RSE Day 2025

Report of Contributions

Contribution ID: **11** Type: **Poster**

3-D weather forecast visualizations generated with open-source research software and based on open data

Recent developments in open data policies of meteorological agencies have much expanded the set of up-to-date weather observation and forecast data that is publicly available to meteorological research and education. To improve use of this open data, we have developed 3-D visualization products that extract and display meteorological information in novel ways. In this demo, we present visualization products derived from publicly available data from operational agencies including the German Weather Service (DWD) and the European Centre for Medium-Range Weather Forecasts (ECMWF). Visualizations are created with the open-source, interactive, 3-D visualization research software "Met.3D"(https://met3d.readthedocs.org). Met.3D has primarily been developed for rapid exploration of gridded atmospheric data by interactive means and has recently been extended with capabilities for batch-creation of visualizations and animations. In this demo, we show how we generate daily 3-D movies of current weather data for use in teaching and research, and how the Met.3D research software can be used to further explore data of interest in an interactive way.

I want to give a Lightning Talk

no

Authors: FISCHER, Christoph (Universität Hamburg); RAUTENHAUS, Marc (Universität Hamburg); VOGT, Thorwin (Universität Hamburg); RADKE, Tim (Universität Hamburg)

Presenters: FISCHER, Christoph (Universität Hamburg); RAUTENHAUS, Marc (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **12** Type: **Poster**

Analysing research data in manuscript studies

The multidisciplinary nature of manuscript study at the CSMC results in an ever-increasing volume of digital data in various modalities, ranging from raw images of artefacts to automatically generated data from advanced acquisition techniques. The manual analysis of this data is typically time-consuming and susceptible to human error and bias. Therefore, a set of Pattern Analysis Software Tools (PAST) has been developed to automate this process and provide new insights that can help answer various research questions. These software tools have been developed and tested in close collaboration with experts from relevant research fields to ensure their usability and applicability to actual research questions.

I want to give a Lightning Talk

no

Author: MOHAMMED, Hussein (Universität Hamburg / The Cluster of Excellence: UWA)

Presenter: MOHAMMED, Hussein (Universität Hamburg / The Cluster of Excellence: UWA)

Session Classification: Poster Session

Contribution ID: **13** Type: **Poster + Lightning Talk**

CaloClouds3; Diffusion and normalising flows

Wednesday 16 July 2025 10:00 (3 minutes)

This poster presents the final iteration of the CaloClouds series. Simulation of photon showers in the granularities expected in a future Higgs factory is computationally challenging. A viable simulation must capture the find details exposed by such a detector, yet be substantially faster than MCMC methods. The Caloclouds model utilises point cloud diffusion and normalising flows to replicate MCMC simulation with exceptional actuary. Our latest iteration has taken advantage of domain knowledge to reduce the model complexity, giving a speed up of up to 2 orders of magnitude. Finally, we present the results of reconstructions performed on CaloClouds 3 output against the results from the leading MCMC simulation, Geant4, thus demonstrating that this model provides reliable physics reproductions.

I want to give a Lightning Talk

yes

Authors: KOROL, Anatolii; GAEDE, Frank; KASIECZKA, Gregor; DAY-HALL, Henry (DESY); VALENTE, Lorenzo; MCKEOWN, Peter; LARS HENRIK BUSS, Thorsten

Presenter: DAY-HALL, Henry (DESY)

Session Classification: Lightning Talks

Contribution ID: **14** Type: **Poster + Lightning Talk**

ELECTRODE: An electrochemistry package for atomistic simulations

Wednesday 16 July 2025 10:21 (3 minutes)

The ELECTRODE package is a module in the official release of the molecular dynamics code LAMMPS and implements the constant potential method and related methods. Utilizing the massively parallel architecture of LAMMPS with neighbor lists and fast Fourier transforms, the package efficiently calculates interactions between atoms and minimizes their energy as a function of atom charges.

Standard Ewald summation and the particle-particle particle-mesh algorithm have been implemented for interaction calculations. For the energy minimization, a matrix inversion and the conjugate gradient method can be used.

Numerous research groups have used the ELECTRODE package for atomistic models of supercapacitors, batteries, the electrolyte Seebeck effect and electron transfers at functionalized interfaces. Further, the recently added charge equilibration enables modeling of non-metallic materials.

I want to give a Lightning Talk

yes

Author: AHRENS-IWERS, Ludwig (TU Hamburg)

Co-authors: Mrs SAVVIDI, Kamila (Institute of Surface Science, Helmholtz-Zentrum Hereon); Mr NICKEL, Ole (Institute of Surface Science, Helmholtz-Zentrum Hereon); Prof. MEISSNER, Robert (Institute for Interface Physics and Engineering, Hamburg University of Technology, Institute of Surface Science, Helmholtz-Zentrum Hereon)

Presenter: AHRENS-IWERS, Ludwig (TU Hamburg)

Session Classification: Lightning Talks

Contribution ID: **15** Type: **Poster**

Exploiting protein structure predictions and structural homology to identify viral immune evasion strategies.

Viruses are infamously efficient at employing homology as a mechanism of immune evasion by imitating host proteins to escape immune response. This might be exploited to identify new virus-host interactions. We have implemented a computational workflow, tested on the Human Cytomegalovirus (HCMV), which conducts structural homology search to list viral proteins and their homologs in humans. Matched human proteins are filtered for immune-related functions and their interacting partners are collated from databases. Finally, it predicts structures of complexes between the immune-mimicking viral proteins and their respective human counterparts. Complexes predicted at high quality are validated in vitro. By characterizing the interaction of these proteins, we hope to shed light on new immune evasion mechanisms employed by HCMV and other viruses.

I want to give a Lightning Talk

no

Authors: MARGENS, Birgit (LIV / CSSB / UKE); WASSILJEW, Emilia; ALTFELD, Marcus (LIV / UKE); PFEIFER, Matthias (LIV / CSSB / UKE); TOPF, Maya (LIV / CSSB / UKE); LAMAGNA, Pasquale (LIV / CSSB / UHH); NAIR, Sanjana (LIV / CSSB)

Presenter: LAMAGNA, Pasquale (LIV / CSSB / UHH)

Session Classification: Poster Session

Contribution ID: **16** Type: **Poster**

Managing Datasets in the Digital Age

Scholars in the humanities working with datasets face two challenges: Discovering relevant datasets and publishing their own dataset after their research is completed. We propose a new filetype, namely CSMC (Computer Science Metadata Container), to bundle the raw research data alongside a visualization of the data. Scholars can view the visualization of a dataset before downloading the whole dataset to their computer, helping deciding dataset relevance. When using the dataset, there is an option to download just the research data and, furthermore, to cite individual entries used. When they publish their own dataset, other scholars can use this dataset in the same way. With our new file format, we help scientists to overcome the challenges of finding and publishing datasets.

I want to give a Lightning Talk

no

Authors: ASSELBORN, Thomas (Universität Hamburg); BENDER, Magnus (Roskilde Universität); MARWITZ, Florian (Universität Hamburg); MELZER, Sylvia (Universität Hamburg); MÖLLER, Ralf (Universität Hamburg)

Presenters: ASSELBORN, Thomas (Universität Hamburg); MARWITZ, Florian (Universität Hamburg); MELZER, Sylvia (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **17** Type: **Poster**

Language Models in Humanities

Research groups in the humanities generate a substantial number of publications, contributing to an ever-expanding body of scholarly work. When a scholar is interested in the topics covered or has specific questions about (subsets of) publications, they must overcome the big number of publications to read. We demonstrate the use of language models in the humanities by showcasing two applications: First, the usage of Latent Dirichlet Allocation for identification of topics with minimal effort. Second, a new chatbot ChatHA for answering questions about documents. ChatHA also provides citations which excerpts from documents it uses. On the technical side, ChatHA is the extension of pretrained language models with a set of documents using RAG. Citations are generated by postprocessing the answer.

I want to give a Lightning Talk

no

Authors: ASSELBORN, Thomas (Universität Hamburg); BENDER, Magnus (Roskilde Universität); MARWITZ, Florian (Universität Hamburg); MELZER, Sylvia (Universität Hamburg); MÖLLER, Ralf (Universität Hamburg)

Presenters: ASSELBORN, Thomas (Universität Hamburg); MARWITZ, Florian (Universität Hamburg); MELZER, Sylvia (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **18** Type: **Poster + Lightning Talk**

EncouRAGe: Evaluating RAG local, fast and reliable

Wednesday 16 July 2025 10:18 (3 minutes)

We introduce **EncouRAGe**, a comprehensive Python-based framework designed to streamline the development and evaluation of Retrieval-Augmented Generation (RAG) systems using local Large Language Models (LLMs). Encourage integrates leading tools such as vLLM for efficient inference, Jinja2 for dynamic prompt templating, and MLflow for observability and performance tracking. It supports both in-memory (Chroma) and scalable (Qdrant) vector databases for optimized context retrieval. The framework offers modular RAG methods, customizable inference templates, and detailed evaluation metrics, enabling rapid prototyping and benchmarking of context-aware LLM applications. Encourage aims to democratize LLM-based development with a focus on flexibility, speed, and reproducibility.

I want to give a Lightning Talk

yes

Author: STRICH, Jan (Universität Hamburg)

Presenter: STRICH, Jan (Universität Hamburg)

Session Classification: Lightning Talks

Contribution ID: **19** Type: **Poster**

Constellation - a Flexible Control and Data Acquisition Framework

The qualification of new detectors presents a challenging setting that requires stable operation of diverse devices, often employing multiple data acquisition (DAQ) systems running on several machines in a local network. Changes to these setups are frequent, such as using different reference detectors depending on the facility. Managing this complexity necessitates a system capable of controlling the data taking, monitoring the experimental setup, facilitating seamless configuration, and easy integration of new devices.

Constellation is a flexible control and data acquisition framework developed with the requirements of laboratory and test beam environments in mind. Besides the possibilities for control and monitoring of the setup, Constellation also offers data transmission over the network, which is useful for embedded DAQ systems such as Caribou.

I want to give a Lightning Talk

no

Author: LACHNIT, Stephan (DESY)

Presenter: LACHNIT, Stephan (DESY)

Session Classification: Poster Session

Contribution ID: **20** Type: **Poster + Lightning Talk**

Digital Edition of the Levezow Album: Interactive Visualization of 17th-Century Drawings

Wednesday 16 July 2025 10:09 (3 minutes)

The "Digital Edition Levezow Album" project is an interdisciplinary collaboration between the Hub of Computing and Data Science (HCDS), the Department of Art History at the University of Hamburg, and the State and University Library Hamburg. The project aims to digitally process and interactively visualize a previously unexplored sketchbook from the late 17th century, containing drawings on anatomy, antiquity, proportion studies, and natural history.
By leveraging modern technologies such as digital editing techniques and advanced image processing, the Levezow Album is made accessible to a broad audience. Each page of the album is accompanied by detailed explanations authored by students of the Department of Art History. These texts provide context regarding the significance, origins, and intricacies of the drawings. Additionally, an interactive commenting feature allows users to suggest alternative sources and engage in a dialogue about the artworks.
This project demonstrates how digital methods can be used in the humanities to reinterpret and make historical artifacts accessible. It serves as an example of the successful integration of research, education, and digital technology to promote cultural heritage.

I want to give a Lightning Talk

yes

Authors: ISARD, Amy (HCDS/UWA); PAUL, Janis-Marie (HCDS)

Co-authors: LIEWERT, Anne (Universität Hamburg); WENDERHOLM, Iris (Kunstgeschichtliches Seminar); VON WALDOW, Lina (Universität Hamburg); Dr SEMMANN, Martin (House of Computing and Data Science, Universität Hamburg)

Presenter: ISARD, Amy (HCDS/UWA)

Session Classification: Lightning Talks

Contribution ID: **21** Type: **Poster**

Integration of Data Applications in a RDM Infrastructure by Interface Design

The poster to be presented addresses the problem of incorporating a steadily growing number of research software applications into an existing RDM infrastructure as well as transferring their diverse outputs to the existing storage systems using interface definitions. A subprocess in the general RDM infrastructure is proposed integrating a new software component, the data transfer facilitator (DTF), to facilitate data transfer to a standardized large-scale data repository. Each new research project that implements a research software registers at the DTF and receives an interface endpoint definition. Via this endpoint the DTF monitors any relevant changes to the data model and notifies the administrator if the endpoint definition has to be changed.

I want to give a Lightning Talk

no

Author: Mr PEUKERT, Hagen (Universität Hamburg)

Presenter: Mr PEUKERT, Hagen (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **22** Type: **Poster + Lightning Talk**

RAT: A Computational Toolkit for Scalable Search System Analysis

Wednesday 16 July 2025 10:12 (3 minutes)

The Result Assessment Tool (RAT) is a Python-based software toolkit that addresses the critical research challenge of accessing and analyzing data from various search systems. It uses several computational methods, including Selenium for robust web scraping, Flask for the web interface, PostgreSQL for data management, and automated classifiers for content analysis. With RAT, researchers can design studies to systematically collect extensive search results and perform manual or automated evaluations. Key application areas include information science, health information, media and communication studies, and social sciences. The tool's significance lies in its methodological consistency and the significant improvement it offers in conducting comprehensive, scalable, and data-driven investigations based on results from search systems.

I want to give a Lightning Talk

yes

Author: Mr SÜNKLER, Sebastian (Hamburg University of Applied Sciences)

Co-authors: Prof. LEWANDOWSKI, Dirk (Hamburg University of Applied Sciences); Ms BILIR, Kardelen (Hamburg University of Applied Sciences); Mr KOOP, Oliver (Hamburg University of Applied Sciences); Mr SCHULTHEISS, Sebastian (Hamburg University of Applied Sciences)

Presenter: Mr SÜNKLER, Sebastian (Hamburg University of Applied Sciences)

Session Classification: Lightning Talks

Contribution ID: **23** Type: **Poster + Lightning Talk**

Private AI for Research: Secure, Scalable and Automated

Wednesday 16 July 2025 10:03 (3 minutes)

We present a privacy-preserving research environment integrating offline Large Language Models (LLMs), AI agents, and scalable infrastructure. By deploying private LLMs via Ollama and containerized workflows on Kubernetes, researchers can automate tasks like literature review, code generation, and secure data processing without compromising sensitive information. AI agents—coordinated through n8n—enhance productivity by orchestrating multi-step research workflows, such as relevance scoring of abstracts and deep content summarization. Designed with biomedical applications in mind, the environment enables responsible use of clinical and omics data in line with the stringent data governance requirements at the University Medical Center Hamburg-Eppendorf (UKE).

I want to give a Lightning Talk

yes

Author: HEINS, Sven (Universität Hamburg)

Presenter: HEINS, Sven (Universität Hamburg)

Session Classification: Lightning Talks

Contribution ID: **24** Type: **Poster**

Exploration of Scientific Collections with Multimodal Agentic RAG Systems

In this paper, we explore using multi-modal agents based on Large-Vision-Language-Models (LVLMs) what a scholarly collections portal can be beyond a digital showcase of the university's collections . We focus on the interactive exploration of scientific collections. Collection data is valued differently from different perspectives. For the university administrators, it is an item to be included in budgeting and space management. Public relations uses it to highlight the achievements of the institution, while scientists use it as research data and see the publication as an opportunity to connect with other researchers in their field.
Traditionally, university collection portals reflect administrative structures or collection contexts. This is a perfectly valid approach, but not always conclusive for outsiders, as seen in the access statistics. Our contribution focusses on the perspective of collection data as research data, which, serve a research community as well as the interested public. By using more explorative layers for data linkage and retrieval, we open up new entry points for the collection data and its underlying relations.
Search in conventional portals requires some expertise in field. Enhancing it with an interactive agent, which can answer questions about the portal in general or the objects within, opens up a object-centered and intuitive approach to the data for users of the collection portal. The text-to-image similarity search provides direct retrieval of images by their content in addition to the conventional method, where they are only search using their associated metadata.
In this contribution, we provide an overview of the components and interfaces and their integration into the microcosm of the collection portal. We also address the question of what is needed to transfer this functionality from the prototype to regular operation and whether or how these explorative methods can also be used to support the collection managers in their work.

I want to give a Lightning Talk

no

Authors: Dr VOGEL, Iris (UHH); SCHNEIDER, Florian (UniversitÃ¤t Hamburg); BABA AHMADI, Narges (UHH); BABA AHMADI, Niloufar (UHH); BIEMANN, Chris (House of Computing & Data Science); Dr SEMMANN, Martin (House of Computing and Data Science, Universität Hamburg)

Presenter: Dr SEMMANN, Martin (House of Computing and Data Science, