

POSTDOC POSITION

Professor Ulrich Heintz
Brown University



Job Announcement

Brown University, HEP Physics

<https://academicjobsonline.org/ajo/jobs/15782>

Position ID: [Brown-HEP Physics-PRA \[#15782\]](#)
Position Title: HEP Postdoctoral
Position Type: Postdoctoral
Position Location: Providence, Rhode Island 02912, United States [[map](#)]
Subject Area: [High Energy Physics](#)
Appl Deadline: 2020/06/01 [📅](#) (posted 2019/12/19)
Position Description: 📄

POSTDOCTORAL POSITION

BROWN UNIVERSITY Experimental High Energy Physics

The experimental particle physics group at Brown University has immediate availability for a postdoctoral research associate. The group is led by Profs. Cutts, Heintz, Landsberg, and Narain, and plays leading roles in the CMS experiment at the CERN LHC. We are pursuing an exciting physics program at the LHC. Our group is actively engaged in searches for new physics, Higgs boson physics, and top quark physics. We are major contributors and hold institutional responsibilities for the operations of the silicon strip tracker, the hadron calorimeter, and the R&D of Phase 2 HL-LHC upgrades of the outer tracker and the endcap calorimeter of CMS. We are particularly interested in applications of machine learning in collaboration with the Brown Data Science Initiative. We offer challenging opportunities associated with our responsibilities in CMS and exciting possibilities in the analysis of the discovery-quality data of LHC Run 2 and Run 3. The successful applicant is expected take a leading role in CMS physics analysis and actively participate in our detector operations responsibilities. Participation in the R&D for the CMS upgrade is also a possibility. A Ph.D. in experimental particle physics is required and experience with data analysis and/or hardware is preferred. Interested candidates should submit a curriculum vitae and arrange to have three letters of recommendation submitted online at <https://academicjobsonline.org/ajo/jobs/15782>. For full consideration, applications should be submitted by June 1, 2020, 2020. The position will remain open until filled. For inquiries, please contact Ulrich_Heintz@brown.edu.

Brown University is committed to fostering a diverse and inclusive academic global community; as an EEO/AA employer, Brown considers applicants for employment without regard to, and does not discriminate on the basis of, gender, race, protected veteran status, disability, or any other legally protected status.

Application Materials Required:

Submit the following items online at this website to complete your application:

- Cover Letter
- Curriculum Vitae
- Research Statement
- Publication List
- Three Reference Letters (to be submitted online by the reference writers at this site [📄](#))



Providence, Rhode Island



Brown University

- Founded in 1764
- Today, Brown University has
 - 7,043 undergraduate students
 - 2,629 graduate students
 - 585 medical school students
 - 6,000 summer, visiting and online students
 - 816 full-time faculty



Physics Department

- 31 Faculty (2 Nobel Prize Winners – Cooper, Kosterlitz)
- 88 Ph.D. Students
- 38 ScM Students
- \approx 100 Undergraduate Physics Majors



CMS Group



Cutts



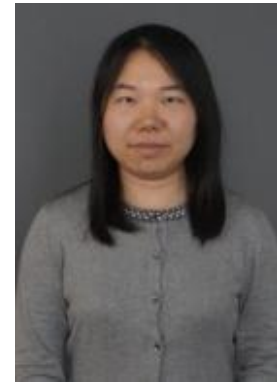
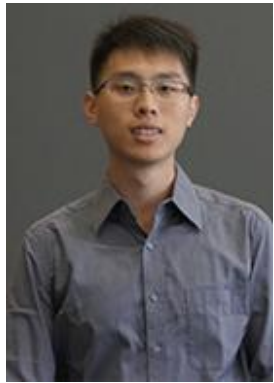
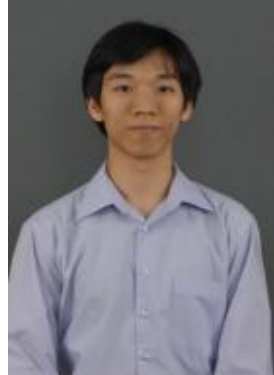
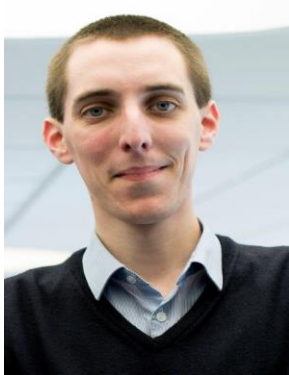
Landsberg



