

MARTIN MOURIGAL

Associate Professor, School of Physics, Georgia Institute of Technology

CONTACT INFORMATION

School of Physics, 837 State Street, Atlanta, GA 30332, USA
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LABORATORY

Howey Physics Building
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RESEARCH THEMES

Quantum condensed matter physics, neutron scattering and instrumentation, frustrated magnets, spin-liquids, quantum materials, quantum information sciences, spin dynamics, materials synthesis and crystal growth, thermo-magnetic characterization of materials, superconductivity and correlated electrons.

PERSONAL INFORMATION

Birth: 1984 in Limoges, France Citizenship: French, U.S. permanent resident
Status: Married + 1 child Address: 325 Lindbergh Dr NE, Atlanta, GA 30305

EMPLOYMENT

2020- Associate Professor, School of Physics, Georgia Institute of Technology (GT), Atlanta, USA.
2015-2020 Assistant Professor, School of Physics, Georgia Institute of Technology (GT), Atlanta, USA.
2011-2014 Postdoctoral Research Fellow, The Johns Hopkins University (JHU), Baltimore, USA,
 Advisor: Collin L. Broholm.
2008-2011 Graduate Student, Institut Laue-Langevin (ILL), Grenoble, France,
 Advisor: Mechthild Enderle.
2008-2011 Graduate Student, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland,
 Advisor: Henrik M. Rønnow.
2007-2008 Master Student, Commissariat à l'Énergie Atomique (CEA), Grenoble, France,
 Advisor: Mike E. Zhitomirsky.

EDUCATION

2006-2011 École Polytechnique Fédérale de Lausanne (EPFL), Switzerland,
 Ph.D., Physics, June 2011,
 M.Sc., Physics, February 2008.
2004-2007 École des Mines de Nancy, France,
 B.Sc. (Equivalent), Materials Science, September 2007, "*Diplôme d'Ingénieur Civil des Mines*".
2002-2004 Lycée Gay-Lussac, Limoges, France,
 Undergraduate coursework, Physics and Chemistry, "*Classes Préparatoires aux Grandes Écoles*".

AWARDS AND FELLOWSHIPS

2022 [Elwood P. "Doc" Blanchard Early Career Professorship](#) (GT, College of Sciences).
2022 [Science Prize](#), Neutron Scattering Society of America.
2019 [Kavli Fellow](#), U.S. National Academy of Sciences.
2019 [Cullen-Peck Faculty Scholar Award](#) (GT, College of Sciences).
2019 [Sigma Xi Young Faculty Award](#), $\Sigma\Xi$ Scientific Research Honor Society (GT, University wide).
2019 [BP Junior Faculty Teaching Excellence Award](#), Center for Teaching and Learning (GT, University wide).
2018 [CAREER Award](#), National Science Foundation.
2017 [Class of 1969 Teaching Fellow](#), Center for Teaching and Learning (GT, University wide).
2016 [Ralph E. Powe Junior Faculty Enhancement Award](#), Oak Ridge Associated Universities.
2011 Johns Hopkins-Princeton Institute for Quantum Matter Postdoctoral Fellowship (2011-2014).
2010 Institut Laue-Langevin Directors' Award for Best PhD Student Presentation.

PUBLICATIONS

Group Website <http://mourigal.gatech.edu>
Profiles [\[Google Scholar\]](#), [\[Web of Science\]](#), [\[Scopus\]](#), [\[Orcid\]](#).
Citations Google Scholar: **2225** and $h = 23$; Web of Science: **1519** and $h = 19$; Scopus: **1569** and $h = 20$;
Authorship * indicates Georgia Tech research *i.e.* work done partly or wholly at Georgia Tech.
 boldface indicates postdocs^{PD}, grad students^G, or undergrads^{UG} supervised by Mourigal.

Submitted Journal Articles

- * 53. Jing Zhou, Guy Quirion, Jeffrey A. Quilliam, Huibo Cao, Feng Ye, Matthew B. Stone, Qing Huang, Haidong Zhou, Jinguang Cheng, **X. Bai^G**, **M. Mourigal**, Yuan Wan, and **Z. L. Dun^{PD}**, “Anticollinear order and degeneracy lifting in square lattice antiferromagnet LaSrCrO_4 ”, *Submitted* (2022), <https://arxiv.org/abs/2203.09049>.
- * 52. G. Sala, **M. Mourigal**, C. Boone, N. P. Butch, A. D. Christianson, O. Delaire, A. J. DeSantis, C. L. Hart, R. P. Hermann, T. Huegle, D. N. Kent, J. Y. Y. Lin, M. D. Lumsden, M. E. Manley, D. G. Quirinale, M. B. Stone, and Y. Zhang, “CHESS: The future direct geometry spectrometer at the Second Target Station”, *Submitted* (2022).
- * 51. Ranuri S. D. Mudiyansele, **O. Vilella^G**, G. Kotliar, **M. Mourigal**, W. Xie, “ LiYbSe_2 : Magnetism in a New Type Pyrochlore Lattice”, *Submitted* (October 2021).
- * 50. **X. Bai^G**, S.-S. Zhang, H. Zhang, **Z. L. Dun^{PD}**, W. A. Phelan, V. O. Garlea, M. Mourigal, C. D. Batista, “Instabilities of heavy magnons in an anisotropic magnet”, *Submitted* (September 2021), <https://arxiv.org/abs/2109.10418>.
- * 49. J. A. M. Paddison, P. Mukherjee, **X. Bai^G**, **Z. L. Dun^{PD}**, C. R. Wiebe, H. Zhou, J. S. Gardner, **M. Mourigal**, S. E. Dutton, “Modeling Spin Dynamics in the Singlet Ground State Garnet $\text{Ho}_3\text{Ga}_5\text{O}_{12}$ ”, *Submitted* (August 2019), <https://arxiv.org/abs/1908.03530>.

