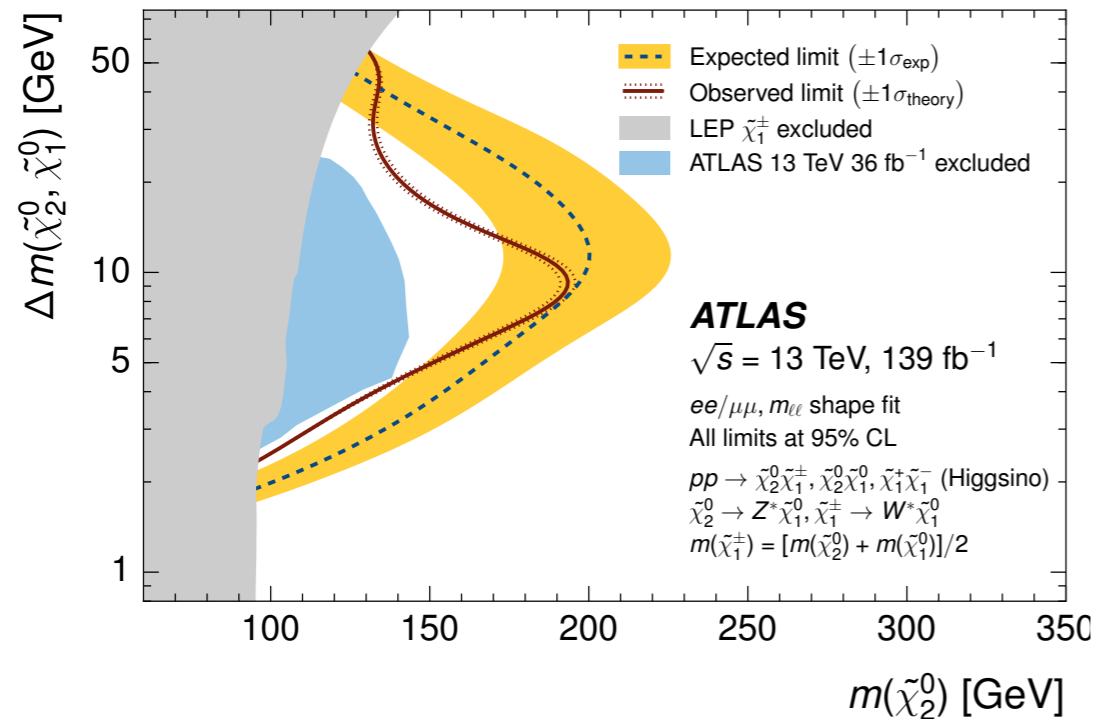
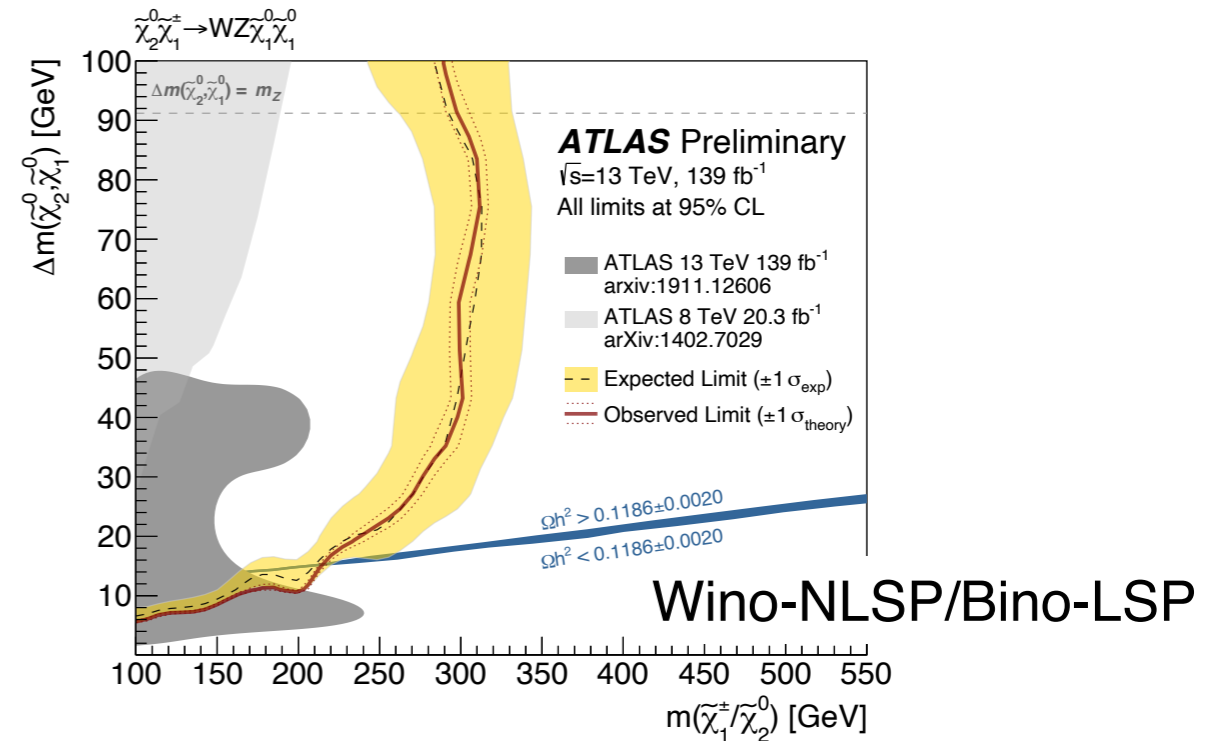


