OPEN POSITIONS AT UNIVERSITY OF TENNESSEE

DR. TOVA HOLMES
CMS JOB MATCHING EVENT
21-25 SEPTEMBER, 2020

LOGISTICS FOR POSTDOC

- **Posting available shortly (to be added)**
- **Begin reviewing applications October 16, 2020**
  - Will be held open until the position is filled
- **Start date target is January 2021**
- **Roles:**
  - Supervision and mentoring of students
  - Leading analysis development, ideally in the realm of long-lived particles
  - Integration and development of the L1 Track Trigger algorithm for HL-LHC
- **Can be based in either Knoxville or Geneva**

LOGISTICS FOR GRAD STUDENT

- **Typical American posting — goes through the university admissions**
  - http://www.phys.utk.edu/graduate/degree-options.html
  - Applications due January 15, 2021
  - Start date August 2021
  - Typical length: 5-6 years
- **Location:**
  - Presumably based in Knoxville for first few years (depending on COVID & online classes)
  - Can spend a significant portion in Geneva, also possible to be based at Fermilab in Chicago for some portion of PhD

THE GROUP

- **University of Tennessee based in Knoxville, TN**
  - Tova based in Geneva
    - L1 Track, Long-lived Particles
  - Stefan based in Knoxville
    - Tracker Upgrade R&D, Rare Higgs Decays
- **Postdoc will be supported by Tova**
  - PhD positions available for both

