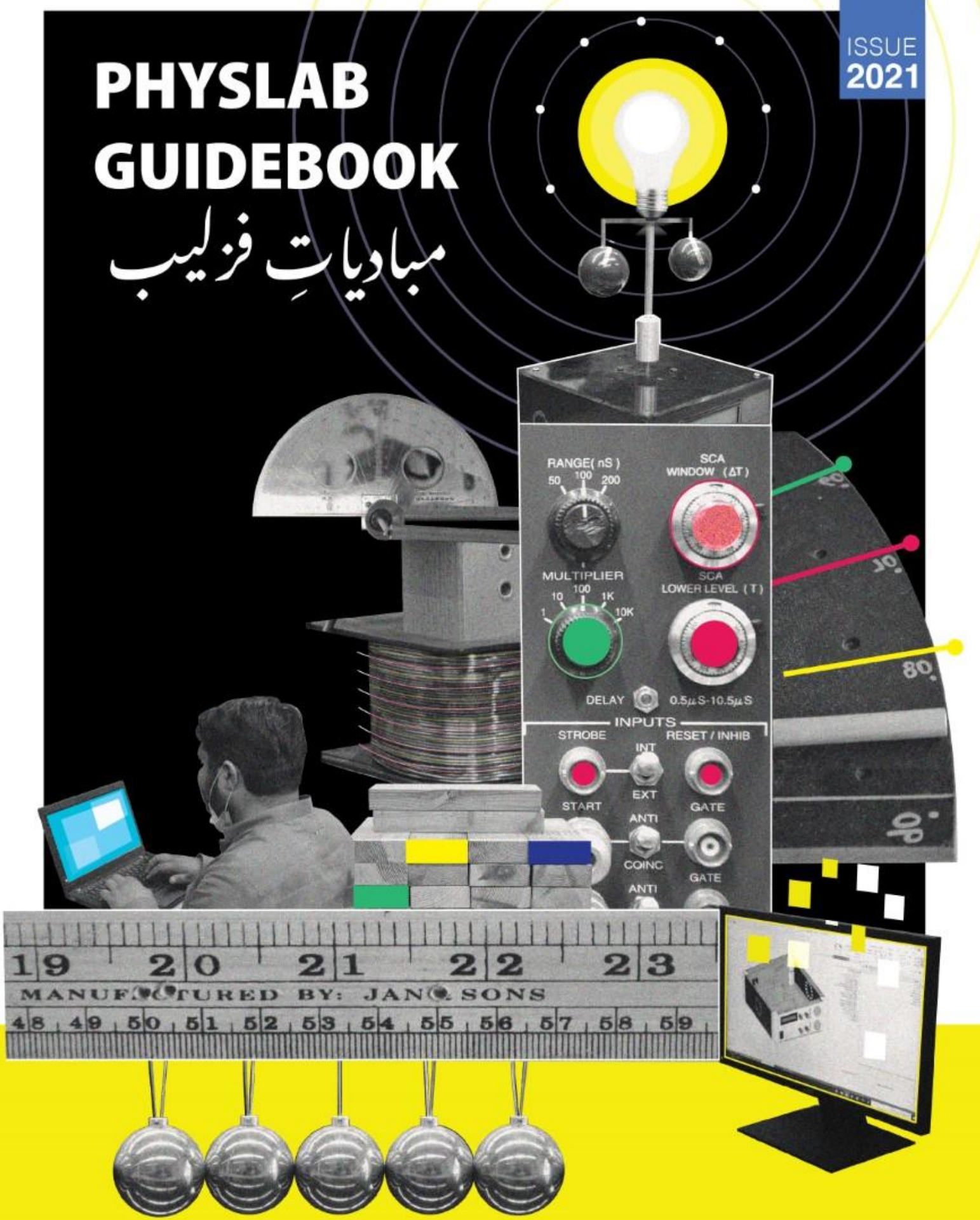


# PHYSLAB GUIDEBOOK

مبادیاتِ فزلیب



**WELCOME GUIDELINES FOR NEW RESEARCHERS & STUDENTS**  
**DR. MUHAMMAD SABIEH ANWAR & MUHAMMAD AZEEM IQBAL**

# PhysLAB

## New Member Guidebook

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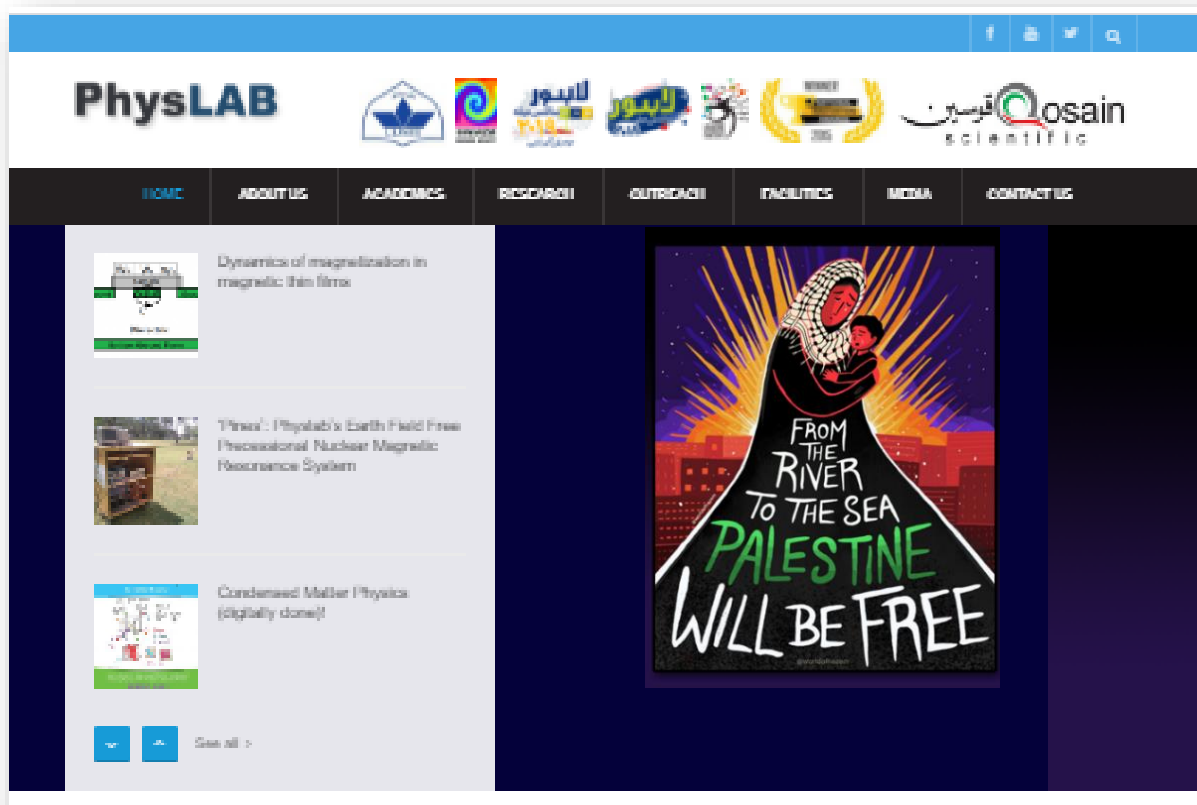
## Introduction

The principal purpose of this handbook is to provide all the relevant information about Physlab and its operations for a new member in the family.

## What is Physlab?

Physlab is the name of Dr. Muhammad Sabieh Anwar's research, development, and teaching laboratory. It was established in 2007.

[www.physlab.org](http://www.physlab.org).



## Social Media Presence

We also have a vibrant social media presence across all platforms. Please visit all our following links and **Like, Subscribe or Follow** and then **Share** our work with your communities.

**Facebook:** [www.facebook.com/physlab.org](http://www.facebook.com/physlab.org)

**Twitter:** [www.twitter.com/physlab\\_org](http://www.twitter.com/physlab_org)

**YouTube:** [www.youtube.com/channel/UCN1nYPmpJjfZOCvmlvz7HSQ](http://www.youtube.com/channel/UCN1nYPmpJjfZOCvmlvz7HSQ)

**LinkedIn:** [www.linkedin.com/company/physlab](http://www.linkedin.com/company/physlab)

## Physlab Team

Please send your name, educational background along with a display picture to **Azeem Iqbal** to become part of our team list. We take great pride and acknowledge the contributions of every single individual who has been associated with our team over the past several years.

