

## Jesse Liu

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APPOINTMENTS	University of Cambridge, UK Trinity College Junior Research Fellow	2019 – present On leave until 2021
	University of Chicago, USA Grainger Postdoctoral Fellow	2019 – present
EDUCATION	DPhil Particle Physics, University of Oxford, UK Supervisors: Alan Barr and John March-Russell	2015 – 2019
	MSc Physics, Perimeter Institute and University of Waterloo, Canada Supervisor: Natalia Toro	2014 – 2015
	BA Physics, University of Oxford, UK	2011 – 2014
AWARDS & SCHOLARSHIPS	<ul style="list-style-type: none"><li>• Junior Research Fellowship (for any academic discipline), Trinity College Cambridge</li><li>• Grainger Postdoctoral Fellowship (for any field of physics), University of Chicago</li><li>• Best Poster (1st out of 226 entries), International Conference on High Energy Physics</li><li>• Travel Grant, International Conference on High Energy Physics</li><li>• Santander Academic Travel Award, University of Oxford</li><li>• Postgraduate Studentship, PhD scholarship from STFC</li><li>• PSI Award, MSc scholarship from Perimeter Institute and University of Waterloo</li><li>• Fitzgerald Prize, Exeter College, Oxford</li><li>• Summer Research Studentship, Oxford Particle Physics</li><li>• Gibbs Prize, winner of Oxford physics speaking competition</li><li>• East Scholarship, Exeter College, Oxford</li><li>• Fitzgerald Prize, Exeter College, Oxford</li><li>• Essay Prize, winner of Institute of Physics essay competition</li></ul>	2019 2019 2018 2018 2018 2015 2014 2014 2013 2013 2012 2012 2012
PAPERS	<p>All papers available at <a href="https://inspirehep.net/author/profile/Jesse.Liu.1">inspirehep.net/author/profile/Jesse.Liu.1</a>. ATLAS author since 2017. Particle physics convention lists authors alphabetically. Papers with direct personal contributions:</p> <ol style="list-style-type: none"><li>9. ‘Observation and measurement of forward proton scattering in association with lepton pairs produced via the photon fusion mechanism at ATLAS’ ATLAS Collaboration (<b>J. Liu</b> Editor &amp; Lead Analyzer) arXiv:2009.14537, accepted Phys. Rev. Lett.</li><li>8. ‘Higgs self-coupling measurements using deep learning in the <math>b\bar{b}b\bar{b}</math> final state’ J. Amacker, W. Balunas, L. Beresford, D. Bortoletto, J. Frost, C. Issever, <b>J. Liu</b>, J. McKee, A. Micheli, S. Paredes Saenz, M. Spannowsky, B. Stanislaus arXiv:2004.04240, accepted JHEP</li><li>7. ‘Searches for electroweak production of supersymmetric particles with compressed mass spectra in <math>\sqrt{s} = 13</math> TeV <math>pp</math> collisions with the ATLAS detector’ ATLAS Collaboration arXiv:1911.12606, Phys. Rev. D <b>101</b> (2020) 052005</li><li>6. ‘New physics and tau <math>g - 2</math> using LHC heavy ion collisions’ L. Beresford and <b>J. Liu</b> arXiv:1908.05180, accepted Phys. Rev. D</li></ol>	