FACULTY

Tova Holmes

Stefan Spanier

CURRENT POSTDOC

Andrés Delannoy

CURRENT STUDENTS

Jesse Harris

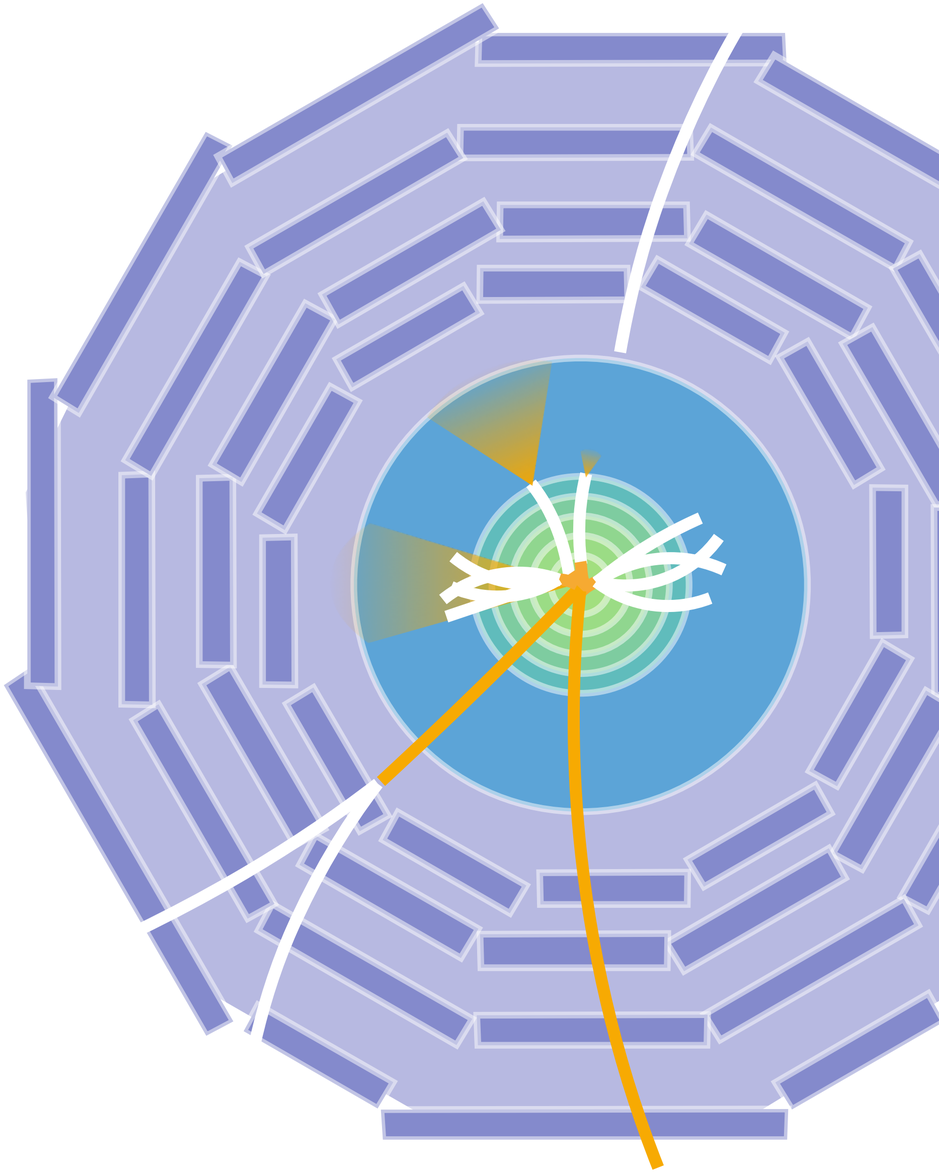
Himal Acharya

Ibrahim Mirza

+ several interested younger students

ANALYSIS WORK

- **Long-Lived Particles (and other exotic signatures)**
  - Highly motivated as a place to find **TeV scale** physics that hasn't been excluded by the LHC
  - Continues to be interesting as we collect more data
    - Can develop new **triggers** to target new scenarios
    - Many **new searches** that haven't been done
    - Rare or hard to reconstruct processes with low backgrounds have the **most to gain** from more lumi



