

# Postdoctoral Research Associate with the University of Oklahoma

PIs: Brad Abbott, Phil Gutierrez, Mike Strauss, John Stupak



*The* UNIVERSITY *of* OKLAHOMA



# Position Details

- **Experiment: ATLAS**
- **Location: CERN** (Oklahoma or elsewhere is also possible)
- Research breakdown: physics analysis ( $\sim\frac{2}{3}$ ) and upgrade/operations/object reconstruction ( $\sim\frac{1}{3}$ )
  - Within these areas, the successful applicant will have some flexibility to identify specific projects (in coordination with PIs)
- Contract duration: 3 years, renewable for an additional 2
- Requirements: must hold a PhD in experimental HEP
- Application materials: cover letter, CV (including list of publications), statement of research, 3 letters of recommendation
- **Ad (with application deadline) will be decided posted soon**

# Brad Abbott

- Physics interests: SM measurements, searches for new physics, pixel detectors
- Recent ATLAS analyses:
  - Observation of  $WW$  production (2022)
  - Search for vector-like leptons (2023)
  - Observation of  $WW\gamma$  production and limits on aQGC (2023)
- Work closely with Argonne National Lab in silicon pixel detector upgrade
  
- Onia and hadronic decays subgroup co-convener
- Contact email: [abbott@ou.edu](mailto:abbott@ou.edu)

# Phillip Gutierrez

- Physics interests: SM measurements, searches for new physics, pixel detectors
- Recent ATLAS analyses:
  - Observation of  $tZq$  production (2020)
  - Search for vector-like tau-leptons (2023)
  - Observation of  $WW\gamma$  production and limits on aQGC (2023)
- Work with US ATLAS ITk group on silicon pixel detector upgrade
- Contact email: [pgutierrez@ou.edu](mailto:pgutierrez@ou.edu)

# Mike Strauss



- Physics Interests: SM and BSM Higgs Measurements
- Recent ATLAS Analysis:
  - Measurement of  $H \rightarrow WW$  couplings and cross sections for ggF and VBF production
  - Search for BSM decay of high mass particles to WW
- Recent ATLAS CP work
  - Jet in situ calibration
  - B-jet trigger monitoring
- Collaboration with Argonne National Lab for Silicon Pixel Detector Upgrade
- Email: [strauss@ou.edu](mailto:strauss@ou.edu)

# John Stupak



- Website: <https://jstupak.web.cern.ch/public/>
- **Physics interests: dark matter, long-lived particles, displaced track/vertex reconstruction, pixel detectors**
- **2022 ATLAS Outstanding Achievement Award:** “For their outstanding contributions to the integration of large-radius tracking into the standard ATLAS reconstruction”
- **Stupak’s postdoc (at the time) was also a recipient, now holds a CERN Fellowship**
- Recent publications:
  - “Performance of the reconstruction of large impact parameter tracks in the inner detector of ATLAS,” ATLAS Collaboration, submitted to EPJC (2023), [arXiv:2304.12867](https://arxiv.org/abs/2304.12867).
  - “Search for exotic decays of the Higgs boson into long-lived particles in pp collisions at  $\sqrt{s} = 13$  TeV using displaced vertices in the ATLAS inner detector,” ATLAS Collaboration, JHEP 11 (2021), [arXiv:2107.06092](https://arxiv.org/abs/2107.06092).
  - “Search for new phenomena in events with an energetic jet and missing transverse momentum in pp collisions at  $\sqrt{s} = 13$  TeV with the ATLAS detector,” ATLAS Collaboration, PRD 103 (2021), [arXiv:2102.10874](https://arxiv.org/abs/2102.10874).
- Current positions:
  - US LHC User’s Association (USLUA) Executive Committee
    - Finance and Fundraising Subcommittee Chair
  - US ATLAS L2 Deputy Manager for silicon tracker maintenance and operation
- Recent positions:
  - ATLAS Unconventional and Exotic Higgs Subgroup Co-convener
  - ATLAS Long-Lived Particle Forum Co-coordinator
  - ATLAS Unconventional Tracking Task Force Co-coordinator
  - Snowmass Energy Frontier MC Task Force Chair
  - Snowmass Energy Frontier MC Production Team Chair
  - US ATLAS Speakers Committee Chair

chat with me:  
<https://calendly.com/stupak/chat>