Published and Accepted Journal Articles

- * 48. Q. Chen, R. Sinclair, A. Akbari-Sharbat, Q. Huang, **Z. L. Dun^{PD}**, J. Q. Yan, E. S. Choi, **M. Mourigal**, A. Verrier, R. Rouane, X. Bazier-Matte, J. A. Quilliam, A. A. Aczel, H. D. Zhou, “Ferromagnetism and Spin Liquid Behavior in $[\text{Mo}_3]^{11+}$ Molecular Magnets” (**Editors’ Sugg.**), *Physical Review Materials* **6**, 044414 (2022); [\[DOI\]](#).
- * 47. A. Legros, S.-S. Zhang, **X. Bai^G**, H. Zhang, **Z. L. Dun^{PD}**, W. A. Phelan, C. D. Batista, **M. Mourigal**, and N. P. Armitage, “Observation of 4- and 6-magnon bound-states in the spin-anisotropic frustrated antiferromagnet FeI_2 ”, *Physical Review Letters* **127**, 267201 (2021); [\[DOI\]](#).
- * 46. J. Wang, Y. Jiang, T. Zhao, **Z. L. Dun^{PD}**, A. L. Miettinen, X. Wu, **M. Mourigal**, H. D. Zhou, W. Pan, D. Smirnov, Z. Jiang, “Magneto-transport evidence for strong topological insulator phase in narrow-gap materials”, *Nature Communications* **12**, 6758 (2021); [\[DOI\]](#).
- * 45. M. M. Bordelon, X. Wang, D. M. Pajerowski, A. Banerjee, M. Sherwin, C. M. Brown, M. S. Eldeeb, T. Petersen, L. Hozoi, U. K. Rossler, **M. Mourigal**, S. D. Wilson, “Magnetic properties and signatures of moment ordering in triangular lattice antiferromagnet KCeO_2 ”, *Physical Review B* **104**, 094421 (2021); [\[DOI\]](#).
- * 44. J. Xing, K. M. Taddei, L. D. Sanjeeva, R. S. Fishman, **M. J. Daum^G**, **M. Mourigal**, C. dela Cruz, and A. S. Sefat, “Stripe antiferromagnetic ground state of the ideal triangular lattice compound KerSe_2 ”, *Physical Review B* **103**, 144413 (2021); [\[DOI\]](#).
- * 43. **Z. L. Dun^{PD}**, **X. Bai^G**, M. B. Stone, H. D. Zhou, **M. Mourigal**, “Effective point-charge analysis of crystal electric fields – application to rare earth pyrochlores and tripod kagome magnets $R_3\text{Mg}_2\text{Sb}_3\text{O}_{14}$ ”, *Physical Review Research* **3**, 023012 (2021); [\[DOI\]](#).
- * 42. **M. J. Daum^G**, A. Ramanathan, A. I. Kolesnikov, S. Calder, **M. Mourigal**, H. S. La Pierre, “Collective excitations in the tetravalent lanthanide honeycomb antiferromagnet, Na_2PrO_3 ”, *Physical Review B* **103**, L121109 (2021); [\[DOI\]](#).
- * 41. **Z. L. Dun^{PD}**, **M. J. Daum^G**, R. Baral, H. B. Cao, Y. Liu, J. A. Rodriguez-Rivera, H. E. Fischer, E. S. Choi, Q. Huang, H. D. Zhou, **M. Mourigal**, B. Frandsen, “Neutron scattering investigations of proposed Kosterlitz-Thouless transitions in transverse-field Ising model triangular lattice antiferromagnet TmMgGaO_4 ” (**Editors’ Sugg.**), *Physical Review B* **103**, 064424 (2021); [\[DOI\]](#).
- * 40. **X. Bai^G**, S.-S. Zhang, **Z. L. Dun^{PD}**, H. Zhang, Q. Huang, H. D. Zhou, M. B. Stone, A. I. Kolesnikov, F. Ye, C. D. Batista, **M. Mourigal**, “Hybridized quadrupolar excitations in the frustrated and spin-anisotropic magnet FeI_2 ”, *Nature Physics* **17**, 467-472 (2021); [\[DOI\]](#).
- * 39. **Z. L. Dun^{PD}**, **X. Bai^G**, **J. A. M. Paddison^{PD}**, **E. Hollingworth^{UG}**, N. P. Butch, C. D. Cruz, M. B. Stone, T. Hong, M. Mourigal, H. D. Zhou, “Quantum Spin Fragmentation in Kagome Ice $\text{Ho}_3\text{Mg}_2\text{Sb}_3\text{O}_{14}$ ”, *Physical Review X* **10**, 031069 (2020); [\[DOI\]](#).
- * 38. Y. Jiang, J. Wang, T. Zhao, **Z. L. Dun^{PD}**, Q. Huang, X. S. Wu, **M. Mourigal**, H. D. Zhou, W. Pan, M. Ozerov, D. Smirnov, Z. Jiang, “Unraveling the Topological Phase of ZrTe_5 via Magneto-infrared Spectroscopy”, *Physical Review Letters* **125**, 046403 (2020); [\[DOI\]](#).

