

## 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. ATLAS Collaboration (<b>J. Liu</b> Editor &amp; Lead Analyzer), ‘Observation and Measurement of Forward Proton Scattering in Association with Lepton Pairs Produced via the Photon Fusion Mechanism at ATLAS’, <i>Phys. Rev. Lett.</i> <b>125</b> (2020) 261801, arXiv:2009.14537</li><li>8. 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, ‘Higgs self-coupling measurements using deep learning in the <math>b\bar{b}b\bar{b}</math> final state’, <i>JHEP</i> <b>12</b> (2020) 115, arXiv:2004.04240</li><li>7. ATLAS Collaboration, ‘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’, <i>Phys. Rev. D</i> <b>101</b> (2020) 052005, arXiv:1911.12606</li><li>6. L. Beresford and <b>J. Liu</b>, ‘New physics and tau <math>g - 2</math> using LHC heavy ion collisions’, <i>Phys. Rev. D</i> <b>102</b> (2020) 113008, arXiv:1908.05180</li><li>5. I. Dawson, B. Gallop, <b>J. Liu</b>, P. Miyagawa, P. Phillips, G. Pownall, D. Robinson and A. Weidberg, ‘In situ radiation damage studies of optoelectronics in the ATLAS SemiConductor Tracker’, <i>JINST</i> <b>14</b> (2019) P07014</li><li>4. L. Beresford and <b>J. Liu</b>, ‘Search Strategy for Sleptons and Dark Matter Using the LHC as a Photon Collider’, <i>Phys. Rev. Lett.</i> <b>123</b> (2019) 141801, arXiv:1811.06465</li></ol>	

3. ATLAS Collaboration (**J. Liu** Editor & Lead Analyzer), ‘Search for electroweak production of supersymmetric states in scenarios with compressed mass spectra at  $\sqrt{s} = 13$  TeV with the ATLAS detector’, Phys. Rev. D **97** (2018) 052010, arXiv:1712.08119
2. A. Barr and **J. Liu**, ‘Analysing parameter space correlations of recent 13 TeV gluino and squark searches in the pMSSM’, Eur. Phys. J. C **77** (2017) 202, arXiv:1608.05379
1. A. Barr and **J. Liu**, ‘First interpretation of 13 TeV supersymmetry searches in the pMSSM’, arXiv:1605.09502, Published with 1608.05379 in Eur. Phys. J. C **77** (2017) 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 PLENARIES	• ATLAS Roman Pot General Meeting, CERN, Switzerland (Online)	7 Oct 2020
	• ATLAS SM Jamboree, CERN, Switzerland (Online)	30 Sep 2020
	• 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

	<ul style="list-style-type: none"> <li>• ATLAS Analysis Open Presentation, CERN, Switzerland</li> <li>• ATLAS Exotics–SUSY Workshop, Bucharest, Romania</li> <li>• ATLAS SUSY Electroweak, CERN, Switzerland</li> <li>• ATLAS UK Meeting, Liverpool, UK</li> <li>• ATLAS Week Plenary (SCT/ID Gen), CERN, Switzerland</li> </ul>	<p>1 Nov 2017</p> <p>12 May 2017</p> <p>10 Feb 2017</p> <p>5 Jan 2017</p> <p>17 Oct 2016</p>
MENTORING & TEACHING	<ul style="list-style-type: none"> <li>• Research project student collaborators: <ul style="list-style-type: none"> <li>– Graduate: Kristin Dona (UChicago); Savannah Clawson (Manchester); Santiago Paredes Saenz, Beojan Stanislaus, Gabriel Gallardo, Gavin Pownall (Oxford)</li> <li>– Undergraduate: Joe Ray, Dan Kreso, Alessandro Micheli, Ewan McCullough (Oxford); Charles Sillett (Oxford/CERN)</li> </ul> </li> <li>• Lecturer for Oxford undergraduate summer students: <i>The Standard Model</i></li> <li>• Tutor for Oxford 3rd year undergraduates: <i>Flows, Fluctuations &amp; Complexity</i></li> <li>• Tutor for Oxford 3rd year undergraduates: <i>Subatomic Physics</i></li> </ul>	<p>Jul 2018</p> <p>May 2016</p> <p>May 2016</p>
SERVICE & COMMUNITY	<ul style="list-style-type: none"> <li>• Institute paper reading coordination, UChicago ATLAS group</li> <li>• Grainger Fellowship website development, UChicago Physics</li> <li>• Postdoctoral community working group, UChicago KICP</li> <li>• Journal club, UChicago ATLAS group</li> <li>• Institute paper reading coordination, UChicago ATLAS group</li> <li>• Graduate open day speaker &amp; poster, Oxford Particle Physics</li> <li>• Institute paper reading, Oxford ATLAS group</li> <li>• Organising committee member, YETI 2017, Durham University</li> <li>• Physics aptitude test marker, Oxford undergraduate admissions</li> <li>• Resident advisor for US visiting students, Williams–Exeter Programme at Oxford</li> <li>• Publicity officer, Oxford Undergraduate Physics Conference</li> </ul>	<p>Sep 2020</p> <p>Jul 2020</p> <p>Jul 2020</p> <p>May 2020</p> <p>Dec 2019</p> <p>Dec 2018</p> <p>Jul 2018</p> <p>Sep 2016</p> <p>Nov 2015</p> <p>2012 – 2014</p> <p>Mar 2013</p>
OUTREACH	<ul style="list-style-type: none"> <li>• CERN Courier, ‘The LHC as a photon collider’ online and print magazine article</li> <li>• ATLAS Physics Briefing, online news article on ATLAS Forward Proton result</li> <li>• Trinity Forum, Cambridge, ‘Dark matter at the LHC’ invited talk</li> <li>• Pint of Science, Manchester, ‘Using light to reveal the darkness’ invited talk</li> <li>• Oxford HiggsHunters, mentoring secondary school students</li> <li>• CERN school visit, mentoring, gave talk to 35 students, teacher engagement</li> <li>• FQXi essay, information in physics and biology</li> <li>• Lunch with CERN scientists, physics discussions with school students</li> <li>• Oxfordshire Science Festival, all-day live physics demos on Broad Street</li> <li>• Perimeter Institute PSI Blog, ‘Surprises of spin’</li> <li>• Out of this World: Family Fun Day, engaging under-represented at university</li> <li>• Oxford Catz Exchange, ‘Seeing the unseeable’ talk</li> <li>• Oxford FameLab, ‘Listening to numbers’ talk</li> <li>• Oxford Stargazing Live, all-day live demos at particle physics stall</li> <li>• Oxford Science Christmas Lectures, mentoring school students</li> <li>• Oxford Flash Talk Physics, ‘Fiddling with physics’ invited talk</li> <li>• Institute of Physics essay, ‘Predicting the unpredictable’</li> </ul>	<p>15 Aug 2020</p> <p>30 Jul 2020</p> <p>5 Jun 2019</p> <p>20 May 2019</p> <p>26 – 27 Jun 2018</p> <p>15 Feb 2018</p> <p>3 Mar 2017</p> <p>21 Oct 2016</p> <p>26 Jun 2016</p> <p>15 May 2016</p> <p>17 Apr 2016</p> <p>25 Feb 2016</p> <p>25 Jan 2016</p> <p>16 Jan 2016</p> <p>8 Dec 2015</p> <p>4 Dec 2013</p> <p>30 May 2012</p>