

RSoXS Code Camp 2023

7 – 9 Aug, 2023

NIST Gaithersburg campus, Building 101, Lecture Room D

and virtual via Bluejeans at <https://bluejeans.com/717906360/4754>

Monday, Aug 7

9:30 – 9:40 Welcome, Introductions, Goals and Scope (Peter Beaucage)

9:40 – 10:00 From NEXAFS to RSoXS and the future (Dean DeLongchamp)

10:00 – 11:00 Deep Dive on the Math of CyRSoXS (Peter Duenas)

12:00-1:30 Lunch (on your own/form smaller groups for offsite)

1:30 – 2:30 Follow-along tutorial: hand-writing C++ and CUDA (Tyler Martin)

Remainder of Monday cancelled due to severe weather / NIST campus closure.

Tuesday, Aug 8

9:30 – 10:30 title TBD, bluesky ecosystem and designing code ecosystems (Dan Allan, BNL)

10:30 – 11:00 Overview of existing NRSS morphology generation (Peter Beaucage / Peter Duenas)

11:00 – 12:00 whiteboard design of overall API; (whole team)

12:00-1:30 Lunch (on your own/form smaller groups for offsite)

1:30 - 4:30 CyRSoXS deep dive line by line review (Kumar Saruabh with discussion from all)

4:30 – 5:30 Future of CyRSoXS: Features, Wishlist, Implementation Plan

(Kumar Saruabh / Peter Duenas / team)

6:30 – optional gathering at Elder Pine Brewing and Blending (outdoor, special guest Aster Gann)

Wednesday, Aug 9 - PyHyper and Ecosystem Hackathon

9:00 – 9:30 Overview of PyHyperScattering / goals of hackathon / help set up development environments / open Q&A and issue triage (group discussion led by Peter Beaucage)

Split group into three main development teams w/ brief overview of each:

- Replace DataArrays with Datasets as the primary structure / get rid of MultiIndex
- front-end tools for visualization of PyHyper xarrays using Napari
- documentation generation / intro to code / notebooks to features

9:30 - 6:00 hack in teams, lunch break w/ team

6:30 - closing BBQ, Seneca Creek State Park

(weather permitting – we'll reserve a shelter so light rain OK - outdoor and dog friendly)