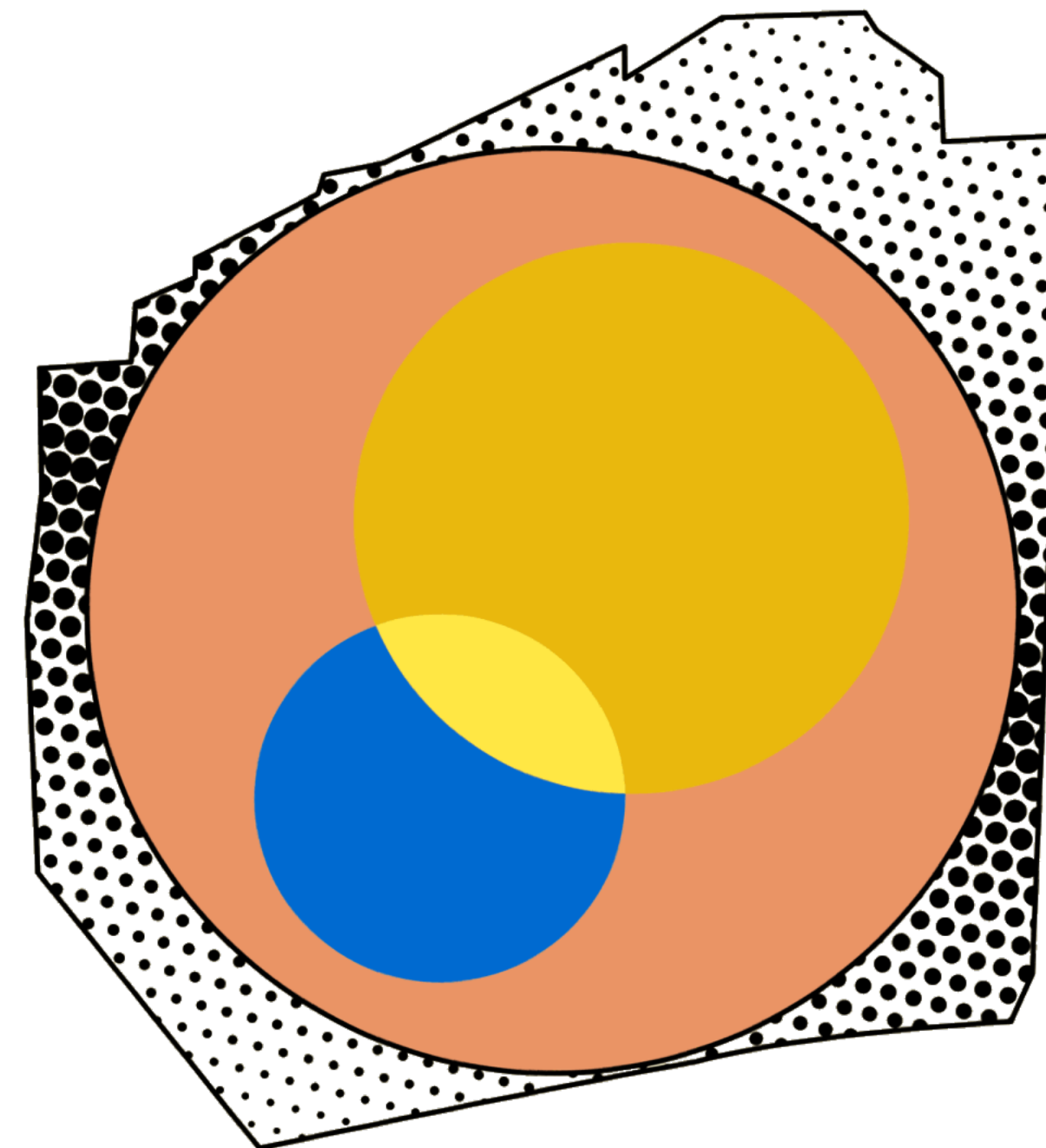


# Introduction to the US Muon Collider Accelerator School

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Karri DiPetrillo  
Tova Holmes  
Sergo Jindariani  
Mark Palmer  
Diktys Stratakis



