

FLORIAN JONAS

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WORK EXPERIENCE

Oct 2018 - Aug 2023	SCIENTIFIC ASSISTANT Insitute for Nuclear Physics Westfälische Wilhelms-Universität	Münster, DE/Geneva, CH
Jul-Sep 2017	SUMMER STUDENT European Organization for Nuclear Research (CERN)	Geneva, CH
Jan-Mar 2016 & Jul-Sep 2016	STUDENT ASSISTANT Institute for Theoretical Physics Westfälische Wilhelms-Universität	Münster, DE
Jul 2012	INTERNSHIP German Aerospace Center (DLR)	Cologne, DE

EDUCATION

2018- Aug 2023	DOCTOR OF NATURAL SCIENCES (PHYSICS) Westfälische Wilhelms-Universität with distinction (summa cum laude) <i>Thesis: Probing the initial state of heavy-ion collisions with prompt isolated photons</i> Supervision: C. Loizides, C. Klein-Boesing, A. Andronic; stationed at CERN in collaboration with Oak Ridge National Lab (ORNL)	Geneva, CH
2016-2018	MASTER OF SCIENCE (PHYSICS) Westfälische Wilhelms-Universität <i>Thesis: Measurement of ω and η mesons via their three pion decay with ALICE in pp collisions at $\sqrt{s} = 7\text{TeV}$ · Grade: 1.0 (with distinction)</i>	Münster, DE
2013-2016	BACHELOR OF SCIENCE (PHYSICS) Westfälische Wilhelms-Universität <i>Thesis: Simulations for optimization of ω-reconstruction at ALICE · Grade: 2.0</i>	Münster, DE
2005-2013	ABITUR Freiherr-vom-Stein Gymnasium Advanced courses in physics and mathematics. The school was bilingual, which means some classes were taught in English. · Grade: 1.4	Hamm, DE
Jul-Dec 2010	STUDENT EXCHANGE Otumoetai College	Tauranga, NZ

LANGUAGES

GERMAN · Mother tongue
 ENGLISH · Fluent in spoken and written form
 FRENCH · Basic (simple words & phrases only)

COMPUTING SKILLS

WORD PROCESSING · L^AT_EX, MS Office
 CODING · C++, ROOT, PYTHON
 OTHER · PYTHIA, MCFM, JETPHOX, GEANT, INCNLO, CEPH, SLURM

TALKS & CONFERENCES

- 2023 · Talk & Poster at 798. WE-Heraeus-Seminar: Forward Physics and QCD at the LHC and EIC
Measuring prompt photon production with the ALICE Forward Calorimeter (FoCal) upgrade
- 2023 · Talk at 30th Quark Matter Conference
Forward Calorimeter (FoCal): Physics and performance
- 2023 · Talk at 11th Hard Probes Conference
Probing the initial state of nuclear collisions using isolated prompt photons with ALICE
- 2022 · Talk at ALICE USA meeting
Isolated photon production in pp and p-Pb collisions at $\sqrt{s_{NN}} = 8 \text{ TeV}$ and 8.16 TeV
- 2022 · Talk at Forward QCD: open questions and future directions (workshop)
Prompt photon physics with the ALICE FoCal
- 2022 · Invited speaker at Oak Ridge National Laboratory physics division seminar
Probing the initial state of nuclear collisions with isolated photons at the LHC
- 2022 · Invited speaker at Institute for nuclear physics (Münster) seminar
Probing the initial state of nuclear collisions with isolated photons at the LHC
- 2020 · Talk at 40th ICHEP conference
 ω and η' production in proton-proton collisions at the LHC measured with ALICE
- 2019 · Talk at DPG Spring Meeting
Measurement of ω mesons in pp collisions at $\sqrt{s} = 7 \text{ TeV}$
- 2019 · Poster at 137th LHCC meeting
Measurement of ω and η mesons via their three pion decay with ALICE in pp collisions at $\sqrt{s} = 7 \text{ TeV}$
- 2018 · Poster at DPG Spring Meeting
Measurement of ω and η mesons via their three pion decay with ALICE in pp collisions at $\sqrt{s} = 7 \text{ TeV}$
- 2016 · Talk at the ALICE Germany Meeting
Kinematic cuts for ω reconstruction in ALICE

