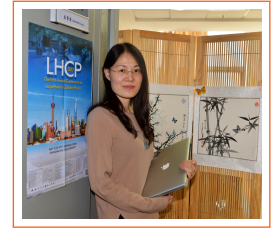


Xuai ZHUANG

Curriculum Vitae



Personal information

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Research experience

- 2012–Present **Associate professor (Project professor, Hundred-Talent Program of CAS), Institute of High Energy Physics (IHEP), Chinese Academy of Science (CAS), Beijing, China.**
- 2012 – Present: Deputy team leader of ATLAS IHEP group
 - 2014.10–2014.12: Visiting professor, Aix-Marseille University, Marseilles, France
 - 2012 – Present: SUSY group leader of ATLAS IHEP group, leading a group with 3 staffs, 1 postdoc and around 5 graduate students. The following are the main topics we are working on in ATLAS experiment:
 - Electroweak SUSY search with taus at both Run1 and Run2 (leading contribution)
 - Inclusive SUSY search with one isolated lepton at both Run1 and Run2 (leading contribution)
 - Inclusive SUSY search with same sign two leptons and three leptons at Run2 (major contribution)
 - Inclusive SUSY search with hadronic taus at Run1 (big contribution)
 - Direct stau sensitivity and trigger studies for upgrade (leading contribution)
 - Wh analysis with hadronic taus (leading contribution)
 - Chargino pair production via WW decay with one isolated lepton (major contribution)
 - Performance study with tau substructure, tau tracking uncertainty, tau AFII recommendation, Missing ET performance, pixel performance etc. (Institute commitment with tau performance)
- 2009–2012 **Research Associate, Ludwig-Maximilians-University (LMU), Munich, Germany.**
- 2006–2009 **Postdoctoral Fellow, Max-Planck-Institute for Physics (MPI), Munich, Germany.**

Education

- 2001–2006 **Master and Ph.D.**, *Institute of High Energy Physics (IHEP), Chinese Academy of Science (CAS)*, Beijing, China.
CAS Thesis Awards in 2007, I am the 1st one who got this award in IHEP.

Awards

- 2014.11 *Top Young scientist* of Center for Excellence in Particle Physics of Chinese Academy of Science (CAS)
2013.11 *Excellent Young scientist* of Center for Excellence in Particle Physics of Chinese Academy of Science (CAS)
2013.05 *Project professorship*, Hundred-Talent Program of Chinese Academy of Sciences (CAS)
2007 *PhD Thesis Awards* of Chinese Academy of Sciences (CAS)
2006 *Excellent Thesis Award* in the National doctoral Academic Forum (Physics), University of CAS

Grants

- 2015–2018 **NSFC general project**; Founding source: National Natural Science Foundation of China (NSFC), China; **Role: Chair**; This funding mainly support SUSY Searches in ATLAS for IHEP SUSY group.
2013–2017 **Project of 'Hundred-Talent Program of CAS'**; Founding source: CAS, China; **Role: Chair**; This funding mainly support outstanding young scientists.
2013–2017 **Project of 'Hundred-Talent Program of IHEP'**; Founding source: IHEP; **Role: Chair**; This funding mainly support those who succeed the 'Hundred-Talent Program of CAS'.
2017–2021 **NSFC key project**; Founding source: NSFC, CN; **Role: Co-Investigator**; This funding mainly support physics analysis in ATLAS for China ATLAS IHEP-NJU-THU Cluster.
2012–2017 **973 key project**; Founding source: Ministry of science and technology (MOST), CN; **Role: Co-Investigator**; This funding mainly support physics analysis in ATLAS for Chinese Cluster.

Scientific coordinations and professional standing

- 2016.01 – *ATLAS Collaboration Board Chair Advisory Group membership*. The group is intended to provide informal input from the collaboration on planning and policy matters and to serve as a sounding board for the evolution of ATLAS procedures. This group also serves as the core of the nominating committee for the election of the ATLAS spokesperson, the selection committee for the ATLAS Outstanding Awards and ATLAS Thesis Awards.
2017.12

- 2015.04 – *Convenor* of the 'Electroweakino SUSY group', leading an international group with
 2016.03 8 sub-groups, including around 100 people from more than 20 universities for ATLAS
 SUSY searches for Run1, Run2 and Upgrade studies, which is the first time that
 Chinese takes this kind of role in ATLAS Chinese Cluster.
- 2013 – *Coordinator* of 'Electroweakino SUSY search with tau' analysis group for Run1 and
 Present Run2; *Coordinator* of 'Direct stau' analysis group for upgrade study.
- 2015 – *Coordinator* of 'Inclusive SUSY search with one lepton' analysis group for Run2 by
 Present my group member Da Xu.
- 2006 – Corresponding editor, analysis coordinator and major contributor of many ATLAS
 Present publications in HEP Journals and public Notes released for International Conferences
 (Supersymmetry-related topics, focusing on electroweakino SUSY search with taus,
 inclusive SUSY search with no or one lepton, same sign two leptons and three
 leptons, data-driven method development for semileptonic $t\bar{t}b\bar{b}$ and dileptonic $t\bar{t}b\bar{b}$
 in CSC book ect.)
- 2016 – *Internal Editorial Board* of ATLAS stop to stau conference note ATLAS-CONF-
 Present 2016-048, stop 1L paper and CONF NOTE SUSY-2016-16.
- 2016 – *Co-chair* the "close-out" session of ATLAS Week in Bratislava in 2017; Co-chair of
 Present EW Session of ATLAS SUSY workshop in 2016;
- 2001 – 2003 *The Performance Study on Monitored Drift Tube of ATLAS Muon detector*, 2
 publications in Chinese: HEP&NP, 2005, 29(4), Nuclear Electronics & Detection
 Technology, 2004, 24(6).