USMCC

THE UNIVERSITY OF  
**CHICAGO**



# Philosophy

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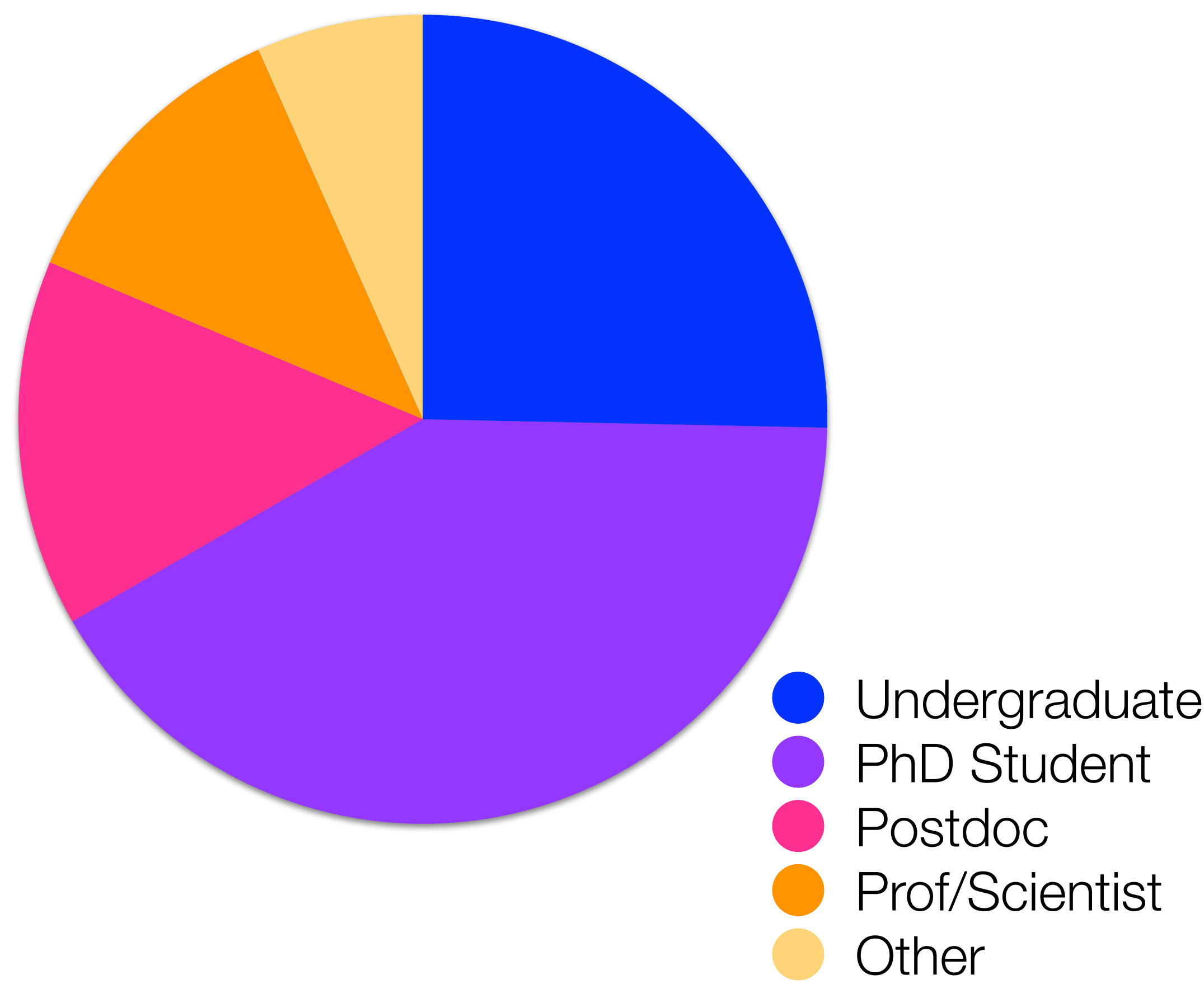
- **Goal: kick-start US Muon Collider accelerator R&D efforts**
  - Bridge traditional collider disciplines (accelerator, experiment & theory)
  - Introduce students to the key accelerator concepts, challenges, and current status
  - Introduce students to the US Muon Collider community
- **Modeled after [US Particle Accelerator schools](#)**
  - Lectures followed by daily homework sessions
  - Important concepts will be delivered during class & reinforced with problem sets
  - Won't rely heavily on textbooks
- **Encourage active participation!!!**
  - Ask questions during lectures
  - Discuss further during breaks & homework sessions



