

Reuben R. W. Wang, PhD Student

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Education

- 2019 – current ■ **Ph.D., JILA, University of Colorado Boulder** Physics.
Research: *Theoretical atomic and molecular physics.*
- 2019 – 2022 ■ **M.S., University of Colorado Boulder** Physics.
GPA: 4.0/4.0
- 2017 – 2018 ■ **U.G., Massachusetts Institute of Technology** Physics.
GPA: 4.9/5.0
- 2015 – 2019 ■ **B.Eng., Singapore University of Technology and Design** EPD.
Grade: *Summa Cum Laude.*

Research Experience

- 2019 – current ■ **Graduate Research Assistant, JILA.**
Perform theoretical research in atomic and molecular physics, focusing on collective dynamics in non-degenerate ultracold dipolar gases, and data-driven learning algorithms for molecular models.
- 2016 ■ **Undergraduate Research Assistant, SUTD-MIT IDC.**
Performed theoretical research in quantum many-body open systems supervised by professor Dario Poletti. Wrote propriety numerical solvers in C++ to simulate an dissipative, periodically driven Bose-Hubbard dimer system which showcased clear signatures of period doubling. The results culminated in a publication in Physical Review E (rapid communication), 97, 020202(R), 2018.

Teaching Experience

- 2018 ■ **Instructor, The Quantum World (IAP course), SUTD.**
Devised and conducted a workshop to teach introductory concepts on quantum mechanics and quantum computation, targeted at engineering students with no prior knowledge of quantum theory.
- 2017 ■ **Teaching Assistant, Engineering in the Physical World (10.008), SUTD.**
Undergraduate teaching assistant, facilitating in-class learning and engagement amongst students during weekly recitation sessions. Held office hours for students.
- 2016/2018 ■ **Teaching Assistant, Advanced Mathematics 2 (10.004), SUTD.**
Undergraduate teaching assistant, facilitating in-class learning and engagement amongst students during weekly recitation sessions. Held office hours for students.

Research Publications

Journal Articles

- 1 Wang, R. R. W., & Bohn, J. L. (2022a). Thermal conductivity of an ultracold paramagnetic bose gas. *Phys. Rev. A*, 106, 023319. [🔗 doi:10.1103/PhysRevA.106.023319](https://doi.org/10.1103/PhysRevA.106.023319)
- 2 Patscheider, A., Chomaz, L., Natale, G., Petter, D., Mark, M. J., Baier, S., ... Ferlaino, F. (2022). Determination of the scattering length of erbium atoms. *Phys. Rev. A*, 105, 063307. [🔗 doi:10.1103/PhysRevA.105.063307](https://doi.org/10.1103/PhysRevA.105.063307)

- 3 Li, J.-R., Tobias, W. G., Matsuda, K., Miller, C., Valtolina, G., De Marco, L., ... Bohn, J. L. et al. (2021). Tuning of dipolar interactions and evaporative cooling in a three-dimensional molecular quantum gas. *Nature Physics*, 17(10), 1144–1148. Retrieved from <https://doi.org/10.1038/s41567-021-01329-6>
- 4 Wang, R. R. W., & Bohn, J. L. (2021). Anisotropic thermalization of dilute dipolar gases. *Phys. Rev. A*, 103, 063320. [doi:10.1103/PhysRevA.103.063320](https://doi.org/10.1103/PhysRevA.103.063320)
- 5 Wang, R. R. W., Sykes, A. G., & Bohn, J. L. (2020). Linear response of a periodically driven thermal dipolar gas. *Phys. Rev. A*, 102, 033336. [doi:10.1103/PhysRevA.102.033336](https://doi.org/10.1103/PhysRevA.102.033336)
- 6 Wang, R. R. W., Xing, B., Carlo, G. G., & Poletti, D. (2018). Period doubling in period-one steady states. *Phys. Rev. E*, 97, 020202. [doi:10.1103/PhysRevE.97.020202](https://doi.org/10.1103/PhysRevE.97.020202)

Preprints


- 1 Wang, R. R. W., & Bohn, J. L. (2022b). Thermoviscous hydrodynamics in non-degenerate dipolar Bose gases. [doi:10.48550/ARXIV.2208.08353](https://doi.org/10.48550/ARXIV.2208.08353)

Skills





Languages	Reading, writing and speaking competencies for English, Mandarin Chinese.
Software	Python, MATLAB, Mathematica, C++, \LaTeX , SOLIDWORKS.
Experience	Academic research, \LaTeX typesetting and publishing, mechanical design and fabrication.

Awards and Achievements

Scholarships

- 2019  Graduate Student Fellowship, UCB.
- 2016  Global Leadership Scholarship, SUTD-MIT.
- 2015  Undergraduate Merit Scholarship, SUTD.

Awards

- 2019  Honors List (Senior Year), SUTD.
- 2018  Laurel (Technology and Design) Award, SUTD.
- 2017  Honors List (Sophomore & Junior Years), SUTD.
- 2016  Honors List (Freshman Year), SUTD.

References

Available on Request