Our Team

Soft 2-lepton: ATLAS-SUSY-2018-16



3-lepton: ATLAS-CONF-2020-015



- **Strong commitment to the compressed searches in ATLAS.**

- 139 fb⁻¹, Soft-2L, Soft-3L results
- Soft lepton/track reconstruction

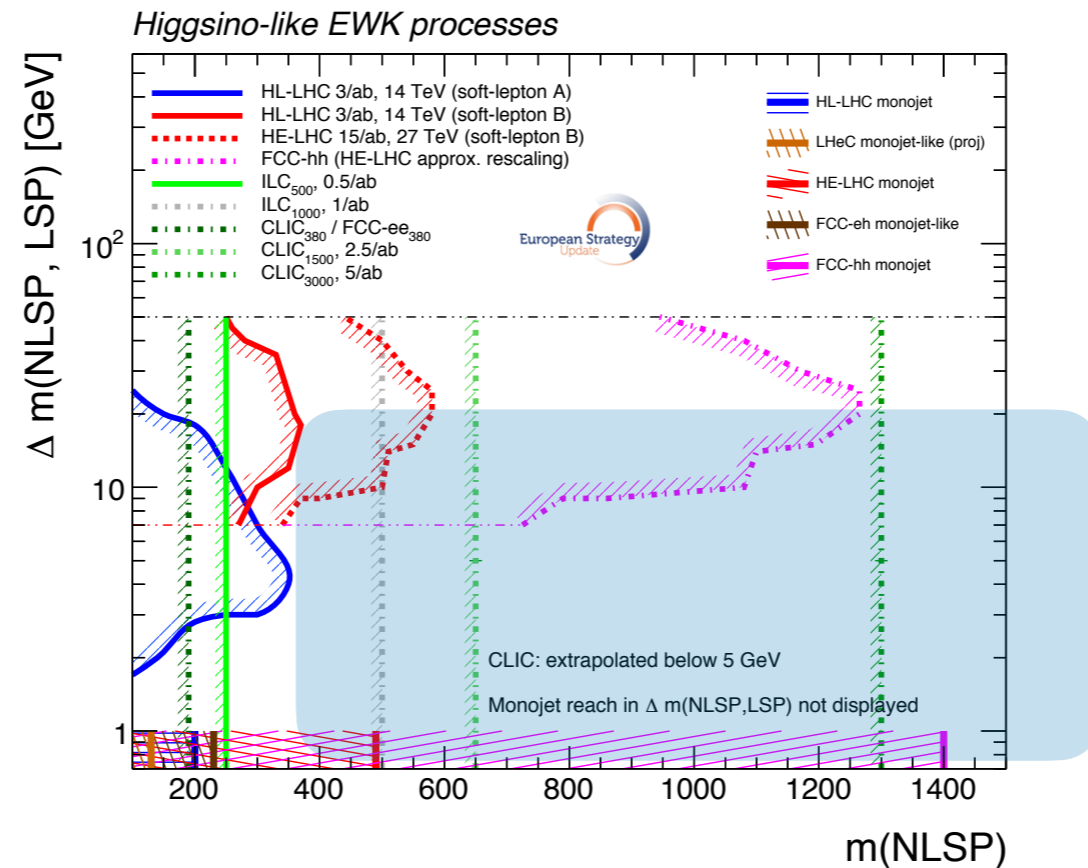
- **Person-power:**

Post-doc: Jeff Shahinian, Jeff Dandoy, Shion Chen

Students: TBA (1-2?)