**Current Team Members:** <https://physlab.org/about/staff/>

**Alumni:** <https://physlab.org/alumni/>

## Key Contacts

	<p><b>Dr. Muhammad Sabieh Anwar</b> <b>Group Leader</b></p> <p>Professor &amp; Dean SSE D.Phil. (Oxford), B.S. Engg (UET) <a href="mailto:sabieh@lums.edu.pk">sabieh@lums.edu.pk</a></p>
	<p><b>Dr. Ali Akbar</b> Post-Doc Optical Science</p> <p>Ph.D. Physics (LUMS) M.Sc. and M.Phil. Physics (QAU) <a href="mailto:ali.akbar@lums.edu.pk">ali.akbar@lums.edu.pk</a></p>
	<p><b>Arshad Maral</b> Deputy Manager</p> <p><a href="mailto:arshad.maral@lums.edu.pk">arshad.maral@lums.edu.pk</a></p>
	<p><b>Ali Hassan</b> Junior Lab Facilitator</p> <p>B.L.I.S (Allama Iqbal Open University) <a href="mailto:ali.hasan@lums.edu.pk">ali.hasan@lums.edu.pk</a></p>
	<p><b>Muhammad Umar Hasan</b> Senior Development Engineer</p> <p>M.Sc. Mechatronics Engineering (UET Lahore) B.Sc. Mechanical Engineering (UET Lahore) <a href="mailto:umar.hasan@lums.edu.pk">umar.hasan@lums.edu.pk</a></p>
	<p><b>Kaneez Amna</b> Senior Lab Instructor</p> <p>M.Phil. Plasma Physics (Quaid-e-Azam University) <a href="mailto:kaneez.amna@lums.edu.pk">kaneez.amna@lums.edu.pk</a></p>



**Azeem Iqbal**  
Senior Lab Instructor  
Safety Officer, Physlab  
M.S. Computer Science (UMT)  
B.S. Industrial Engineering (UMT)  
[azeem.iqbal@lums.edu.pk](mailto:azeem.iqbal@lums.edu.pk)

## LUMS Phone List

Another important quick resource to reach out to anyone in LUMS is the online phone list. If you are looking for someone's extension number the quickest one window operation is the online phone directory placed at the following URL:

**LUMS Phone List:** <https://phonest.lums.edu.pk>

## Health & Safety

At the Syed Babar Ali School of Science and Engineering (SBASSE) we are solely committed to ensuring the safe and healthy working environment for all our personnel. In Physlab, we have dedicated staff members who look after safety protocols and ensure compliance to all safety regulations. Especially during COVID the laboratory has made all efforts to ensure compliance to COVID safety protocols.

For further information please visit the following portals:

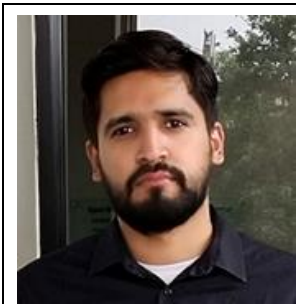
**SSE Safety website:** <https://sbasse.lums.edu.pk/sbasse-ohs-overview>

**Physlab Safety website:** <https://physlab.org/lab-safety/>

**IF YOU OBSERVE ANYTHING THAT COULD CAUSE A SAFETY CONCERN PLEASE REPORT IT HERE:**  
[SAFETY OBSERVATION FORM \(office.com\)](#)

**IF YOU EXPERIENCE AND INCIDENT ON THE CAMPUS THAT CAUSES DAMAGE PLEASE REPORT HERE:** [INCIDENT REPORT \(office.com\)](#)

**Point of Contact for Safety related issues.**



**Muhammad Eaitsam Akram**  
Technical Safety Specialist, SSE Dean's Office

### Roles

Safety Management System, Trainings, Incident Management, Hazardous Waste management, Fire Protection, Safety Inspections, Indoor Air Quality Management, OHS Legal Compliance.

[m.akram@lums.edu.pk](mailto:m.akram@lums.edu.pk)

## Notebook

Every member of Physlab family is required to have a lab notebook to document and log all their activities. You may collect your notebook from **Arshad Maral**. Yes, the notebooks are free of cost but property of the Physlab.

