JASMINE BREWER

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PROFESSIONAL EXPERIENCE

Senior Research Fellow at CERN ..... 2020 - Present
Theoretical Physics Department

EDUCATION

Massachusetts Institute of Technology ..... 2015 - 2020
MIT Center for Theoretical Physics
Advisor: Krishna Rajagopal
Ph.D. in Physics conferred September 2020

University of Colorado at Boulder ..... 2011 - 2015
B.Sc. Engineering Physics, Minor: Mathematics
Graduation *Summa Cum Laude in Physics* conferred May 2015

HONORS AND AWARDS

Lockett Memorial Fund Award, MIT Department of Physics 2020
(awarded to outstanding graduate in theoretical physics)
Presidential Fellow, Massachusetts Institute of Technology ..... 2015 - 2020
National Science Foundation (NSF) Graduate Research Fellow ..... 2015 - 2020
Outstanding Graduate for Research, College of Engineering and Applied Science 2015
Outstanding Graduate in Engineering Physics, University of Colorado at Boulder 2015
Barry M. Goldwater Scholar 2014
Astronaut Scholarship Foundation finalist 2014
Presidential Scholar, University of Colorado at Boulder ..... 2011 - 2015

PUBLICATIONS

17. Yueyang Ying, **Jasmine Brewer**, Yi Chen, and Yen-Jie Lee. "Data-driven extraction of the substructure of quark and gluon jets in proton-proton and heavy-ion collisions." [arXiv:2204.00641].

16. Maximilian Attems, **Jasmine Brewer**, Gian Michele Innocenti, Aleksas Mazeliauskas, Sohyun Park, Wilke van der Schee, and Urs Achim Wiedemann. "The medium-modified $g \to c\bar{c}$ splitting function in the BDMPS-Z formalism ." [arXiv:2203.11241].

15. **Jasmine Brewer**, Bruno Scheihing-Hitschfeld, and Yi Yin. "Scaling and adiabaticity in a rapidly expanding gluon plasma ." ***JHEP*** *05 (2022) 145.* [arXiv:2203.02427].

14. **Jasmine Brewer**, Quinn Brodsky, and Krishna Rajagopal. "Disentangling Jet Modification in Jet Simulations and in Z+Jet Data." ***JHEP*** *02 (2022) 175.* [arXiv:2110.13159].

13. **Jasmine Brewer**, Alexander Huss, Aleksas Mazeliauskas, and Wilke van der Schee. "Ratios of jet and hadron spectra at LHC energies: measuring high-p_T suppression without a pp reference." ***Phys.Rev.D*** *105 7, 074040 (2022).* [arXiv:2108.13434].

12. **Jasmine Brewer**, Aleksas Mazeliauskas, and Wilke van der Schee. "Opportunities of OO and pO collisions at the LHC." [arXiv:2103.01939].

11. **Jasmine Brewer**, Jesse Thaler, and Andrew Patrick Turner. "Data-driven quark and gluon jet modification in heavy-ion collisions." ***Phys. Rev. C*** *103, L021901 (2021).* [arXiv:2008.08596].

10. **Jasmine Brewer**, Li Yan, and Yi Yin. "Adiabatic hydrodynamization in rapidly-expanding quark–gluon plasma." ***Phys.Lett.B*** *816, 136189 (2021).* [arXiv:1910.00021].

9. **Jasmine Brewer**, José Guilherme Milhano, and Jesse Thaler. "Sorting out quenched jets." ***Phys.Rev.Lett.*** *122, 222301 (2019).* [arXiv:1812.05111].

8. **Jasmine Brewer**, Andrey Sadofyev, and Wilke van der Schee. "Jet shape modifications in holographic dijet systems." ***Phys.Lett.B*** *820, 136492 (2021).* [arXiv:1809.10695].

7. **Jasmine Brewer**, Swagato Mukherjee, Krishna Rajagopal, and Yi Yin. "Searching for the QCD critical point via the rapidity dependence of cumulants." ***Phys.Rev.C*** *98, 061901(R) (2018)* Editors' Suggestion. [arXiv:1804.10215].

6. **Jasmine Brewer**, Krishna Rajagopal, Andrey Sadofyev, and Wilke van der Schee. "Evolution of the Mean Jet Shape and Dijet Asymmetry Distribution of an Ensemble of Holographic Jets in Strongly Coupled Plasma." ***JHEP*** *1802 (2018) 015.* [arXiv:1710.03237].