Advisors: Elliot Lipeles, Joseph Kroll

Region of Interest @Penn



- **Would like to understand the discovery potential of:**

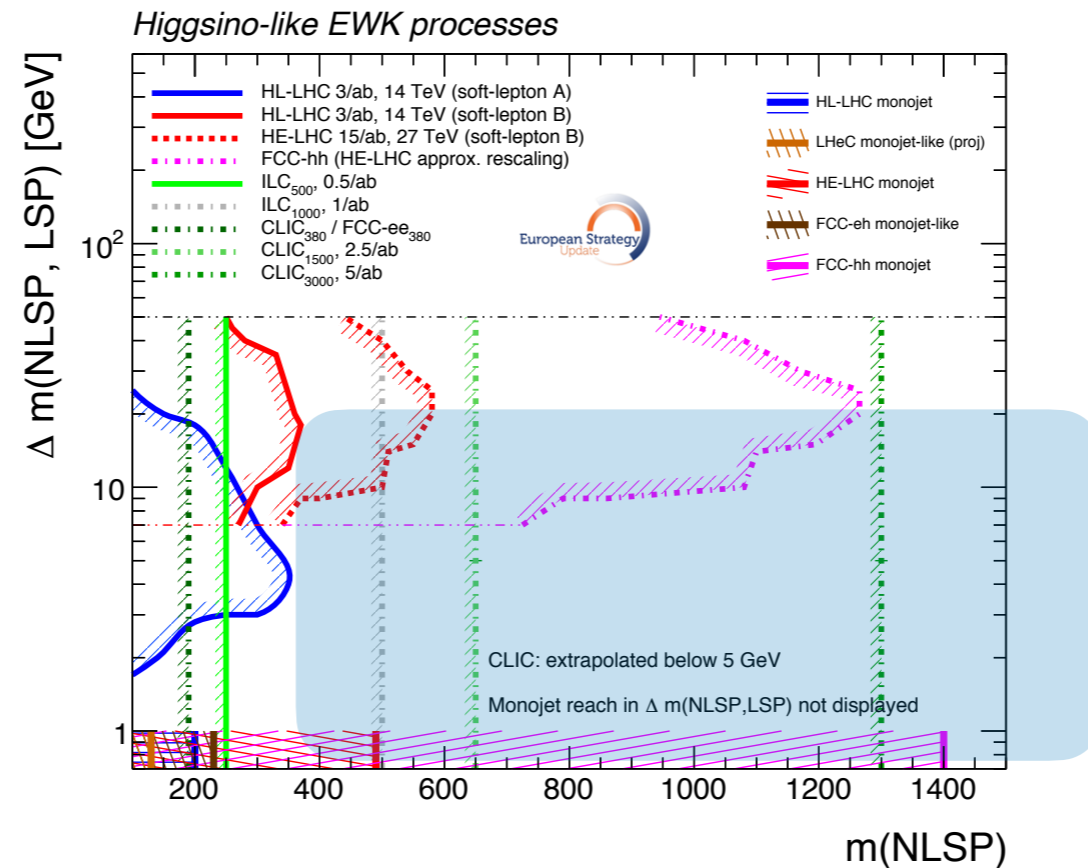
- **Mono-jet:** Very impressive sensitivity in the ES. What to reproduce & understand.
- **Mono-jet+X** (soft-2L, soft-3L, soft displaced tracks?)

Naively thinking should improve the mono-jet only sensitivity in $\Delta m = O(1-10)\text{GeV}$

How the “gap” will be filled in?

in hadron colliders (HL-LHC, FCC-hh).

Region of Interest @Penn



- **DELPHES-based analysis for direct comparison with the other colliders.**
Interested also in contributing to the MC generation task force.
- **Realistic “fake lepton” BG modeling**
Understanding the composition (Heavy-flavor decays, pion in-flight decays in jet etc.)
Feedback from current ongoing hadron colliders?