

Victor Drouin-Touchette

Curriculum Vitæ

Center for Materials Theory

Department of Physics and Astronomy

Rutgers University

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Education

- 2016 - *present* **Ph.D. candidate in Theoretical Condensed Matter Physics**
Rutgers, The State University of New Jersey, Piscataway, NJ, USA
Thesis Advisor: Prof. Piers Coleman
Dissertation: "A Study of Strong Correlations: From Classical to Quantum"
- 2013 - 2016 **B.Sc, Mathematics and Physics** *with honors*
Université de Montréal, Montréal, Québec, Canada

Publications

- [1] Victor Drouin-Touchette, Peter P. Orth, Piers Coleman, Premala Chandra, and Tom C. Lubensky, "Emergent Potts Order in a Coupled Hexatic-Nematic XY Model", <https://arxiv.org/abs/2103.01878> *Under Review at Physical Review X*
- [2] Victor Drouin-Touchette, Elio J. König, Yashar Komijani, and Piers Coleman, "Emergent moments in a Hund's impurity", *Physical Review B* 103 (2021) 205147
- [3] Xiaoran Liu, Sobhit Singh, Victor Drouin-Touchette, T. Asaba, Jess H. Brewer, Qinghua Zhang, Yanwei Cao, B. Pal, S. Middey, P. S. Anil Kumar, M. Kareev, Lin Gu, D. D. Sarma, P. Shafer, E. Arenholz, J. W. Freeland, Lu Li, David Vanderbilt, and Jak Chakhalian, "Proximate Quantum Spin Liquid on Designer Lattice," *Nano Letters* 21, no. 5 (2021): 2010-2017

Honors & Awards

- 2021-2022 **University & Bevier Dissertation Completion Fellowship** (Rutgers, \$25 000)
- 2021 **Samuel Marateck Fellowship in Quantum Field Theory** (Rutgers, \$12 500)
- 2018 - 2021 **Doctoral Research Scholarship** (FRQNT, \$56 000)
- 2018-2020 **T. Daniel Brennan Travel Scholarship** (Physics Department, Rutgers, \$6 000)
- 2019 **ICAM Travel Award** (950\$)
- 2018 **School of Graduate Studies Travel Award** (Rutgers, \$150)
- 2018 **Professional Development Fund Award** (Rutgers, \$633)
- 2016 - 2018 **Masters Research Scholarship, with supplement** (FRQNT, \$33 000)
- 2017 **Van Dyke Fund Travel Award** (Physics and Astronomy Department, Rutgers, 500\$)
- 2017 **ICAM Travel Award** (ICAM, 500\$)
- 2017 **Professional Development Fund Award** (Rutgers University, \$925)
- 2016 **Research Internship Grant** (Okinawa Institute of Science and Technology, \$5 000)
- 2014 - 2015 **Dean's Prize List** (Université de Montréal)

- 2015 **Undergraduate Student Research Award** (NSERC, \$4 500)
- 2015 **Undergraduate Student Research Award** (University of Waterloo, \$4 000)
- 2014 **Summer Research Award** (Université de Montréal, \$ 4500)
- 2013 **Best Extracurricular Project Award** (CEGEP Bois-de-Boulogne, \$500)
- 2013 **Advanced Mathematics Seminar Award** (CEGEP Bois-de-Boulogne, \$666)

Presentations

“Doping the multiorbital Hund’s coupled impurity: exploration of non-Fermi liquid ground states”

- 06/2021 Contributed Talk, *Condensed Matter in the Cities*, London (Virtual)
- **Finalist for best student talk**

- 05/2021 Poster, *Correlation in Novel Quantum Materials*, MPI Stuttgart (Virtual)
- 03/2021 Contributed Talk, *APS March Meeting*, (Virtual)

“Exploring the multiorbital Hund’s coupled impurity”

- 06/2020 Contributed Talk, *Condensed Matter in the Cities*, London (Virtual)
- 03/2020 Contributed Talk, *APS March Meeting* (Virtual)
- 10/2019 Poster, *Gotham Metro Condensed Matter Meeting*, New York
- 09/2019 Poster, *School on Advanced Methods on Strongly Correlated Electrons*, Forschungszentrum Jülich, Germany

“Potts transitions in Coupled XY Models”

- 08/2019 Poster, *Advanced Workshop and School: Correlations in Electron Systems*, Max Planck Institute for Complex Systems, Dresden
- 07/2019 Poster, *Princeton Condensed Matter Summer School*, Princeton
- 03/2019 Contributed Talk, *APS March Meeting*, Boston
- 05/2018 Poster, *International Summer School on Computational Quantum Materials*, Sherbrooke, Québec, Canada
- 08/2017 Poster, *School on Unconventional Superconductivity: Experiments and Theory (SUNSET)*, Cargèse, Corsica, France

“ $L \cdot S$ Pairing in Iron-Based Superconductors”

- 08/2018 Poster, *Advanced Workshop and School: Correlations in Electron Systems*, International Center for Theoretical Physics, Trieste, Italy

Service

- 2020 - now **Graduate Student Reviewer**, Aresty Rutgers Undergraduate Research Journal
- 2019 - 2020 **Co-Organizer**, Rutgers Representative, Gotham Metro Condensed Matter Conference
- 2018 - 2019 **Chancellor**, Graduate Student Organization, Physics and Astronomy, Rutgers
- 2017 - 2018 **Co-President**, Graduate Student Organization, Physics and Astronomy, Rutgers
- 04/2017 **Judge**, Aresty Center’s 13th annual Undergraduate Research Symposium, Rutgers
- 2014 - 2016 **Member of the Organizing Committee of the Clubmath**, Mathematics Departments, Université de Montréal