Other Synergistic Activities

- Appointments *Deputy team leader* of IHEP ATLAS group (13 staffs and around 30 postdocs and
 students) (2012 – Present).
- Leader of IHEP ATLAS SUSY group* (2012 – Present), leading a group with 3 staffs,
 1 postdoc and 5 graduate students for SUSY Searches in ATLAS.
- Jury members The jury member of one PhD student thesis defense in Dec. 2017;
 The jury member of associate professor yearly evaluation in IHEP in 2017;
 The jury member of graduate students quarterly evaluation of Experimental Physics
 Division (EPD), IHEP from 2012 to now.
 Referee of Chinese Physics Letters (CPL) in 2016.
- (Co-) Co-organizer of Chinese-American Kavli Frontiers of Science Symposium in 2018,
 organizers Local organizer of Lepton Photon 2017 and LHCP 2017; Co-organizer of 2nd
 international Summer schoold of TeV Experimental Physics (iSTEP) in 2015;
- (Co-) chairs Co-chair of Chinese LHC physics workshop in 2016; Co-chair of international Summer
 schoold of Tev Experimental Physics (iSTEP) in 2014; Chair of IHEP ATLAS group
 meeting.

Supervision of graduate students and postdoctoral fellows

Name **Position**, Years, Current Post, Current Institution.

Da Xu **Postdoc**, 2012 – 2014, Associate professor, Institute of High Energy Physics.

Yu Bai **Postdoc**, 2012 – 2014, Assistant professor, South East Uni., China.
 Mohamad Kassem **Postdoc**, 2017 – 2019, Postdoc, Institute of High Energy Physics.
 Ayoub
 Huan Ren **Ph.D**, 2011 – 2017, Grad student, Institute of High Energy Physics.
 Huajie Cheng **Ph.D**, 2013 – 2018, Grad student, Institute of High Energy Physics.
 Yang Liu **Ph.D**, 2015 – 2020, Grad student, Institute of High Energy Physics.
 Chenzheng Zhu **Ph.D**, 2016 – 2021, Grad student, Institute of High Energy Physics.
 Peng Zhang **Master**, 2014 – 2017, Industry, Beijing.
 Kaili Zhang **Bachelor**, 2015, Ph.D, Institute of High Energy Physics.
 Chenzheng Zhu **Bachelor**, 2016, Ph.D, Institute of High Energy Physics.
 Shuiting Xin **Summer student**, 2017, Wuhan Uni., Wuhan Uni..

Invited major presentations at conferences and seminars

- “SUSY RPV (ATLAS+CMS)”, Plenary talk, On behalf of the ATLAS and CMS collaborations, 5th Annual LHC Physics Conference, May 15-20, 2017, Shanghai
- “SUSY Searches at LHC and beyond”, Plenary talk, 12th TeV physics workshop in 2017, Jul. 21-24 2017, Zhengzhou
- “SUSY Physics after Moriond”, 19th workshop on the frontier of LHC, 7-9 Apr. 2017, Beijing
- “SUSY Searches at LHC and Beyond”, IAS program on HEP, Jan. 9-26. 2017, Hongkong,
- “SUSY Searches at LHC and beyond”, Invited Seminar, Beijing University, July 2017
- “SUSY Searches @ LHC”, Plenary talk, The 2nd China LHC physics workshop, Dec. 16-19, 2016, Beijing
- “SUSY Searches in ATLAS”, On behalf of the ATLAS collaborations, International Symposium on Higgs Boson and Beyond Standard Model Physics, Aug. 15-19. 2016, Weihai
- “SUSY Searches at LHC and Beyond”, IAS program on HEP, Jan. 18-21. 2016, Hongkong
- “SUSY Searches in ATLAS”, 12th National Particle Physics workshop, Aug. 22-26, 2016, Hefei
- “SUSY Searches at Collider Physics”, Invited Seminar, 3rd International Summer School on TeV Experimental Physics, 10-20 Jul. 2016, Beijing
- “SUSY from Experiments”, Plenary talk, The 1st China LHC physics workshop, Dec. 19-21, 2015
- “SUSY Searches at Collider Physics”, Invited Seminar, 2nd International Summer School on TeV Experimental Physics, 11-19 Aug. 2015, Jinan
- “SUSY Search in ATLAS from CPPM and IHEP”, FCPPL workshop, Apr. 2015
- “SUSY Searches in ATLAS”, Invited Seminar, CPPM, France, Dec. 2014
- “SUSY Searches at Collider Physics”, Invited Seminar, International Summer School on TeV Experimental Physics, 20-29 Aug. 2014, Beijing
- “SUSY Search Activities in ATLAS from CPPM and IHEP”, FCPPL workshop, Apr. 2014
- “SUSY Search Results in ATLAS@IHEP”, the Ninth Annual Conference on High Energy Physics of Chinese Physical Society, 18-22 April 2014, Wuhan
- “Dark Matter Search in LHC (ATLAS+CMS)”, On behalf of the ATLAS and CMS collaborations, XXIV workshop on Weak Interactions and Neutrinos, WIN2013, Sep 16-21, 2013, Brazil
- “SUSY Results in ATLAS”, On behalf of the ATLAS collaborations, the Lake Louise Winter

