Collin Leslie Broholm
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Education

University of Copenhagen, Ph. D., Physics, 1988
Technical University of Denmark, M. S., Electronics and Physics, 1985

Appointments

2014-present	Professor, Dept. of Materials Science & Engineering, Whiting School, JHU
2012-present	Joint Faculty, Quantum Condensed Matter Division, SNS, ORNL
2011-present	Associate Fellow, Canadian Institute for Advanced Research
2008-present	Gerhard H. Dieke Professor, The Johns Hopkins University
1997-present	Professor of Physics, The Johns Hopkins University
1994-1997	Associate Professor of Physics, The Johns Hopkins University
1990-1994	Assistant Professor of Physics, The Johns Hopkins University
1988-1990	Post doctoral Fellow, AT&T Bell Laboratories

Professional Societies

American Physical Society (Fellow)
Neutron Scattering Society of America (Fellow).

Research Interests

Experimental Condensed Matter Physics: Quantum Magnetism, Strongly Correlated Electrons, Superconductivity, Neutron Scattering, Neutron Scattering Instrumentation Development.

Honors and Distinctions:

2014	Gordon and Betty Moore Foundation Experimental Investigator Award
2010	Sustained Research Prize, Neutron Scattering Society of America
2010	Fellow of the Neutron Scattering Society of America
2008	Gerhard H. Dieke Professorship in Physics and Astronomy.
2007	Condensed Matter Sciences Distinguished Lecture, BNL
2005	Fellow of the American Physical Society
1994-1999	NSF Presidential Faculty Fellow
1987	A. R. Angelo Award (Denmark)

Ten publications related to the proposal (Publications: 155; Citations: >7700; H-index: 47**):**

"Molecular Quantum Magnetism in $LiZn_2Mo_3O_8$," M. Mourigal, W. T. Fuhrman, J. P. Sheckelton, A. Wartelle, J. A. Rodriguez-Rivera, D. L. Abernathy, T. M. McQueen, C. L. Broholm, Phys. Rev. Lett. **112**, 027202 (2014). [4 citations]

"Quantum fluctuations in spin-ice-like $Pr_2Zr_2O_7$," K. Kimura, S. Nakatsuji, J.-J. Wen, C. Broholm, M. B. Stone, E. Nishibori, H. Sawa. Nature Communications **4**, 1934 (2013). [12 citations]

"Fractionalized excitations in the spin-liquid state of a kagome-lattice antiferromagnet," T.-H. Han, J. S. Helton, S. Chu, D. G. Nocera, J. A. Rodriguez-Rivera, C. Broholm, and Y. S. Lee, Nature **492**, 406 (2012). [82 citations]

"Spin Gap and Resonance at the Nesting Wave Vector in Superconducting $FeSe_{0.4}Te_{0.6}$", Y. M. Qiu, W. Bao, Y. Zhao, C. Broholm, V. Stanev, Z. Tesanovic, Y. C. Gasparovic, S. Chang, J. Hu, B. Qian, M. H. Fang, Z. Q. Mao, Phys. Rev. Lett. **103**, 067008 (2009). [142 citations]

"Spin Resonance in the d-wave Superconductor $CeCoIn_5$," C. Stock, C. Broholm, J. Hudis, H. J. Kang, and C. Petrovic, , Phys. Rev. Lett. **100**, 087001 (2008). [134 citations]

"Spin Disorder on a Triangular Lattice", Satoru Nakatsuji, Yusuke Nambu, Hiroshi Tonomura, Osamu Sakai, Seth Jonas, Collin Broholm, Hirokazu Tsunetsugu, Yiming Qiu, and Yoshiteru Maeno, Science **309**, 1697 (2005). [226 citations]

"Magnetically Driven Ferroelectric Order in $Ni_3V_2O_8$", G. Lawes, A. B. Harris, T. Kimura, N. Rogado, R. J. Cava, A. Aharony, O. Entin-Wohlman, T. Yildirim, M. Kenzelmann, C. Broholm, and A. P. Ramirez, Phys. Rev. Lett. **95**, 087205 (2005). [382 citations]

"Emergent Excitations in a Geometrically Frustrated Magnet", S.-H. Lee, C. Broholm, W. Ratcliff II, G. Gasparovic, Q. Huang, T. H. Kim, and S.-W. Cheong, Nature **418**, 856 (2002). [254 citations]

