

# James Philip Iddon

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Applied Physicist with 8+ years of experience in high-energy physics and advanced silicon technologies. Proven expertise in designing, building, and operating state-of-the-art silicon pixel tracking detectors. Skilled in system testing, data acquisition software, and coordinating complex operations under high-pressure conditions. Known for diagnosing and resolving critical issues quickly and effectively.

## Skills

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**DevOps & Automation:** CI/CD pipelines • Python (8yr) • C++ (5yr) • Docker • Bash • Git • Linux

**System Engineering:** Data acquisition system development • System testing • Hardware-software

**Communication & Coordination:** International team operations • DevOps team coordination

**Code Quality:** Code review workflows • Static analysis tools

## Professional Experience

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### Applied Physicist (Staff)

CERN - Geneva, CH

Mar 2025 - present

- Applied Physicist for ATLAS ITk Pixel, the largest silicon tracking system ever designed.
- Focussed primarily on the orchestration of the functional electrical testing for the integration of the Outer Barrel of ITk Pixel.

### Applied Physicist (Senior Applied Fellow)

CERN - Geneva, CH

Jul 2022 - Feb 2025

- Coordinated operations for the ATLAS silicon Pixel detector, ensuring maximum up-time and detector safety to support 24/7 LHC data acquisition.
- Developed and maintained data acquisition software (C++ / Python) with continuous integration testing, enhancing system responsiveness.
- Designed and implemented a software package to improve DAQ software flexibility, facilitating faster problem resolution by detector experts.
- Management and training of 24/7 shift crew • On-call detector expert • Organisation of weekly meetings • Representation of the group in daily ATLAS meetings.
- Pixel Run Coordinator (Oct 2023 - Oct 2024) during the hadronic collider record breaking year of 2024, and deputy for the six months prior.

### Doctoral Researcher

University of Liverpool / CERN

Oct 2017 - Jul 2022

- Construction, commissioning, and performance measurements of the ALICE Inner Tracking System Upgrade, the largest Monolithic Active Pixel Sensor (MAPS) tracking detector ever built.
- Achieved a 98% yield in constructing and testing novel CMOS MAPS detector modules and staves in clean rooms at the University of Liverpool and Daresbury Laboratory.
- Developed system testing software (Python) for the fully integrated tracking system at CERN, verifying the performance of 13 billion channels.
- Conducted the first measurement of detection efficiency using 5 million cosmic muon tracks, confirming system capabilities.

## Qualifications

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### PhD in Applied Physics

University of Liverpool / CERN

Oct 2017 - Jul 2022

- Title: Construction, Commissioning and Performance Measurements of the Inner Tracking System Upgrade of ALICE at the LHC.
- Defended in June 2022. Shortlisted for the ALICE thesis award.

### MPHYS Physics

University of Liverpool

Sep 2013 - Jul 2017

- Specialised in detector physics • Grade: First Class
- Masters project: 'Inner Tracking System Upgrade of the ALICE Experiment at the LHC', characterisation of silicon CMOS MAPS chips.

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Full driving license • Spanish residence permit • English native • French A1+