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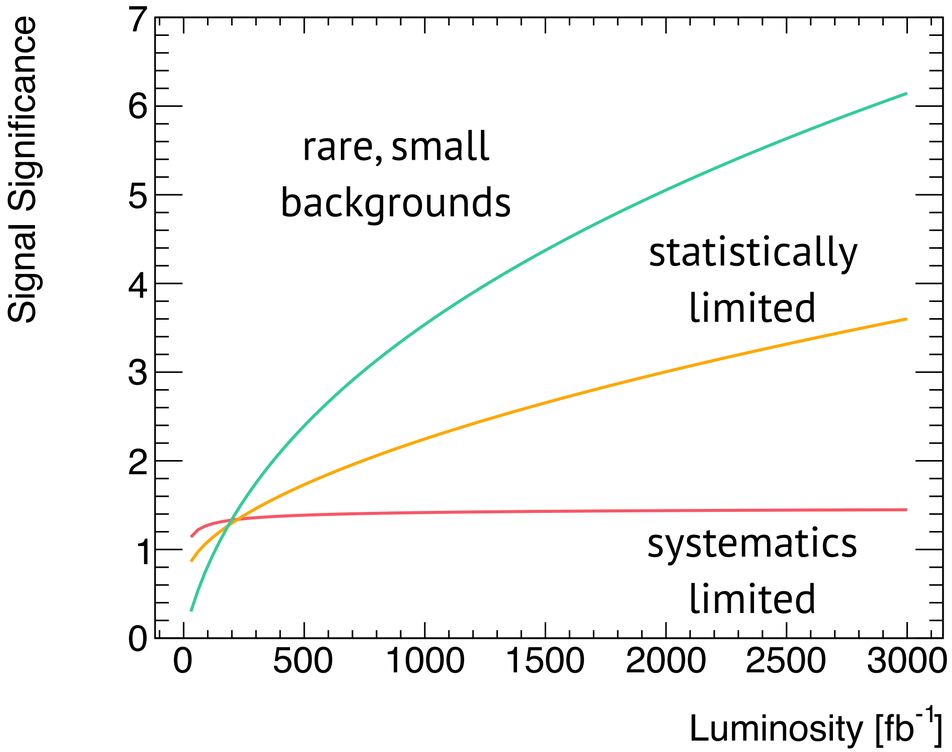
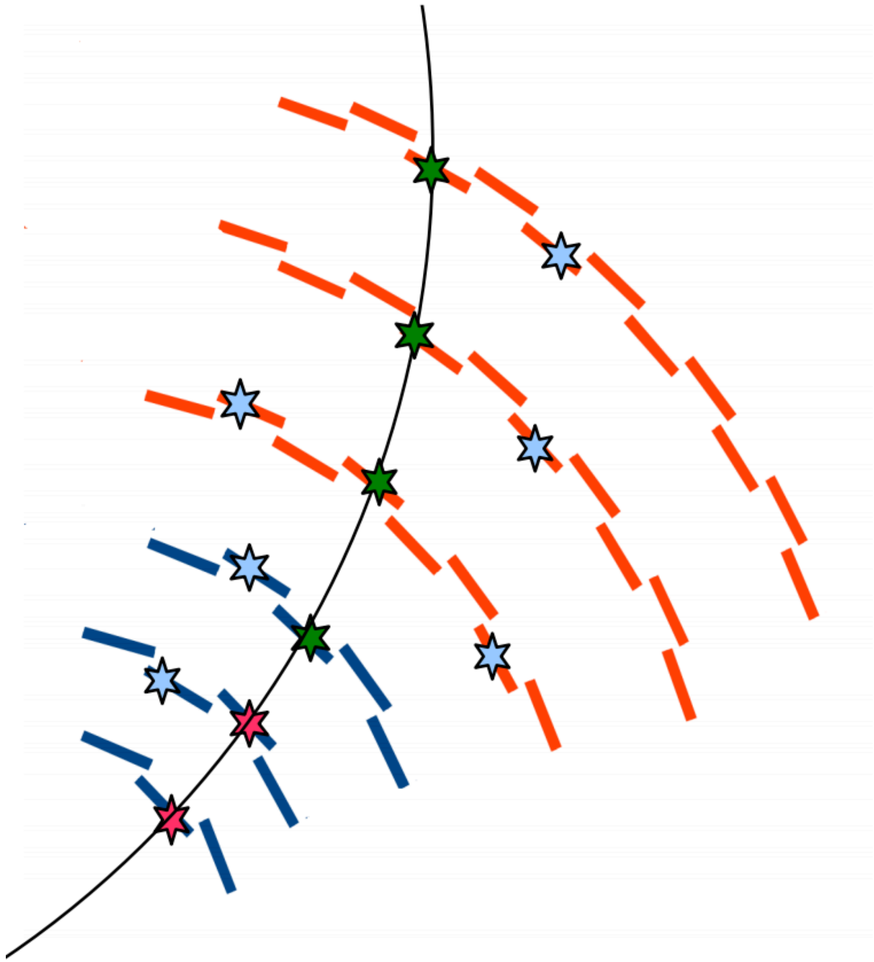


TRACK TRIGGER

- **Work on building the new L1 Track Trigger for HL-LHC**
  - Ties in with long-lived particles:
    - Tracks are often the **key signature** for identifying a LLP
    - Goal is to incorporate (**displaced**) tracking into L0 for HL-LHC
  - Main tasks for postdocs and students:
    - Design and implement the tracking **algorithm** (including displaced tracking) to be run on FPGAs
    - **Integrate and commission** the boards



