



This Month in

# PHYSICS

Feb 2023 // Vol 2

# CUWiP Keynote

**Keynote Speaker:**  
**Dr. Nadya Mason**

Dr. Mason's research focuses on the electronic and magnetic properties of low-dimensional systems, like graphene, topological insulators, and superconductors. Her work has led to a deeper understanding of these materials which have the potential to revolutionize energy, medicine, and technology.

In her presentation as the keynote speaker, she highlighted her current research as well as covering what she likes and dislikes about studying physics as a whole.

She dove into some of the challenges women face in academia such as stereotypes, biases, and imposter syndrome, but she also highlighted strategies to handle these disadvantages.

## Plenary Talks

**Dr. Angela Kou**

Dr. Kou talked about the process of building a superconducting qubit. A qubit is sort of the quantum analogue for the classical bit. Where the classical bit can exist as either a 0 or 1, the qubit can exist in multiple states simultaneously. These are the future of quantum computing.

**Dr. Aida El-Khadra**

Dr. El-Khadra discussed innovation within quantum mechanics from a historical perspective, the standard model of physics, and standing questions in the field.

**Dr. Thushari Jayasekera**

Dr. Jayasekera detailed her path from childhood to physicist. It was refreshing to hear the mistakes she made along the way and how she recovered.



Loomis Laboratory of Physics at the  
University of Illinois Urbana-Champaign

*"How do we break the expectation that all women in STEM must be weird or exceptional?" - Nadya Mason*

# January 2023 Updates

**Club Nachos Mixer (1/12/23):** Physics Club participated in the Club Nachos Mixer hosted by Titan Productions, where we shared our love of physics with other students and clubs over a delicious plate of nachos.

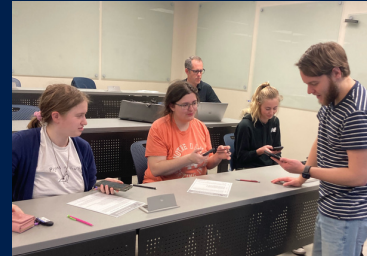
**Semester Kick-off (1/17/23):** Physics Club kicked off the first meeting of the new semester with a jump start in preparing for our upcoming participation in Science Alive hosted at the Public Library. The main focus of the event was to test run the data extraction scavenger hunt that we created that interacts with Phyphox, an application for smart phones. Through this trial run we identified language that needed to change to increase overall clarity as well as identified activities that need to be adjusted to fit the technological capabilities of most smart phones. The meeting also included discussion of other upcoming events such as Dodgeball (February 28th).

**Physics Club in The Preface (1/25/23):** We recently made an appearance in The Preface. This wonderfully written article provided us with the opportunity to showcase the success of last months newsletter and highlight upcoming events. We appreciate the dedication that went into producing not only a great article, but a great newspaper overall.

## 🕒 Nachos Mixer



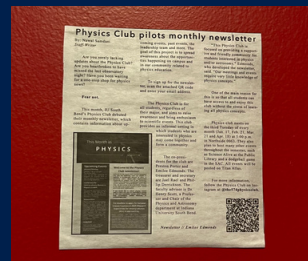
## 🕒 Kick-off Meeting



## 🕒 CUWiP



## 🕒 Preface Feature



On  
our  
club  
room  
wall

## Student Submitted Content

Since the conception of this monthly newsletter, the Physics Club Leadership Team has emphasized our want to feature specific content that club members would like to see.

A senior in the Physics Department, Michael Morales, approached us with a video that he found fascinating that he would like to share with a greater audience. Michael's submission is a lecture series that introduces quantum mechanics. As the theme of CUWiP this year was quantum mechanics and quantum mechanics is the advanced core course offered to Physics students this semester, we could not imagine a better time to share such a great resource. Please use the following link to access Michael's submission: [Introduction to Quantum Mechanics](#)

If you have content that you would like to have considered for an edition of "This Month in Physics", please reach out to club Co-President Emilee Edmonds at [emileedmo@iu.edu](mailto:emileedmo@iu.edu).