Basil Schneider

contact Rheinstrasse 63	education & employment			
4410 Liestal Switzerland	Nov '14 - now	Postdoctoral Fellow at the ATLAS experiment TRIUMF		
+41 (0) 78 710 37 55 basil.schneider@cern.ch	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)		
about Swiss citizenship	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)		
Born 19 th March 1982 languages German (native)	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)		
English (fluent) French (moderate)	Sep '04	Comprehensive entrance exam Exam at the level of a Matura		
computing Linux	conference	es		
C++, Python Root, RooFit, RooStats	Jun '15	USATLAS Workshop at University of Illinois at Urbana-Champaign Speaker: "Supersymmetry in run 2"		
Bash, Sed, Awk LATEX	May '15	Mitchell Workshop on Collider and Dark Matter Physics Speaker: "Supersymmetry searches in ATLAS" to be updated		
VHDL besides physics Cycling Hiking Music	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 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"		
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teaching

Jan '11 - now	Lab Course	University of Bern
	Supervising and assisting Physics undergrade fundamental experiments in mechanics and experiments in mechanics and experiments.	9
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	Interlink Schulberatung GmbH d Physics
2007/2008	Teaching assistant Teaching assistant for environmental science	ETH Zurich students in Calculus

publications

	I am co-author of 302 ATLAS publications; thttp://inspirehep.net/author/profile/B.SchnePublications where my contributions are su	eider.1
Mar '15	Expected sensitivity studies for gluino and se LHC 13 TeV Run-2 dataset with the ATLAS	experiment
		ATL-PHYS-PUB-2015-005
Jun '14	A general approach to search for supersymr signal enhanced kinematic regions using the	
May '14	Search for supersymmetry in events with f	
•	TeV pp collisions with the ATLAS detector	arXiv:1405.5086 [hep-ex]
Feb '14	Search for direct production of charginos a	
	three leptons and missing transverse more	, , ,
	sions with the ATLAS detector	JHEP04(2014)169
Jun '13	Search for direct production of charginos a	
	three leptons and missing transverse mon	
	sions at \sqrt{s} = 8 TeV with the ATLAS detector	
Mar '13	Search for supersymmetry in events with for	
	of pp collisions at \sqrt{s} = 8 TeV with the ATLA	
Mar '13	Search for direct production of charginos a	
	three leptons and missing transverse mon	
	sions at \sqrt{s} = 8 TeV with the ATLAS detector	
Nov '12	Search for direct production of charginos a	
	three leptons and missing transverse mom	
N. 400	sions at $\sqrt{s} = 8$ TeV with the ATLAS detector	
Nov '12	Search for Supersymmetry in events with f	
A 410	pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS of	
Aug '12	Search for direct production of charginos a	
	three leptons and missing transverse mom sions with the ATLAS detector	
N /11		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 Fina	9
	Transverse Energy	ATL-PHYS-PROC-2011-201

internal notes

Feb '15	Expected sensitivity of search for squarks an	d gluinos in events with iso-
	lated leptons, jets and missing transverse mo	mentum at \sqrt{s} = 13 TeV with
	the ATLAS detector	ATL-COM-PHYS-2015-133
Dec '13	Search for supersymmetry in events with for	ur 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 thre	e leptons and missing trans-
	verse momentum in 21 fb ⁻¹ pp collisions at \sqrt{s}	s = 8 TeV with the ATLAS de-
	tector	ATL-PHYS-INT-2013-021
Jul '13	Search for supersymmetry in events with thre	e leptons and missing trans-
	verse momentum in 20.3 fb ⁻¹ pp collisions a	t \sqrt{s} = 8 TeV with the ATLAS
	detector	ATL-COM-PHYS-2013-888
Dec '12	Search for Supersymmetry in events with four	r or more leptons in 20.7 fb ⁻¹
	pp collisions at \sqrt{s} = 8 TeV with the ATLAS de	tectorATL-COM-PHYS-2012-1819
Dec '12	Search for Supersymmetry in events with fou	ur or more leptons in 13 fb ⁻¹
	pp collisions at √s = 8 TeV with the ATLAS de	tector ATL-PHYS-INT-2012-096
Dec '12	Search for supersymmetry in events with thre	e leptons and missing trans-
	verse momentum in 13 fb ⁻¹ pp collisions at \sqrt{s}	s = 8 TeV with the ATLAS de-
	tector	ATL-PHYS-INT-2012-095
Sep '12	SUSY Searches in the Final States with Three	Leptons and Missing Trans-
•	verse Momentum at ATLAS	ATL-PHYS-INT-2012-059

experience

Jan '11 - now **Analysis: Supersymmetry**

- 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 multilepton group
- Assisting younger students

Jan '11 - Dec '12 Hardware: IBL

- Building up the IBL activities at the University of Bern
- Test of the optical readouts
- Fesibility 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

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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