



Welcome to
2023 HDF5 User Group (HUG) meeting

HDF5 User Group Meeting Organizing Committee



2023 HUG Meeting

HDF5 USER GROUP (HUG) MEETINGS

The HDF Group along with various partners hosts HDF5 User Group (HUG) meetings. You can access registration and other info for upcoming events, as well as find archival information and presentations for previous events here.

- [2023 European HDF5 User Group Meeting](#) – DESY, Hamburg, Germany – September 19-21, 2023
- [2023 HDF5 User Group Meeting](#) – Scott Laboratory, Columbus, Ohio – August 16-18, 2023
- [2022 European HDF5 User Group Meeting](#) – ITER, Aix-en-Provence, France – May 31-June 2, 2022
- [2021 Virtual Conference – October 12-14, 2021](#)
- [2021 European Virtual Conference – July 7-8, 2021](#)
- [2020 Virtual Conference – October 14-16, 2020](#)
- [2019 European Workshop in Grenoble, France](#)

- First in-person meeting in the USA (also hybrid)
 - In person: 56 registrations
 - Online: 10 registrations
 - 16 students
- Keynote talks
 - Marc Paterno, Fermi National Accelerator Laboratory
 - Tanya Berger-Wolf, The Ohio State University
- Lunch talks
 - Mark Miller, Lawrence Livermore National Laboratory
 - Mike Folk, The HDF Group
- Student posters
- NSF travel support funded several students to attend the meeting

Sponsors



THE OHIO STATE
UNIVERSITY



Agenda – Day 1

<https://tinyurl.com/hug23>



Time	Presenter	Title of the talk
8:45 am – 9:00 am	HUG 2023 Committee	Opening remarks, Welcome from Anish Arora (CSE Chair)
9:00 am – 9:45 am	Marc Paterno	Keynote: Computing Challenges in Unlocking the Secrets of the Universe
9:45 am – 10:00 am		Break
10:00 am – 10:20 am	Josh Whitlinger	HDF5 use in Long Term Energy Modeling Systems at the U.S. Energy Information Administration
10:20 am – 10:40 am	Gregory Sjaardema	A Workflow for Using CGNS in Parallel HPC Analyses
10:40 am – 11:00 am	Hariharan Devarajan	H5Intent: Autotuning HDF5 with user Intent
11:00 am – 11:20 am	Jean Luca Bez	Drishti and HDF5: What is actually happening in my application?
11:20 am – 11:40 am	Mark Kittisopikul	HDF5 in the Julia Ecosystem
11:40 am – 12:15 pm		Lunch break
12:15 pm – 1:00 pm	Mark C. Miller	Lunch talk: From XFiles to SAF: the early pedigree of HDF5
1:00 pm – 1:20 pm	John Readey	HyperChunking for the Cloud
1:20 pm – 1:40 pm	Matt Larson	Re-introducing the REST VOL
1:40 pm – 2:00 pm	Aleksandar Jelenak	Cloud-Optimized HDF5 Files
2:00 pm – 2:20 pm	Glenn Song	HDF and DAOS using Google Cloud
2:20 pm – 2:40 pm	Aleksandar Jelenak	Zarr as HDF5 Cloud Format?
2:40 pm – 2:55 pm		Break
2:55 pm – 3:15 pm	Donpaul C. Stephens	AirMettle: A Real-Time Smart Data Lake for Accelerated In-Place Analytics of Scientific Data
3:15 pm – 3:35 pm	John Mainzer	Toward Multi-Threaded Concurrency in HDF5
3:35 pm – 3:55 pm	Runzhou Han	PROV-IO+: A Provenance Framework for Scientific Data on HPC Systems
3:55 pm – 5:00 pm	Dana Robinson and Neil Fortner	State of HDF5, New Features, and Upcoming Roadmap

