



Advanced Laboratory Introductory Session 2023/24

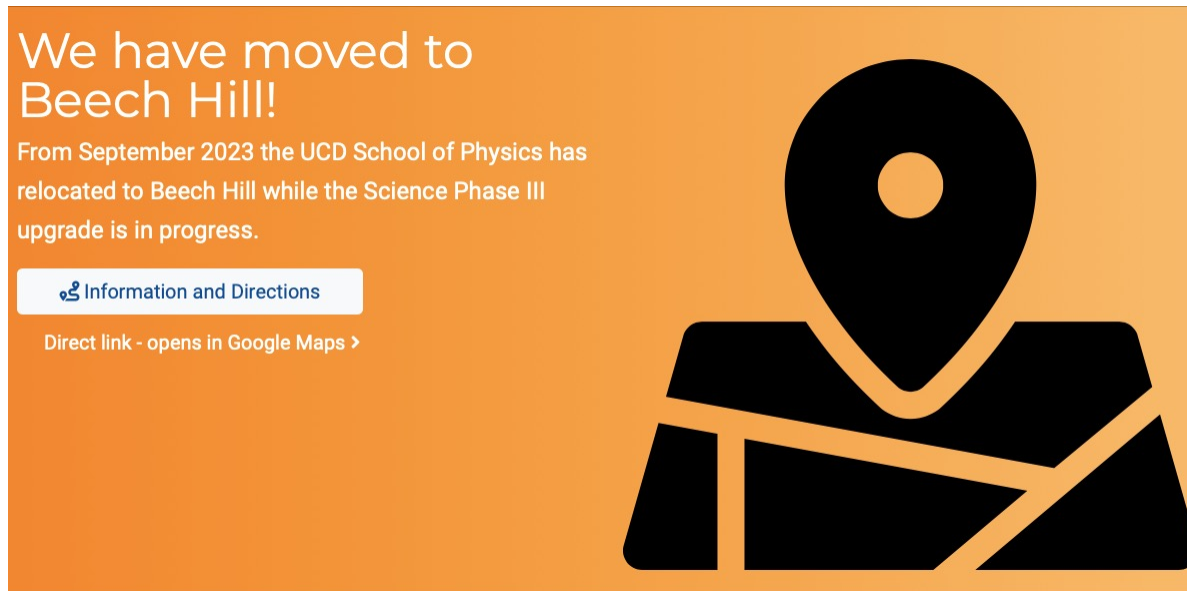
## APL Stage 4 Introductory Session

12<sup>th</sup> September 2023

# Welcome back!



# Advanced Laboratory Introductory Session 2023/24



The Advanced Laboratories are now located in Beech Hill on the ground and first floors of the B-wing:

- Rooms B001, B002, B003, B004 and B005 (Ground Floor)
- Rooms B103 (Paul Hanratty's Office) and B105 (First Floor)

**Important: When accessing the labs on the first floor, do so using the stairs at the back of the labs on the ground floor to avoid going through classroom in B106-BH while lectures are taking place!**



# Advanced Laboratory Introductory Session 2023/24

No Physics Library or common room in Beech Hill.

You will be able to use B000-BH as your base:

- Microwave and kettle available at end of room
- Must make sure that room is kept clean / no strong smells
- At end of day, chairs must be left ready for next day's lectures





# Advanced Laboratory Introductory Session 2023/24

- We have just moved to Beech Hill, so there will be some teething problems – be patient!
- Initially, building will be closing at **18:30**, so you must leave by then.
- Trying to arrange out-of-hours access for students...  
Will keep you informed!
- Please let us know if there are any issues with schedules and commuting between UCD main campus and Beech Hill.





# Advanced Laboratory Introductory Session 2023/24

## Points of contact:

- Main Office (B109–BH)
- Bairbre Fox, School Manager (A109–BH)
- Prof. Sokell, Head of School's Office (A108–BH)
- Assoc. Prof. León Vintró, Stage 4 teaching Team coordinator (A002–BH)





# Advanced Laboratory Introductory Session 2023/24

**The following laboratories are Year Long modules (run over Autumn and Spring trimesters):**

**PHYC 40970: Advanced Lab. II (15 ECTS)**

**PHYC 40600: Astronomy & Astrophysics Lab II (15 ECTS)**

**The following laboratories must be completed in a single trimester:**

**PHYC 40330: Advanced Laboratory for TP III (5 ECTS)**

**PHYC 40690: Advanced Physics Laboratory (5 ECTS)**



# Advanced Laboratory Introductory Session 2023/24

## Advanced Physics Laboratory Philosophy:

- Educational environment.
- Aimed to develop your critical thinking and problem-solving skills.
- Not only about report, but also demonstrating understanding of the experiment, including set-up, execution and data analysis.
- Interaction with staff & demonstrators is important.
- Work must be your own (plagiarism) – if a report is found to be plagiarised from another one, this will be investigated and could result in **both** reports being marked as zero.

