DUNE Computing Tutorial December 2021

Claire David David DeMuth

December 10th, 2021

Mission setup

Winner: squirrels and unicorn pegasus llamas. So here is a mixture.

How this training is organized

Main support for lectures and hands-on sessions

dune.github.io/computing-training-202112

The "live docs"

Will allow you to write a question during the session

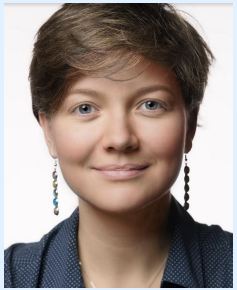
Links on Indico's timetable click 'Detailed view' on top

Pick a colour, add your name (if you want) and ask! there are no stupid questions

The team

You can read about us at the end of this presentation

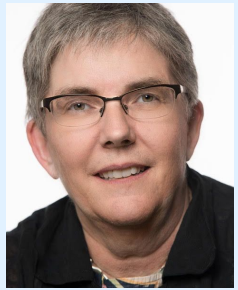
Organizers



Claire David
York University / FNAL

David DeMuth
Valley City State University

DUNE Computing Consortium Lead



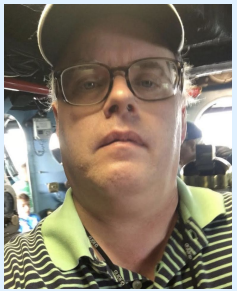
Heidi Schellman
Oregon State University

Lecturers

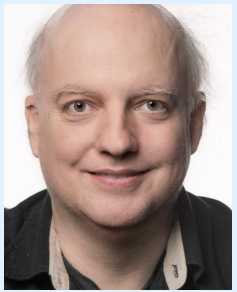
Mike Kirby
FNAL

Kenneth Herner
FNAL

Previous Lecturers



Steven Timm
FNAL



Tom Junk
FNAL

Let's start

and

enjoy the training!

Presentations

Heidi Schellman

I am the Computing Consortium Lead and Prof. at Oregon State University.

I've been involved in DUNE as a reviewer since 2006 and in the experiment since 2014.

Lecturers

Michael Kirby

I am a Senior Scientist at Fermilab and have been involved in DUNE (or LBNE) since 2015. I am currently the US Technical Lead of the DUNE Computing Consortium with a focus on Computing Model, Networking, and Tutorials.

I am also a member of the MicroBooNE collaboration working on neutrino interaction cross section measurements, and was previously a member of the CDF and DØ collaborations working on Electroweak interactions and Higgs searches.

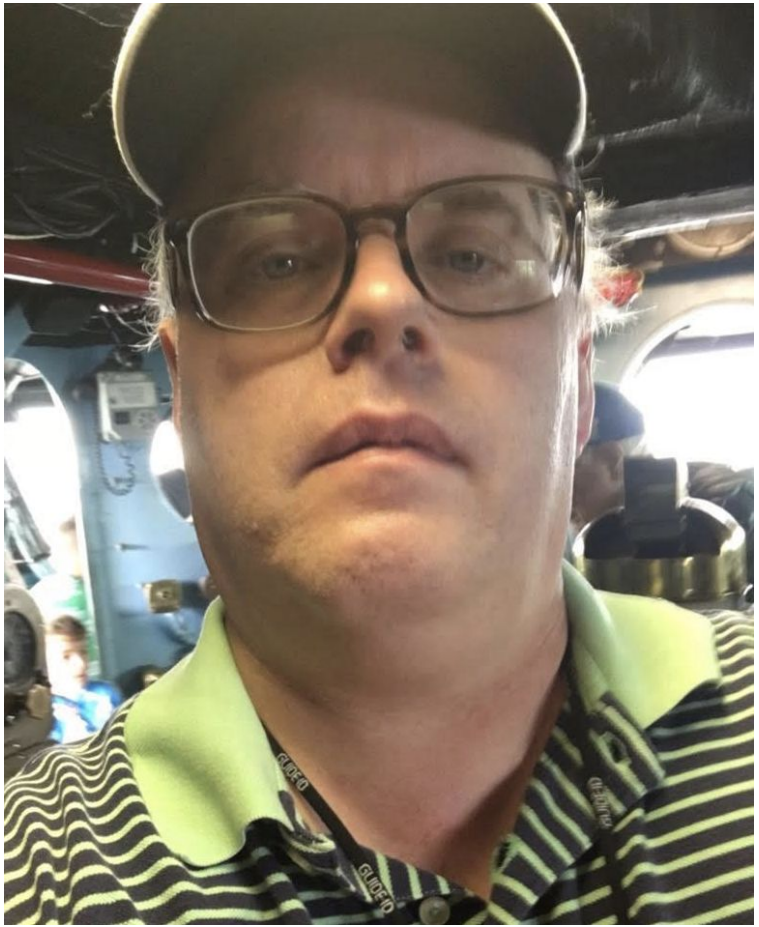
In my spare time, I can often be found exploring the outdoors on foot or racing around in circles at the velodrome.

