

Dr Alexander Deisting

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Employment

Senior postdoctoral researcher, Johannes Gutenberg-Universität Mainz

Mainz, DE

Group of Uwe Oberlack; R&D of new electrodes for future dual-phase Xe time projection chambers (TPCs); Upgrade of the MainzTPC with SiPMs; Maintenance of the neutron veto of the XENONnT observatory; Simulations for future single-phase noble liquid detectors.

May. 2022 - today

Postdoctoral researcher, Royal Holloway University of London

London, UK

Group of Jocelyn Monroe; R&D on high pressure TPCs with optical readout and hybrid charge and optical readout, Tests of TPC hardware for their suitability as parts of future DUNE near detector high pressure gas TPC; Development of a novel, low cost sensor to detect lead in drinking water

Aug. 2018 - Apr. 2022

Postdoctoral researcher, Gesellschaft für Schwerionenforschung / Ruprecht-Karls-Universität Heidelberg

Darmstadt, DE / Heidelberg, DE

Group of Silvia Masciocchi; Discharge studies with gas electron multiplier (GEMs) foils; Commissioning of the GEM testing facilities for the ALICE TPC's GEMs mass production

Mar. 2028 - Jul. 2018

Education

Ruprecht-Karls-Universität Heidelberg (Heidelberg, DE / CERN, CH)

[[10.11588/heidok.00024133](#)]

Dr. rer. nat. (Physics); Thesis title: "Measurements of ion mobility and GEM discharge studies for the upgrade of the ALICE time projection chamber", Supervisor: Prof. Dr. S. Masciocchi

Aug. 2014 - Feb. 2018

Rheinische Friedrich-Wilhelms-Universität Bonn (Bonn, DE)

[[BONN-IB-2014-10](#)]

Master of Science in Physics; Thesis title: "Readout and Analysis of the Induced Ion Signal of an InGrid Detector", Supervisor: Prof. Dr. K. Desch

Oct. 2012 - May. 2014

Rheinische Friedrich-Wilhelms-Universität Bonn (Bonn, DE)

[[2012-02](#)]

Bachelor of Science in Physics; Thesis title: "Reconstruction of charge depositions due to primary electrons in a GEM-Pixel-TPC with an algorithm used for applications in astrophysics" (translation, the thesis is written in German with the title: "Rekonstruktionen von Ladungsdepositionen in einer GEM-Pixel-TPC mit einem Algorithmus aus der Astronomie"), Supervisor: Prof. Dr. K. Desch

Oct. 2008 - Sept. 2012

Leadership positions and committee work

ECFA DRD2: "Liquid detectors collaboration"

[[ECFA DRD2 Proposal](#)]

Part of the proposal preparation team and now co-lead of the task "Amplification structures, charge-to-light conversion and granular light readout of dual phase detectors" together with K. Mavrokoridis, University of Liverpool

Nov. 2022 - today

Darwin collaboration

[[Darwin](#)]

Co-lead of the Darwin WG6: "LXe Properties and Calibration" together with R. Budnik, Weizmann Institute of Science

May. 2023 - today

AIDAInnova, Work package 7

[[e.g. AIDAInnova Indico](#)]

Lead of Task 4.2: "A high pressure gas time projection chamber with optical readout for neutrino physics"

2021 - 2022

2019 - 2020: **Lead of the task: "Hybrid readout high pressure gas TPC for neutrino physics"** during the AIDAInnova proposal preparations (INFRAINN04-2020) [[AIDAInnova](#)]

“PlomBox: a Device for Open-Source Metrology to Fight Lead Contamination in Drinking Water”

[[EP/T015586/1, PlomBox](#)]

Work package coordinator: “Mobile Phone Data Acquisition”; Leading the development of a mobile phone controlled DAQ system, and of the analysis server set-up for the future PlomBox devices

2020 - 2022

DUNE near detector high pressure gas TPC development

Leading the tests of an ALICE outer readout chamber to assert its suitability for high pressure operation in the UK

2019 - 2022

Development of a high pressure gas time projection chamber with hybrid charge and optical readout

Co-leading the research effort with the 1 m³ high pressure gas TPC prototype

2018 - 2022

“Materia Oscura: Instrumentation Development to Observe the Invisible”

[[ST/R002908/1](#)]

Leading the research exploring lead detection in drinking water using CMOS sensors

2018 - 2020

Grants and Funding Awards

STFC Early Technology Development Capital Funding

152 000 £; [[ST/W005727/1](#)]

“Infrastructure Request for High Pressure Gas TPC Development Studies for the DUNE Near Detector”, together with G.

