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

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
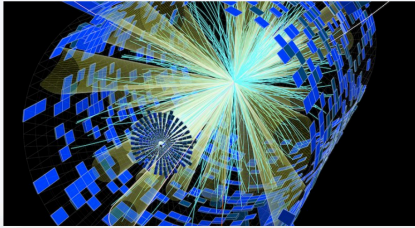
TAC-HEP

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

Academics
Undergraduate
Graduate
Courses

NIU-UIC Graduate Traineeship Program

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.

Contact Us

For more information, please contact the program contacts:

C2-THE-P2 program/NIU Physics Graduate Program
Jahred Adelman
jahred.adelman@niu.edu

UIC Physics Graduate Program
Richard Cavanaugh
cavana@uic.edu

UIC Computer Science Graduate Program
Michael Papka
papka@uic.edu

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.
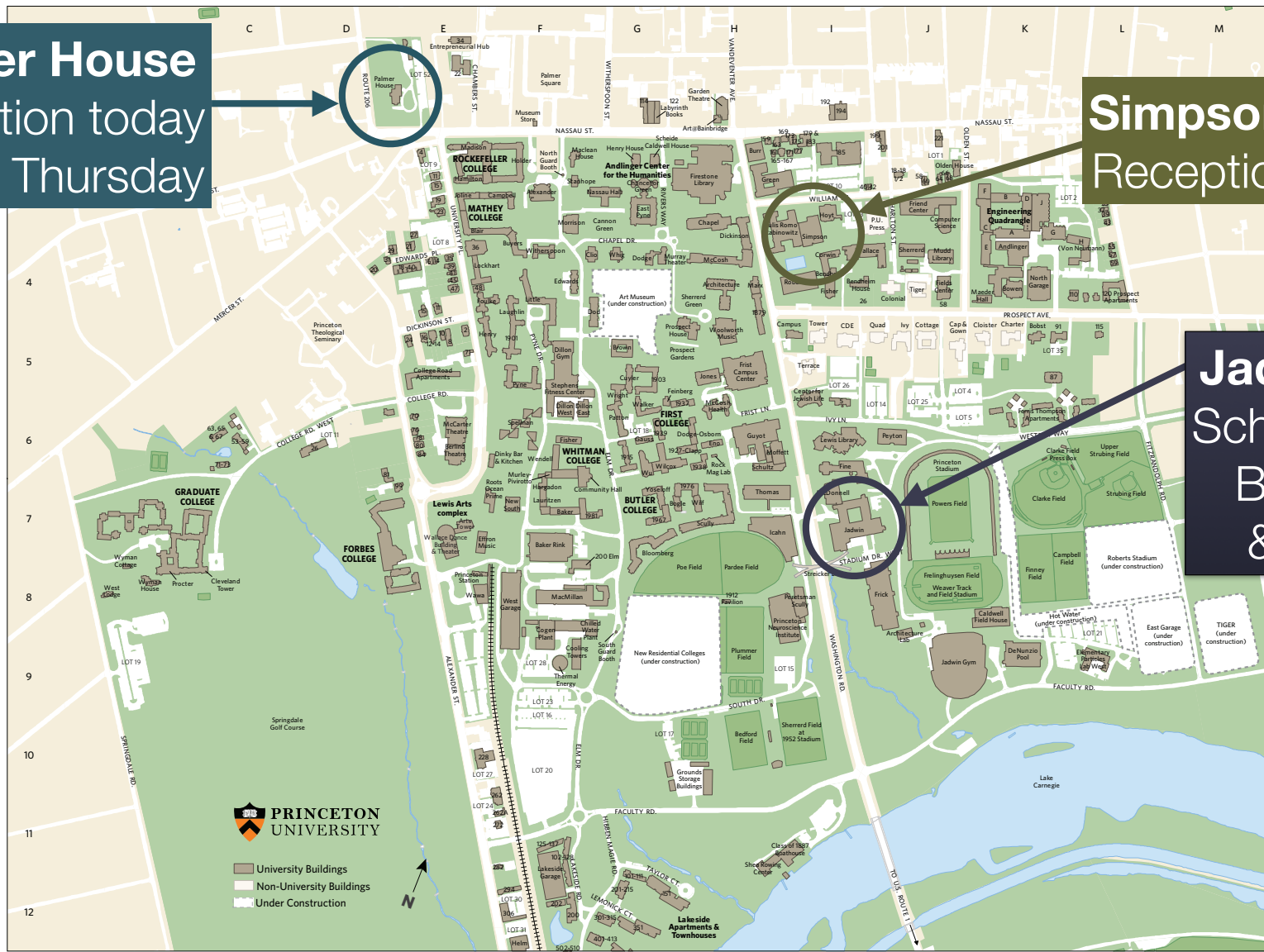
WELCOME!

Logistics

Palmer House
Reception today
Dinner Thursday

Simpson Building
Reception Tuesday

Jadwin Hall
School venue
Breakfast
& Lunch

PRINCETON UNIVERSITY

University Buildings
Non-University Buildings
Under Construction

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Overlapping events

Mode Workshop
Monday-Wednesday

PyHEP Developers Workshop
Tuesday-Friday

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

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

Lots of experts around and several opportunities to network!

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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!