

Basil Schneider

contact

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about

Swiss citizenship
Born 19th March 1982

languages

German (native)
English (fluent)
French (moderate)

computing

Linux
C++, Python
Root, RooFit, RooStats
Bash, Sed, Awk
L^AT_EX
VHDL

besides physics

Cycling
Hiking
Music

education & employment

- Nov '14 - now **Postdoctoral Fellow** at the **ATLAS experiment** TRIUMF
- Jan '11 - Jul '14 **Ph.D.** at the **ATLAS experiment** University of Bern
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)
- Sep '08 - Mar '10 **Master** of Science in **Theoretical Physics** ETH Zurich
Master Thesis: The partition function of meromorphic conformal field theories at higher genus (Supervisor: Prof. M. Gaberdiel)
- Oct '04 - Sep '08 **Bachelor** of Science in **Experimental Physics** ETH Zurich
Bachelor Thesis: Untersuchung der Cluster-Struktur von Elastomerpartikeln durch Simulation des Aggregationsvorganges und Partikelgrößen mittels dynamic light scattering (Supervisor: Dr. Cornelius Gauer)
- Sep '04 **Comprehensive entrance exam** ETH Zurich
Exam at the level of a Matura

conferences

- Jun '15 **USATLAS Workshop at University of Illinois at Urbana-Champaign**
Speaker: "Supersymmetry in run 2"
- May '15 **Mitchell Workshop on Collider and Dark Matter Physics**
Speaker: "Supersymmetry searches in ATLAS"
- May '13 **1st LHC Physics Conference, Barcelona, Spain** ATL-PHYS-SLIDE-2013-350
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**
Speaker: "New Optical receiver modules for the insertable B-Layer at the ATLAS project"
- Jun '11 **Physics at LHC, Perugia, Italy** ATL-PHYS-SLIDE-2011-423
Poster: "SUSY Searches at ATLAS in Multilepton Final States with Jets and Missing Transverse Energy"
- Jun '11 **Swiss Physical Society**
Speaker: "Insertable b-Layer: A new layer for the ATLAS detector at CERN"

teaching

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

publications

I am co-author of 302 ATLAS publications; for a full list, see <http://inspirehep.net/author/profile/B.Schneider.1>

Publications where my contributions are substantial:

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
May '14	Search for supersymmetry in events with four or more leptons in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector	arXiv:1405.5086 [hep-ex]
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
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
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
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
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

internal notes

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-COM-PHYS-2015-718
May '15	ATLAS Large eta task force report	ATL-COM-UPGRADE-2015-013
Feb '15	Expected sensitivity of search for squarks and gluinos in events with isolated leptons, jets and missing transverse momentum at $\sqrt{s} = 13$ TeV with the ATLAS detector	ATL-COM-PHYS-2015-133
Jan '15	Re-interpretations and combinations of electroweak limits in 20.3 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector	ATL-COM-PHYS-2015-011
Dec '13	Search for supersymmetry in events with four or more leptons in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector	ATL-COM-PHYS-2013-1621
Oct '13	Search for supersymmetry in events with three leptons and missing transverse momentum in 21 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector	ATL-PHYS-INT-2013-021
Jul '13	Search for supersymmetry in events with three leptons and missing transverse momentum in 20.3 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector	ATL-COM-PHYS-2013-888
Dec '12	Search for Supersymmetry in events with four or more leptons in 20.7 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector	ATL-COM-PHYS-2012-1819
Dec '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	ATL-PHYS-INT-2012-096
Dec '12	Search for supersymmetry in events with three leptons and missing transverse momentum in 13 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector	ATL-PHYS-INT-2012-095
Sep '12	SUSY Searches in the Final States with Three Leptons and Missing Transverse Momentum at ATLAS	ATL-PHYS-INT-2012-059

experience

Jan '11 - now	Analysis: Supersymmetry <ul style="list-style-type: none"> • Binning and optimizing the three light lepton final state signal region • Signal region optimizations in three lepton final states with taus • Assembling and scripting a package of various scripts to facilitate limit computations; also used by other analyses • Statistical interpretations of results: Discovery p-values, exclusion contours, upper limits on model cross-sections • Simultaneous fit of the WZ background in control and signal regions • Optimization of distributed computing resources for limit calculations with pseudo-experiments • Presented the analyses at 2 SUSY-Approvals on behalf of the multi-lepton group • Assisting younger students
Jan '11 - Dec '12	Hardware: IBL <ul style="list-style-type: none"> • Building up the IBL activities at the University of Bern • Test of the optical readouts • Feasibility study of the usage of commercial products • Selecting best optical readout candidate based on experimental data • Rudimentary tests with FPGA programming in VHDL • Replacing dead optical transmitters in USA15 • Presented studies at 2 IBL general meetings on behalf of the ATLAS Bern group

references

Prof. Antonio Ereditato

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outreach

Nov '13 - now

Official ATLAS underground guide

Mar '12 - Mar '13

Masterclasses

Helping high school students performing measurements on real data from LHC

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