## Emphasis on Notetaking

"When your heart speaks, take good notes" – Judith Exner.

We cannot stress enough to say that building up your lab notebook would be your biggest asset throughout the journey of your stay at Physlab. If you would like to see how it feels just ask **Ali Hassan** to show you some of the great notetaking Alumni of this laboratory have done over the past several years.

## Computer ID

The IST LUMS will provide you with a LUMS user ID. Once you receive it, please share it with Mr. Azeem Iqbal ([azeem.iqbal@lums.edu.pk](mailto:azeem.iqbal@lums.edu.pk)).

- **Access to printer**

We have three printers in the laboratory "***hp q physlab1***", "***hp q physlab2***", and "***hp q physlab3***". The first two are regular black & white printers while the third one is a color printer. To get a print from any of these you first need to get authorization. For this please send an email from your LUMS email ID to Mr. Azeem Iqbal at [azeem.iqbal@lums.edu.pk](mailto:azeem.iqbal@lums.edu.pk) and he would forward it to the IST department.

- **Installing software administrative access**

If you require installation of any software in your assigned computer system you must first inform **Ali Hassan**. If it is a recurrent activity and you require administrative access to the system, please send an email with the request and reason to **Azeem Iqbal**.

- **Google Group**

To have a closed active communication we maintain a Google group called "SSE Physlab Group". Whenever a new member joins, he is warmly welcomed to the group and everyone is made aware about the new addition to the family. So, please share your Gmail ID with Mr. Azeem Iqbal ([azeem.iqbal@lums.edu.pk](mailto:azeem.iqbal@lums.edu.pk)). Along with your brief introduction, educational background and past working experiences.

## Inventory

We procure consumables, instruments and equipment that is readily available for anyone working in the laboratory. The primary source is the stockroom located in the heart of Physlab. It is managed by **Ali Hassan**. We have an online directory which you can use to get a glimpse of the stocked items at: <https://physlab.org/inventory/physlab-stockroom/>

All our purchases are made available online through our website at: <https://physlab.org/inventory/>

It is a password protected space and only respective faculty or personnel have access to it. Please contact **Azeem Iqbal** if you require access to this space.

## Order Placement

If you require purchase for any kind of consumables or asset items, please contact **Arshad Maral** or **Azeem Iqbal**. You are at least required to come up with a quotation or a proforma invoice from the desired vendor. After you have provided the documents, they will initiate the procurement process and usually for lab purchase **Muhammad Ayaz** from the LUMS procurement department would take up the process.

## General Lab Rules

The following list of rules is general in nature and always applies to the laboratory environment. Rules and guidelines specific to a particular piece of laboratory equipment or a particular laboratory is provided along with the equipment.

1. No food or drink is to be consumed in the laboratory.
2. Wear proper clothing with closed shoes.
3. Follow all the SOPs while working with the electronic equipment.
4. Do not modify or damage the laboratory equipment.
5. In case the fire alarm sounds, please exit the building by the nearest safe exit.

### **Do Not Use the Elevators!**




6. In the case of any other emergency, follow the instructions of the laboratory.

## Mechanical Workshop

At the heart of the Physlab is the powerhouse of mechanical workshop. When this lab was founded, this shop served as the breeding ground where all the enthusiastic scientists, researchers, students, and teachers gathered to build and to invent the tools of scientific discovery. Our shop is equipped with all the latest power tools including the signature lathe and milling machines. These are accompanied by PCB manufacturing facility and a 3D printer that helps us prototype all our apparatuses and equipment. with all kinds of hardware tools and equipment that supports building and crafting of sophisticated and even high precision equipment.

The workshop is an open space to all. After you have joined the lab feel free to visit the shop and engage with our talented and super skilled technical staff.

