

Jesse Liu

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

APPOINTMENTS	University of Cambridge, UK	2019 – present
	Trinity College Junior Research Fellow	On leave until 2021
	University of Chicago, USA	2019 – present
	Grainger Postdoctoral Fellow	
EDUCATION	DPhil Particle Physics, University of Oxford, UK	2015 – 2019
	Supervisors: Alan Barr and John March-Russell	
	MSc Physics, Perimeter Institute and University of Waterloo, Canada	2014 – 2015
	Supervisor: Natalia Toro	
	BA Physics, University of Oxford, UK	2011 – 2014
AWARDS & SCHOLARSHIPS	• Junior Research Fellowship (for any academic discipline), Trinity College Cambridge	2019
	• Grainger Postdoctoral Fellowship (for any field of physics), University of Chicago	2019
	• Best Poster (1st out of 226 entries), International Conference on High Energy Physics	2018
	• Travel Grant, International Conference on High Energy Physics	2018
	• Santander Academic Travel Award, University of Oxford	2018
	• Postgraduate Studentship, PhD scholarship from STFC	2015
	• PSI Award, MSc scholarship from Perimeter Institute and University of Waterloo	2014
	• Fitzgerald Prize, Exeter College, Oxford	2014
	• Summer Research Studentship, Oxford Particle Physics	2013
	• Gibbs Prize, winner of Oxford physics speaking competition	2013
	• East Scholarship, Exeter College, Oxford	2012
	• Fitzgerald Prize, Exeter College, Oxford	2012
	• Essay Prize, winner of Institute of Physics essay competition	2012
PAPERS	All papers available at INSPIREHEP. ATLAS author since 2017. Particle physics convention lists authors alphabetically. Papers with direct personal contributions:	
	9. ATLAS Collaboration (J. Liu Editor & 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> 125 (2020) 261801, arXiv:2009.14537	
	8. J. Amacker, W. Balunas, L. Beresford, D. Bortoletto, J. Frost, C. Issever, J. Liu , J. McKee, A. Micheli, S. Paredes Saenz, M. Spannowsky, B. Stanislaus, ‘Higgs self-coupling measurements using deep learning in the $b\bar{b}b\bar{b}$ final state’, <i>JHEP</i> 12 (2020) 115, arXiv:2004.04240	
	7. ATLAS Collaboration, ‘Searches for electroweak production of supersymmetric particles with compressed mass spectra in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector’, <i>Phys. Rev. D</i> 101 (2020) 052005, arXiv:1911.12606	
	6. L. Beresford and J. Liu , ‘New physics and tau $g - 2$ using LHC heavy ion collisions’, <i>Phys. Rev. D</i> 102 (2020) 113008, arXiv:1908.05180	
	5. I. Dawson, B. Gallop, J. Liu , 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> 14 (2019) P07014	
	4. L. Beresford and J. Liu , ‘Search Strategy for Sleptons and Dark Matter Using the LHC as a Photon Collider’, <i>Phys. Rev. Lett.</i> 123 (2019) 141801, arXiv:1811.06465	

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	• Forward Physics and QCD with LHC, EIC and Cosmic Rays (Online)	23 Jan 2021
	• 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 Idea Day (Online)	20 Jan 2021
	• 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

	<ul style="list-style-type: none"> • ATLAS Exotics Workshop, Rome, Italy (poster) 29 May 2018 • ATLAS Week Plenary on 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 on SCT/ID Gen, CERN, Switzerland 17 Oct 2016
MENTORING & TEACHING	<ul style="list-style-type: none"> • Research project student collaborators: <ul style="list-style-type: none"> – Graduate: Kristin Dona (UChicago); Savannah Clawson (Manchester); Santiago Paredes Saenz, Beojan Stanislaus, Gabriel Gallardo, Gavin Pownall (Oxford) – Undergraduate: Joe Ray, Dan Kreso, Alessandro Micheli, 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 & Complexity</i> May 2016 • Tutor for Oxford 3rd year undergraduates: <i>Subatomic Physics</i> May 2016
SERVICE & COMMUNITY	<ul style="list-style-type: none"> • Institute paper reading coordination, UChicago ATLAS group Sep 2020 • Coordinator for Snowmass Letter of Interest on terahertz axions Aug 2020 • Grainger Fellowship website development, 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	<ul style="list-style-type: none"> • CERN Courier magazine article, ‘The LHC as a photon collider’ 15 Aug 2020 • ATLAS Physics Briefing, online news article on AFP 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, hosting 35 sixth form 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 • Out of this World: Family Fun Day, targeting 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’ invited talk 4 Dec 2013 • Institute of Physics essay, ‘Predicting the unpredictable’ 30 May 2012