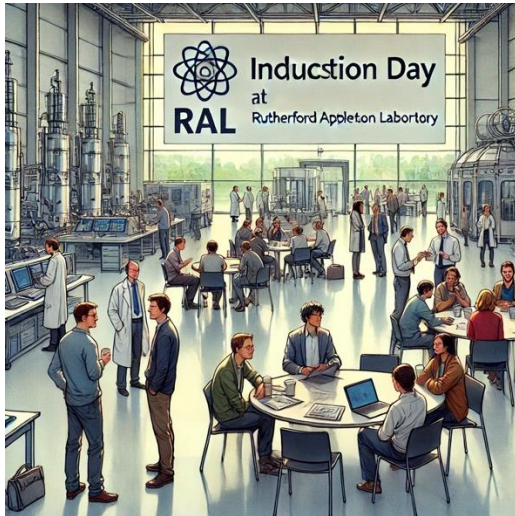


PhD Induction at RAL



Rutherford Appleton Laboratory

Emmanuel Olaiya

Nice Try ChatGPT!

30th Oct 2025

Welcome to RAL!

Outline

- What is today about?
- RAL
- PPD
- Communications
- Computing infrastructure
- Graduate lectures
- Today's agenda

What is today about

- Help you feel being a part of RAL
- Get you set up at RAL
 - Admin
 - Site passes
 - Email accounts
 - Computer accounts
 - Familiarise yourself with the department
 - Ask any questions you may have

RAL



Diamond light source

SCD

PPD

Technology

ISIS

Particle Physics Department

- Probably the Physics Department in the UK involved with the most number of particle physics experiments
 - Neutrino experiments
 - Hyper-Kamiokande
 - T2k
 - Dark Matter experiments
 - LUX/LZ detectors
 - MIGDAL
 - Darkside-20k
 - AION
 - LHC experiments
 - ATLAS
 - CMS
 - LHCb
 - Faser
 - Future experiments
 - DUNE
 - EIC
 - LhARA
 - Muon Collider
 - nuSTORM

RAL Community

- RAL is a huge research institute with many departments and many PhD students
- We are starting to improve communications within the PhD community
- Sophie Hurden, is now taking the lead on coordinating PhDs from a RAL perspective
- We have the following departments with PhD students:
 - Cockcroft Institute (DL)
 - Central Laser Facility
 - Hartree Centre (DL)
 - ISIS Neutron and Muon Source
 - National Quantum Computing Centre
 - Particle Physics Department
 - RAL Space
 - Ada Lovelace Centre (part of Scientific Computing Department)
 - Technology Department

RAL Community

- We have a mailing list for all the PPD PhD students
- Feel free to use it for questions or sharing information:
 - PPDPhDStudents@stfc.ac.uk
- Hopefully there will be an email list for sitewide PPD students

RAL RecSoc

- There are lots of on-site activities that can be accessed through the RAL Recreational Society (recsoc):
 - Gym
 - Dance
 - Pilates
 - Yoga
 - Football
 - Tennis
 - The list goes on
- More information can be found here:
 - <https://www.ralrecsoc.com>

Away Day at Cosener's House

- We will be having an away day on 15th December 2025 at Cosener's House (some of you will be familiar with this place)
- It is a great opportunity to meet people from the department
- Christmas dinner will be provided!
- You are invited!
 - Travel costs can be claimed!

Public Engagement

- PPD do a lot of work regarding public engagement
 - Particle Physics Masterclass
 - Physics courses and practicals targeted towards A' level students (16-18 yr olds)
 - 1 day online
 - 3 separate days (180 students per day)
 - IRIS project
 - Students (16-18yr old) access ATLAS open data and learn how to analyse data
 - Dark Matter days
 - Star gazing
 - School visits
 - Talks at school
 - Ideas for engaging children
 - Proton and Neutron cookies
- We welcome you to participate!
- We will be having a PPD public engagement training day on Feb 27th 2026
 - Feel free to attend in person

Email

- Please use (read) your RAL email accounts
 - Email is the main source of communication within the department
 - Department announcements etc.
 - You will need your email and password to login to lots of PPD private pages
 - Log into email via a web browser login via
 - outlook.office365.com
 - Accessing email and zoom requires that you set up MFA. You can find info on how to set up MFA here: <https://cernbox.cern.ch/s/gQvMFe9Mu6e6Xqp>