"Magnetic Order and Fluctuations in Superconducting UPt_3", G. Aeppli, E. Bucher, C. Broholm, J. K. Kjems, J. Baumann and J. Hufnagl, Phys. Rev. Lett., **60**, 615 (1988). [398 citations]

"Magnetic Excitations and Ordering in the Heavy Electron Superconductor URu_2Si_2", C. Broholm, J. K. Kjems, W. J. L. Buyers, P. Matthews, T. T. M. Palstra, A. A. Menovsky, J. A. Mydosh, Phys. Rev. Lett., **58**, 1467-1470 (1987). [434 citations]

Synergistic Activities

2012-	DOE-BES Materials Council
2012	Member of the NSF-MPS-DMR advisory committee "Materials 2020"
2010	Co-Organizer of the 2010 Conference on Highly Frustrated Magnetism at JHU.
2010-	Member of the NCNR beam time advisory committee.
2008-	Advisory Committee, Helmholtz Zentrum Berlin, Germany.
2006-	Advisory Committee, Center for Nanophase Materials Science, ORNL.
2006-2008	NRC committee on New Materials Synthesis and Crystal Growth (MSAC).
2005-	Solid State Sciences Committee, Board on Physics and Astronomy, NRC.
2002-2006	Chairman of the SNS Experimental Facilities Advisory Committee.
1999-2003	Member of the DoE Basic Energy Sciences Advisory Committee.

Collaborators and Other Affiliates

Major Outside Collaborators (last 4 years)

D. L. Abernathy (ORNL), M. D. Bird (NHMFL), W. J. L. Buyers (AECL, Canada), P. C. Canfield (Ames), S.-W. Cheong (Rutgers U.), C. L. Chien (JHU), S. O. Diallo (ORNL), B. D. Gaulin (McMaster U.), T. R. Gentile (NIST), G. E. Granroth (ORNL), M. Green (U. Kent), M. Hagiwara (Osaka U.), J. S. Helton (NIST), A. Hiess (ILL), J. P. Hodges (ORNL), Q. Z. Huang (NIST), A. Huq (ORNL), M. Kenzelmann (U. of Minnesota), G. Kotliar (Rutgers U.), Young S. Lee (Stanford), M. D. Lumsden (ORNL), J. W. Lynn (NIST), Y. Machida (U. of Tokyo), Z. Q. Mao (Tulane), Y. Maeno (Kyoto U.), R. J. McQueeney (ORNL), E. Morosan (Rice University), S. Nakatsuji (U. of Tokyo), Y. Nambu (Tohoku U.), K. Onuma (U. of Tokyo), C. Petrovic (BNL), W. Ratcliff (NIST), H. Sawa (Nagoya U.), S. K. Sinha (UCSD), Z. G. Soos (Princeton), C. Stock (U. Edinburgh), M. B. Stone (ORNL), W. Tian (ORNL), G. S. Uhrig (U. des Saarlandes), Z. Yamani (AECL, Canada), T. Yildirim (NIST), J. L. Zaretsky (ORNL).

Graduate Advisor**:** J. K. Kjems (RISØ National Laboratory, Denmark) & A. R. Mackintosh (University of Copenhagen, deceased)

Post-doctoral Advisor : G. Aeppli (University College London and Paul Scherrer Institute)

Graduate Students (22)

S.-L. Ma (Industry), W. Bao (Prof. Renmin U, China), S.-H. Lee (Prof., UVA), D. Dender (NIST), P. R. Hammar (Industry), G. Xu (BNL), Y. Qiu (NIST), M. B. Stone (ORNL), Y. Chen (Industry), Goran Gasparovic (Industry), Tao Hong (ORNL), Seth Jonas (Institute for Defense Analysis), Ivelisse Cabrera (Oxford University), Vivek Thampy (BNL), Jiajia Wen (Stanford), Current: Shan Wu, Wes Fuhrman, Guy Marcus, Chris Pasco, Evan Plunkett, Shu Zhang, Alan Scheie.

Post-doctoral Advisees (12)

I. Zaliznyak (BNL), C. Ulrich (Prof., UNSW, Australia), Joost van Duijn (Prof., U. de Castilla-La Mancha, Spain), M. Kenzelmann (Department head, Paul Scherrer Institute, Switzerland), Chris Stock (Reader, U. Edinburgh), Jose A. Rodriguez (NIST), Andrei Zavici (ORNL), Yang Zhao (NIST), Harini Barath (India), Martin Mourigal (Asst. Prof. Georgia Tech), Kate Ross (Asst. Prof., Colorado State Univ.), Current: Jon Leiner.