy scales and the pseudogap*, University of Wisconsin at Madison, March 2007.
19. *Scaling relations and the dirty limit in high-temperature superconductors: energy scales and the pseudogap*, Laboratoire Photons et Matire, Ecole Superieure de Physique et de Chemie Industrielles de la Ville de Paris, CNRS, UPR 5 - 10, April 2007.
20. *The first high-temperature superconductor $La_{2-x}Ba_xCuO_4$: an optical investigation*, R. G. Herb Materials Physics Seminar, University of Wisconsin at Madison, Madison, WI, December 2007.
21. *Electronic correlations in the optical properties of the iron-based superconductors*, R. G. Herb Condensed Matter Seminar, Physics Department at the University of Wisconsin at Madison, December 2010.

22. *Optical properties of the iron-selenide superconductor $K_{0.8}Fe_{2-y}Se_2$: evidence for a Josephson phase*, Condensed Matter Seminar,Department of Physics and Astronomy at McMaster University, December 2011.

23. *Infrared optical properties of metals and superconductors* (undergraduate talk), Department of Physics and Astronomy, SUNY Stony Brook, December 2011.

Contributed talks and other presentations...

1. March Meeting of the American Physical Society, Condensed Matter, Baltimore, Maryland, USA, March, 1985.

2. Low-Dimensional Conductors and Superconductors, NATO Advanced Study Institute, Magog, P.Q., Canada, August 24-September 6, 1986.

3. March Meeting of the American Physical Society, Condensed Matter, New Orleans, Louisiana, USA, March 21-25, 1988.

4. March Meeting of the American Physical Society, Condensed Matter, Cincinnati, Ohio, USA, March 18-22, 1990.

5. Gordon Research Conference on Condensed Matter Physics, Magnetism and Superconductivity, Wolfeboro, New Hampshire, USA, June 10-14, 1991.

6. March Meeting of the American Physical Society, Condensed Matter, Indianapolis, Indiana, USA, March 16-20, 1992.

7. Canadian Association of Physicists Annual Congress, Superconductivity Symposium, University of Windsor, Ontario, June 15-17, 1992 .

8. March Meeting of the American Physical Society, Condensed Matter, Seattle, Washington, USA, March 22-26, 1993.

9. Canadian Association of Physicists Annual Congress, Simon Fraser University, Burnaby, B.C., June 16-19, 1993.

10. Canadian Institute for Advanced Research, Superconductivity Meeting, Hamilton, Ontario, February 25-27, 1993.

11. March Meeting of the American Physical Society, Condensed Matter, San Jose, CA, March 20-24, 1994.

12. SPIE International Symposium on Lasers and Integrated Optoelectronics (Spectroscopic Studies of Super-conductors), San Jose, CA, January 27 - February 2, 1995.

13. March Meeting of the American Physical Society, Condensed Matter, Kansas City, MO, March 17-21, 1997.

14. Spectroscopy of Novel Superconductors, September 14-18, 1997, Cape Cod, Massachusetts.

15. March Meeting of the American Physical Society, Condensed Matter, Los Angeles, CA, March 16-20, 1998.

16. National Synchrotron Light Source Annual Users Meeting, Upton, NY, May 18-20, 1998.

17. Gordon Conference on Condensed Matter Physics, Correlated Electron Systems, Plymouth, NH, July 19-24, 1998.

18. March Meeting of the American Physical Society, Condensed Matter, Atlanta, GA, March 20-26, 1999.

19. March Meeting of the American Physical Society, Condensed Matter, Seattle, WA, March 12-16, 2001.

20. Pittcon, FTIR Spectroscopy, New Orleans, LA, March 17-22, 2002.

21. March Meeting of the American Physical Society, Condensed Matter, Indianapolis, IN, March 18-22, 2002.
22. International Conference on the Low Energy Electrodynamics in Solids (LEES 02), Montauk, NY, October 13-18, 2002.
23. March Meeting of the American Physical Society, Condensed Matter, Austin, TX, March 3-7, 2003.
24. March Meeting of the American Physical Society, Condensed Matter, Montreal, PQ, Canada, March 22-26, 2004.
25. March Meeting of the American Physical Society, Condensed Matter, Los Angeles, CA, March 21-25, 2005.
26. March Meeting of the American Physical Society, Condensed Matter, Baltimore, MD, March 13-17, 2006.
27. March Meeting of the American Physical Society, Condensed Matter, Denver, CO, March 5-9, 2007.
28. March Meeting of the American Physical Society, Condensed Matter, New Orleans, LA, March 10-14, 2008.
29. International Conference on Low-Energy Electrodynamics in Solids, Vancouver - Whistler, British Columbia, Canada, June 30-July 4, 2008.
30. March Meeting of the American Physical Society, Condensed Matter, Pittsburgh, PA, March 16-20, 2009.