Barker, X. Lu, University of Warwick

2022

AIDIAinnova

66 666 £

European Union’s Horizon 2020 Research and Innovation programme under Grant Agreement No 101004761. Funding secured at Royal Holloway University of London (*cf.* Leadership and committee work: AIDAinnova proposal preparations)

2021

Royal Holloway, University of London, *Strategic knowledge exchange grant*

20 000 £

Project title: “Explore the commercialisation of a device with a CMOS sensor at its heart for dosimetry applications”

2020

Nuclear Security Sciences Network, Personal Development Grant

1 000 £

Funding to visit the 2020 IEEE in Manchester

2019

Collaborations

XENONnT

Part of ongoing TPC repair effort, development of new electrodes, maintenance of the neutron veto

May 2022 - today

XLZD (XENONnT-LZ-Darwin) and Darwin

XLZD: Development of electrode assay techniques; Darwin: WG6 working group co-leader (*cf.* Leadership and committee work: Darwin)

Darwin: May 2022 - today and XLZD:

Sept. 2024 - today

ARIADNE+

DAQ control GUI development and contributions to the assembly of the light readout plane of the 2 × 2 m² demonstrator of TimePix3 readout of a dual-phase argon TPC

2022

DUNE

Near detector high pressure gas TPC development; Since May 2022 only minor contributions

2019 - today

ALICE and ALICE TPC upgrade collaboration

PhD thesis experiment (*cf.* Education), Development of new readout chambers allowing for continuous readout of the ALICE TPC, on-site ALICE TPC expert, beam-test coordination

2014 - 2018

Publications

To see a full list of all my publications you may check [the inspirehep author search as linked here](#). In total I have 183 published papers with an h-index of 79. This includes the collaboration papers of the ALICE, Darwin, DUNE, XENONnT, and XLZD collaborations I have worked with in the past or I am still working with today. The list below gives papers and reports with major contributions from my side.

Journal papers

For these publications I am the lead- and corresponding author, the first author is indicated in bold. (In most cases the author list is ordered alphabetically.) I had critical contributions to the development of the measurement, the commissioning of the set-up, the data taking, the analysis, the paper writing, and the organisation of the internal review processes of the publications in this section.

- [1] **A. Deisting**. “Commissioning of a hybrid readout TPC test set-up and gas gain simulations”, *J. Phys.: Conf. Ser.* 2374 012145; DOI: [\[10.1088/1742-6596/2374/1/012145\]](#), arXiv: [\[2201.02464\]](#);
- [2] **A. Deisting**, *et al.* “Commissioning of a High Pressure Time Projection Chamber with Optical Readout”, *Instruments* 2021, 5(2), 22; DOI: [\[10.3390/instruments5020022\]](#);
- [3] **A. Aguilar-Arevalo**, *et al.* “Dosimetry and Calorimetry Performance of a Scientific CMOS Camera for Environmental Monitoring”, *Sensors* 2020, 20(20), 5746; DOI: [\[10.3390/s20205746\]](#), arXiv: [\[2009.11227\]](#);
- [4] **A. Deisting**, *et al.* “Secondary discharge studies in single and multi GEM structures”, *NIM A*, 2019, 937, pp. 168-180; DOI: [\[10.1016/j.nima.2019.05.057\]](#), arXiv: [\[1901.06035\]](#);
- [5] **A. Deisting** for the HPTPC working groups. “Commissioning and beam test of a high pressure time projection chamber”, *NIM A*, 2020, 958, pp. 162153; DOI: [\[10.1016/j.nima.2019.04.107\]](#);
- [6] **A. Deisting**, C. Garabatos and A. Szabo. “Ion mobility measurements in Ar-CO₂, Ne-CO₂, and Ne-CO₂-N₂ mixtures, and the effect of water contents”, *NIM A*, 2018, 904, pp. 1-8; DOI: [\[10.1016/j.nima.2018.07.008\]](#), arXiv: [\[1804.10288\]](#);
- [7] **A. Deisting** and C. Garabatos. “Discharge and stability studies for the new readout chambers of the upgraded ALICE TPC”, 2017 *JINST* 12 C05017; DOI: [\[10.1088/1748-0221/12/05/C05017\]](#), arXiv: [\[1705.02150\]](#);
- [8] **A. Deisting**, C. Garabatos, A. Szabo and D. Vranic. “Measurements of ion mobility in argon and neon based gas mixtures”, *NIM A*, 2017, 845, pp. 215-217 ; DOI: [\[10.1016/j.nima.2016.06.093\]](#), arXiv: [\[1603.07638\]](#);
- [9] **A. Deisting** for the ALICE collaboration. “Status of the R&D activities for the upgrade of the ALICE TPC”, *EPJ Web Conf.* 174 (2018) 01006; DOI: [\[10.1051/epjconf/201817401006\]](#), arXiv: [\[1601.02183\]](#);