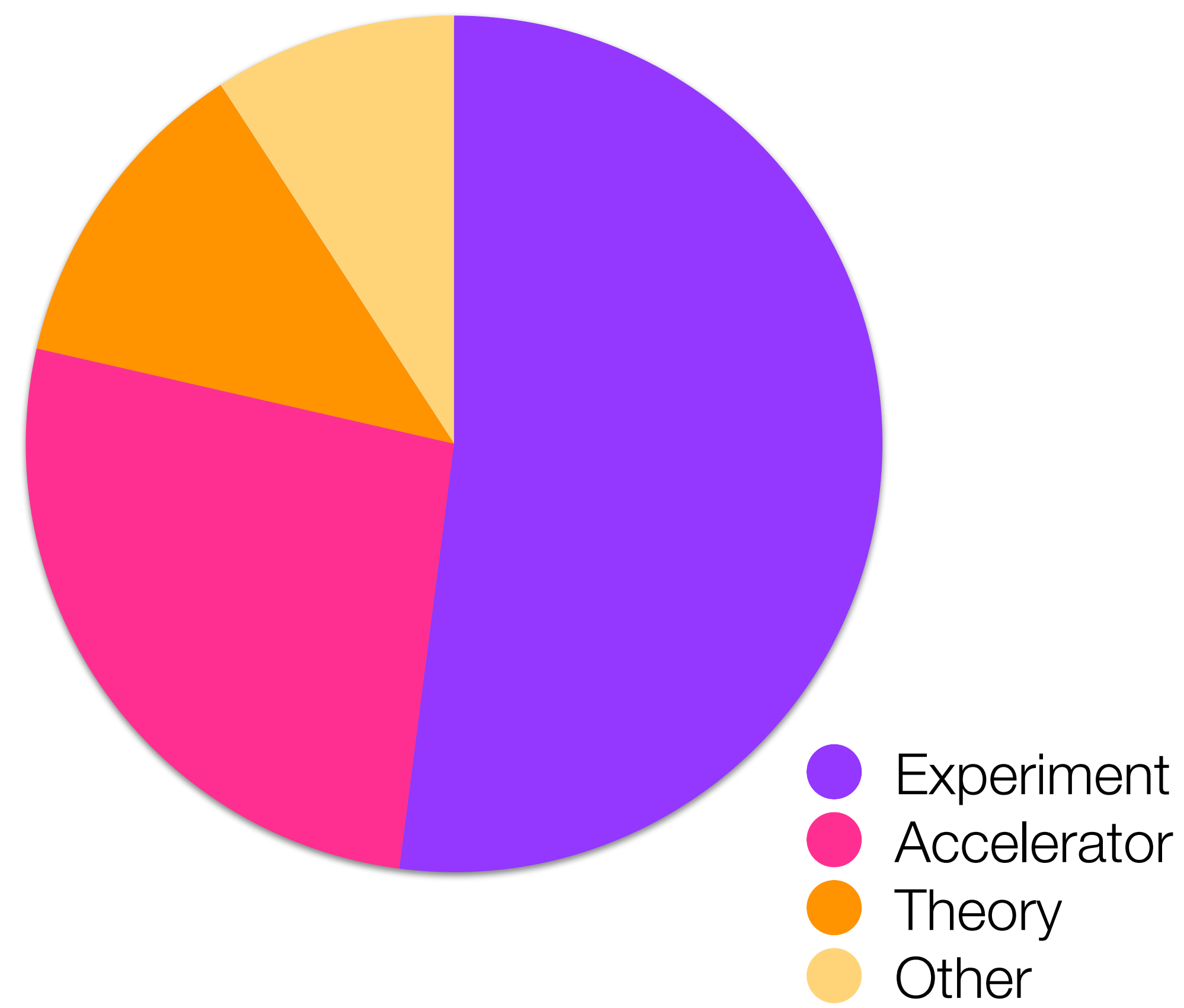
We have 75 students!