PUBLICATIONS

publications with major contributions:

- 2022 · ALICE collaboration, *Performance of the ALICE Electromagnetic Calorimeter*
 arXiv:2209.04216 (submitted to JINST)
Contribution: π^0 merging studies, electron E/p and purity studies
- 2021 · Jonas, F. & Loizides, C. *Centrality dependence of electroweak boson production in PbPb collisions at the LHC.*
 Phys. Rev. C 104, 044905
Contribution: main analyzer & main paper writer
- 2020 · Acharya, S. et al. *Production of ω mesons in pp collisions at $\sqrt{s} = 7 \text{ TeV}$*

Eur. Phys. J. C 80, 1130

Contribution: main analyzer & main paper writer

papers in preparation and analysis notes:

2022 · Jonas, F., *Measurement of isolated photon production in pp and p-Pb collisions at $\sqrt{s} = 8$ TeV and $\sqrt{s_{NN}} = 8.16$ TeV*

ALICE Analysis Note (ANA-1298)

Contribution: main analyzer & main writer

2020 · ALICE collaboration, *Letter of Intent: A Forward Calorimeter (FoCal) in the ALICE experiment*
CERN-LHCC-2020-009, LHCC-I-036

Contribution: π^0 reconstruction efficiency studies, beampipe conversion studies

2020 · Jonas, F., *Measurement of ω meson production at mid-rapidity with ALICE in pp collisions at $\sqrt{s} = 7$ TeV*
ALICE Analysis Note (ANA-1029)

Contribution: main analyzer & main writer

PROJECTS / ACTIVITIES

Physics · reconstruction of ω vector mesons in pp collisions at $\sqrt{s} = 7$ TeV with ALICE: first developments of analysis task which has been used in several subsequent analyses of ω and η' production; analysis required reconstruction and identification of charged tracks as well as photon reconstruction using three different methods (PHOS, EMCal and conversions in tracker)

Physics · measurement of isolated prompt photon production in pp and p-Pb collisions in $\sqrt{s_{NN}} = 8.16$ TeV with ALICE; employing multiple approaches for purity determination (template fitting & ABCD method); usage of JETPHOX and INCNLO program to obtain theory calculations

Physics/phenomenology · study of centrality dependence of electroweak boson production using MCFM program and Glauber model investigating possible centrality biases in measurements and impact of the nuclear neutron skin on W^\pm production (see publication)

Physics/phenomenology · working together with a PhD student from the theory department of the University of Muenster to study γ -jet correlations in ALICE FoCal and TPC acceptance using POWHEG NLO program and Pythia shower algorithms

Computing · leading role in developing the new ALICE EMCal analysis framework for the ALICE online-offline computing system (O²); porting of EMCal clusterizer, implementation of crucial features such as cluster-track matching using kdtree algorithm

Computing · system administrator of a computing cluster used by the ORNL group at CERN. The cluster includes a distributed file system (ceph) and job management (slurm)

Performance · multiple studies for expected performance of ALICE Forward Calorimeter (FoCal) and contributions to Letter-of-Intent: study of π^0 reconstruction efficiency; study of effect of beampipe on conversions at forward rapidity; ongoing studies on expected performance of isolated prompt photon measurements with FoCal

Performance · ongoing efforts in quality assurance and calibration of ALICE EMCal detector; detailed studies of electron E/p and impact of different EMCal nonlinearity parametrizations; multiple contributions to EMCal performance paper (soon to be published)

Hardware · assisting role during multiple accesses for repairs on EMCal detector; assisting role during repairs on Transition Radiation Detector (TRD) modules during LS2

Outreach · supervision of summer student; moderator for multiple ALICE masterclasses for school students; ALICE tour guide during LS2

Service task · train operator for ALICE analysis trains, steering and managing the access of analyses to the ALICE datasets and computing time

CERTIFICATES & AWARDS

Best poster prize · 798. WE-Heraeus-Seminar: Forward Physics and QCD at the LHC and EIC

English · ESOL Level 2 Certificate · University of Cambridge

French · Attestation de réussite DELF · Level A2

November 24, 2023