Selected co-authored publications and reports

- [10] **A. Dias**, **M. Alvarez**, **Y. Gándola**, **A. Deisting**, *et al.* “PlomBOX: a low cost bioassay for the sensitive detection of lead in drinking water”, *Commun Eng* 4, 2 (2025); DOI: [\[10.1038/s44172-024-00337-7\]](#);
A. Dias and me were lead developers for the PlomApp and database, and I worked with her on the analysis reported in the Results section. I contributed to the writing and editing of the paper. Furthermore, A. Dias was a PhD student I co-supervised and the paper reports much of her work.
- [11] **E. Aprile**, *et al.* (**XENON Collaboration**). “First Indication of Solar ⁸B Neutrinos via Coherent Elastic Neutrino-Nucleus Scattering with XENONnT”, *Phys. Rev. Lett.* 133, 191002; DOI: [\[10.1103/PhysRevLett.133.191002\]](#), arXiv: [\[2408.02877\]](#);
Review of some of the analysis for the paper, collaboration reviews of the paper, and detector shifts.
- [12] **J. Aalbers**, *et al.* (**XLZD Collaboration**). “The XLZD Design Book: Towards the Next-Generation Liquid Xenon Observatory for Dark Matter and Neutrino Physics”, arXiv: [\[2410.17137\]](#);
Small contributions to the writing of the report, discussions within XLZD, and collaboration review of the finished publication
- [13] **A. Dias**, **M. Alvarez**, **Y. Gándola**, **A. Deisting**, *et al.* “Is there lead in my drinking water? Demonstration of the PlomBOX biosensor platform for low-cost metrology”, Submitted to *Nature Communications Earth & Environment*;
Critical contributions to the development of the measurement, the analysis code, the paper writing, and the internal review processes. The lead and corresponding author was a PhD student (A. Dias) whom I co-supervised.
- [14] **S. Acharya**, *et al.* “ALICE upgrades during the LHC Long Shutdown 2”, 2024 *JINST* 19 P05062; DOI: [\[10.1088/1748-0221/19/05/P05062\]](#), arXiv: [\[2302.01238\]](#);
Critical contributions to the ALICE TPC upgrade works reported as part of this paper.
- [15] **A. Ritchie-Yates**, **A. Deisting**, *et al.* “First operation of an ALICE OROC operated in high pressure Ar-CO₂ and Ar-CH₄”, *Eur. Phys. J. C* 83, 1139 (2023); DOI: [\[10.1140/epjc/s10052-023-12297-x\]](#), arXiv: [\[2305.08822\]](#);
Critical contributions to the development of the measurement, the commissioning of the set-up, the data taking, the analysis, the paper writing, and the organisation of the internal review processes. The first and corresponding author is a PhD student (A. Ritchie-Yates) whom I supervised in the laboratory.
- [16] **A. Lowe**, *et al.* “ARIADNE⁺: Large scale demonstration of fast optical readout for dual-phase LArTPCs at the CERN Neutrino Platform” *Phys. Sci. Forum* 2023 8(1) 46; DOI: [\[10.3390/psf2023008046\]](#), arXiv: [\[2301.02530\]](#);
Contributions to the commissioning of the set-up, and the internal review processes.
- [17] **A. Aguilar-Arevalo**, *et al.* “Volume reduction of water samples to increase sensitivity for radioassay of lead contamination”, *Appl Water Sci* 12, 151 (2022); DOI: [\[10.1007/s13201-022-01669-5\]](#), arXiv: [\[2205.04147\]](#);
Critical contributions to the development of the measurement, and the internal review processes. The lead and corresponding author is a PhD student (A. Dias) whom I co-supervised.