ChatGPT should not be used for the laboratories. You must be able to explain and defend everything written in your reports (and code!) during the interviews with staff. Your ability to do so will be part of the grading for the experiment.



# Advanced Laboratory Introductory Session 2023/24

## WEBSITE URL FOR ADVANCED PHYSICS LABORATORY

Make use of the APL website:

<https://physicslabs.ucd.ie>

- General information
- Deadlines
- Slides of presentations
- Python programming
- Data acquisition
- Data analysis

UCD Physics Advanced Laboratories

General information and documentation for Python, Computer Interfacing and Data Analysis in the Advanced Physics Laboratories (APL)

Quicklinks...

- Dignity and Respect**  
UCD Code of Conduct and Dignity and Respect support  
[PDF](#)
- COVID-19 Laboratory Protocol**  
COVID-19 Protocol for the Advanced Physics Laboratories
- Beech Hill**  
UCD Physics at Beech Hill
- Python How Tos**  
This section will provide 'how-to's on many basic concepts in Python, Numpy, Scipy and Jupyter Notebooks. The aim of this is to provide a reference for anyone who needs reminding of how to do certain tasks in Python.
- Stage 3**  
Information for Stage 3 APL
- Stage 4**  
Information for Stage 4 APL
- Python**  
Python for UCD Physics Advanced Laboratories
- Data Acquisition**  
Data Acquisition in Python in the UCD Physics Advanced Laboratories
- Data Analysis**  
Data Analysis in the UCD Physics Advanced Laboratories
- Report Writing & Plagiarism**  
A guide to writing laboratory reports.





# Advanced Laboratory Introductory Session 2023/24

## Workload:

- PHYC 40970/40600: 340 hrs (~12 hrs/week)
- PHYC 40330/40690: 110 hrs (~6 hrs/week)

## Laboratory hours:

- Tuesdays, Wednesdays & Thursdays 2–6 pm  
Expected to be present at assigned times and welcome to attend outside time-tabled hours.
- Also open on these days from 11am.

## Staff:

### *Module coordinators:*

- Dr. Quinn (PHYC40600)
- Dr. Sokell (PHYC40970)
- Dr. León Vintró (PHYC40330/40680)

### *Other staff involved:*

- Dr. McCormack, Dr. Hayden
- Dr. Caffrey (*Computational*)
- Dr. Fraser, Dr. Vohnsen, Dr. Benedetto

### *Technical staff:*

- Mr. Paul Hanratty



# Advanced Laboratory Introductory Session 2023/24



Emma  
Sokell



Luis  
León Vintró



John  
Quinn



Tom  
McCormack



Morgan  
Fraser



Nuala  
Caffrey



Brian  
Vohnsen



Paddy  
Hayden



Antonio  
Benedetto



# Advanced Laboratory Introductory Session 2023/24

## Schedule (strict deadlines for each trimester) :

PHYC 40970: (SH)

Trimester 1: 4 experiments

Trimester 2: 2 experiments

PHYC 40600: (PASS)

Trimester 1: 4 experiments

Trimester 2: 2 experiments

PHYC 40330/40690 (TP)

Trimester 1/2: 2 experiments

***For PHYC40970 and PHYC40600, Reports 1 & 2 must be submitted by 5pm on Tuesday, 31<sup>st</sup> October. Report 3 and all experimental work for experiment 4 must be completed before end of term. Report 4 due by 5pm on Monday 22<sup>nd</sup> January 2024. Reports 5 & 6 due by 5pm on Monday 11<sup>th</sup> March 2024.***

***This does not apply to PHYC40330/40690, which are trimester modules. For these, reports 1 & 2 due by 5pm on Monday 13<sup>th</sup> November (Trimester 1) or 5pm on Tuesday 2<sup>nd</sup> April (Trimester 2).***



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Remember that there are only 12 weeks (or equivalent) per trimester. Manage your time wisely and do not leave things to the last week!

## Trimester 1



Tuesday 12<sup>th</sup> Sept – **Thursday 30<sup>th</sup> November** (Labs close)

Stage 4 student presentations start Wednesday 27<sup>th</sup> Sept

Dr. McCormack will contact with details on format, schedule, etc...

## Trimester 2

Labs re-open: Tuesday 23<sup>rd</sup> January

Labs close for PASS/SH students: **Thursday 29<sup>th</sup> February**

All reports (PASS/SH) due Monday 11<sup>th</sup> March

Friday 15<sup>th</sup> March – Lab closes for PHYC40330/40690

All reports due Tuesday 2<sup>nd</sup> April



# Advanced Laboratory Introductory Session 2023/24

## Requirements:

- Statement of intent must be completed before experiment and submitted electronically to Paul and staff member in charge of the experiment
- Keep records of experiments in a dedicated notebook
- Keep a copy of all files relating to laboratory work (must be available at end of year) – make frequent backups to avoid data loss!
- Sign in and out (Google form via the QR codes posted in labs)
- All reports should be typed and submitted **electronically** as a single pdf file (do not forget to append all iPython notebooks and program code to the end of reports) through *Bright Space* and a copy emailed to Paul Hanratty
- Complete experiment (and report) before starting next one



# Advanced Laboratory Introductory Session 2023/24

## Assessment:

- Commitment, understanding & practical skills
- Experiments are designed to be extendable – show initiative in pursuing experiments beyond specified instructions
- Assessment based on reports and staff judgement + **interviews after each experiment (to be arranged with staff)**

|                       | % of final grade |       |             |
|-----------------------|------------------|-------|-------------|
|                       | 40970            | 40600 | 40330/40690 |
| Continuous assessment | 20               | 20    | 20          |
| Laboratory reports    | 80               | 80    | 80          |
| Project               | –                | –     | –           |



# Advanced Laboratory Introductory Session 2023/24

## Other information:

- There will be a refresher 'Report Writing' session at 4pm on Thursday 21<sup>st</sup> September (Room B000-BH) – Week 2
- Class reps for each degree programme (SH, PASS, TP) for Teaching Team Meetings (one meeting per semester)
- Behaviour – treat labs as work environment
- Keys for lockers / date to be arranged in the coming days
- You should have received your first assigned lab. If not, please contact Paul Hanratty.

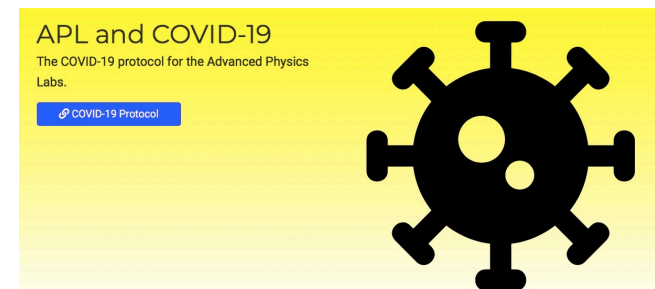


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## COVID-19 protocol:

- Under current Government and HSE advise there are no restrictions to any activities due to Covid.
- However, you are asked to remain vigilant and be aware of symptoms.
- **You must sign in/out of the lab using the Google form accessed via the QR codes posted in the labs.**

This information will be used for keeping lab attendance and for contact tracing if required.







# Advanced Laboratory Introductory Session 2023/24

## OTHER IMPORTANT INFORMATION:

- Labs are not open on Mondays and Fridays.
- SH Projects done in separate module (PHYC40960).
- No interviews at end of year, but held after each experiment (same as in Stage 3).
- Website url for the labs: <https://physicslabs.ucd.ie>
- Google Form sign in and sign out via the QR codes posted in the lab – required for attendance
- New email notification list (one way from staff to students) [UCD-PHYSICSLABS4@listserv.heanet.ie](mailto:UCD-PHYSICSLABS4@listserv.heanet.ie) – contact person: J. Quinn



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## **OTHER IMPORTANT INFORMATION:**

- While in the lab, try make the best use of your time – get the experiment set up and get the data in a planned and efficient way.
- Work from first week of term and do not leave experiments to the end!
- Please keep in contact and enjoy the labs.



# Advanced Laboratory Introductory Session 2023/24

- The Advanced Physics Laboratories aim to provide an educational environment with the highest standards of behaviour and ethics, free of bias and any forms of harrassment or bullying.
- You should familiarise yourself with and abide by the UCD policies on Student Conduct and Academic Integrity (<https://www.ucd.ie/secca/studentconduct/>)

 **UCD Dignity and Respect Support Service**

Supporting any employee, student or community member who is impacted by issues of **bullying, harassment or sexual misconduct**

- Confidential
- Trained Support Advisers
- Listening and supporting
- Informal and formal options
- Drop-in or make an appointment

L532, Level 5 James Joyce Library Building / [respect@ucd.ie](mailto:respect@ucd.ie)  
[ucd.ie/dignityandrespect](http://ucd.ie/dignityandrespect)





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**LABS ARE NOW OPEN.  
START WORKING TODAY!**