LOCATIONS: GENEVA/KNOXVILLE

VERY GOOD RIVERS

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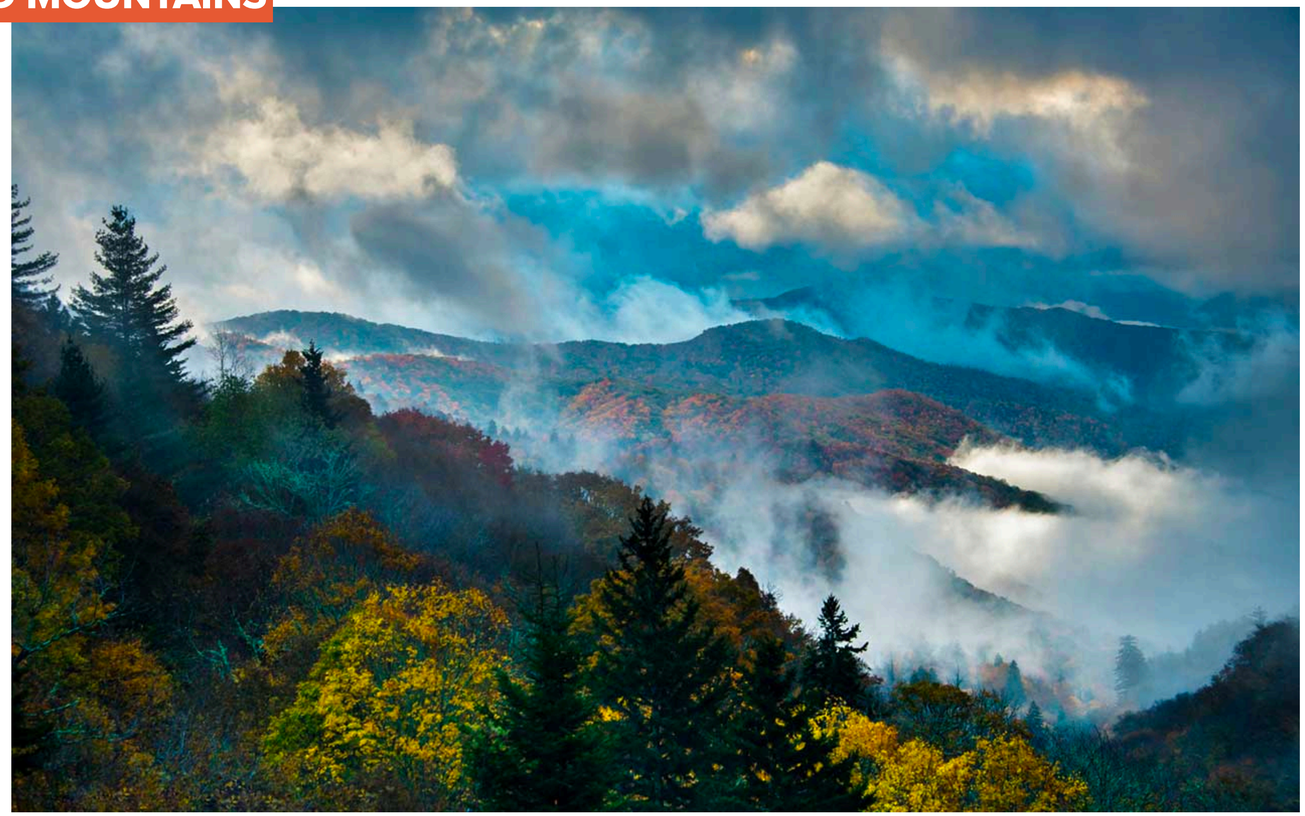
VERY GOOD MOUNTAINS



