

Basil Schneider

contact

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languages

German (native)
English (fluent)
French (moderate)
Croatian (beginner)
Norwegian (beginner)

computing

Linux
C++, Python, Rust
Root, RooFit, RooStats
bash, sed, awk
git, svn
HTML, CSS
L^AT_EX

besides physics

Cycling
Hiking
Music

education & employment

Nov '15 - now	Research Associate at the CMS experiment	FNAL
Nov '14 - Oct '15	Postdoctoral Fellow at the ATLAS experiment	TRIUMF
Jan '11 - Jul '14	Ph.D. at the ATLAS experiment Ph.D. Thesis: A general approach to search for supersymmetry at the LHC by combining signal enhanced kinematic regions using the ATLAS detector (Supervisor: Prof. A. Ereditato)	University of Bern
Sep '08 - Mar '10	Master of Science in Theoretical Physics Master Thesis: The partition function of meromorphic conformal field theories at higher genus (Supervisor: Prof. M. Gaberdiel)	ETH Zurich
Oct '04 - Sep '08	Bachelor of Science in Experimental Physics Bachelor Thesis: Untersuchung der Cluster-Struktur von Elastomerpartikeln durch Simulation des Aggregationsvorganges und Partikelgrößen mittels dynamic light scattering (Supervisor: Dr. Cornelius Gauer)	ETH Zurich
Sep '04	Comprehensive entrance exam Exam at the level of a Matura	ETH Zurich

awards

Mar '15	Faculty award winner of the University of Bern Award for the best PhD thesis in physics at the University of Bern in the year 2014
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leadership

Jan '18 - now	SUS Leptonic subgroup co-convenor
Oct '16 - May '17	Coordinator of the Single Lepton dPhi Analysis group

committee

Feb '18	Analysis Review Committee: Search for supersymmetry in events with two tau leptons and missing transverse momentum in $\sqrt{s} = 13$ TeV proton-proton collisions with the CMS detector to be submitted to JHEP
Jul '17	Analysis Review Committee: Search for pair production of tau sleptons in $\sqrt{s} = 13$ TeV pp collisions in the all-hadronic final state CMS-PAS-SUS-17-003

- Jan '17 Analysis Review Committee: Search for physics beyond the standard model in events with two leptons of same sign, missing transverse momentum, and jets in proton-proton collisions at $\sqrt{s} = 13$ TeV
Eur. Phys. J. C 77 (2017) 578
- Jul '16 Analysis Review Committee: Search for SUSY in same-sign dilepton events at 13 TeV
CMS-PAS-SUS-16-020

conferences

- Oct '17 **IEEE Nuclear Science Symposium and Medical Imaging Conference**
Poster: "A new DAQ solution: *otsdaq*"
Atlanta, GA, USA
- Aug '17 **Meeting of the Division of Particles and Fields of the American Physical Society**
FNAL, Batavia, IL, USA
Speaker: "Searches for electroweakly produced supersymmetry with CMS"
- May '17 **Phenomenology 2017 Symposium**
Pittsburgh, PA, USA
Speaker: "Searches for supersymmetry in single or opposite-charged dilepton final states with CMS"
- Jun '16 **49th Annual Fermilab Users Meeting**
FNAL, Batavia, IL, USA
Poster: "Characterization of the pixel ASIC with a laser beam in the Outer Tracker upgrade of the CMS detector"
- May '15 **Mitchell Workshop on Collider and Dark Matter Physics**
Texas A&M University, College Station, TX, USA
Speaker: "Supersymmetry searches in ATLAS"
- May '13 **1st LHC Physics Conference**
Barcelona, Spain
Poster: "Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 21 fb^{-1} of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector"
- Jun '12 **Swiss Physical Society**
ETH, Zurich, Switzerland
Speaker: "New Optical receiver modules for the insertable B-Layer at the ATLAS project"
- Jun '11 **Physics at LHC**
Perugia, Italy
Poster: "SUSY Searches at ATLAS in Multilepton Final States with Jets and Missing Transverse Energy"
- Jun '11 **Swiss Physical Society**
EPF, Lausanne, Switzerland
Speaker: "Insertable b-Layer: A new layer for the ATLAS detector at CERN"

journal publications

- I am co-author of 475 ATLAS publications and 111 CMS publications;
for a full list, see
<http://inspirehep.net/author/profile/B.Schneider.1>
Publications with substantial contributions from me:
- Mar '18 Production and Integration of the ATLAS Insertable B-Layer
arXiv:1803.00844 [physics.ins-det]