5. D.W. Longcope, J. Qiu, and **J. Brewer**. "A reconnection-driven model of the hard X-ray loop-top source from flare 2004 February 26." ***The Astrophysical Journal*** *833:211 (2016).* [arXiv:1610.07953].

4. H. Bantilan, **J.T. Brewer**, T. Ishii, W.E. Lewis, and P. Romatschke. "String-theory-based predictions for nonhydrodynamic collective modes in strongly interacting Fermi gases." ***Phys.Rev.A*** *94, 033621 (2016).* [arXiv:1605.00014].

3. **Jasmine Brewer**, Miller Mendoza, Ryan E. Young, and Paul Romatschke. "Lattice Boltzmann simulations of a two-dimensional Fermi gas at unitarity." ***Phys.Rev.A*** *93, 013618 (2016).* [arXiv:1507.05975].

2. **Jasmine Brewer** and Paul Romatschke. "Nonhydrodynamic Transport in Trapped unitary Fermi gases." ***Phys.Rev.Lett.*** *115, 190404 (2015).* [arXiv:1508.01199].

1. M.B. Pandey, T. Porenta, **J. Brewer**, A. Burkhart, S. Čopar, S. Žumer, and Ivan. I. Smalyukh. "Self-assembly of skyrmion-dressed chiral nematic colloids with tangential anchoring." ***Phys.Rev.E*** *89, 060502 (2014).*

PLENARY TALKS

7. Quark Matter 2022. *Jet quenching and jet-medium interaction*

6. DPG (German Physical Society). *Jets in heavy-ion collisions*

5. Multiple Partonic Interactions at the LHC 2021 *OO and pO collisions at the LHC*

4. Strong and Electroweak Matter (SEWM) 2021 (Invited)
Adiabatic hydrodynamisation in an expanding QGP

3. Large Hadron Collider Physics (LHCP) 2021. *Heavy-ion collisions: theory*

2. Initial Stages 2021. *Adiabatic Hydrodynamization*

1. Hard Probes 2020. *Jets: medium modifications*

INVITED SEMINARS

23. Universität Bielefeld (June 2022)

22. Lawrence Berkeley National Lab (virtual) (Dec. 2021)

21. IGFAE, Santiago de Compostela (virtual) (Sept. 2021)
20. Stony Brook University (virtual) (June 2021)
19. Wayne State University (virtual) (Mar. 2021)
18. Brookhaven National Lab (virtual) (Mar. 2021)
17. University of Oxford (virtual) (Mar. 2021)
16. University of Tennessee (virtual) (Mar. 2021)
15. University of Iowa (virtual) (Mar. 2021)
14. UCLA/Berkeley (virtual) (Oct. 2020)
13. CERN, Geneva, Switzerland (Sept. 2020)
12. MIT Center for Theoretical Physics (virtual) (Sept. 2020)
11. High Energy Nuclear Physics in China (HENPIC) (virtual) (July 2020)
10. University of Illinois at Urbana-Champaign, Urbana-Champaign, IL (Oct. 2019)
9. Los Alamos National Laboratory, Los Alamos, NM (Oct. 2019)
8. MIT Laboratory for Nuclear Science, Cambridge, MA (Oct. 2019)
7. Wayne State University, Detroit, MI (Sep. 2019)
6. CERN, Geneva, Switzerland (May 2019)
5. Lawrence Berkeley National Lab, Berkeley, CA (May 2019)
4. Thomas Jefferson National Accelerator Facility, Newport News, VA (Feb. 2019)
3. Stony Brook University, Stony Brook, NY (Feb. 2019)
2. Brookhaven National Lab, Upton, NY (Jan. 2019)
1. University of California Los Angeles, Los Angeles, CA (Feb. 2018)

