

Computational HEP Traineeship Summer School

Welcome

24 July 2023

Peter Elmer (Princeton)

Verena Martinez Outschoorn, Rafael Coelho Lopes de Sa (UMass Amherst)

on behalf of the TAC-HEP program organizers & the Princeton local organizers



University of
Massachusetts
Amherst

The Computational High Energy Physics Traineeship Programs

- **Three computational HEP traineeship programs funded by the DOE in 2022**
 - First time gathering everyone together — *more details in Peter Elmers introduction later today!*

WATCHEP

Western Advanced Training for Computational High-Energy Physics

About Apply Projects Trainees

A New Program to Advance Fundamental Science

WATCHEP is a training program with the goal of developing a workforce of experts in computational high-energy physics. These experts are needed to help make the most of the complex experimental projects and high-volume datasets. They will be the "computing ambassadors" to the high-energy physics community.

Graduate student trainees from the partner universities will complete a tailored instructional curriculum and a supervised research project in a relevant topical area. Trainees are provided financial support during their training period in the program. We expect this program will contribute to the DOE workforce in high-energy physics on the various scientific frontiers.




Image credits: ATLAS collaboration, P. Marenfeld and NOAO/AURA/NSF

TAC-HEP

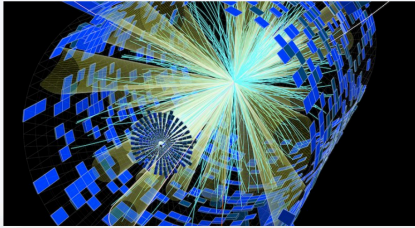
About Connect Training Modules Trainees

Training to Advance Computational High Energy Physics in the Exascale Era (TAC-HEP)

Computational and data science research to enable discoveries in fundamental physics

TAC-HEP is a recently funded multi-institutional (Princeton, UMass and UW-Madison) program in Computational High Energy Physics. Full Overview

News and Featured Stories:



Upcoming Events:

No events currently scheduled. Check back again soon!


[View all past events](#)

Related projects:

WATCHEP • HEP-CCE • IRIS-HEP • CoDaS-HEP • U.S. ATLAS Operations Program • U.S. CMS Operations Program

C2-the-P2

NIU-UIC Graduate Traineeship Program



Academics

- Undergraduate
- Graduate
- Courses

Contact Us

For more information, please contact the program contacts:

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Northern Illinois University and University of Illinois-Chicago, in partnership with Argonne and Fermilab National Laboratories, have developed a comprehensive two-year program (C2-THE-P2 program) to train physics and computer science students in the computational tools necessary to advance the particle physics field.

Students accepted into the C2-THE-P2 program will begin their course work at either NIU or UIC with their general graduate curricula, but will also take several courses in computational physics taught by NIU and UIC faculty and experts from the local labs.

Unique Opportunity

- Earn an M.S. degree while being trained by exceptional scientists.
- Students receive tuition waiver plus a stipend.
- Participate in monthly technical seminars, hands-on learning experiences and bi-annual program events.
- Benefit from close connections to the Argonne Leadership Computing Facility (ALCF) for training and workshops.

Exceptional Faculty Mentors

Physics faculty have connections to ATLAS, CMS, DUNE, g-2 and the Mu2e experiments and the computer science faculty are leaders in the data science and high-performance computing (HPC) fields.