- * 37. X. Gui, T.-R. Chang, K. Wei, **M. J. Daum^G**, D. E. Graf, R. E. Baumbach, **M. Mourigal**, and W. Xie, “A Novel Magnetic Material by Design: Observation of Yb³⁺ with Spin-1/2 and Possible Superconducting Trace in Yb_xPt₅P”, *ACS Central Science* **6**, 2023 (2020); [DOI].
- * 36. Z. Wang, H. Ying, W. Chern, S. Yu, **M. Mourigal**, J. D. Cressler, and Asif I. Khan, “Cryogenic characterization of a ferroelectric field-effect-transistor”, *Applied Physics Letters* **116**, 042902 (2020); [DOI].
- 35. W. Wan, N. B. Christensen, A. W. Sandvik, P. Tregenna-Piggott, G. J. Nilsen, **M. Mourigal**, T. G. Perring, C. D. Frost, D.F. McMorrow, H.M. Rønnow, “Temperature dependence of the (π , 0) anomaly in the excitation spectrum of the 2D quantum Heisenberg antiferromagnet”, *Journal of Physics Condensed Matter* **32**, 374007 (2020); [DOI].
- * 34. N. Jiang, **X. Bai^G**, J. Bacsá, **M. Mourigal**, and H. S. La Pierre, “Synthesis and magneto-structural characterization of Yb₃(OH)₇SO₄·1.5H₂O: a frustrated quantum magnet with tunable stacking disorder”, *Inorganic Chemistry* **58**, 10417-10423 (2019); [DOI].
- * 33. R. Rawl, **L. Ge^G**, Z. Lu, Z. Evenson, C. R. Dela Cruz, Q. Huang, M. Lee, E. S. Choi, **M. Mourigal**, H. D. Zhou, and J. Ma, “Ba₈MnNb₆O₂₄: a model two-dimensional spin-5/2 triangular lattice antiferromagnet”, *Physical Review Materials* **3**, 054412 (2019); [DOI].
- * 32. **X. Bai^G**, **J. A. M. Paddison^{PD}**, E. Kapit, S. M. Koohpayeh, J.-J. Wen, S. E. Dutton, A. T. Savici, A. I. Kolesnikov, G. E. Granroth, C. L. Broholm, J. T. Chalker, and **M. Mourigal**, “Magnetic excitations of the classical spin liquid MgCr₂O₄”, *Physical Review Letters* **122**, 097201 (2019); [DOI].
- 31. J. Schlappa, U. Kumar, K. J. Zhou, S. Singh, **M. Mourigal**, V. N. Strocov, A. Revcolevschi, L. Patthey, H. M. Rønnow, S. Johnston, and T. Schmitt, “Direct observation of multi-spinon excitations outside of the two-spinon continuum in the antiferromagnetic spin chain cuprate Sr₂CuO₃”, *Nature Communications* **9**, 5394 (2018); [DOI].
- * 30. H. Ying, J. Dark, A. P. Omprakash, B. R. Wier, **L. Ge^G**, U. Raghunathan, N. E. Lourenco, Z. E. Fleetwood, **M. Mourigal**, D. Davidović, and J. D. Cressler, “Collector Transport in SiGe HBTs Operating at Cryogenic Temperatures”, *IEEE Trans. on Electron Devices* **65**, 3697 (2018); [DOI].
- * 29. Y. Kamiya, **L. Ge^G**, Tao Hong, Y. Qiu, D. L. Quintero-Castro, Z. Lu, H. B. Cao, M. Matsuda, Z. Lu, E. Choi, C. D. Batista, **M. Mourigal**, H. D. Zhou, and J. Ma, “The nature of spin excitations in the one-third magnetization plateau phase of Ba₃CoSb₂O₉”, *Nature Communications* **9**, 2666 (2018); [DOI].
- * 28. X. Zhang, F. Mahmood, **M. Daum^G**, Z. L. Dun, **J. A. M. Paddison^{PD}**, N. J. Laurita, T. Hong, H. D. Zhou, N. P. Armitage, and **M. Mourigal**, “Hierarchy of exchange interactions in the triangular-lattice spin-liquid YbMgGaO₄”, *Physical Review X* **8**, 031001 (2018); [DOI].
- * 27. Nora Hassan, S. Cunningham, **M. Mourigal**, E. I. Zhilyaeva, S. Turunova, R. N. Lyubovskaya, J. Schlueter, and N. Drichko, “Evidence for a quantum dipole liquid state in an organic quasi-two-dimensional material”, *Science* **360**, 1101-1104 (2018); [DOI].
- Perspective** by B. J. Powell, “The expanding materials multiverse”, *Science* **360**, 1073-1074 (2018).
- 26. J. Leiner, Joosung Oh, A. I. Kolesnikov, M. B. Stone, Manh Duc Le, E. P. Kenny, B. J. Powell, **M. Mourigal**, E. E. Gordon, M.-H. Whangbo, J.-W. Kim, S.-W. Cheong, and Je-Geun Park, “Magnetic excitations of the Cu²⁺ quantum spin chain in Sr₃CuPtO₆”, *Physical Review B* **97**, 104426 (2018); [DOI].
- * 25. J. R. Chamorro, **L. Ge^G**, J. Flynn, M. A. Subramanian, **M. Mourigal**, and T. M. McQueen, “Frustrated spin one on a diamond lattice” (**Editors’ Sugg.**), *Physical Review Materials* **2**, 034404 (2018); [DOI].
- * 24. **M. Mourigal**, “The two faces of a magnetic honeycomb” (**News & Views, Non Peer-Reviewed Editorial**), *Nature* **554**, 307-308 (2018); .
- * 23. N. Blanc, J. Trinh, L. Dong, **X. Bai^G**, A. A. Aczel, **M. Mourigal**, L. Balents, T. Siegrist, and A. P. Ramirez, “Quantum criticality among entangled spin chains”, *Nature Physics* **14**, 273-276 (2018); [DOI].
- * 22. D. Davidović, H. Ying, J. Dark, B. R. Wier, **L. Ge^G**, N. E. Lourenco, A. P. Omprakash, **M. Mourigal** and J. D. Cressler, “Tunneling, current gain, and transconductance in silicon-germanium heterojunction bipolar transistors operating at milliKelvin temperatures”, *Physical Review Applied* **8**, 024015 (2017); [DOI].
- * 21. **L. Ge^G**, J. Flynn, **J. A. M. Paddison^{PD}**, M. B. Stone, S. Calder, M. A. Subramanian, A. P. Ramirez, **M. Mourigal**, “Spin order and dynamics in the diamond-lattice Heisenberg antiferromagnets CuRh₂O₄ and CoRh₂O₄” (**Editors’ Suggestion**), *Physical Review B* **96**, 064413 (2017); [DOI].

- * 20. R. Rawl, **L. Ge^G**, H. Agrawal, Y. Kamiya, C. R. Dela Cruz, N. P. Butch, X. F. Sun, M. Lee, E. S. Choi, J. Oitmaa, C. Batista, **M. Mourigal**, H. D. Zhou, and J. Ma, “Ba₈CoNb₆O₂₄: a spin-1/2 triangular-lattice Heisenberg antiferromagnet in the 2D limit”, *Physical Review B* **95**, 060412 (2017); [DOI].
- * 19. **J. A. M. Paddison^{PD}**, **M. Daum^G**, Z. L. Dun, G. Ehlers, Y. Liu, M. B. Stone, H. D. Zhou, and **M. Mourigal**, “Continuous excitations of the triangular-lattice quantum spin liquid YbMgGaO₄”, *Nature Physics* **13**, 117-122 (2017); [DOI].

Web of Science’s **Highly Cited Paper** (Top 1% in its academic field). **News & Views** on concurrent work by L. Balents, “Condensed-matter physics: Quantum mechanics in a spin”, *Nature* **540**, 534-535 (2016).
Listed as ORNL Neutron Scattering **Top 10 most impactful papers of 2017**.

- * 18. H. Ying, B. R. Wier, J. Dark, N. E. Lourenco, **L. Ge^G**, A. P. Omprakash, **M. Mourigal**, D. Davidović, and J. D. Cressler, “Operation of SiGe HBTs down to 70 mK”, *IEEE Electron Device Letters* **38**, 12-15 (2017); [DOI].
- * 17. **J. A. M. Paddison^{PD}**, H. S. Ong, J. O. Hamp, P. Mukherjee, **X. Bai^G**, M. G. Tucker, N. P. Butch, C. Castelnovo, **M. Mourigal**, and S. E. Dutton, “Emergent order in the kagome Ising magnet Dy₃Mg₂Sb₃O₁₄”, *Nature Communications* **7**, 13842 (2016); [DOI].

