

Every few years, the Director surveys former AdLab and eLab students, asking

- 1) How important has your Lab experience been in pursuing your career?
- 2) How should the Lab be improved?

The most recent responses to this year's poll, in the order received, are recorded below. The Director has highlighted in yellow comments that might be helpful to perspective future interns.

### **Ted Stinson**

Adlab

Year Taken: 2008  
My stage at that time: Junior  
Highest degree: Ph.D., UC-San Diego  
Current position: Senior Optical Engineer  
Current Institution: DRS Daylight Solutions

How important was AdLab:

As an undergraduate, there are too few opportunities to experience experimental physics, since almost all course work is essentially theoretical. I think Advanced Lab was a very good introduction to what it actually means to be an experimental scientist. It was one of my first exposures to actual experimental work, and after years of graduate study and a year of professional experience as an R&D instrumentalist, I can say that the course very closely approximated the real thing. I think it was a useful and informative first taste of what it means to be an experimentalist. I still remember a few nuggets of wisdom from the course, which I recount to my colleagues whenever I have the opportunity. And most importantly, Prof. Sulak volunteered to serve as an impromptu advisor to me when I was unsure of what field I wanted to specialize in.

How AdLab should be improved:

One difficulty with AdLab was the fact that it takes a long time to do an experiment correctly and understand the results. Perhaps it should be a two-semester course.

### **Yousef Lin**

AdLab

Year Taken: 2014  
Your stage at that time: Senior Undergraduate  
Highest degree, & from where: MS degree from Imperial College  
Current position: 1st yr PH.D student at NTU  
Current institution: National Taiwan University

How important was AdLab:

...Good for introduction to the laboratory experience, deciding on a goal and working towards it. Gaining a hands-on understanding of the apparatus like oscilloscope, the module units using VIM and Photon counters.

How should it be improved:

AdLab was a good introduction to critical experiments in physics. It is personally satisfying to develop a connection with fundamental physics. I loved that the environment in AdLab; it ran close to how a real lab would operate, tactfulness is important as well as physics knowhow.

### **Daniel Merlos**

eLab

Year Taken: 2019  
Your stage at that time: 2<sup>nd</sup> year undergrad  
Highest degree: N/A  
Current position: rising 3<sup>rd</sup> year undergrad  
Current institution: Boston University

How important is (was) eLab to you:

The lab taught me work values I cannot learn anywhere else besides in an actual workspace. I had to come in on time every Monday and finish the required material before I can go home. If I couldn't, then I would have to finish on make-up days and if it really was a lot, then it would bleed into the next lab day. eLab taught me that, with a clear headspace, I can think carefully about how to deal with problems. In the beginning I had no idea what anything analog or digital was. I had never played with any sort of robotics nor made circuits on a breadboard. But eLab taught me the basics of these. I was able to understand how

circuitry worked at a basic to intermediate level relatively quickly. I think that is because I was scared to have the work pile up. I am happy I pushed myself to learn the concepts. I am also happy of all the support Prof. Sulak and Situ gave me while working in eLab. I really don't know what I would have done if they were not in lab helping me. I needed a big push when I first arrived and they were there to give me one.

How should it be improved:

I think eLab doesn't need much of any improvements. ...The structure is very sound too. We would come in at 10:10 and either hand in a lab quiz or take it right there before lab began. This means we needed to prepare ourselves before each lab so we will be able to understand the topics when doing them. We get a lunch break around 1:00 PM and time to leave for other classes that conflict with the eLab schedule. As long as we finish the labs and understood basic concepts of the labs we were fine.

I loved eLab. I will take Adlab my senior year so I am very excited about that. I hope future interns at eLab will have as much fun as I did and realize the importance of eLab for the working world.

### **Inna Gertsenshteyn**

Both AdLab & eLab:

Year Taken: AdLab in Fall 2014, eLab in Spring 2015  
Your stage at that time: Senior  
Highest degree: BA in physics from BU  
Current position: 2nd year grad student, TA & Research Assistant  
Current institution: University of Chicago, Biological Sciences Division, Medical Physics

How important was AdLab:

AdLab was very important to me, especially the NMR lab. I was the only student in my year who understood NMR physics before our MRI course, and it gave me a solid head start in my classes and my research. Both AdLab and eLab were my first introduction in working hands-on with electronics and gaining confidence in labs.

Understanding NMR physics was also a large part of my interview at inviCRO, where I worked as an image analyst for two years between undergrad and grad school, so that was big help as well!

How should it be improved:

I remember receiving plenty of guidance in both AdLab and eLab, and I enjoyed myself, so I don't have any complaints.

### **Alex Sherman**

AdLab

Year Taken: 2014  
Highest degree & from where: PhD Boston University 2019  
Current position: Recently graduated

How important is (was) AdLab:

10/10

How should it be improved:

I cannot think of anything

### **Sean Benjamin Foster**

AdLab Year taken: sbfoster@bu.edu  
2017  
Highest degree: MA from BU  
Current position: third year graduate student  
Current institution: BU

How important was AdLab

I took AdLab to get experience working on actual experiments, and to see if I enjoyed that kind of work. The course did the job, I would say, and I liked the work. I actually found out that I liked the data analysis side more, but the structure of AdLab gave me the opportunity to explore and figure this out. I liked the formal writeup as PRL. It helped me to develop my LaTeX skills, and it was nice to produce a good-looking paper.

How should it be improved:

When I took the course, there were too many students and I felt I could have had more interactions with the instructors. That said, the interactions I did have were helpful... Some of the equipment was outdated, but I suppose trying to fix them and

getting them to work is part of the challenge. I liked the breadth of experiments available to us; I wish I could have done more of them.

**Sara Sussman**

Both AdLab & eLab

Year Taken: Adlab fall 2017, Elab spring 2018  
Your stage at that time: College senior  
Highest degree & from where: Bachelor's in Physics from BU  
Current position: First year physics grad student, Ph.D. candidate  
Current institution: Princeton University

How important was AdLab to you:

AdLab and eLab were without a doubt the most important classes I took in college. They prepared me so well to tackle diverse topics in experimental physics. It was largely because of those two classes that I entered grad school with confidence in my technical and practical abilities, not only specific skills but general problem-solving abilities. I can only be grateful I was able to take these special courses, I would recommend that every experimental physicist take them.

How should it be improved:

More funds should go towards general improvements of both of these essential classes.

**Nathaniel Lawson**

Both eLab & AdLab

Year Taken: Spring 2018 & Fall 2018, respectively  
Your stage at that time: Junior and Senior year of college, respectively  
Highest degree: BA degree from Boston University  
Current position: n/a, just graduated  
Current institution: n/a

How important were eLab & AdLab:

eLab was much more important to me than AdLab, as I took it first and thus it was a very new experience for me. When I took AdLab, I largely knew what to expect due to my experience with eLab. Both of the courses provided deep insight into the nature of physics research. eLab in particular taught me how much more there is to physics than the theory and the math, and how complex and important electronics are. The two courses completely revolutionized my understanding of what I want to do in life, and for the better. I would go as far as to label eLab the most important experience I had in my entire Physics major.

How should it be improved:

I will focus upon how AdLab can be improved, both because it was the more important course to me and because I encountered greater problems during it. ...my lack of social ability helped make me essentially work by myself for the entire semester, excepting the copious and essential help from professor Sulak... it may have also been beneficial, as it meant I could work at my own pace and was forced to learn all the intricacies rather than allowing my partner to take the lead and possibly deprive me of some of the experience. ...I often get little more than half ... completed by the end of class. Neither of these problems were debilitating, and I ultimately did well in the class despite my struggles...

**Timothy Chiang**

AdLab

Year Taken: 2011  
Your stage at that time: Senior  
Highest degree: BA Boston University  
Current position: 3rd yr PhD student, Harvard Applied Physics  
Current institution: Harvard SEAS

How important was AdLab:

Extremely important. The typical physics classroom does not teach you how to be an experimental physicist! I did not appreciate the importance of this class until I started graduate research.

How should it be improved:

Less emphasis on report format; more emphasis on data analysis.

**Will Nash**

AdLab &amp; eLab

Year Taken: 2013 & 2014 (respectively)  
 Your stage at that time: Senior  
 Highest degree: MS from UCLA  
 Current position: 3rd year grad student at UCLA  
 Current institution: UCLA

How important was AdLab:

Very important, great way to get hands on training for real physics experiments

**Amy Catalano**

AdLab

Year Taken: 2018  
 Your stage at that time: senior  
 Highest degree, & from where: BA from BU  
 Current position: data analyst at consulting firm  
 Current institution: Atria, Inc

How important is (was) AdLab to you: Adlab gave me a good sense of what it would be like to work in a lab. I liked that it was very independent. It was important to learn how it's like to work with experiments.

How should it be improved: There could be a little more direction and structure (ex meetings every morning).

**Owen Burek**

eLab

Year Taken: 2018  
 Your stage at that time: sr  
 Highest degree, from where: BA degree from Boston University  
 Current position: 2nd Lieutenant  
 Current institution: United States Air Force

How important was eLab to you:

I interned at a company...that develops technology on opto-electronics and hyper spectral imaging devices. Taking elab was very essential to performing important tasks... I would highly recommend that as many physics students as possible should take the course...gives me an advantage when operating in a highly technical area of the Air Force Space Command.

**Conrad Roman**

Both AdLab and eLab

Year Taken: 2014-2015 Academic Year  
 Stage at that time: Senior Undergraduate  
 Highest Degree: Master in Physics at University of California, Los Angeles (pursuing PhD)  
 Current position: 4th year Graduate Researcher, trapped ion quantum information research  
 Current Institution: UCLA

How important was AdLab to you:

AdLab was essential for me and making the transition into a formal academic research group. It helped provide me with general knowledge of common signal processing techniques and experimental procedures. It also gave me an idea of what is involved in various areas of research. AdLab was a big part of my decision to continue pursuing physics.

**Hichem Bouchamaoui**

AdLab

Year Taken: 2018  
 Your stage at that time: senior  
 Highest degree, & from where: BA from Boston University  
 Current position: 1<sup>st</sup> year graduate student  
 Current institution: Princeton University  
 How important is (was) AdLab to you: Very important in writing papers

How should it be improved:                      Less defective hardware

**Daniel Walkup**

AdLab

Year Taken:    2008

Your stage at that time:                              Undergraduate senior

Highest degree, & from where:                      Ph.D. from Boston College

Current position:                                        Postdoc

Current institution:                                    NIST (Gaithersburg)/UMD (College Park)

How important was AdLab to you:

Quite important. Having had little to no experience in research as an undergraduate, I credit AdLab with planting in me the idea that experimental physics might provide an interesting and enjoyable career path.