

## Jesse Liu

---

*Department of Physics, University of Chicago, Chicago IL 60637, USA*  
jesseliu@uchicago.edu    www.jesseliu.com

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	All papers available at INSPIREHEP. ATLAS author since 2017. Particle physics convention lists authors alphabetically. Papers with direct personal contributions: <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 (Online)	7 Oct 2020
	• ATLAS SM Jamboree (Online)	30 Sep 2020
	• ATLAS SM Plenary Analysis Closure (Online)	2 Jul 2020
	• ATLAS Week Plenary on SM & AFP (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 on 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 on 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>• Coordinator for Snowmass Letter of Interest on terahertz axions</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>Aug 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 magazine article, ‘The LHC as a photon collider’</li> <li>• ATLAS Physics Briefing, online news article on AFP 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, hosting 35 sixth form 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, targeting 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>