————— Below: work performed before arriving at Georgia Tech —————

- 16. A. M. Fry-Petit, A. F. Rebola, **M. Mourigal**, M. Valentine, N. Drichko, J. P. Sheckelton, C. J. Fennie, and T. M. McQueen, “Direct assignment of molecular vibrations through normal mode analysis of the neutron dynamic pair distribution function technique”. *Journal of Chemical Physics* **143**, 124201 (2015); [DOI].
 - 15. D. E. MacLaughlin, O. O. Bernal, L. Shu, J. Ishikawa, Y. Matsumoto, J.-J. Wen, **M. Mourigal**, C. Stock, C. L. Broholm, G. Ehlers, K. Kimura, Y. Machida, S. Nakatsuji, Y. Shimura, and T. Sakakibara, “Unstable spin-ice order in the stuffed metallic pyrochlore Pr_{2+x}Ir_{2-x}O_{7-δ}” (**Editors’ Suggestion**), *Physical Review B* **92**, 054432 (2015); [DOI].
 - 14. **M. Mourigal**, S. Wu, M. B. Stone, J. R. Neilson, J. M. Caron, T. M. McQueen, and C. L. Broholm, “Block magnetic excitations in the orbitally selective Mott insulator BaFe₂Se₃”, *Physical Review Letters* **115**, 047401 (2015); [DOI].
 - 13. M. Valentine, S. M. Koohpayeh, **M. Mourigal**, T. M. McQueen, C. L. Broholm, N. Drichko, S. Dutton, R. J. Cava, T. Birol, H. Das, and C. J. Fennie, “Raman study of magnetic excitations and magneto-elastic coupling in SrCr₂O₄”, *Physical Review B* **91**, 144411 (2015); [DOI].
 - 12. B. Dalla Piazza, **M. Mourigal**, N. B. Christensen, G. J. Nilsen, P. Tregenna-Piggott, T. G. Perring, M. Enderle, D. F. McMorrow, D. A. Ivanov, and H. M. Rønnow, “Fractional excitations in the square-lattice quantum antiferromagnet”, *Nature Physics* **11**, 62-68 (2015); [DOI].
- News & Views** by F. Becca and S. Sorella, “Quantum Magnets: Break it up”, *Nature Physics* **11**, 8-9 (2015).
- 11. **M. Mourigal**, W. T. Fuhrman, J. P. Sheckelton, A. Wartelle, J. A. Rodriguez-Rivera, D. L. Abernathy, T. M. McQueen, and C. L. Broholm, “Molecular quantum magnetism in LiZn₂Mo₃O₈”, *Physical Review Letters*, **112**, 027202 (2014); [DOI].
 - 10. S. M. Koohpayeh, J.-J. Wen, **M. Mourigal**, S. E. Dutton, R. J. Cava, C. L. Broholm, and T. M. McQueen, “Optical floating zone crystal growth and magnetic properties of MgCr₂O₄”, *Journal of Crystal Growth* **384**, 39-43 (2013); [DOI].
 - 9. **M. Mourigal**, W. T. Fuhrman, A. L. Chernyshev, and M. E. Zhitomirsky, “Dynamical structure factor of triangular lattice antiferromagnet”, *Physical Review B* **88**, 094407 (2013); [DOI].
 - 8. **M. Mourigal**, M. Enderle, A. Klöpperpieper, J.-S. Caux, A. Stunault, and H. M. Rønnow, “Fractional spinon excitations in the quantum Heisenberg antiferromagnetic chain”, *Nature Physics* **9**, 435-441 (2013); [DOI].
 - 7. **M. Mourigal**, M. Enderle, B. Fåk, R. K. Kremer, J. M. Law, A. Schneidewind, A. Hiess, and A. Prokofiev, “Evidence of a bond-nematic phase in LiCuVO₄”, *Physical Review Letters* **109**, 027203 (2012); [DOI].
 - 6. W. T. Fuhrman, **M. Mourigal**, M. E. Zhitomirsky, and A. L. Chernyshev, “Dynamical structure factor of quasi-2D antiferromagnet in high fields”, *Physical Review B* **85**, 184405 (2012); [DOI].

5. S. E. Dutton, M. Kumar, **M. Mourigal**, Z. G. Soos, J.-J. Wen, C. L. Broholm, N. H. Andersen, Q. Huang, M. Zbiri, R. Toft-Petersen, and R. J. Cava, “Quantum spin liquid in frustrated one-dimensional LiCuSbO₄”, *Physical Review Letters* **108**, 187206 (2012); [\[DOI\]](#).
4. J. Schlappa, K. Wohlfeld, K. Zhou, **M. Mourigal**, M. Haverkort, V. N. Strocov, L. Hozoi, C. Monney, S. Nishimoto, S. Singh, A. Revcolevschi, J.-S. Caux, L. Patthey, H. M. Rønnow, J. v.d.Brink, and T. Schmitt, “Spin-orbital separation in the quasi-1D Mott insulator Sr₂CuO₃”, *Nature* **485**, 82-85 (2012); [\[DOI\]](#).
Web of Science’s **Highly Cited Paper** (Top 1% in its academic field). **News & Views** by R. Claessen, Solid-state physics: Electrons do the split”, *Nature* **485**, 46-47 (2012).
3. B. Dalla Piazza, **M. Mourigal**, M. Guarise, H. Berger, T. Schmitt, M. Grioni, and H. M. Rønnow, “Unified quantitative model for magnetic and electronic spectra of the undoped cuprates”, *Physical Review B* **85**, 100508(R) (2011); [\[DOI\]](#).
2. **M. Mourigal**, M. Enderle, R. K. Kremer, J. M. Law, and B. Fåk, “Ferroelectricity from spin supercurrents in LiCuVO₄”, *Physical Review B* **83**, 100409(R) (2011); [\[DOI\]](#).
1. **M. Mourigal**, M. E. Zhitomirsky, and A. L. Chernyshev, “Field-induced decay dynamics in square-lattice antiferromagnets”, **Editors’ Suggestion**, *Physical Review B*, **82**(14), 144402 (2010); [\[DOI\]](#).

Conference Presentations with Proceedings

- * 1. Z. Wang, H. Ying, N. Tasneem, A. Gaskell, D. Cressler, **M. Mourigal**, A. I. Khan, “Cryogenic Characterization of Antiferroelectric Zirconia down to 50 mK”, *2019 Device Research Conference (DRC)*, Ann Arbor, MI, USA, pp. 85-86 (2019), [\[DOI\]](#).

Dissertations

- * 5. M. Daum^G (Advisor: **M. Mourigal**), “Quantum Magnetism in Quasi-Two-Dimensional Rare-Earth Oxides: Neutron Scattering and Instrumentation”. Ph.D. Dissertation, Georgia Institute of Technology (August 2021).
- * 4. L. Ge^G (Advisor: **M. Mourigal**), “Versatile Spin-wave Approaches To The Spin Dynamics Of Transition-metal Insulators”. Ph.D. Dissertation, Georgia Institute of Technology (May 2020).
- * 3. X. Bai^G (Advisor: **M. Mourigal**), “Neutron Scattering And Quantitative Modeling Of Magnetic Excitations In Frustrated Magnets”. Ph.D. Dissertation, Georgia Institute of Technology (December 2019).
- 2. **M. Mourigal** (Advisors: H. M. Rønnow and M. Enderle), “Order and Dynamics of Model Quantum Antiferromagnets”. Ph.D. Dissertation, Ecole Polytechnique Fédérale de Lausanne (June 2011); [\[DOI\]](#). Defense committee included P. Bourges (Saclay), F. Mila (Lausanne) and D. A. Tennant (Berlin).
- 1. **M. Mourigal** (Advisor: M. E. Zhitomirsky), “Effect of Magnetic Field on Dynamics of Antiferromagnets”; Master’s Thesis, Ecole Polytechnique Fédérale de Lausanne (February 2008). [\[DOI\]](#).

