

# Victor Luiz Quito

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Post-doctoral Researcher

Affiliation: Department of Physics and Astronomy, Iowa State University  
Ames, IA, USA

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**CURRENT EMPLOYER** *Postdoctoral researcher,* August, 2021 - Present  
Affiliation: Department of Physics and Astronomy, Iowa State University, and Ames Laboratory  
Ames, Iowa, USA  
Supervisor: Peter Orth

**PAST EMPLOYER** *Postdoctoral researcher,* September, 2018 - August, 2021  
Affiliation: Department of Physics and Astronomy, Iowa State University, Ames, Iowa, USA  
Supervisor: Rebecca Flint

*Postdoctoral researcher,* September, 2016 - August, 2018  
National High Magnetic Field Laboratory (MagLab), Tallahassee, Florida, USA  
Theory group postdoctoral scholar

**EDUCATION** *Ph.D. in Physics,* March, 2010 - February, 2016  
Campinas State University  
Title: "Studies of Strongly Disordered Quantum Systems"  
Advisor: Eduardo Miranda

*Visiting Student,* February, 2013 - January, 2014  
California Institute of Technology  
Supervisor: Gil Refael

*B.S. in Physics,* March, 2006 - February, 2010  
Campinas State University

**PUBLICATIONS** M. S. Frank, T-H Lee, G. Bhattacharyya, Pak Ki H. Tsang, **V. L. Quito**, V. Dobrosavljević, O. Christiansen, N. Lanatà  
Title: Quantum embedding description of the Anderson lattice model with the ghost Gutzwiller approximation  
Phys. Rev. B **104**, L081103 (2021)

**V. L. Quito**, R. Flint  
Title: Floquet engineering correlated materials with unpolarized light  
Phys. Rev. Lett. **126**, 177201 (2021)

**V. L. Quito**, R. Flint  
Title: Polarization as a tuning parameter for Floquet engineering: Magnetism in the honeycomb, square, and triangular Mott insulators  
Phys. Rev. B **103**, 134435 (2021)

**V. L. Quito**, Pedro L.S. Lopes, José Hoyos, E. Miranda  
Title: Emergent SU(N) symmetry in disordered SO(N) spin chains  
Topical issue: Recent Advances in the Theory of Disordered Systems Eur. Phys. J. B **93**, 17 (2020)

**V. L. Quito**, Pedro L.S. Lopes, José Hoyos, E. Miranda  
Title: Highly-symmetric random one-dimensional spin models  
Phys. Rev. B **100**, 224407 (2019)

Y. -C. Chiu, K. -W. Chen, R. Schönemann, **V. L. Quito**, S. Sur, Q. Zhou, D. Graf, E. Kampert, T. Förster, K. Yang, G. T. McCandless, Julia Y. Chan, R. E. Baumbach, M. D. Johannes, L. Balicas  
Title: Origin of the butterfly magnetoresistance in a Dirac nodal-line system  
Phys. Rev. B **100**, 125112 (2019) (Editor's suggestion)

P. L. S. Lopes, **V. L. Quito**, B. Han, J.C.Y. Teo  
Title: A non-Abelian twist to integer quantum Hall states  
Phys. Rev. B **100**, 085116 (2019)

R. Schönemann, Y.-C. Chiu, W. Zheng, **V. L. Quito**, S. Sur, G. T. McCandless, J. Y. Chan, L. Balicas  
Bulk Fermi surface of the Weyl type-II semimetallic candidate NbIrTe4  
Phys. Rev. B **99**, 195128 (2019)

P. Titum, **V. L. Quito**, S. Syzranov  
Title: Energy-level statistics of neutral excitations in a disordered electronic system  
Phys. Rev. B **98**, 014201 (2018)

**V. L. Quito**, P. Titum, David Pekker, Gil Refael  
Title: Anderson transition in one dimension using Wegner Flow Equations  
Phys. Rev. B **94**, 104202 (2016)

**V. L. Quito**, José A. Hoyos, E. Miranda  
Title: Random SU(2)-symmetric spin chains  
Phys. Rev. B **94**, 064405 (2016)

**V. L. Quito**, José A. Hoyos, E. Miranda  
Title: Emergent SU(3) symmetry in random spin-1 chains  
Phys. Rev. Lett. **115**, 167201 (2015)

**SUBMITTED** M. Kornjaca, **V. L. Quito**, R. Flint  
**MANUSCRIPTS** Title: Mobile Majorana zero-modes in two-channel Kondo insulators  
arXiv:2104.11173

Chengshu Li, **V. L. Quito**, Eduardo Miranda, Rodrigo Pereira, Ian Affleck, Pedro L. S. Lopes  
Title: The case of SU(3) criticality in spin-2 chains  
arXiv:2108.10329

**MANUSCRIPTS** **V. L. Quito**, R. Flint  
**IN** Title: Floquet engineering multi-channel Kondo lattices  
**PREPARATION** Expected submission by September 2021