Institute, 19-25 February 2012, Chateau Lake Louise, Canada

- “Early Search for Supersymmetry at ATLAS”, On behalf of the ATLAS collaborations, Krugé 2010 Workshop on Discovery Physics at the LHC, 5-10 Dec 2010, South Africa
- “Early searches for Supersymmetry in ATLAS”, Invited Seminar, Shandong University, Dec. 2010

Selected publications

I am an author of the ATLAS Collaboration from 2002, which produces roughly 100 publications per year after we have real data. Listed below are only relevant papers for which I gave leading or major contributions at past 5 years.

- Search for supersymmetry in final states with jets and two same-sign leptons or three leptons using 36.1 fb⁻¹ pp collision data with the ATLAS detector, JHEP09 (2017) 084, Sep. 2017
- Search for the direct production of charginos and neutralinos in final states with tau leptons in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector, arXiv:1708.07875, Oct. 2017 (submitted to EPJC)
- Search for squarks and gluinos in events with an isolated leptons, jets and missing transverse momentum at $\sqrt{s} = 13$ TeV with the ATLAS detector, arXiv:1708.08232, Oct. 2017 (submitted to PRD)
- Searches for electroweak production of supersymmetric particles with the ATLAS detector at $\sqrt{s} = 8$ TeV, Phys. Rev. D 93 (2016) 052002
- Search for supersymmetry at $\sqrt{s} = 13$ TeV in final states with jets and two same-sign leptons or three leptons with the ATLAS detector, EPJC76 (2016) 259
- Search for squarks and gluinos in events with an isolated leptons, jets and missing transverse momentum at $\sqrt{s} = 13$ TeV with the ATLAS detector, Eur. Phys. J. C 76 (2016) 565
- Search for strongly produced supersymmetric particles in decays with low transverse momentum leptons at $\sqrt{s} = 8$ TeV, JHEP04(2015)116
- Identification and energy calibration of hadronically decaying tau leptons with the ATLAS experiment in pp collisions at $\sqrt{s} = 8$ TeV, Eur. Phys. J. C75 (2015) 303
- Searches for squarks and gluinos with the ATLAS detector at $\sqrt{s} = 8$ TeV, JHEP 10 (2015) 054
- Summary of the ATLAS experiment's sensitivity to supersymmetry after LHC Run 1 - interpreted in the phenomenological MSSM, JHEP 10 (2015) 134
- Search for direct production of charginos, neutralinos and staus in final states with at least two hadronically decaying taus and missing transverse momentum in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector, JHEP10(2014)096
- Search for squarks and gluinos with the ATLAS detector in final states with jets and missing transverse using 4.7 fb⁻¹ of $\sqrt{s} = 7$ TeV proton-proton collisions data , Phys. Rev. D87 (2013) 012008
- Further search for supersymmetry at $\sqrt{s} = 7$ TeV in final states with jets and missing transverse momentum and isolated lepton with the ATLAS detector, ATLAS collaboration, Phys. Rev. D86 (2012) 092002
- Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in $\sqrt{s} = 7$ TeV proton proton collisions, ATLAS collaboration, Phys.Lett. B 710 (2012) 67
- Search for supersymmetry in final states with jets, missing transverse momentum and one lepton in $\sqrt{s} = 7$ TeV pp collisions using 1 fb⁻¹ of ATLAS data, ATLAS collaboration, Phys. Rev. D85 (2012) 012006
- Search for supersymmetry using final states with one lepton, jets, and missing transverse

momentum with the ATLAS detector in $\sqrt{s} = 7$ TeV pp collisions, ATLAS collaboration, Phys.Rev.Letter.106 (2011)131802

- Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in $\sqrt{s} = 7$ TeV proton proton collisions, ATLAS collaboration, Phys. Lett. B. 701 (2011) 186