TEACHING AND MENTORING

Courses Taught

Grade is “Instructor Overall Effectiveness” score given by students (Response Rate, Number of respondents)

Spring 2022	PHYS 6211	Condensed Matter Physics II	16 students		
Fall 2021	PHYS 3143	Quantum Mechanics I	45 students	4.8/5	(51%, 23 responses)
Spring 2021	PHYS 6211	Condensed Matter Physics II	15 students	4.9/5	(36%, 5 responses)
Fall 2020	PHYS 3122	Electro & Magnetostatics	57 students	4.9/5	(52%, 30 responses)
Spring 2020	PHYS 4262	Solid State Physics	24 students		(No Survey due to COVID-19)
Spring 2019	PHYS 4262	Solid State Physics	30 students	4.9/5	(53%, 17 responses)
Fall 2018	PHYS 3122	Electro & Magnetostatics	55 students	5.0/5	(56%, 31 responses)
Spring 2018	PHYS 4262	Solid State Physics	16 students	5.0/5	(81%, 13 responses)
Fall 2017	PHYS 3122	Electro & Magnetostatics	61 students	5.0/5	(44%, 27 responses)
Spring 2017	PHYS 2212	Introductory Physics II	45 students	4.9/5	(67%, 30 responses)
Spring 2016	PHYS 2212	Introductory Physics II	79 students	4.9/5	(61%, 48 responses)
Spring 2015	PHYS 2212	Introductory Physics II	92 students	4.8/5	(59%, 54 responses)

Graduate Students Supervised

6. Olivia Vilella GT Physics Graduate Student 01/2021-Current
5. David Brooks GT Physics Graduate Student 01/2021-Current
4. Jensen Kaplan GT Physics Graduate Student 01/2020-Current
3. Marcus Daum GT Physics Graduate Student 01/2016-07/2021
Obtained PhD degree in July 2021. [Recipient of a DOE SCGSR award](#)
Subsequently: Future Technical Leader Program, Northrop Grumman
2. Luwei Ge GT Physics Graduate Student 01/2015-05/2020
Obtained PhD degree in May 2020.
Subsequently: Software Engineer, Google
1. Xiaojian Bai GT Physics Graduate Student 01/2015-12/2019
Obtained PhD degree in December 2019.
Subsequently: Postdoctoral Fellow, High Flux Isotope Reactor, Oak Ridge National Laboratory (TN)
Currently: Assistant Professor of Physics, Louisiana State University.

Master Students Supervised

1. Benjamin Lichy GT Physics Master Student 01/2020-08/2020
Project: “Simulations of the Two-Dimensional Ising System on a Square Lattice”

Postdocs Mentored

3. Harry Lane Postdoctoral Research Associate 08/2022–
2. Zhiling Dun Postdoctoral Research Associate 09/2017–07/2021
Subsequently: Tenure-Track Researcher, Institute of Physics, Chinese Academy of Sciences, Beijing (China)
1. Joseph Paddison Postdoctoral Research Associate 06/2015–09/2016
Subsequently: Junior Research Fellow, Churchill College & Cavendish Lab, Cambridge University (UK)
Currently: Wigner Distinguished Staff Fellow, Oak Ridge National Laboratory (TN)

Undergraduate Students Supervised

18. Lila Nassar GT Physics Undergraduate Student 01/2022–
Roger M. Wartell and Stephen E. Brossette Award for Multidisciplinary Studies
17. Aulden Jones GT Physics Undergraduate Student 01/2021–
Sandia-GT Academic Alliance Intern, Global Quantum Leap Intern at NIMS, Tsukuba (Japan)
16. Adit Desai GT Physics Undergraduate Student 01/2021–
Letson Scholarship, Fall 2021
15. Milkias Balkew GT Physics and ECE Undergraduate Student 01/2021–05/2022
Subsequently: Vivian Thomas Scholar and Graduate Student, Johns Hopkins University
14. Robin Glefke GT Physics Undergraduate Student 01/2020–05/2021
2021 NSF Graduate Research Fellow, President’s Undergraduate Research Award (Summer 2020)
Subsequently: Graduate Student in Physics at the University of California San Diego
13. Charles Cardot GT Physics Undergraduate Student 01/2020–05/2021
2022 NSF Graduate Research Fellow
Subsequently: Graduate Student in Physics at the University of Washington (US)
12. Patrick Pinney GT Physics Undergraduate Student 05/2019–12/2019
Subsequently: Intern at Los Alamos National Laboratory
11. Liam Ritchie GT Physics Undergraduate Student 05/2018–12/2019
Subsequently: HERE Intern, Oak Ridge National Laboratory
10. Emily Hollingworth GT Physics Undergraduate Student 06/2018–07/2019
2021 NSF Graduate Research Fellow, Hitohiro Fukuyo Outstanding Physics Undergraduate Award
Subsequently: Graduate Student in Physics at the University of California, Berkeley
9. Hannah Price GT Physics Undergraduate Student 09/2017–07/2019
President’s Undergraduate Research Award (Spring 2018)
Subsequently: Master Student in Theoretical Physics at ETH Zürich (CH)

8. Zack Kennedy GT Physics Undergraduate Student 09/2017–07/2019
REU Student at Johns Hopkins Crystal Growth Facility (PARADIM), Summer 2018
Subsequently: Graduate Student in Physics at Cornell University (US)
7. Emmanuel Aneke Summer Student (NSF REU Program) 06/2018–07/2018
Subsequently: Al Ashley Fellow, SLAC National Accelerator Laboratory
6. Darian Hartsell GT Physics Undergraduate Student 09/2016–06/2018
President’s Undergraduate Research Award (Spring 2018)
Subsequently: Graduate Student in Physics at the University of Southern California (US)
5. Cheetan Velivela Cornell Physics Undergraduate Student (Visiting) 01/2017–07/2017
Subsequently: Continued as Physics Undergraduate Student at Cornell University (US)
4. Sai Paladugu GT Physics and Computer Science Undergraduate Student 06/2016–05/2017
President’s Undergraduate Research Award (Spring 2017)
Subsequently: Graduate Student in Physics at the University of Illinois, Urbana-Champaign (US)
3. Patrick Nave ORNL Intern (Challenge Program) 06/2016–08/2016
Co-advised with Dr. Jiao Lin at Oak Ridge National Laboratory’s NDAV Division
Subsequently: Graduate Student in Mathematics at Duke University, Durham (US)
2. Michael Wadell ORNL Intern (Challenge Program) 06/2016–08/2016
Co-advised with Dr. Matthew Stone at Oak Ridge National Laboratory’s QCMD Division
Subsequently: Graduate Student in Data Analytics at Columbia University, New York (US)
1. Michael Waterbury GT Physics Undergraduate Student 04/2015–08/2016
Subsequently: Graduate Student in Physics at the University of California, Irvine (US)

GRANTS AND CONTRACTS

Total sponsored funding received: \$2,080,000.