- [18] **The DUNE collaboration**. “A Gaseous Argon-Based Near Detector to Enhance the Physics Capabilities of DUNE”, *2022 Snowmass Summer Study*; arXiv: [\[2203.06281\]](#);
Contributions to the planning discussions for the report and the internal review processes.
- [19] **A. Aguilar-Arevalo, et al.** “PlomBOX – development of a low-cost CMOS device for environmental monitoring”, *Contribution to CEST 2021*; arXiv: [\[2201.03348\]](#);
Co-coordinator of the research effort, critical contributions to the development of the methodology, the analysis framework and the internal review processes. The lead and corresponding author is a PhD student (A. Dias) whom I co-supervised.
- [20] **J. Adolfsson, et al.** “The upgrade of the ALICE TPC with GEMs and continuous readout”, *2021 JINST 16 P03022*; DOI: [\[10.1088/1748-0221/16/03/p03022\]](#), arXiv: [\[2012.09518\]](#);
Critical contributions to the development of some of the measurements within (and the corresponding commissioning of small scale set-ups, data taking, and analysis) as well as the organisation of beam times. Contributions to the general reported hardware development and the internal review processes.
- [21] **S. B. Jones, et al.** “Off-Axis Characterisation of the CERN T10 Beam for low Momentum Proton Measurements with a High Pressure Gas Time Projection Chamber”, *Instruments 2020, 4(3), 21*; DOI: [\[10.3390/instruments4030021\]](#), arXiv: [\[2007.15609\]](#);
Critical contributions to the detector commissioning, the data taking, the development of the analysis framework and the internal review process
- [22] **A. Deisting**. “Towards a low cost lead assay technique for drinking water using CMOS sensors”, *2019 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC) pp. 1-2*; DOI: [\[10.1109/NSS/MIC42101.2019.9059987\]](#); arXiv: [\[2001.01777\]](#);
I am the main and corresponding author of this conference paper and my contributions to the development of the measurement, the commissioning of the set-up, the data taking, and the data analysis were critical.
- [23] **A. V. Waldron, A. Deisting**. “A High Pressure TPC with Optical Readout”, *2019 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC) pp. 1-2*; DOI: [\[10.1109/NSS/MIC42101.2019.9059848\]](#);
Critical contributions to the development of the measurement, the commissioning of the set-up, the data taking, the analysis, and the internal review processes.
- [24] **A. Mathis** for the ALICE TPC Upgrade collaboration. “Particle identification studies with a full-size 4-GEM prototype for the ALICE TPC upgrade”, *NIMA, 2018, 903 pp. 215-223*; DOI: [\[10.1016/j.nima.2018.06.084\]](#), arXiv: [\[1805.03234\]](#);
Critical contributions to the organisation of the test beam and the data taking. Contributions to the planning discussions and the internal review process.
- [25] **The ALICE Collaboration**. “Addendum to the Technical Design Report for the Upgrade of the ALICE Time Projection Chamber”, *ALICE-TDR-016-ADD-1*; CDS: [\[CERN-LHCC-2015-002\]](#)
Critical contributions to the organisation of the test beams, the data taking, smaller experiments in the lab as well as the data analysis for test-beams and small prototypes.

Talks, seminars and posters

- Conference talk** “Tests of wire electrodes with the Mainz high resolution scanning set-up”, *DPG-Frühjahrstagung* (2024),
[\[Book of abstracts\]](#)
- Invited talk** “Lessons learned from current gas TPCs”, *DUNE Near Detector Phase II workshop* (2023), [\[Indico\]](#)
- Conference talk** “A high resolution scanning set-up for defect detection on electrodes”, *XeSAT2023* (2023), [\[Indico\]](#)
- Conference talk** “A high resolution scanning set-up for defect detection on electrodes”, *DPG-Frühjahrstagung SMuK* (2023),
[\[Book of abstracts\]](#)
- Conference talk** “Optical TPC: current and future developments”, *New Horizons in Time Projection Chambers* (2020), [\[Indico\]](#)
- Conference talk** “Commissioning and beam test of a high pressure time projection chamber”, *15th Vienna conference on Instrumentation* (2019), [\[Indico\]](#)
- Invited talk** “Secondary discharge phenomena in GEM detectors”, Overview talk for the ALICE TPC Upgrade Collaboration, *MPGD stability work-shop* (2018), [\[Indico\]](#)
- Group report** “Towards the mass production of readout chambers for the upgrade of the ALICE TPC”, *DPG-Frühjahrestagung, Hadronen und Kerne* (2017), [\[Book of abstracts\]](#)
- Conference talk** “Discharge and stability studies for the readout chambers of the upgraded ALICE TPC”, *International Conference on Instrumentation for Colliding Beam Physics (INSTR17)* (2017), [\[Indico\]](#)
- Conference talk** “Measurements of ion mobility in argon- and neon-based gas mixtures”, *DPG-Frühjahrestagung, Hadronen und Kerne* (2016), [\[Book of abstracts\]](#)
- Conference talk** “Status of the R&D activities for the upgrade of the ALICE TPC” *MPGD – 4th Conference on Micro-Pattern Gaseous Detectors* (2015), [\[Indico\]](#)
- Conference talk** “Untersuchung des induzierten Ionen-Signales bei Gasverstärkung von Elektronen mit Hilfe eines InGrid”, *DPG-Frühjahrestagung, Teilchenphysik* (2014), [\[Book of abstracts\]](#)