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Career Stage



Primary Discipline





# And 13 expert instructors!!

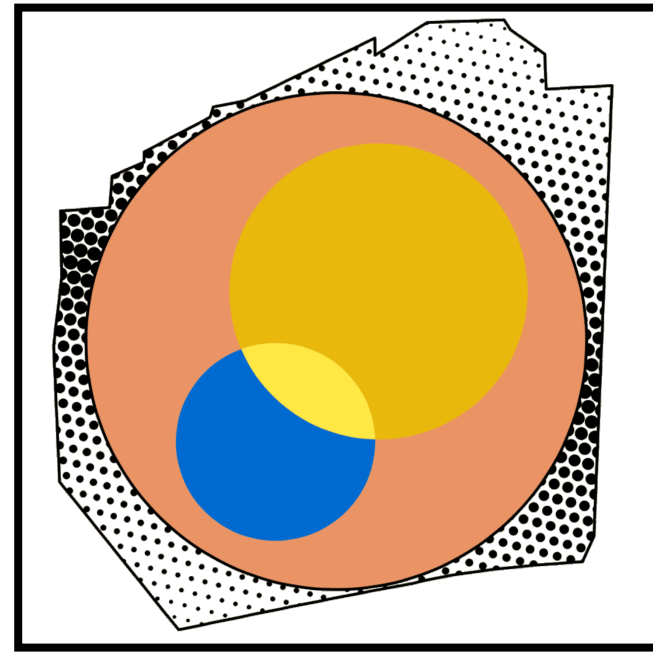
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Steve  
Gourlay



Vladimir  
Shiltsev



Jeffrey  
Eldred



Rebecca  
Taylor



David  
Neuffer



Katsuya  
Yonehara



Eliana  
Gianfelice-  
Wendt



Diktys  
Stratakis



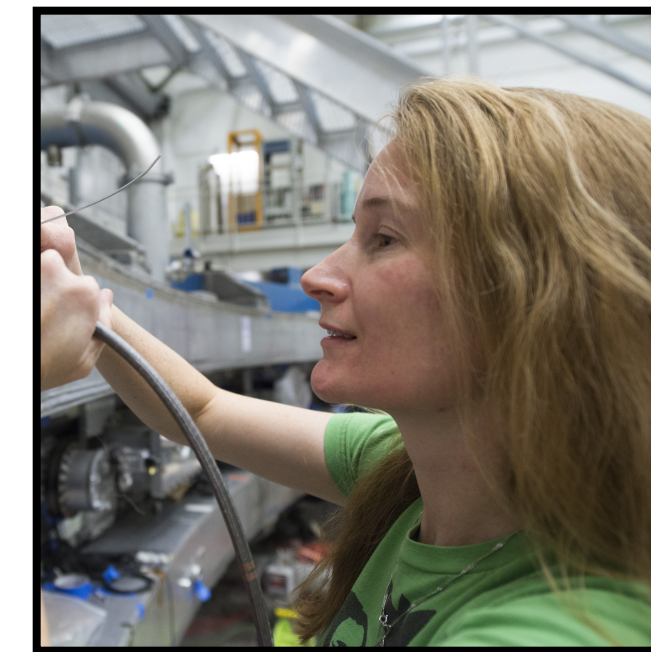
Donatella  
Lucchesi



Robert  
Zwaska



Sergey  
Belomestnykh



Karie  
Badgley



Ian  
Low



# Everything you need to know

<https://indico.uchicago.edu/e/mucschool2025>

- Refer to the indico for the latest schedule
  - 3 full days of classes
  - A lot of material to cover in A VERY SHORT time
- Questions?
  - Ask the registration desk!
  - Join the [USMCC slack](#) #usmcc2025 channel
  - Email [usmcc-meeting@uchicago.edu](mailto:usmcc-meeting@uchicago.edu)

## Inaugural US Muon Collider Accelerator School

University of Chicago, 3-6 August 2025 [indico.uchicago.edu/e/mucschool2025](https://indico.uchicago.edu/e/mucschool2025)

Overview

Timetable

My Conference

- My Contributions

Application

Participant List

Logistics

- Workshop Venue
- Homework Group Assignments
- Arriving to UChicago
- Lodging
- Hyde Park Restaurants
- Things to do in Chicago

Organizing Committee

### WELCOME TO THE US MUON COLLIDER ACCELERATOR SCHOOL

We invite you to the US Muon Collider Accelerator School on August 3-6th at the University of Chicago. The goal of the school is to provide students with the necessary training to kick-start US Muon Collider accelerator R&D efforts. The program will be modeled after US Particle Accelerator Schools, with lectures, software tutorials, and graded homework assignments. We also aim to use this opportunity to pair students with mentors and potential long-term projects.