Currently Funded

- “Quantum multipolar fluctuations in spin-orbit magnets” (DE-SC-0018660)
Department of Energy, Office of Science, Basic Energy Sciences, Neutron Scattering Program.
Total: \$570,894
Role: PI (100% Share)
Period: 06/2021–05/2024 (3 Years)
- “CAREER: Anomalous spin dynamics in triangular quantum magnets: from materials discovery to quantitative neutron spectroscopy” (NSF-DMR-1750186)
National Science Foundation, Division of Materials Research, Condensed Matter Physics.
Total: \$621,772
Role: PI (100% Share)
Period: 06/2018–05/2023 (5 Years)
- Acquisition of an Energy-tunable X-ray Analytical Characterization Tool (EXACT) for Measuring Local Structure and Chemistry in Materials (NSF-DMR-1925797)
National Science Foundation, Division of Materials Research, MRI.
Total: \$332,500.
Role: Co-PI with five GT colleagues including Faisal Alamgir (PI).
Period: 09/2019–08/2022 (3 Years)

Previously Funded

- “Controlling quantum coherence in frustrated spin-orbit magnets” (DE-SC-0018660)
Department of Energy, Office of Science, Basic Energy Sciences, Neutron Scattering Program.
Total: \$555,000
Role: PI (100% Share)
Period: 06/2018–05/2021 (3 Years)

Internal Funding

- “Georgia Tech Quantum Alliance”
Source: Georgia Tech Institute for Electronics and Nanotechnology; Seed Research Grant
Total: \$225,000
Role: Executive Director
Collaborators: Arijit Raychowdhury (Executive Co-Director, GT ECE).
Period: 07/2019–06/2022 (3 years).
Share: No explicit monetary commitment for Mourigal’s lab, community building activities.

PROFESSIONAL ACTIVITIES AND SERVICE

* indicates major service work in terms in time commitment and/or responsibilities.

Advisory and Technical Roles with Oak Ridge National Laboratory (ORNL)

- * 2020-Current Team Spokesperson, CHESS Instrument Concept, Second Target Station Project.
- * 2020 Chair, SNS-HFIR User Group Executive Committee (SHUG-EC).
- 2020 Member, Data Reduction Analysis and Handling Review Committee, Neutron Scattering Div.
- * 2019-2021 Elected Member, SNS-HFIR User Group Executive Committee (SHUG-EC).
- 2018-Current Chair, MANTA Instrument Advisory Committee, Neutron Scattering Division.
- 2016-2017 Co-chair, Young Investigators Advisory Board, Quantum Condensed Matter Division.

Service for Georgia Tech

- 2021-Current Science Advisor, Institute for Materials.
- * 2021-2022 Chair, Quantum Science Faculty Search Committee, School of Physics.
- * 2020-2021 Member, Graduate Program Committee, School of Physics.
- 2020-2021 Member, Task Force on Strategic Initiatives, School of Physics.
- 2020 Finalist, Institute for Materials Executive Directorship.
- * 2020-2021 Member, School of Physics Chair Search Committee.
- * 2019-2020 Member, Condensed Matter Faculty Search Committee, School of Physics (1 successful hire).
- * 2019-Current Co-Director, Georgia Tech Quantum Alliance (University-wide effort in quantum sci. & engineering).
- 2019 Lead technical organizer, Workshop on Quantum Sciences and Technologies.
- * 2018-2020 Elected Member and Secretary, Faculty Advisory Committee, School of Physics.
- 2018-2019 Member, Blue Ribbon Panel, Institute for Materials.
- * 2017-2018 Chair, Condensed Matter Faculty Search Committee, School of Physics (1 successful hire).
- 2017-2018 Member, Excellence through Diversity in Faculty Hiring Committee, College of Science.
- 2017 Member, Review Committee, Institute for Materials.
- 2016 Co-Author (with Colin Parker), White paper on *Adding \hbar to Georgia Tech*, Strategic Plan.
- 2016 Strategic Planning Committee, Institute for Materials.
- 2015-2016 Member, Introductory Physics Program Committee, School of Physics.

Peer Review

- 2019-Current Reviewer, ORAU’s Ralph E. Powe Junior Faculty Enhancement Award Applications.
- 2018-Current Reviewer, Early Career, Neutron Scattering and SBIR Programs, Office of Science, DOE.
- 2018-Current Referee, *Nature Reviews*, *Journal of the Physical Society of Japan*, *Communications Physics*.
- 2017-Current Referee, *Nature*, *Science Advances*, *npj Quantum Materials*, *Physical Review Materials*.
- 2017 Nature Research Outstanding Peer Reviewer.
- * 2016-Current Member, Beam Time Allocation Committee, NIST Center for Neutron Research, NIST.
- * 2016-Current Member, Reviewer and On-Site Science Review Committee, Neutron Scattering Division, ORNL.
- 2016-Current Referee, *Nature Communications*.
- 2016 Reviewer, Condensed Matter Physics, Division of Materials Research, NSF.
- 2015-Current Referee, *Nature Physics*, *Physical Review Letters*, *Physical Review B*.

Meeting Organization

- 2022 Session Chair, APS March Meeting 2022, Chicago (IL).
- 2021 Topical Program Organizer (Spin Liquids), APS March Meeting 2022.
- * 2019 Science at the Second Target Station Workshop, ORNL, December 9–10, 2019
- 2019 Focus Topic Organizer (GMAG) for the 2020 APS March Meeting, Denver (CO).
- 2018 Session Chair, APS March Meeting 2018, Los Angeles (CA).
- 2017 Organizer, Workshop on Early Quantum Materials Science at ORNL's Second Target Station, Georgia Tech, 20 international participants, January 05–06, 2017.
- 2017 Session Chair, APS March Meeting 2017, New Orleans (LA).

Membership in Professional Societies

American Physical Society
Materials Research Society
Neutron Scattering Society of America
Sigma Xi, The Scientific Research Honor Society
American Association of University Professors

ORAL PRESENTATIONS

Invited Presentations at International Conferences & Workshops

2022

- * 37. Swiss Workshop on Materials with Novel Electronic Properties (SWM-2020), Les Diablerets (Switzerland). August 2022.
- * 36. American Conference on Neutron Scattering, Boulder (CO). June 2022.
- * 35. 29th Rare Earth Research Conference (RERC29), Philadelphia (PA). June 2022.

2021

- * 34. "Magnon pairing, interactions and decay in the spin-orbital magnet FeI₂" (online), Korean Physical Society Annual Meeting, October 21, 2021.
- * 33. "Magnon pairing, interactions and decay in the spin-orbital magnet FeI₂" (online), Workshop on Quantum Materials: New Insights from Neutron Scattering, University of Minnesota, June 9, 2021.
- * 32. "Frustrated Magnetism Beyond Kramers Doublets" (online), Quantum Materials Canada 2020, Jouvence (Québec). May 26, 2021.
- * 31. "Hybridization and interaction between quantum multipolar fluctuations in a conventional magnet" (online), International workshop on Emergence and Dynamics in Quantum Matter, Korea Institute for Advanced Study, February 3, 2021.