5. ‘In Situ Radiation Damage studies of Optoelectronics in the ATLAS SemiConductor Tracker’  
I. Dawson, B. Gallop, **J. Liu**, P. Miyagawa, P. Phillips, G. Pownall, D. Robinson and A. Weidberg  
JINST 14 (2019) **07** P07014
4. ‘Search Strategy for Sleptons and Dark Matter Using the LHC as a Photon Collider’  
L. Beresford and **J. Liu**  
arXiv:1811.06465, Phys. Rev. Lett. **123** (2019) 141801
3. ‘Search for electroweak production of supersymmetric states in scenarios with compressed mass spectra at  $\sqrt{s} = 13$  TeV with the ATLAS detector’  
ATLAS Collaboration (**J. Liu** Editor & Lead Analyzer)  
arXiv:1712.08119, Phys. Rev. D **97** (2018) 052010
2. ‘Analysing parameter space correlations of recent 13 TeV gluino and squark searches in the pMSSM’  
A. Barr and **J. Liu**  
arXiv:1608.05379, Eur. Phys. J. C (2017) **77**: 202
1. ‘First interpretation of 13 TeV supersymmetry searches in the pMSSM’  
A. Barr and **J. Liu**  
arXiv:1605.09502, Published with 1608.05379 in Eur. Phys. J. C (2017) **77**: 202

#### INVITED SEMINARS

- Cornell University, LEPP Journal Club Seminar, USA (Online) 30 Oct 2020
- Stony Brook University, Particle Physics Seminar, USA (Online) 19 Oct 2020
- University of Pittsburgh, PITT PACC Seminar, USA (Online) 5 Aug 2020
- SLAC Stanford University, Particle Physics Theory Seminar, USA 12 Feb 2020
- Fermilab, Cosmic Physics Center Chalk Talk, USA 14 Nov 2019
- Fermilab, LPC Physics Forum, USA 31 Oct 2019
- University of Cambridge, Cavendish HEP Seminar, UK 19 Feb 2019
- LBNL University of California Berkeley, RPM Seminar, USA 20 Nov 2018
- SLAC Stanford University, Joint Theory–Experiment Seminar, USA 20 Apr 2018
- Perimeter Institute for Theoretical Physics, BSM Seminar, Canada 17 Apr 2018
- University of California Santa Cruz, SCIPP Seminar, USA 10 Apr 2018
- University of Oxford, Dalitz Seminar, UK 19 Jan 2017
- University of Cambridge, Joint DAMTP–Cavendish Seminar, UK 13 Jan 2017

#### CONFERENCE & WORKSHOP TALKS

- Snowmass Energy Frontier EF09 BSM Meeting (Online) 4 Sep 2020
- ICHEP Conference, Prague, Czech Republic (Online) 30 Jul 2020
- Snowmass Energy Frontier Joint Preparatory Session (Online) 8 Jul 2020
- Higgs Couplings Conference, Oxford, UK 2 Oct 2019
- Young Experimentalists & Theorists Institute, Durham, UK 8 Jan 2019
- LHC Forward Physics Workshop, CERN, Switzerland 18 Dec 2018
- Oxford–Durham Di-Higgs Workshop, Durham, UK 6 Nov 2018
- SUSY Conference, Barcelona, Spain 23 Jul 2018
- ICHEP Conference, Seoul, South Korea 6 Jul 2018
- DM@LHC Workshop, Heidelberg, Germany 5 Apr 2018
- Institute of Physics Joint APP HEPP Conference, Bristol, UK 27 Mar 2018
- Young Theorists Forum, Durham, UK 10 Jan 2018
- Young Theorists Forum, Durham, UK 11 Jan 2017
- 2nd LHC BSM Reinterpretation Workshop, CERN, Switzerland 14 Dec 2016
- Theoretical Particle Physics Summer School, Manchester, UK 31 Aug 2016
- 1st LHC BSM Reinterpretation Workshop, CERN, Switzerland 17 Jun 2016