Steven Timm

I have been a staff Computing Professional at Fermilab since 2000 and have been a member of DUNE since it was formed.

I have led or co-led the Dune Data Management activity since 2017. It is our group's job to make sure all incoming data and analysis results are catalogued and distributed across the world as needed.

My other tasks at Fermilab are mostly related to the HEPCloud project which enables us to take advantage of US High Performance Computing sites as well as the commercial clouds.



Tom Junk

I work on software management, ProtoDUNE, ICEBERG, and ND-GAr simulation, reconstruction, and offline interfaces to the data from the DAQ.

I provide advice to the Frameworks task force and to the Far Detector reconstruction effort.

Kenneth Herner

I have been a member of the Scientific Computing Division at Fermilab since 2012 and of DUNE since 2018. On DUNE I co-lead the Production group, responsible for all large-scale sample generation and keep up processing of raw data. We also do work to commission new compute sites and build the international computing community.

Beyond DUNE, I am active with various computing and analysis support tasks for several experiments, including the Dark Energy Survey and Rubin Observatory. I previously led the FIFE Project, which aims to provide a common, modular toolset for a large number of experiments, including DUNE and most of the other neutrino and muon experiments at Fermilab.

David DeMuth

I am a Professor of Physics at Valley City State University in North Dakota, and participate in software designs used for tracking the installation of high voltage systems on DUNE, and a member of the Computing Consortium.

Complementing this work, my group is developing a 3D immersive simulation of the SURF underground laboratory and DUNE far detector (UnReal) for education and outreach; this activity prompting a detailed understanding of the components and function of the employed detector technologies.

Prior to DUNE, I worked on NOvA and Soudan 2.

Claire David

I joined DUNE in 2019 as a jointly appointed scientist at FNAL and assistant professor at York University, in Toronto.

I am co-convening the Training and Documentation working group of the DUNE Computing consortium. Beside organizing training sessions, I am involved in the computing wiki and plan to build an Interactive Analysis Facility for protoDUNE and DUNE.

I am also a member of the ATLAS collaboration at CERN since 2012.

Mentors

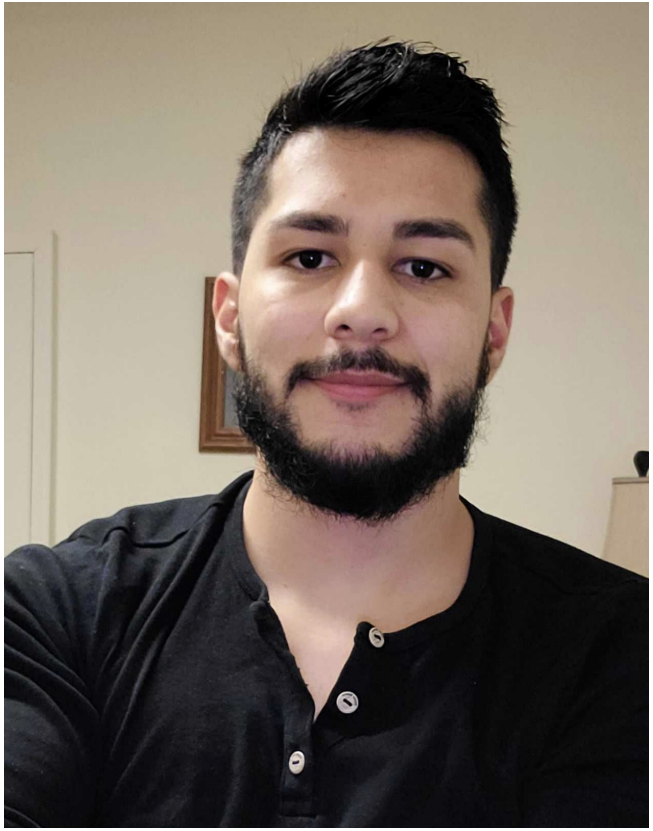
Amit Bashyal

I have been involved in DUNE directly and indirectly since 2012 (as an undergrad, then a grad student and now as a postDoc). I have worked on the beamline design/optimization and fluxes under Laura J Fields and Heidi Schellman.

Currently, I am involved in the computing side of the DUNE experiment as an Argonne National Lab (ANL) postdoc under Peter Van Gemmeren in High Energy Physics Division (HEP), where we want to test and develop various tools and methods to make the transfer, reading and writing of data quick and efficient which will be very important when the experiment runs.

Carlos Sarasty

As a graduate student I study the application of advanced deep learning-based techniques to develop reconstruction and particle identification tools for hadronic interactions in 3 dimensional ProtoDUNE event displays.



Enjoy the training!