2020

- * 30. (Postponed to 2022), Third International Workshop From Electronic Correlations to Functionality, Kloster Seeon (Germany).
- * 29. (Postponed to 2022), Frustrated Metals and Insulators Workshop, International Centre for Theoretical Sciences (ICTS), Bangalore (India).
- * 28. (Cancelled), Swiss Workshop on Materials with Novel Electronic Properties (SWM-2020), Les Diablerets (Switzerland). August 31–September 2, 2020.
- * 27. (Cancelled), 29th Rare Earth Research Conference (RERC29), Philadelphia (PA). June 21–25, 2020.

2019

- * 26. "Nature of magnetic excitations in 2D and 3D spin liquids", Materials Research Society (MRS) Fall Meeting 2019, Boston (MA). December 2, 2019.
- * 25. "Continuous magnetic spectra in absence of quasiparticle fractionalization", Workshop on Topological Quantum Matter: Concepts and Realizations, KITP, UC Santa Barbara (CA). October 15, 2019.
- * 24. "Magnetic Materials: a gateway to quantum matter and information" (Poster), Second Japanese-American-German Frontiers of Science Symposium, Kyoto (Japan). September 27, 2019.
- * 23. "Magnetic excitations in classical spin liquids: the case of MgCr₂O₄ and beyond", International Conference on Strongly Correlated Electron Systems (SCES) 2019, Okayama (Japan). September 25, 2019.
- * 22. "Anomalous spin dynamics in triangular quantum magnets", Workshop on Quantum Matter: Dynamics of Quantum Magnetism, Tsung-Dao Lee Institute, Shanghai (China). August 29, 2019.
- * 21. "Magnetic excitations in classical spin liquids: the case of MgCr₂O₄ and beyond". Workshop on Competing Interactions and Colossal Responses in Transition Metal Oxides, Telluride Science Research Center (CO). June 26, 2019.

- * 20. “Magnetic excitations of a classical spin liquid: the case of MgCr_2O_4 ”, Workshop on Constrained Many-Body Dynamics, Max Planck Institute for the Physics of Complex Systems, Dresden (Germany). March 29, 2019.
- * 19. “Nature of magnetic excitations in spin liquids”, Quantum Materials Workshop, Oak Ridge National Laboratory (TN). February 19, 2019.
- * 18. “Nature of magnetic excitations in spin liquids”, Quantum Materials Symposium 2019, YongPyong (South Korea). February 12, 2019.

2018

- * 17. “Exotic magnetic matter and the search for spin liquids”, The 85th Annual Meeting of the APS Southeastern Section, Knoxville (TN). November 8, 2018.
- * 16. “Anomalous spin dynamics in triangular quantum magnets”, International Conference on Highly Frustrated Magnetism 2018, Davis (CA). July 14, 2018.
- * 15. “Impact and future of cold neutrons for quantum materials research”, Neutron Users New Instrument Workshop, American Conference on Neutron Scattering, College Park (MD). June 24, 2018.

2017

- * 14. “Spin fragmentation in kagome Ising magnets”. Seventy fifth Pittsburgh Diffraction Conference, Indiana (PA). October 19, 2017.
- * 13. “Kagome Ising physics realized in bulk magnets: the $\text{RE}_3\text{Mg}_2\text{Sb}_3\text{O}_{14}$ family”. International Conference on Strongly Correlated Electron Systems (SCES) 2017, Prague (Czech Republic). July 17, 2017.
- * 12. “Spin-liquid candidates in novel triangular and kagome rare-earth oxides”. Workshop on Competing Interactions and Colossal Responses in Transition Metal Oxides, Telluride Science Research Center (US). June 28, 2017.
- * 11. “Non-harmonic magnons in quantum antiferromagnets”. Workshop on Larmor precession techniques for ultrahigh-resolution spectroscopy, Oak Ridge National Laboratory (US). May 25, 2017.
- * 10. “Current investigations in quantum magnetism using (mostly) cold neutrons”. Workshop on the MANTA spectrometer, Oak Ridge National Laboratory (US). May 4, 2017.
- * 9. “Continuous magnetic excitations in the triangular-lattice quantum spin-liquid YbMgGaO_4 ”. APS March Meeting, New Orleans (US). March 13, 2017.

2015

- 8. “Block magnetic excitations in the orbitally selective Mott insulator BaFe_2Se_3 ”. User Meeting 2015, Oak Ridge National Laboratory (US). October 27, 2015.
- * 7. “Opportunities for Cold Neutrons on Quantum Materials: Bright, Focused, Extreme and Polarized”. MANTA: A Next Generation Cold Triple Axis Spectrometer for the High Flux Isotope Reactor, Oak Ridge National Laboratory (US). May 19, 2015.

Before 2015

- 6. “Frustrated magnetism with magnetic molecules”. American Conference on Neutron Scattering, Knoxville (US). June 2, 2014.
- 5. “Molecular quantum magnetism in $\text{LiZn}_2\text{Mo}_3\text{O}_8$ ”. APS March Meeting, Denver (US). March 3, 2014.
- 4. “Molecular quantum magnetism in $\text{LiZn}_2\text{Mo}_3\text{O}_8$ ”. Mott Physics Beyond Heisenberg, Monte Verità (Switzerland). October 28, 2013.
- 3. “Origin of ferroelectricity and exotic magnetism in frustrated LiCuVO_4 ”. APS March Meeting, Baltimore (US). March 20, 2013.
- 2. “Origin of ferroelectricity and exotic magnetism in frustrated LiCuVO_4 ”. FLIPPER, International Workshop on Single-Crystal Diffraction with Polarised Neutrons, Institut Laue-Langevin, Grenoble (France). January 25, 2013.
- 1. “Neutron scattering from quantum and frustrated spin chains”. SYNEMAG – International Workshop on Synchrotron and Neutron Applications of High Magnetic Fields, European Synchrotron Radiation Facility, Grenoble (France). October 19, 2012.

Invited Presentations at Universities & Institutes

2021

- * 36. “Magnon Pairing, Decay and Fractionalization in Quantum Magnets”, Special MRSEC Seminar, Ohio State University Columbus (OH). October 18, 2021.
- * 35. “Magnons are (not) forever” Colloquium, University of Tennessee, Knoxville (TN). April 22, 2021.
- * 34. “Magnon pairing, interactions and decay in the spin-orbital magnet FeI_2 ” Theory of Quantum Matter Seminar, Okinawa Institute of Science and Technology (Japan). March 31, 2021.

2020

- * 33. “Anomalous excitation spectra of conventional magnets”, Condensed Matter Seminar, University of Tennessee,

Knoxville (TN). November 18, 2020.