Seminar	“Towards the next xenon filled dark matter experiment”, <i>EMMI Nuclear and Quark Matter Seminar</i> (2023)
Seminar	“A gas TPC for neutrino physics”, <i>ETAP Seminar at University of Mainz</i> (2022)
Seminar	“Under pressure: A Time Projection Chamber for neutrino interaction measurements”, <i>High energy physics seminar at Technische Universität München</i> (2019), Munich (DE)
Seminar	“The ALICE Time Projection Chamber and its upgrade” <i>Particle Physics Seminar at Imperial College London</i> (2019)
Seminar	“Taking a Time Projection Chamber to high pressure” <i>High energy physics seminar at the University College London</i> (2018)
Seminar	“The ALICE Time Projection Chamber and its upgrade” <i>Particle Physics Seminar at the Royal Holloway University London</i> (2018)
Poster	“The DARWIN experiment and the development of assay techniques for large electrodes” <i>16th Pisa Meeting on Advanced Detectors</i> (2024), [Conference web page]
Poster	“A hybrid high pressure time projection chamber for neutrino experiments”, <i>TIPP 2021 International Conference on Technology and Instrumentation in Particle Physics</i> (2021), [Indico]
Poster	“Towards a low cost lead assay technique for drinking water using CMOS sensors” <i>2019 IEEE Nuclear Science Symposium and Medical Imaging Conference</i> (2019), [Conference web page]
Poster	“Measurement of ion mobility in Argon and Neon based gas mixtures”, <i>14th Vienna conference on Instrumentation</i> (2016), [Indico]
Talk	“Electrodes status” <i>XENONnT collaboration meeting, Paris</i> (2023)
Talk	“Mainz Optical Scan Facility” <i>XENONnT collaboration meeting, L’Aquila</i> (2023)
Talk	“OROC test stand and testing at RHUL & Imperial College London”, <i>6th DUNE near detector workshop</i> (2019), [Indico]
Talk	“Progress on outer Readout chamber testing at Royal Holloway, Universtiy of London & Imperial College London”, <i>DUNE collobarion meeting</i> (2020)
Talk	“Discharge studies with single GEMs” <i>RD51 mini week</i> (2016)
Talk	“Measurements of ion mobility in argon- and neon-based gas mixtures”, <i>RD51 collaboration meeting</i> (2016)
Talk	“Discharge studies with an inner readout chamber prototype”, <i>DPG-Frühjahrestagung, Hadronen und Kerne</i> (2015), [Book of abstracts]
Talk	“ALICE setup in H4: Stability measurement of readout chamber prototype for the ALICE TPC”, <i>RD51 mini week</i> (2014)
Talk	“Status of the ALICE TPC upgrade and beam-time prospects”, <i>14th RD51 collaboration meeting</i> (2014)

Supervised students

The following list shows all Bachelor (3 to 6 months), Master (one year) and doctoral (3.5 years+) students I have supervised during their research work. In addition I list “Summer placements”, students I supervised during their ~6 weeks internship in our research group. “Lab supervisor” refers to students who I was not the official supervisor of, but who I supervised during the bulk of their research work. Abbreviations: JGU – Johannes Gutenberg-Universität Mainz (DE), Royal Holloway, University of London (GB) – RHUL, University of Heidelberg (DE) – HD.