The meeting will begin on Sunday August 3rd with a Future Collider plenary. Remaining days will consist of lectures and tutorials. Please note the [US Muon Collider Meeting](#) taking place in the second half of the week, which students will be expected to attend.

The deadline for registration is 20 June 2025. With the support of our sponsors, the school will provide attendees with lodging and meals during the full week.



### Organizing Committee

- Karri DiPetrillo (Chicago)
- Tova Holmes (Tennessee)
- Sergo Jindariani (Fermilab)
- Elias Metral (CERN)
- Mark Neubauer (UIUC)
- Mark Palmer (BNL)
- Soren Prestemon (LBNL)
- Ben Rosser (Chicago)
- Rob Ryne (LBNL)
- Diktys Stratakis (Fermilab)



# Where the school will take place

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Kersten Physics Teaching Center  
5720 S Ellis Ave Chicago, IL



Michelson Center for Physics  
933 E 56th St, Chicago, IL  
*Use south entrance! Doors lock at 8pm*



# Progression of topics

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- **Monday**
  - Introduction to Accelerator Physics
- **Tuesday**
  - Machine design
  - Discuss each subsystem of the Muon Collider in detail
- **Wednesday**
  - Machine design (continues)
  - Special topics associated with Muon Collider technology (cooling, magnets, cavities, and targets)
- **Lectures will take place in Maria Goeppert-Mayer Lecture Hall (KPTC 106)**

# Homework sessions

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- Will take place in Michelson Center for Physics (MCP)
  - 3:30 to 6:30 pm on Monday
  - 4:30 to 6:30 pm on Tuesday
  - 4:30 to 6:30 pm on Wednesday
- Divide participants into groups:
  - Group and room assignments are here: [LINK](#)
  - Mix of career stages & area of expertise
  - At least one accelerator expert per group
- Each group will present their solutions during the last 30-45 min

# Meals

---

- We'll provide breakfast, coffee, and boxed lunches
  - KPTC 2nd floor lounge (Room 206)
  - Same place as check-in
- You're on your own for dinner
  - We've given you \$75 gift cards
  - See suggestions for restaurants nearby
  - Eat with other attendees!

## Hyde Park Restaurants

### Nearby (5-10 min walk)

Saucy Porka - Latin-Asian fusion, quick-eats  
The Nile - Middle Eastern fare, casual  
Plein Air Cafe & Eatery - French-inspired café, light fare  
Medici - Pizza, burgers, baked goods, local beers on tap  
Jimmy's (Woodlawn Tap) - Dive bar with burgers, hot dogs, and fries, cash only  
Seven 10 Social - Lounge-style American food, also a bar and bowling alley  
Nella Pizza e Pasta - Wood-fired pizza and pasta paired with cocktails and wine  
Roux Diner - Southern-style brunch, upscale diner with cocktails

### A little further (20 min walk)

Small Cheval - Classic Chicago-style burgers  
The Sit Down - Mix of sushi and pizza, casual, BYOB  
Strings - Ramen, BYOB  
Snail Thai - Cozy Thai restaurant, BYOB  
5 Rabanitos - Casual mexican food and margs  
Daisy's Po'Boy and Tavern - Casual, New Orleans dishes and cocktails  
Messler Kitchen - Inside the Sophy Hotel, refined dinner and cocktails  
Virtue - Award-winning Southern food paired with cocktails and wine  
14 Parish Restaurant & Rhum Bar - Caribbean small plates, cocktails  
Bar David - Lounge/upscale cocktail bar  
Cantina Rosa - Latin cocktail bar

# Photos

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- Workshop photo today
  - 12:30 Just before lunch
  - Near the south entrance of KPTC
- We'll also have folks around taking pictures throughout the conference. Please let us know if you would like to not be pictured
- IMCC Videos
  - Reach out to [Kyle Capobianco-Hogan](#)
- Post on social media
  - #whyamuoncollider