Heintz

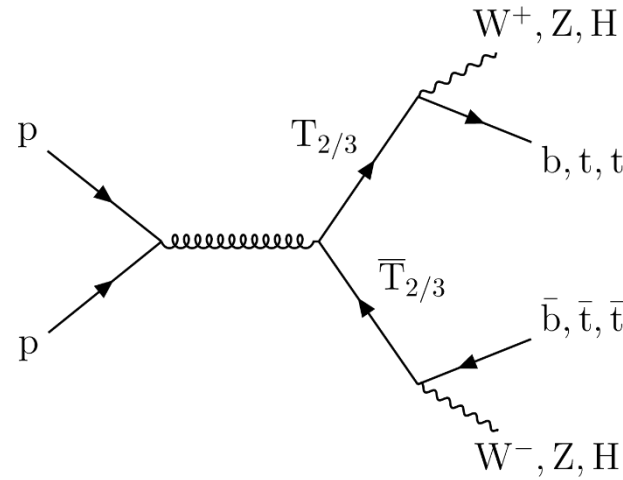


Narain

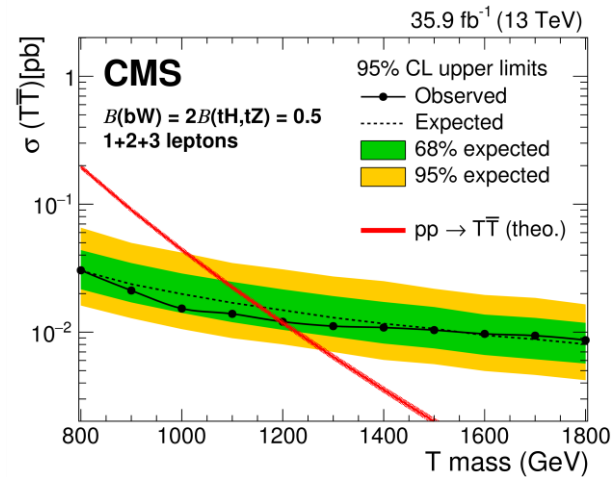


Focus of Research

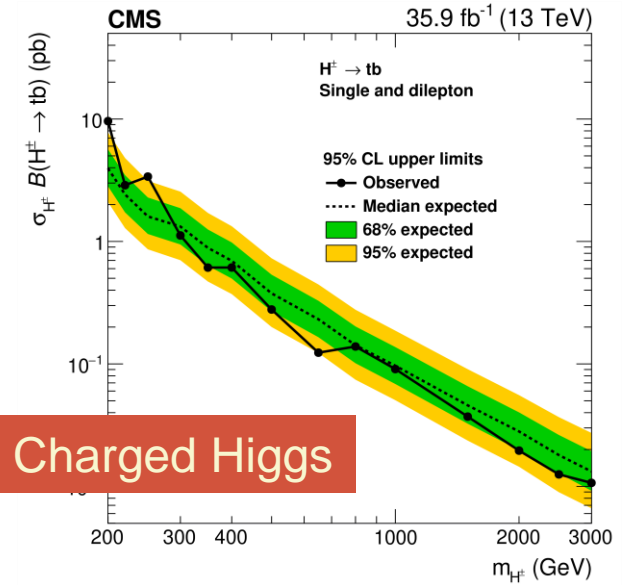
- Ongoing Physics Analyses
 - Vector-like quarks
 - Charged Higgs
 - Higgs $\rightarrow c\bar{c}$
 - $pp \rightarrow 4$ top quarks
 - Top mass and width
- Tools
 - Machine learning, E2E, ...
 - B-tagging
- Strip Tracker Operations
 - Spy channel, cosmic rack, ...
- Phase-2 Upgrades
 - Outer tracker
 - HGCal



Vector-like quarks

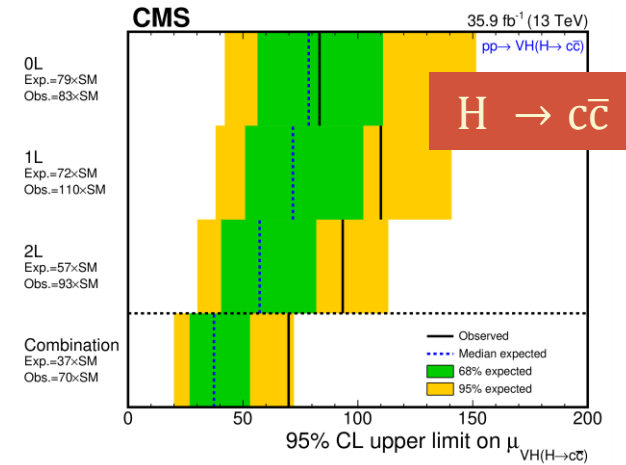


[JHEP08\(2018\)177](#)



Charged Higgs

[JHEP 01 \(2020\) 096](#)



H $\rightarrow c\bar{c}$

[JHEP 03 \(2020\) 131](#)



We are looking for a postdoc to join our group

- Work with Profs. Heintz and Narain's group
- Take a leading role in physics analysis
 - You have experience with data analysis, ability to carry through an analysis from beginning to end
 - You want to take over an existing analysis or start a new one
 - You want to supervise and guide graduate students
- Based at Brown or at CERN
 - Depending on personal situation and interest
 - Brown
 - Opportunity to contribute to upgrade activities in our labs
 - Collaborate with Brown Data Science Initiative – access to students, computer science expertise. etc
 - CERN
 - Play leading role in tracker operations
- Travel funds available for conferences and between Brown and CERN
- Initial appointment for one year, renewable for up to 5 years



Apply at <https://academicjobsonline.org/ajo/jobs/15782>