Email

- Use a client like Thunderbird to access email. Here are the client settings

Incoming mail server

Server Settings

Server Type: IMAP Mail Server

Server Name: outlook.office365.com

Port: 993 Default: 993

User Name: Your email address

Security Settings

Connection security: SSL/TLS

Authentication method: OAuth2

Server Settings

☒ Check for new messages at startup

☒ Check for new messages every 10 minutes

☒ Allow immediate server notifications when new messages arrive

When I delete a message:

Outgoing mail server

Details of selected server:

Description: <not specified>

Server Name: authbox.cclrc.ac.uk

Port: 587

User Name: Your federal ID

Authentication method: Normal password

Connection Security: STARTTLS

Computing

- Within the PPD group you have access to powerful computing resources
- Powerful front end machines for hacking and debugging
- Access to a computing farm with thousands of CPUs
 - Hosted across the road in SCD
- Significant SSD disk for storage and fast data access
- Power GPUs for coding and Machine Learning

```
[olaiya@mercury008 ~]$ freegpus
```

Machine	StartJobs	TotalGPUs	GPUs	DetectedCPUs	CPUs	GPUs_DeviceName
hepacc03.pp.rl.ac.uk	true	4	4	40	40	Tesla P100-SXM2-16GB
hepacc04.pp.rl.ac.uk	true	2	2	48	48	NVIDIA TITAN RTX
hepacc05.pp.rl.ac.uk	true	2	2	48	48	NVIDIA TITAN RTX
hepacc06.pp.rl.ac.uk	true	2	2	48	48	NVIDIA TITAN RTX
hepacc09.pp.rl.ac.uk	true	1	1	80	80	NVIDIA A100-PCIE-40GB
hepacc13.pp.rl.ac.uk	true	2	2	96	96	gfx90a:sramecc+:xnack-
hepacc14.pp.rl.ac.uk	true	2	2	96	96	NVIDIA A100 80GB PCIE
hepacc15.pp.rl.ac.uk	true	2	2	96	96	NVIDIA A100 80GB PCIE
hepacc16.pp.rl.ac.uk	true	2	2	96	96	NVIDIA A100 80GB PCIE

- Also have machines with on board FPGAs

Useful pages

- Useful admin page:
 - <https://stfc365.sharepoint.com/sites/ParticlePhysicsHub>
- Useful information page
 - <https://www.ppd.stfc.ac.uk/Pages/home.aspx>
- Useful MFA page:
 - <https://stfc365.sharepoint.com/sites/DI-Servicedesk/SitePages/MFA.aspx>

- Every year we have a week of graduate lectures at RAL.

Advanced Graduate Lectures on practical Tools, Applications and Techniques in HEP

Invited theorists and experimentalists will explain the hands-on reality of designing and running detectors and accelerators, computing, machine learning, Monte-Carlo and simulation, trigger and data acquisition, and practical statistics. Several of these topics are complemented by tutorials. This course is aimed at 1st year PhD students.

Graduate lectures

- Every year we have a week of graduate lectures at RAL.
 - Open to all!
 - PPD students across the country
 - Also students of different disciplines on-site may benefit
- The graduate lectures will be the week June 15th-19th 2026.
 - You are expected to attend lectures in-person!
 - Put the date in your diary now!
- Accommodation and catering will be provided you
 - Accommodation at Ridgeway House or Cosener's House
- We will have an evening dinner!
- More details will be provided late 2025/Early 2026

Claims

- If you have any issues claiming back your travel, please get in touch with me!

Plan for today

	Meet at RAL Reception <i>RAL Reception</i>	09:20 - 09:30
	Site Passes	
10:00	<i>RAL Reception</i>	09:30 - 10:15
	Coffee <i>Building R1 CR23 and CR24</i>	10:15 - 10:30
	Administration <i>Building R1 CR23 and CR24</i>	10:30 - 10:45
11:00	Welcome to RAL <i>Building R1 CR23 and CR24</i>	<i>Emmanuel Olaiya</i> 10:45 - 11:15
	Laboratory Tours <i>Building R1</i>	<i>Emmanuel Olaiya</i> 11:15 - 12:15
12:00	Photographs <i>Building R1 CR23 and CR24</i>	12:15 - 12:45
13:00	Lunch <i>Building R1 CR23 and CR24</i>	12:45 - 14:00
14:00	ISIS Tour <i>ISIS</i>	14:00 - 16:00
15:00		
16:00	Depart	



- This time is pretty flexible
- It can be used to:
 - Sort out computer accounts
 - Take care of other admin
 - Speak to supervisors
 - Chat to over PPD members

Anything else!

- Any questions throughout the day, just ask me!
- Any questions after today, email me!