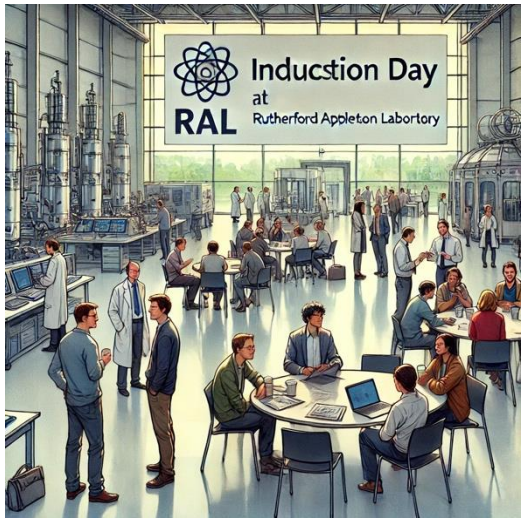
PhD Induction at RAL



Rutherford Appleton Laboratory

Emmanuel Olaiya

Nice Try ChatGPT!

29th Oct 2026

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



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 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 14th 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

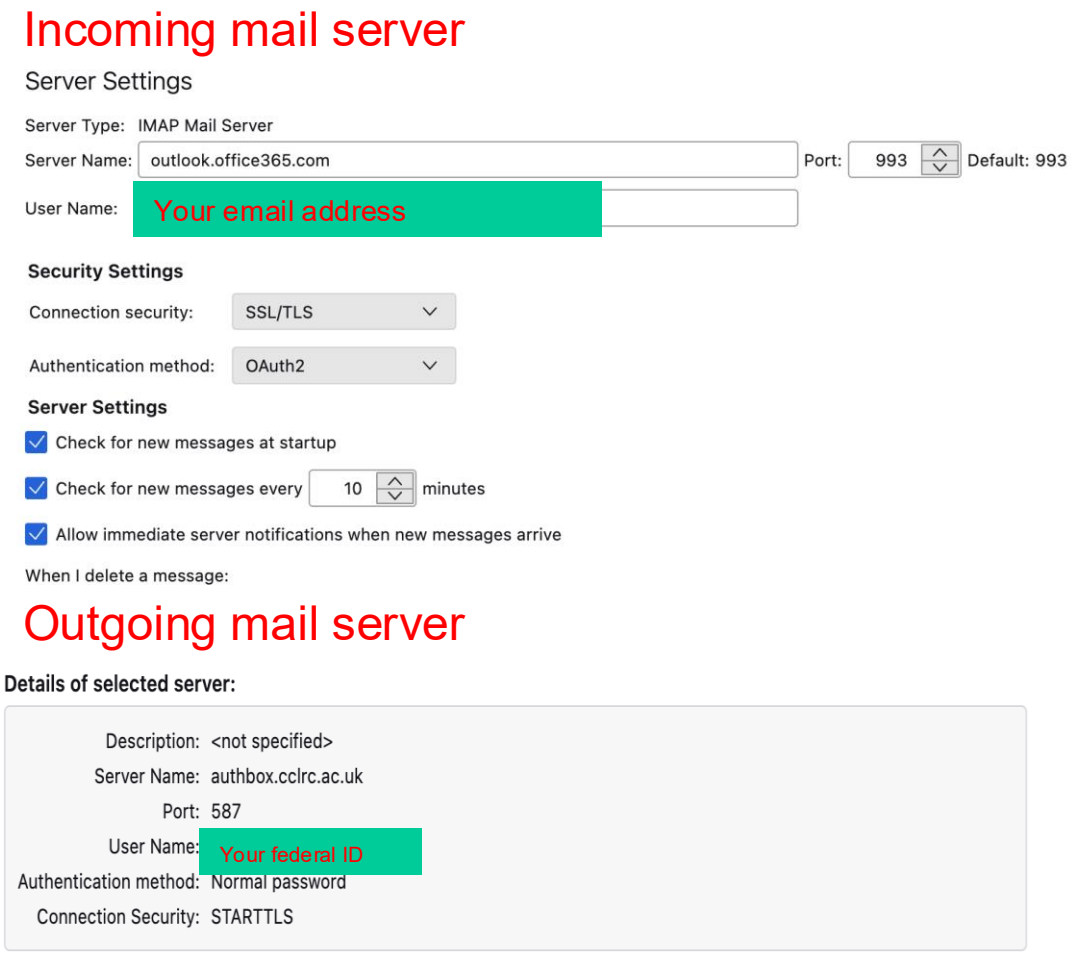
- PPD do a lot of work regarding public engagement
  - Particle Physics Masterclass
    - Physics courses and practical targeted towards A' level students (16-18 yr olds)
    - 1 day online
    - 3 separate days (180 students per day)
  - IRIS project
    - Students (16-18yr old) access ATLAS open data 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 in early 2027
- 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



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

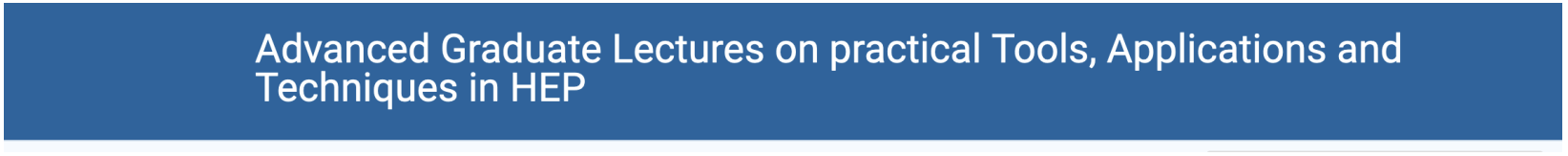
- Useful information page
  - https://www.ppd.stfc.ac.uk/Pages/home.aspx

- Useful MFA page:
  - https://stfc365.sharepoint.com/sites/DI-Servicedesk/SitePages/MFA.aspx

- Linux mercury accounts
  - https://forms.office.com/e/0muGhDFfyr

Graduate lectures

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



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 14th-18th 2027.
  - 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 2026/Early 2027

Claims

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

Plan for today

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