INVITED CONFERENCE TALKS

20. Predictions for sPHENIX (July 2022)
19. Jet Physics from RHIC/LHC to EIC (June 2022)
18. ALICE Week (Nov. 2021)
17. Fall Meeting of the APS Division of Nuclear Physics (virtual) (Oct. 2021)
16. A Virtual Tribute to Quark Confinement and the Hadron Spectrum (virtual) (Aug. 2021)
15. Kickoff meeting of the LHC working group on heavy ions (virtual) (July 2021)
14. Workshop of the APS Topical Group on Hadronic Physics (virtual) (Apr. 2021)
13. JETSCAPE Winter School and Workshop. Knoxville, TN (virtual) (Mar. 2020)
12. Theoretical Foundations of Relativistic Hydrodynamics. Banff, Canada (Nov. 2019)
11. New Developments in Hydrodynamics and Applications to Heavy-Ion Collisions. Shanghai, China (Nov. 2019)
10. XLIX International Symposium on Multiparticle Dynamics. Santa Fe, NM (Sep. 2019)

9. Jet Tools 2019. Bergen, Norway (May 2019)
8. International Workshop on High-p_T Physics in the RHIC/LHC Era. Knoxville, TN (Mar. 2019)
7. The Definition of Jets in a Large Background. Brookhaven National Lab, Upton, NY (June 2018)
6. RHIC/AGS Annual Users Meeting. Brookhaven National Lab, Upton, NY (June 2018)
5. Foundational Aspects of Relativistic Hydrodynamics. ECT*, Trento, Italy (May 2018)
4. Santa Fe Jets and Heavy Flavor. Santa Fe, NM (Jan. 2018)
3. MIT Jets Workshop. Cambridge, MA (Jan. 2018)
2. QCD in finite temperature and heavy ion collisions. Brookhaven National Lab, Upton, NY (Feb. 2017)
1. American Association of Physics Teachers Summer Meeting. College Park, MD (Aug. 2015)

CONTRIBUTED CONFERENCE TALKS

6. Quark Matter 2019, Wuhan, China.
   Adiabatic hydrodynamization in rapidly-expanding quark–gluon plasma. (Oral Presentation, Parallel Session).
5. Hard Probes 2018, Aix-les-Bains, France.
   Sorting out energy loss for medium-modified jets. (Oral Presentation, Parallel Session).
4. Critical Point and the Onset of Deconfinement 2018, Corfu, Greece.
   Search for the critical point through the rapidity dependence of cumulants. (Oral Presentation).
3. Quark Matter 2018, Venice, Italy.
   Search for the critical point through the rapidity dependence of cumulants. (Oral Presentation, Parallel Session).
2. APS April Meeting 2018, Columbus, OH.
   Search for the critical point through the rapidity dependence of cumulants. (Oral Presentation, Parallel Session).
1. Quark Matter 2017, Chicago, IL.
   Holographic Jet Shapes and their Evolution in Strongly Coupled Plasma. (Oral Presentation, Parallel Session).

MENTORSHIP

Yueyang (Kylie) Ying (MIT master's) ..... 2020 - 2022
Quinn Brodsky (MIT undergraduate) ..... 2019 - 2021
Andrew Lin (MIT undergraduate) ..... 2019 - 2020

TEACHING

Discussion leader – European School of High-Energy Physics 2022

Recitation Instructor and Teaching Assistant – Quantum Field Theory III (MIT) 2020

Instructor and co-designer of course – Fundamentals of Scientific Inquiry (CU) 2015

OUTREACH

RHIC/AGS Users Executive Committee ..... 2018 - 2019
Student representative on the Relativistic Heavy Ion Collider (RHIC) Users Executive Committee

Nuclear Physics DC Day ..... 2017 - 2019
Participant in annual lobbying event to advocate for funding of Nuclear Physics in Washington D.C.

MIT Physics Department Colloquium Committee ..... 2016 - 2020
Graduate Womxn in Physics representative on the committee to select speakers for the departmental colloquia.

ORGANIZATION

International Conference on High Energy Physics (ICHEP) – Heavy Ion session 2022

Large Hadron Collider Physics Conference (LHCP) – Heavy Ion session 2022

CERN-Fermilab Hadron Collider Physics Summer School 2021
member of Local Organizing Committee

Probing QCD at high energy and density with jets 2021
week on "Jets and thermalization in non-Abelian plasmas"

Opportunities of OO and pO collisions at the LHC 2021

International Symposium on Multiparticle Dynamics – Collectivity session 2021-2022

RHIC/AGS Users Meeting – Jets session 2019

REFEREEING

Referee for American Physical Society (Physical Review Letters), Journal of High Energy Physics, Physics Letters B, and European Journal of Physics C