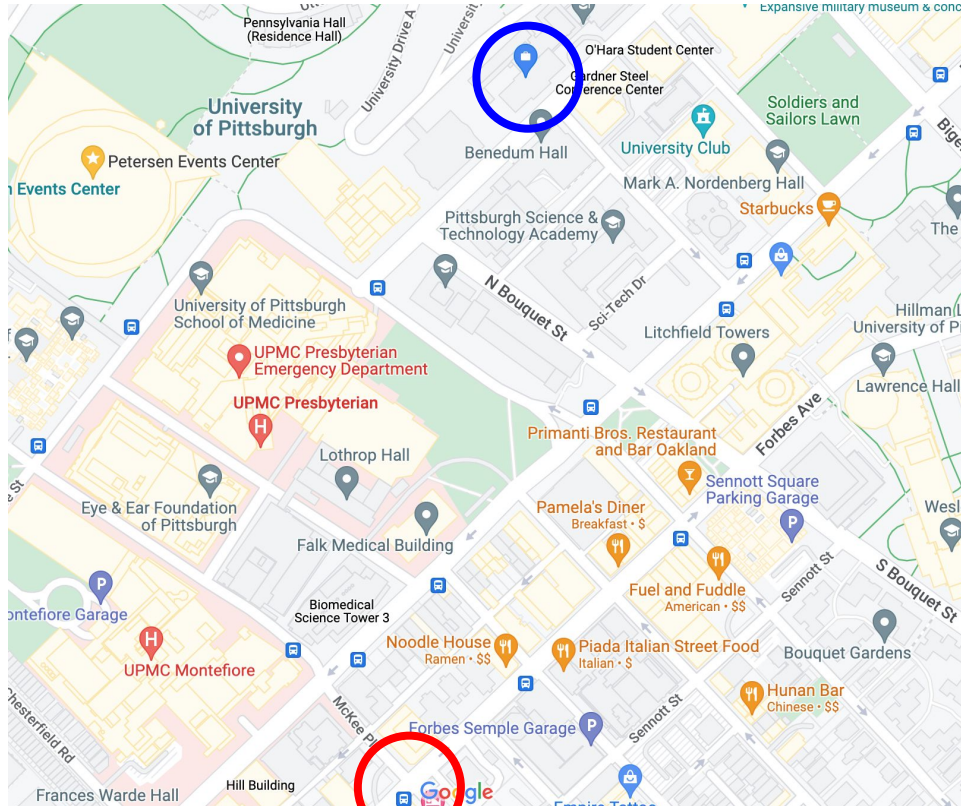


# Welcome to Pitt PACC!



# Pittsburgh Particle Physics, Astronomy, and Cosmology Center



**Pitt PACC**  
**Allen Hall, 4th floor**

**Hilton Garden Inn**

# Pittsburgh Particle Physics, Astronomy, and Cosmology Center

**Mission:** Enhance research activities for these fields, facilitate and strengthen theory / experiment collaborations, promote local and national research to the community

Host topical workshops (e.g. Atomic DM), larger conferences (PHENO) and schools (CTEQ), visitor programs, etc.

You can join Pitt PACC! Consider becoming an associate member (receive announcements, organize a workshop, free PHENO registration, ...)

# Atomic Dark Matter

- The study of the possible atomic or dissipative nature of DM has matured in recent years
- On the theory front there have been many advances
  - UV motivations (Chacko)
  - Effects on CMB and LSS (see talks by Tsai, Cyr-Racine, Ghosh)
  - Calculating dark molecular formation and cooling (Gurian, Ryan, Schon)
  - Dark galactic astrophysics (Fan, Ghalsasi)
  - Dark stellar evolution (Shandera, Smyth)
- N-body and hydrodynamical simulations will be able to give us “ground truth” on dark atom structures (Lisanti, Roy, Gemmell)
- Observationally new ideas of detection using BH mergers or Gaia observations (Necib, Curtin, Baron, Chen)
- There are a wide range of experts at this workshop, there is plenty of time for informal discussions, let’s use it!
- **Goals:** identify new directions, foster new collaborations, constrain (or discover!) the existing parameter space

# Schedule

## **Thu (Jan 26):**

9:00am to 5:00pm workshop

## **Fri (Jan 27):**

9:00am to 5:00pm workshop (group photo will be taken at some point)

6:00pm dinner (shuttle leaving from here)

9:00pm shuttle returns

## **Sat (Jan 28):**

9:00am to 12:30pm workshop

# Thank you to all the organizers!

Brian Batell, Akshay Ghalsasi, Tao Han, Matthew Low, Andrew Zentner

A special thank you to Joni George for handling all logistics!

**We hope you enjoy the workshop and your visit to Pittsburgh!**