Jan '18	Search for new physics in events with two soft oppositely charged leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV arXiv:1801.01846 [hep-ex]
Sep '17	Search for supersymmetry in events with one lepton and multiple jets exploiting the angular correlation between the lepton and the missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV 10.1016/j.physletb.2018.03.028
Sep '16	Search for supersymmetry in events with one lepton and multiple jets in proton-proton collisions at $\sqrt{s} = 13$ TeV Phys. Rev. D 95, 012011 (2017)
Sep '15	Search for the electroweak production of supersymmetric particles in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector Phys. Rev. D 93, 052002 (2016)
May '14	Search for supersymmetry in events with four or more leptons in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector Phys. Rev. D. 90, 052001 (2014)
Feb '14	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector JHEP04(2014)169
Aug '12	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in $\sqrt{s} = 7$ TeV pp collisions with the ATLAS detector Phys.Lett. B718 (2013) 841-859

proceedings

Jun '13	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 21 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATL-PHYS-PROC-2013-145
Nov '11	The ATLAS IBL BOC Demonstrator ATL-INDET-PROC-2011-038
Oct '11	SUSY Searches at ATLAS in Multilepton Final States with Jets and Missing Transverse Energy ATL-PHYS-PROC-2011-201

public notes

Apr '18	The Phase-2 Upgrade of the CMS Endcap Calorimeter – Technical Design Report CERN-LHCC-2017-023
Sep '17	The Phase-2 Upgrade of the CMS Barrel Calorimeters – Technical Design Report CERN-LHCC-2017-011
Jun '17	The Phase-2 Upgrade of the CMS Tracker – Technical Design Report CERN-LHCC-2017-009
Dec '16	Search for new physics in the compressed mass spectra scenario using events with two soft opposite-sign leptons and missing transverse momentum at $\sqrt{s} = 13$ TeV CMS PAS SUS-16-025
Aug '16	Search for supersymmetry in events with one lepton and multiple jets in proton-proton collisions at $\sqrt{s} = 13$ TeV in 2016 CMS PAS SUS-16-019
Jul '15	First look at proton proton collision data at $\sqrt{s} = 13$ TeV in preparation for a search for squarks and gluinos in events with missing transverse energy, jets, and an isolated electron or muon ATL-PHYS-PUB-2015-029
Mar '15	Expected sensitivity studies for gluino and squark searches using the early LHC 13 TeV Run-2 dataset with the ATLAS experiment ATL-PHYS-PUB-2015-005

Jun '14	A general approach to search for supersymmetry at the LHC by combining signal enhanced kinematic regions using the ATLAS detector (PhD thesis) CERN-THESIS-2014-056
Mar '13	Search for supersymmetry in events with four or more leptons in 21 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2013-036
Mar '13	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 21 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2013-035
Nov '12	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 13.0 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2012-154
Nov '12	Search for Supersymmetry in events with four or more leptons in 13 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2012-153

organization

Aug '12	Co-organizer of workshop: SUSY Statistical Interpretations workshop Wrap up lessons learned in previous round of publications and spot possible improvements for next round
Sep '11	Co-organizer of outreach event: Nacht der Forschung Performing experiments in public and discussing results

outreach

Jan '16	FNAL Open House Explaining the purpose and the mission of Fermilab to the public
Nov '13 - now	Official ATLAS underground guide Showing the ATLAS detector to the public during LHC shutdowns
Mar '12 - Mar '13	Masterclasses Helping high school students performing measurements on real LHC data
Sep '11	Nacht der Forschung Presenting LHC physics on a poster and answering questions of the public in a research outreach event at the University of Bern

teaching

Jan '11 - May '14	Lab Course Supervising and assisting Physics undergraduate students working on fundamental experiments in mechanics and electronics University of Bern
Jan '11 - May '14	Physics for Biologists Assisting 1 st year Physics course University of Bern
Jul '11 - May '14	Private lessons for high-school graduates Private lessons in Mathematics, Statistics and Physics Interlink Schulberatung GmbH
Jun '08	Exam preparation Exam preparation for 1 st year Physics and Mathematics students ETH Zurich
2007/2008	Teaching assistant Teaching assistant for environmental science students in Calculus ETH Zurich

supervision

- Jul '16 - Oct '16 **David Jin**
Summer Student at FNAL, University of Chicago
- May '16 - Aug '16 **Christian Leefmans**
Summer Student at FNAL, Cornell University
- Dec '14 - Nov '15 **Felix Cormier**
MSc student at CERN, University of British Columbia
- Nov '14 - Nov '15 **Matthew Gignac**
PhD student at CERN, University of British Columbia
- Dec '12 - Mar' 14 **Benjamin Gerber**
MSc student, University of Bern