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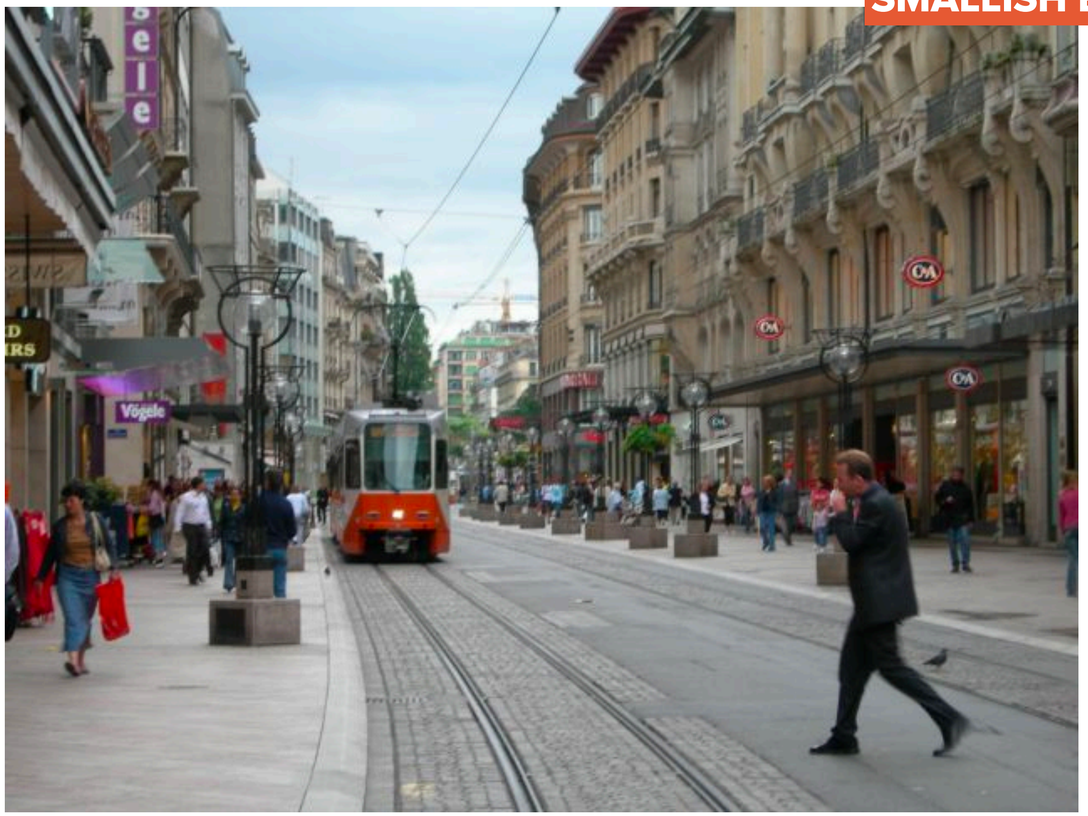
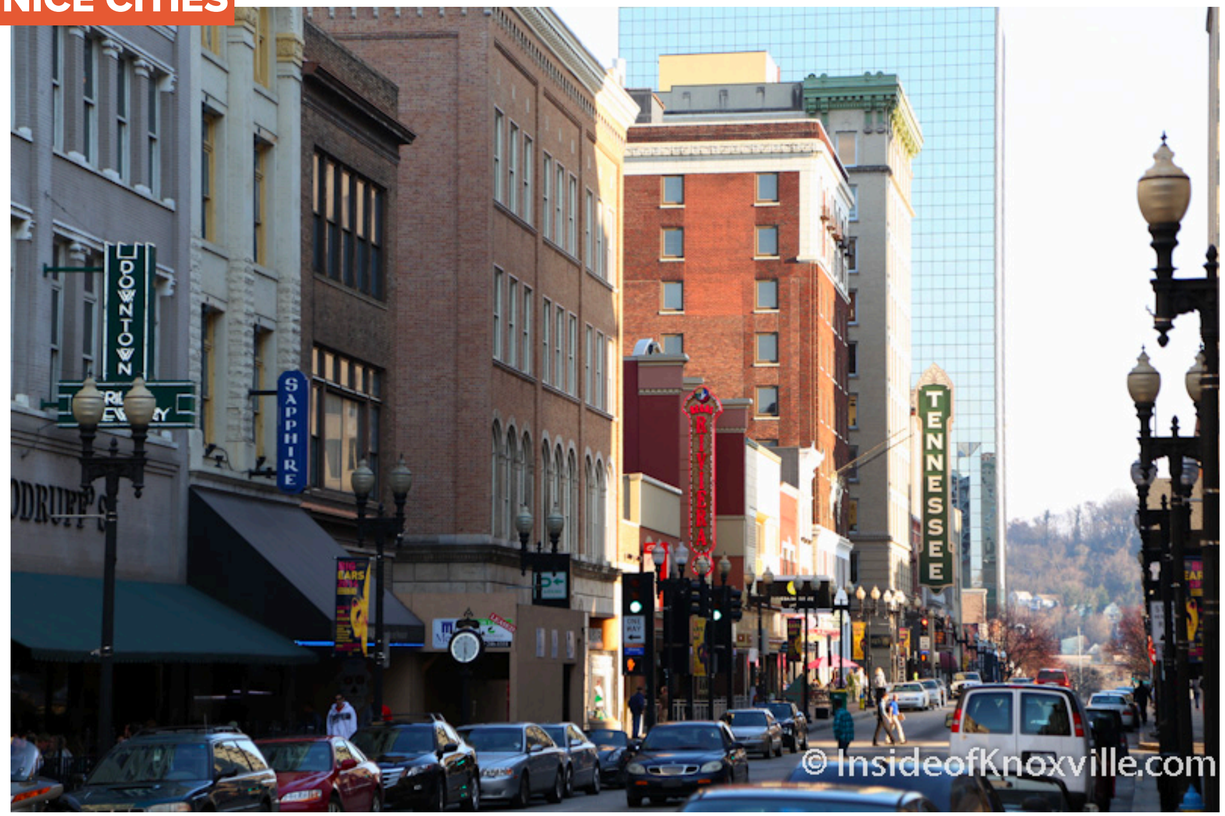
SMALLISH BUT NICE CITIES