COLLABORATION	• ATLAS SM Jamboree, CERN, Switzerland (Online)	30 Sep 2020
PLENARIES	• ATLAS SM Plenary Analysis Closure, CERN, Switzerland (Online)	2 Jul 2020
	• ATLAS Week Plenary (SM & AFP), CERN, Switzerland (Online)	24 Jun 2020
	• ATLAS Roman Pot General Meeting, CERN, Switzerland	23 Jan 2020
	• ATLAS Hadronic Final State Forum, Chicago, USA	20 Dec 2019
	• ATLAS UK SUSY–Exotics Meeting, Cambridge, UK	11 Apr 2019
	• ATLAS SUSY Run 3 Ideas, CERN, Switzerland	22 Nov 2018
	• ATLAS SUSY Plenary, CERN, Switzerland	19 Jul 2018
	• ATLAS Exotics Workshop, Rome, Italy (poster)	29 May 2018
	• ATLAS Week Plenary (SUSY), CERN, Switzerland	21 Feb 2018
	• ATLAS Analysis Open Presentation, CERN, Switzerland	1 Nov 2017
	• ATLAS Exotics–SUSY Workshop, Bucharest, Romania	12 May 2017
	• ATLAS SUSY Electroweak, CERN, Switzerland	10 Feb 2017
	• ATLAS UK Meeting, Liverpool, UK	5 Jan 2017
	• ATLAS Week Plenary (SCT/ID Gen), CERN, Switzerland	17 Oct 2016
MENTORING & TEACHING	• Research project students mentored and/or collaborated: – Graduate: Kristin Dona (UChicago); Gabriel Gallardo, Gavin Pownall (Oxford) – Undergraduate: Joe Ray, Dan Kreso, Ewan McCullough (Oxford); Charles Sillett (Oxford/CERN)	
	• Lecturer for Oxford undergraduate summer students: <i>The Standard Model</i>	Jul 2018
	• Tutor for Oxford 3rd year undergraduates: <i>Flows, Fluctuations &amp; Complexity</i>	May 2016
	• Tutor for Oxford 3rd year undergraduates: <i>Subatomic Physics</i>	May 2016
SERVICE & COMMUNITY	• Grainger Fellowship website redevelopment, UChicago Physics	Jul 2020
	• Postdoctoral community working group, UChicago KICP	Jul 2020
	• Journal club, UChicago ATLAS group	May 2020
	• Institute paper reading coordination, UChicago ATLAS group	Dec 2019
	• Graduate open day speaker & poster, Oxford Particle Physics	Dec 2018
	• Institute paper reading, Oxford ATLAS group	Jul 2018
	• Organising committee member, YETI 2017, Durham University	Sep 2016
	• Physics aptitude test marker, Oxford undergraduate admissions	Nov 2015
	• Resident advisor for US visiting students, Williams–Exeter Programme at Oxford	2012 – 2014
	• Publicity officer, Oxford Undergraduate Physics Conference	Mar 2013
OUTREACH	• CERN Courier, ‘The LHC as a photon collider’ online and print news article	15 Aug 2020
	• ATLAS Physics Briefing, online news article on ATLAS Forward Proton result	30 Jul 2020
	• Trinity Forum, Cambridge, ‘Dark matter at the LHC’ invited talk	5 Jun 2019
	• Pint of Science, Manchester, ‘Using light to reveal the darkness’ invited talk	20 May 2019
	• Oxford HiggsHunters, mentoring secondary school students	26 – 27 Jun 2018
	• CERN school visit, mentoring, gave talk to 35 students, teacher engagement	15 Feb 2018
	• FQXi essay, information in physics and biology	3 Mar 2017
	• Lunch with CERN scientists, physics discussions with school students	21 Oct 2016
	• Oxfordshire Science Festival, all-day live physics demos on Broad Street	26 Jun 2016
	• Perimeter Institute PSI Blog, ‘Surprises of spin’	15 May 2016
	• Oxford Widening Participation Day, engaging under-represented at university	17 Apr 2016
	• Oxford Catz Exchange, ‘Seeing the unseeable’ talk	25 Feb 2016
	• Oxford FameLab, ‘Listening to numbers’ talk	25 Jan 2016
	• Oxford Stargazing Live, all-day live demos at particle physics stall	16 Jan 2016
	• Oxford Science Christmas Lectures, mentoring school students	8 Dec 2015
	• Oxford Flash Talk Physics, ‘Fiddling with physics’ talk	4 Dec 2013
	• Institute of Physics essay, ‘Predicting the unpredictable’	30 May 2012