Agenda – Day 2

<https://tinyurl.com/hug23>



Time	Presenter	Title of the talk
8:55 am – 9:00 am	HUG 2023 Committee	Opening remarks
9:00 am – 9:45 am	Tanya Berger-Wolf	Keynote: AI for Biodiversity: AI and Humans Combatting Extinction Together
9:45 am – 10:00 am		Break
10:00 am – 10:20 am	Mark C. Miller	Community sandbox for HDF5 compression testing
10:20 am – 10:40 am	Dingwen Tao	Revolutionizing I/O Performance: Lossy Compression Meets HDF5
10:40 am – 11:00 am	Edward Hartnett	We Added Quantization for Lossy Compression in NetCDF, and the HDF5 Team Should Consider Adding It Too
11:00 am – 11:20 am	Lightening talks	
	Sian Jin	Accelerating Parallel Write via Deeply Integrating Predictive Lossy Compression with HDF5
	Mark C. Miller	Advanced Concepts and Issues with H5Z-ZFP
	Gerd Heber	2023 European HDF User Group Meeting Announcement
11:20 am – 11:40 am	Elena Pourmal	Supporting Sparse Data in HDF5
11:40 am – 12:15 pm		Lunch Break
12:15 pm – 1:00 pm	Mike Folk	Lunch Talk: A brief history of HDF5
1:00 pm – 1:20 pm	Mark C. Miller	Object serialization with HDF5
1:20 pm – 1:40 pm	Axel Huebl	The Open Standard for Particle-Mesh Data
1:40 pm – 2:00 pm	Houjun Tang	Connecting HDF5 to the Proactive Data Containers
2:00 pm – 2:20 pm	Jay Lofstead	Metadata Management to Support Scientific Inquiry
2:20 pm – 2:40 pm	Wei Zhang	Towards Self-contained Metadata Search Capability for Self-describing File Formats
2:40 pm – 2:55pm		Break
2:55 pm – 3:15 pm	Tom Peterka	LowFive: In Situ Data Transport for High-Performance Workflows
3:15 pm – 3:25 pm	Lightning Sessions	
	Rajeev Jain	Data Reduction for Flash-X Simulations
	Tejas Guruswamy	Evolving role of HDF5 at the upgraded Advanced Photon Source
3:25 pm – 5:30 pm	Community Discussion – Moderated by Gerd Heber and Dana Robinson, The HDF Group	



Banquet

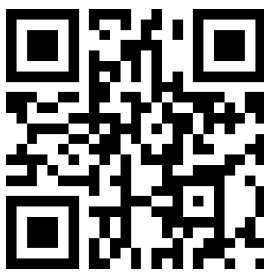


- Time: August 17th @ 6 pm
- Address: 1803 Olentangy River Rd Columbus, Ohio 43212
- If you are staying at Springhill Suites, shuttle pick up to the hotel: 5pm
- Self organize for ride sharing
 - Let Lori Cooper or other organizers know if you need help.



Agenda – Day 3

<https://tinyurl.com/hug23>

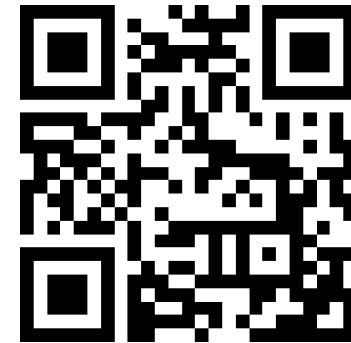


Time	Presenter	Tutorial
9:00 am - 10:20 am	Glenn Song and Gerd Heber	Intro to HDF5
10:20 am - 10:40 am		Break
10:40 am - 12:00 pm	Aleksandar Jelenak	Advanced HDF5
12:00 pm - 1:00 pm		Lunch
1:00 pm - 2:20 pm	Quincey Koziol	HDF5 on Cloud HPC Tutorial
2:20 pm - 2:40 pm		Break
2:40 pm - 4:00 pm	John Readey	Highly Scalable Data Service (HSDS) Tutorial



Logistics

- Breakfast and Lunch are outside the room
 - Food and drinks are not allowed in this room
 - Please finish lunch and come back for lunch talks
- Presenters: Upload to Google Drive
 - <https://tinyurl.com/hug23-talks>
 - In case you must present from your laptop, see the session chair.
- Wifi
 - WiFi@OSU
- Restrooms
 - Located near the hallway





2023 HUG Organizing Committee



Suren Byna



Gerd Heber



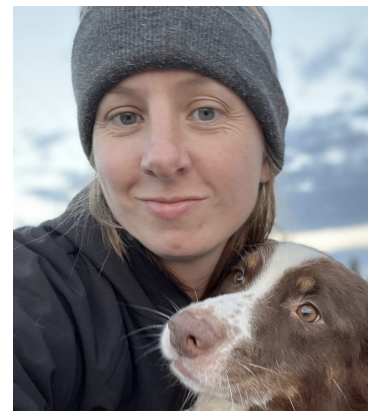
Elena Pourmal



Hari Subramoni



Quincey Koziol



Lori Cooper



Anthony Kougkas



Thanks to the HDF5 Community!