L. F. C. Faria, **V. L. Quito**, J. C. Getelina, J. A. Hoyos, E. Miranda  
 Title: Signatures of infinite randomness in transport properties of disordered spin chains  
 Expected submission by the end of 2021

**PAST PROFESSIONAL ACTIVITIES** *Graduate Student* March, 2010 - February, 2016  
 Campinas State University  
 Advisor: *Eduardo Miranda*

*Visiting Scientist* 2013-2014  
 California Institute of Technology  
 Advisor: *Gil Refael*

*Undergraduate Research Fellow* 2009-2010  
 Campinas State University  
 Advisor: *Eduardo Miranda*

**ACADEMIC HONORS** Best academic performance of the 2010 physics graduates, 2010  
 Campinas State University

FAPESP PhD scholarship, March, 2010 - February, 2016  
 The most prestigious Brazilian funding agency

FAPESP Undergraduate Research scholarship, 2009-2010  
 The most prestigious Brazilian funding agency

Brazil-U.S. Physics Ph.D. Student and Postdoc Visitation Program June 2019  
 Collaborative trip to Campinas State University

2020 Postdoctoral Research Excellence Award 2020  
 Iowa State University

**REFEREE** Physical Review Letters, 2019-  
 Physical Review B, 2020-  
 Physical Review Research, 2020-  
 Brazilian Journal of Physics, 2016-

**OUTREACH** Presenter at the "MagLab Open House" Feb, 2018  
 Facilitator at the "Go Further Conference: Quantum TicTaqToe" Oct, 2020  
 Judge of the "5th Annual 3-Minute Thesis Competition" Jan, 2021  
 Judge of the "2021 State Science + Technology Fair of Iowa" Mar, 2021  
 Facilitator at the "Go Further Conference: Quantum TicTaqToe" Apr, 2021

**OTHER ACTIVITIES** Condensed Matter Physics Journal Club, 2020-  
 Co-organizer, with Professor Peter Orth

**TALKS, POSTER PRESENTATIONS AND CONFERENCES ATTENDED** APS March Meeting (virtual) 2021  
*Talk:* Floquet engineering multi-channel Kondo lattices

Aspen Center for Physics, Summer Program: Spin Liquids	Summer 2019
APS March Meeting <i>Talk:</i> Using light to tune magnetism on the honeycomb lattice.	2019
Gordon Research Conference: Correlated Electron Systems <i>Poster:</i> Role of screening and charge transfer for a Mott transition in a Hydrogen lattice.	2018
Gordon Research Seminar: Correlated Electron Systems	2018
APS March Meeting <i>Talk:</i> Role of screening and charge transfer for a Mott transition in a Hydrogen lattice.	2018
Cornell Summer School: Emergent Phenomena in Quantum Materials <i>Poster:</i> Role of screening and charge transfer for a Mott transition in a Hydrogen lattice.	2018
MagLab Theory Winter School	2018
Aspen Center for Physics, Summer Program	Summer 2017
APS March Meeting <i>Talk:</i> Emergent symmetries in disordered quantum spin systems.	2017
MagLab Theory Winter School	2017
APS March Meeting <i>Talk:</i> Emergent SU(3) symmetry in random spin-1 chains.	2015
APS March Meeting <i>Talk:</i> Flow equation approach to one-body and many-body localization.	2014
Theory Winter School: Topological Phases of Condensed Matter <i>Poster:</i> Flow equation approach to disordered systems.	2014
Les Houches Summer School: Topological Aspects of CM Physics <i>Poster:</i> Emergent SU(3) symmetry in random spin-1 chains.	2014
XVII Training Course in the Physics of Strongly Correlated Systems <i>Talk:</i> Bilinear and biquadratic random spin-1 chains.	2012
School for advanced studies: Physics of Graphene	2012
XI Young Researchers Meeting, Campinas State University Participation only	2011
Brazilian School on Statistical Mechanics <i>Poster:</i> Bilinear and Biquadratic Random Spin-S Chains.	2011
New Trends in Quantum Matter with Cold Atoms and Molecules	2011
University of São Paulo Summer School	2009

**TEACHING  
ASSISTANT  
EXPERIENCE**

Phase Transitions and Critical Phenomena (invited lectures, total of 5, 2018)  
Mathematical Methods for Physicists I and II (undergraduate, 2015)  
Physics III (Introduction to electrodynamics, sophomore, 2014)  
Quantum Mechanics II (graduate level, 2012)  
Electrodynamics (graduate level, two semesters, 2011 and 2014)  
Statistical Mechanics (graduate level, two semesters, 2011)

**COMPUTER  
SKILLS**

*Languages & Software:* Fortran, Matlab, Mathematica, Python, C  
*Operating Systems:* Unix, Linux e Windows.

**REFERENCES**

*Peter Orth*

Iowa State University and Ames Laboratory  
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Ames, Iowa 50011  
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*Rebecca Flint*

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*Vladimir Dobrosavljevic*

National High Magnetic Field Laboratory (MagLab) and Florida State University  
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Tallahassee, Florida 32304  
United States