Constantin Szyszka, Master of Science (Lab Supervisor)	<i>JGU</i>
Recommissioning of the MainzTPC and first Liquid Xenon Observation using Commercially Available Cameras	2023 - 2024
Shumit Arumoy Mitra, Bachelor of Science (Lab Supervisor)	<i>JGU</i>
Corona Discharge as a Tool for Identifying Thin Wire Surface Irregularities	2022 - 2023
Adriana Dias, PhD (Co-supervisor)	<i>RHUL</i>
Detector Development for Particle Physics and Applications to Environmental Monitoring (preliminary)	2019 - 2022
Ash Ritchie-Yates, PhD (Lab supervisor)	<i>RHUL</i>
Development of readout structures for high pressure gas time projection chambers (preliminary)	2019 - 2022
Joshua Eeles, Master by Research (Supervisor)	<i>RHUL</i>
Commissioning and Operating an OROC based High Pressure Time Projection Chamber	2020 - 2021

Asim Aslam, Summer placement (Supervisor)	<i>RHUL</i>
A gaseous proportional counter built from a conventional aluminium beverage can (Essentially doing this: arXiv:1509.02379)	2021
Annora Sundararajan, Bachelor of Science (Supervisor)	<i>RHUL</i>
Commissioning of a Camera System for the Optical Readout of a Time Projection Chamber	2019 - 2020
Adam Tarrant, Master by Research (Supervisor)	<i>RHUL</i>
Development of Gas Electron Multipliers for hybrid-readout gaseous Time Projection Chambers in Future Neutrino Experiments	2019 - 2020
Matthew Loxton, Bachelor of Science (Supervisor)	<i>RHUL</i>
Simulation of Electroluminescence in Nobel Gases at Different Pressures for Gaseous Detectors with Optical Read-out	2018 - 2019
Bogdan Mihail Blidaru, Master of Science (Lab supervisor)	<i>HD</i>
Discharge propagation in double-GEM detectors	2017 - 2018
Alexandra Datz, Bachelor of Science (Lab supervisor)	<i>HD</i>
Studies on Secondary Discharges and their Mitigation with a two GEM Detector	2016 - 2017

Lecture course contributions and teaching assistant roles

Astroparticle Physics	<i>JGU</i>
Masters course, contributing lectures as substitute	2023
Particle detectors	<i>JGU</i>
Masters course, contributing lectures as substitute	2022
PH1920: Physics of the Universe	<i>RHUL</i>
Contributing all the astrophysics and cosmology lectures and exercises	2022
PH3170/4170: C++ and Object Oriented Programming	<i>RHUL</i>
Contributing one lecture and supervising a third of the students on their final coding projects	2021
PH1920: Physics of the Universe	<i>RHUL</i>
Contributing one astrophysics lecture and the corresponding exercises	2021
PH3170/4170: C++ and Object Oriented Programming	<i>RHUL</i>
Contributing one lecture and supervising a third of the students on their final coding projects	2020
PH1920: Physics of the Universe	<i>RHUL</i>
Contributing one astrophysics lecture and the corresponding exercises	2020
PH1920: Physics of the Universe	<i>RHUL</i>
Contributing one astrophysics lecture and the corresponding exercises	2019

Volunteer Services

In addition to the information listed above I was part of a group of early career researches working on a code-of-conduct for the excellence cluster and I am now serving as a member of the [Ombudsteam](#).

I organise the journal club of the XENON/COSI group in Mainz, I review articles for JINST, NIM A, MDPI instruments and sensors and EPJC. In the past, I organised the seminars of the high energy physics group at Royal Holloway, University of London, from 2019 to 2022.

Outreach

Pupils workshops on PMT operation	<i>JGU</i>
Measurements of Cherenkov radiation of a PMT immersed in water, simple data analysis with python	2022 - today
Mainzer Wissenschaftsmarkt	<i>JGU</i>
Particle physics outreach to the general public in the city centre of Mainz	2023 - today

Outreach talk to pupils

“Dunkle Materie & das XENONnT Experiment” (“Dark Matter and the XENONnT experiment”), International Cosmic Day

JGU

2022

Englefield Green Community Hub: “Holloway Hour”

Presenting our research – together with two PhD students – to the local community in Englefield Green

RHUL

2022

Girls into Physics

Lecture on detector development, Outreach event to inspire schoolkids to study physics after school.

RHUL

2021

Above a list of my recent outreach activities. In addition I do regular lab tours for undergraduate students and pupils in our laboratories here in Mainz. I occasionally showed visitors of the general public the ALICE experiment during my time at CERN. During my undergraduate at University of Bonn I participated in the “Physik show” (<https://www.physikshow.uni-bonn.de/>).

Awards and Honours

2025

2025 Breakthrough Prize in Fundamental Physics:

I am among the [ALICE collaborators](#) who received the breakthrough price for their work between 2015 and July 15, 2024. During the first few years I worked on the ALICE TPC upgrade, to enable the experiment to partake in LHC run 3 data taking in a successful way.