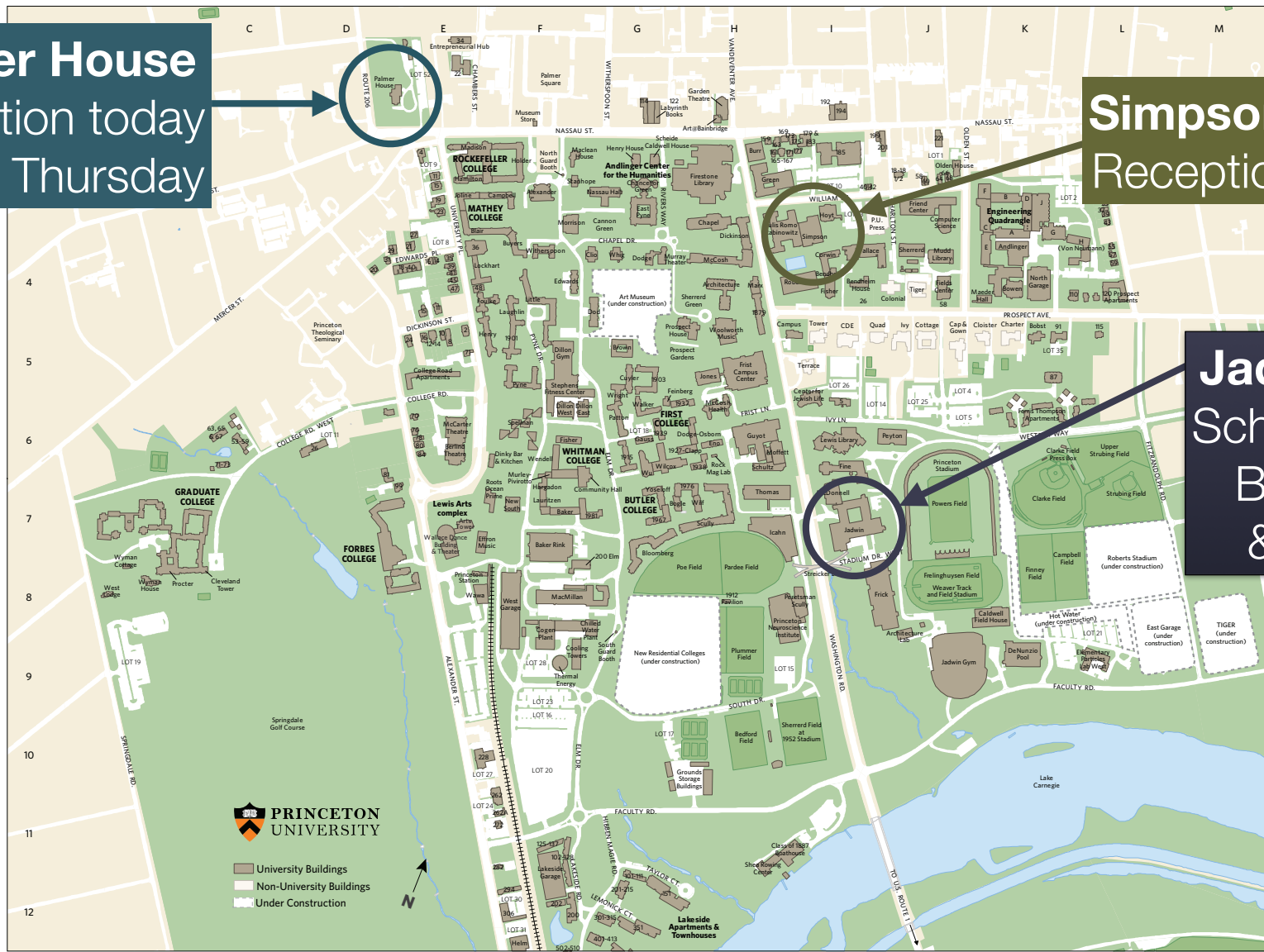
WELCOME!

Logistics

Palmer House
Reception today
Dinner Thursday

Simpson Building
Reception Tuesday

Jadwin Hall
School venue
Breakfast
& Lunch



- University Buildings
- Non-University Buildings
- Under Construction

Overlapping events

Mode Workshop
Monday-Wednesday

PyHEP Developers Workshop
Tuesday-Friday



MODE  **JENAA**
Joint ECFA-NuPECC-APPEC Activities

 **iris hep** 

 **APPEC**

**Third MODE Workshop on
Differentiable
Programming for
Experiment Design**

**Princeton University
24-26 July, 2023**


24-26 Jul 2023
Princeton University
America/New_York timezone



PyHEP.dev 2023 - "Python in HEP" Developer's Workshop

25-28 Jul 2023
Princeton University
America/New_York timezone

- Overview
- Call for Abstracts
- Timetable
- Contribution List
- Book of Abstracts
- Registration
- Venue, Conference Fee, Hotel, Travel
- Code of conduct
- COVID/Health & Safety Policy
- Contact

 pyhep2023-organisation...



PyHEP.dev is an in-person, informal workshop for developers of Python software in HEP to plan a coherent roadmap and make priorities for the upcoming year. It complements the [PyHEP Online](#) workshop, which is intended for both developers and physicists.

Both PyHEP workshops are supported by the [HEP Software Foundation](#) (HSF). Further information is on the [PyHEP Working Group website](#).

The agenda will consist of morning kick-off talks and afternoon discussions, in which the discussion groups and topics are self-assigned. Pre-workshop organization is happening [here](#), via [GitHub Issues](#).

You are encouraged to register to the [PyHEP WG Gitter channel](#) and/or to the [HSF forum](#) to receive further information concerning the organisation of the workshop. Workshop updates and information will also be shared on the workshop Twitter in addition to email. Follow the workshop at [@PyHEPConf](#).

Organising Committee

<https://indico.cern.ch/event/1242538/>

<https://indico.cern.ch/event/1234156/>

Lots of experts around and several opportunities to network!

Summer School Program

- **Hands-on Demo Sessions**
 - Hands on exercises focusing on data analysis demonstrations
- **Big Picture R&D Talks**
 - Presentations on current R&D topics in software & computing
- **Workshop on Communication**
 - How to improve your communication skills from an expert
- **Pitching Your Project - A Workshop on Proposal Writing**
 - How to improve your proposal preparation skills
- **Careers in Physics**
 - Presentation from APS Careers & a panel including research scientists at labs and universities, faculty at universities and a senior data scientist at SFL Scientific, a Deloitte Business

This is an
informal &
interactive
event
please ask
questions!!!

Upcoming Events: Lightning Round & Coding Jam

- **Lightning Round Presentations Tomorrow**

- **Tuesday after lunch - 5 minute presentations from each participant**
- Please prepare no more than 1-2 slides
- Introduction & background - eg current graduate student year, school, program, etc
- Interest in software & computing
- If you are already doing the project part of the program, please mention what your project is!

- **Coding Jam Group Exercises**

- **A few hours each day except for Thursday**
- Group work and an opportunity to practice what you are learning in the hands-on demos

Please let us know if you have any questions
We hope you will enjoy this program!