

Brookhaven National Laboratory

WELCOME!

AHEAD

HLS bootcamp

June 9-13, 2025

**FPGAs are EVERYWHERE in
ATLAS. In particular in the
TDAQ system but also
elsewhere in the detector**

So let's just use FPGAs

3

**Great! But... programming FPGAs,
as we will discuss, is not simple.**

**Traditional tools for FPGAs are
used by electronics and firmware
engineers with years of schooling
and experience. Jahred used them
years ago - HEP has learned over
time not to let physicists do this**

**As we'll discuss, HLS tools are
still complicated, but much
simpler than more traditional
tools. Great!**

**Unfortunately, not super great
training resources out there**

If we love anything, it's bad
music from the 80s and also
ridiculous acronyms;
US AHEAD= US ATLAS HLS
Education and Development

Real, honest photo of your workshop organizers

6



Some thoughts on this adventure we're about to embark on

7

This is a new workshop. With fresh material. Newly organized.

Who knows what the future holds, but we hope this workshop can and will happen again in the future, so please offer feedback and suggestions, even on the fly and as we go! (Send us emails, talk to us in person, or via Mattermost)

We'll send around a more formal post-mortem survey shortly after you get home, please look out for it!

Code of conduct

8

US AHEAD is a community-based workshop and bootcamp with a focus on learning. There is no grading involved, but we expect all participants to put in their best faith effort to listen and work, which helps not only you but also your peers.

We hope to establish a welcoming and supportive environment for everyone, free from any form of discrimination, harassment, or retaliation, regardless of their background or identity. Disagreement and healthy discussion of differing viewpoints is welcome. We value a welcoming, considerate and respectful environment that encourages the open and free exchange of scientific ideas. We expect all US AHEAD participants to respect these guidelines during the workshop and its social events, and encourage participants to reach out to the organizers with any concerns that arise.

We expect each workshop participant to be welcoming, considerate and respectful of all other individual participants, regardless of their nationality, political views, gender, sexuality, religion, ethnicity or any other characteristics.

The organizers are committed to addressing any concerns in a timely and fair manner. In extreme cases, we reserve the right to ask individuals in violation of the code of conduct to leave the workshop.

Note that COVID-19 and the flu are not at very high levels right now, but if you are not feeling well, please do consider the impact of your behavior on others.

Share your:

- 1) Name
- 2) Institution and position
- 3) Most embarrassing coding moment. (It's OK, we're all friends here and what happens on Long Island stays on Long Island).
- 4) Your favorite ice cream flavor
- 5) Your favorite dinosaur.
- 6) Anything else you want us to know