- * 32. “Anomalous excitation spectra of conventional magnets”, Condensed Matter Seminar, Florida State University and High Magnetic Field Laboratory, Tallahassee (FL). October 16, 2020.
- * 31. “Anomalous excitation spectra of conventional magnets”, Quantum Matter Seminars, Northeastern University, Boston (MA). September 16, 2020.

2019

- * 30. “Spin Liquids: A dive into exotic magnetic matter”, Physics Colloquium, Louisiana State University, Baton Rouge (LA). November 21, 2019.
- * 29. “Nature of magnetic excitations in spin-liquids”, Condensed Matter Seminar, University of Colorado, Boulder (CO). November 7, 2019.
- * 28. “Continuous magnetic spectra in absence of quasiparticle fractionalization”, Condensed Matter Seminar, University of Tennessee, Knoxville (TN). October 21, 2019.
- * 27. “Spin Liquids: A dive into exotic magnetic matter”, Physics Colloquium, Georgia Tech, Atlanta (GA). September 09, 2019.
- * 26. “Nature of magnetic excitations in selected 2D and 3D spin liquids”, Solid State Physics Seminar, ETH Zürich (CH). June 03, 2019.
- * 25. “Spin liquids: the New Wave of Magnetism”, Physics Colloquium, Emory University, Atlanta (GA). March 26, 2019.
- * 24. “Exotic magnetic matter and the search for spin-liquids”, Institute of Quantum Matter Seminar, Johns Hopkins University, Baltimore (MD). March 18, 2019.
- * 23. “Anomalous spin dynamics in triangular quantum antiferromagnets”, Condensed Matter Seminar, Texas A&M, College Station (TX). January 18, 2019.

2018

- * 22. “Anomalous spin dynamics in triangular quantum magnets”, Condensed Matter Seminar, University of Kentucky (KY). November 13, 2018.
- * 21. “Exotic magnetic matter and the search for spin-liquids”, Physics Colloquium, North Carolina State University, Raleigh (NC). September 17, 2018.
- * 20. “Neutron scattering from quantum materials”, Quantum Café, Flatiron Institute, Simons Foundation, New York City (US); April 11, 2018.

2017

- * 19. “Spin-liquids in novel triangular and kagome rare-earth magnets”, Condensed Matter Seminar, Brookhaven National Laboratory, Upton (US); April 28, 2017.
- * 18. “Triangular and kagome rare-earth magnets: a new route to spin-liquids?”, Quantum Matters Seminar, University of Waterloo, Waterloo (CA); April 21, 2017.
- * 17. “Triangular and kagome rare-earth magnets: a new route to spin-liquids?”, Brockhouse Institute for Materials Research Seminar, McMaster University, Hamilton (CA); April 20, 2017.
- * 16. “Spin-liquids in novel triangular and kagome rare-earth magnets”, Condensed Matter Seminar, Department of Physics and Astronomy, University of Utah, Salt Lake City (US); February 28, 2017.
- * 15. “Magnetic excitations in spin-liquids: from classical to quantum”, Condensed Matter Seminar, Department of Physics and Astronomy, University of California, Irvine (US); January 11, 2017.

2016

- * 14. “Novel spin-liquids in triangular and kagome rare-earth magnets”, “Chez Pierre” Seminar, Department of Physics, Massachusetts Institute of Technology, Cambridge (US); December 5, 2016.
- * 13. “Probing the exotic collective behavior of frustrated magnetic matter”, Department of Chemistry and Physics, Augusta University, Augusta (US); September 2, 2016.
- * 12. “Using neutron scattering to probe exotic magnetic excitations in quantum materials”. Department of Physics, Clark Atlanta University, Atlanta (US). April 14, 2016.

Before 2015

- 11. “Interacting quasiparticles in quantum and frustrated magnets”. School of Physics, Georgia Institute of Technology, Atlanta (US). March 13, 2014.
- 10. “Interacting quasiparticles in quantum and frustrated magnets”, “Chez Pierre” Seminar, Department of Physics, Massachusetts Institute of Technology, Cambridge (US). February 12, 2014.
- 9. “Interacting quasiparticles in quantum and frustrated magnets”, Department of Physics and Astronomy, SUNY Stony Brook (US). January 24, 2014.
- 8. “Counting fractional excitations in quantum and frustrated spin chains”, Clarendon Laboratory, Oxford University (UK). January 28, 2013.

7. “Counting fractional magnetic excitations with neutrons”, Department of Physics, Rice University, Houston (US). January 16, 2013.
6. “Excitations fractionnaires et effet de la frustration dans les chaines de spins quantiques”, Laboratoire Léon Brillouin, Saclay (FR). October 22, 2012.
5. “Neutron Scattering Experiments for Quantum and Frustrated Spin Chain”, Kavli Institute for Theoretical Physics, Santa Barbara (US). October 2, 2012.
4. “Neutron scattering from frustrated quantum spin chains”, Spallation Neutron Source, Oak Ridge National Laboratory (US). November 10, 2011.
3. “Polarized neutron scattering from model spin-1/2 antiferromagnets”, NIST Center for Neutron Research, Gaithersburg (US). February 8, 2011.
2. “Polarized neutron scattering from model spin-1/2 antiferromagnets”, The Johns Hopkins University, Baltimore (US). February 7, 2011).
1. “Non-linear spin dynamics on the square-lattice: neutron scattering and theory”, Niels Bohr Institute, University of Copenhagen (DK). May 5, 2010.

OUTREACH ACTIVITIES

9. Hosted a high-school teacher from Rockdale High School part of Georgia Tech’s GIFT program. June 1–July 17, 2020; June–July 2021.
8. Hosted two students from Dunwoody High School performing superconductivity measurements in my laboratory at Georgia Tech. October 7–9, 2019.
7. Organized the visit of 12 Georgia Tech School of Physics’ REU students to Oak Ridge National Laboratory (US). June 25–26, 2019.
6. Organized and participated in the visit of 13 Georgia Tech School of Physics’ REU students to Oak Ridge National Laboratory (US). June 18–19, 2018.
5. Organized and participated in the visit of 10 Georgia Tech School of Physics’ REU students to Oak Ridge National Laboratory (US). June 19–20, 2017.
4. Served as “Quantum Matter Expert”, *Graduate Student Lunch with the Experts*, APS March Meeting, New Orleans. March 14, 2017. [\[Web\]](#)
3. Co-organized and acted as faculty supervisor for the *ORNL Challenge Program*, hosting two undergraduate summer students at Oak Ridge National Laboratory (US). June 6–August 12, 2016. [\[Web\]](#)
2. Organized and participated in the visit of 11 Georgia Tech School of Physics’ REU students to Oak Ridge National Laboratory (US). June 17–18, 2016. [\[Web\]](#)
1. Participated in the art show *Of the attraction of the sun* by artist Rodolphe Delaunay. The Institute of Contemporary Art Baltimore and the Current Gallery, Baltimore (US). June 16, 2013. [\[Web\]](#)