# Detailed agenda for Monday

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08:00-09:00: Check-in & breakfast	KPTC 206
09:00-10:30: Intro to Accelerator Physics of Colliders	KPTC 106
10:30-11:00: Coffee break	KPTC 206
11:00-12:30: Accelerator Physics Basics I	KPTC 106
12:30-12:40: Workshop photo	KPTC Steps
12:40-13:30: Lunch	KPTC 206
13:30-15:00: Accelerator Physics Basics II	KPTC 106
15:00-15:30: Coffee break	KPTC 206
15:30-18:30: Homework	MCP
18:30-19:30: Dinner	Hyde Park
19:30-20:30 Special Lecture: Muon Collider Machine Overview	KPTC 106



# Let's thank the staff who made this possible

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Mary  
Heintz



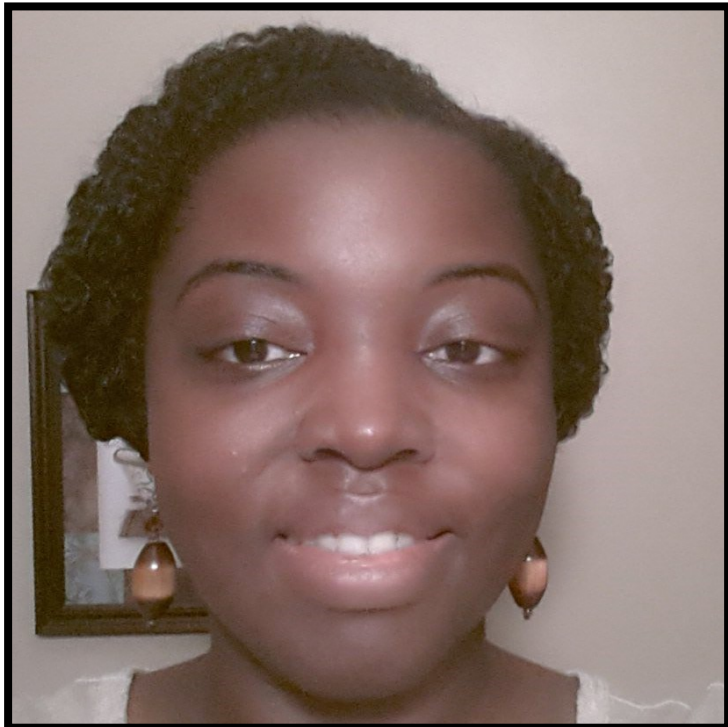
Ramona  
Echols



Michelle Ayala



Shadla Cycholl



Tiffany Kurns



Putri Kusumo



Beth Ann  
Nakatsuka



# And our sponsors

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THE UNIVERSITY OF  
CHICAGO

Physical Sciences Division  
Physics Department  
Enrico Fermi Institute  
Faculty Development Program



Brookhaven  
National Laboratory



Fermilab



OAK  
RIDGE  
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University



NORTHWESTERN  
UNIVERSITY



UNIVERSITY OF  
ILLINOIS  
URBANA-CHAMPAIGN



THE UNIVERSITY OF  
TENNESSEE  
KNOXVILLE

Enabled support for ~60 attendees' lodging and all attendees' meals



# Final reminder

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## Code of Conduct

All participants will conduct themselves in a professional manner that is welcoming to all participants and free from any form of discrimination, harassment, or retaliation. Participants will treat each other with respect and consideration to create a collegial, inclusive, and professional environment. Creating a supportive environment to enable scientific discourse is the responsibility of all participants.

Participants will avoid any inappropriate actions or statements based on individual characteristics such as age, race, ethnicity, sexual orientation, gender identity, gender expression, marital status, nationality, political affiliation, ability status, educational background, or any other characteristic protected by law. Disruptive or harassing behavior of any kind will not be tolerated. Harassment includes but is not limited to inappropriate or intimidating behavior and language, unwelcome jokes or comments, unwanted touching or attention, offensive images, photography without permission, and stalking.

Violations of this code of conduct policy should be reported to meeting organizers. Sanctions may range from verbal warning, to ejection from the meeting without refund, to notifying appropriate authorities. Retaliation for complaints of inappropriate conduct will not be tolerated. If a participant observes inappropriate comments or actions and personal intervention seems appropriate and safe, they should be considerate of all parties before intervening.

– adapted from the APS Code of Conduct



Thank you for coming,  
We hope you enjoy the week!