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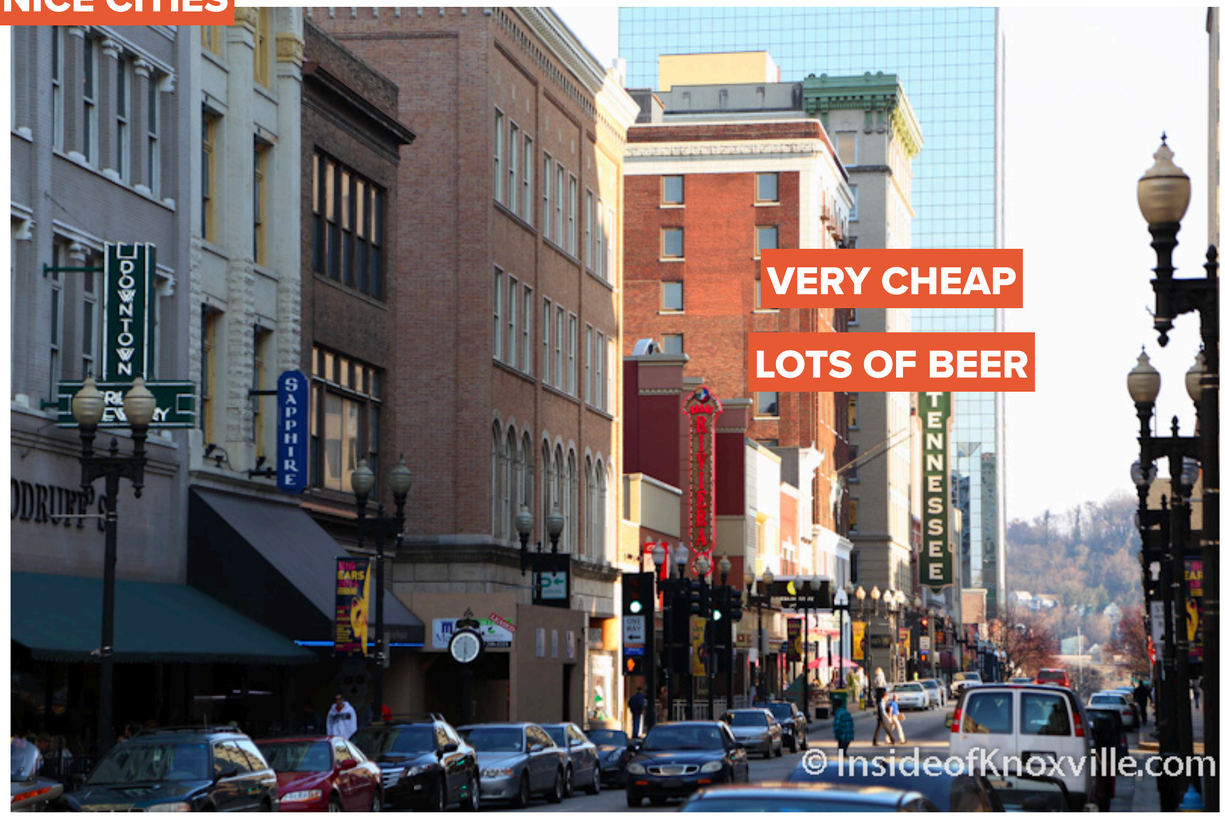

CONTACT ME IF YOU'RE INTERESTED

tholmes@cern.ch