## Key Resource Persons

	<p><b>Hafiz Muhammad Rizwan</b> Principal Lab Technician</p> <p>Master Craftsman (PTBE Lahore), CAD/CAM (UET Taxila) <a href="mailto:muhammad.rizwan@lums.edu.pk">muhammad.rizwan@lums.edu.pk</a></p>
	<p><b>Khadim Mehmood</b> Lab Technician</p> <p>Certified Machinist (G.T.T.I Lahore) <a href="mailto:khadim.mehmood@lums.edu.pk">khadim.mehmood@lums.edu.pk</a></p>
	<p><b>Muhammad Shafique</b> Senior Researcher (Electronics &amp; Instrumentation)</p> <p>DAE (College of Electrical &amp; Mechanical Engineering, Rawalpindi) <a href="mailto:muhammad.shafique@lums.edu.pk">muhammad.shafique@lums.edu.pk</a></p>

## Workplace Organization

Physlab follows the Japanese methodology of 5S for workplace organization. All our laboratories are regularly excited to adhere to good housekeeping and keeping the workplace organized and productive in operation.

So, as part of our family you are also requested to please follow the simple five step methodology which states:

1. **Sort:** Always sort your workplace with necessary and unnecessary items
2. **Set:** The necessary items shall be placed in an organized fashion.
3. **Shine:** Clean up and shine the place.
4. **Standardize:** Make or follow standards of your place in the lab.
5. **Sustain:** Keep yourself disciplined and adhere to the standards.

Please visit this link for more details:

<https://physlab.org/workplace-organization-using-5s-technique-in-physlab/>

## Backups

Please maintain a backup of all your work done in the laboratory. The lab provides a Network Attached Storage (NAS) device to keep the record of all your work. Please contact **Azeem Iqbal** to get a folder for yourself.

## Equipment How-to

We provide our researchers with an online repository where they can find all manuals on how to use a certain equipment in the laboratory. Please visit the following link:

<https://physlab.org/equipment-howtos/>

## Software folders

Our employees are provided with a network folder where they can get access to free as well as trial versions of basic lab software. The folders are located at following address:

Open "Start" menu and type "[\\sus](#)" then hit enter.

This is a generic folder available throughout LUMS. Inside Physlab we also provide our researchers with necessary software. Following the same procedure, we just have to type [\\10.111.74.19](#) and it will take you to the network attached storage device where we have all our necessary software stored.

## Indus drive

Following the same procedure if we type [\\indus\SSE\physlab-codes](#) it takes us to the core network folder of Physlab where all our literature is placed. This includes all the student and instructor manuals, class demonstrations, lectures & coursework, equipment how-to and various other important documents. Mostly, our researchers are provided access to the Lab 1 and Lab 2 manuals for making their contributions.

You may contact **Dr. Sabieh Anwar** or **Azeem Iqbal** to get access to this folder.



## Strictness about lab doors

The lab doors have been explicitly marked for use and non-use. For example, no one is allowed to enter from the door that leads to the **Advanced Lab**. This is because MS/PhD and Researchers are involved in deeply captivating and focused work. Any disturbance causes a hinderance in their work performance. Similarly, all other doors must be always kept close unless necessary for some unavoidable circumstances.

## Equipment manuals

Physlab maintains a collection of all manuals, calibration certificates, safety and troubleshoot guidelines related to all kinds of equipment in the lab. These are inside the cabinets placed within the corridor of the laboratory.

## Labs where our work is spread

The Physlab is divided into two wings. The Right Wing is called the “Feynman Wing” and the Left Wing is called the “”

the Feynman Wing is divided into following seven laboratories along with one core stockroom.

1. Introductory/Freshmen Lab
2. Advanced Lab
3. Project Lab
4. Optics Lab 1
5. Solid State Physics Lab
6. 3D printing & Electronics Lab
7. Mechanical Workshop
8. Stockroom 1

The Left Wing has advanced facilities that are shared with the Physics Department and Central Laboratories. Our research is primarily conducted in,

1. Optics Lab 2
2. Spin Physics Lab

Additionally, we also have an outdoor add-on space called the “**Physlab Workshop Annexe**”. This place allows us to extend our activities with wood, glass, welding, and other workshop practices that require ambient ventilation. We also possess a CNC milling lab in the basement of the SBASSE building.

## Photocopier

A photocopier is also provided near the entrance to the faculty corridors. You may get in touch with **Arshad Maral** or **Azeem Iqbal** if you need assistance with photocopying.

## Harassment Policy

We do not tolerate any violations of privacy or overtures of sexual, racial, religious intent. We want to make the Physlab a safe and exciting place to work for everyone, at all times of the day and the year.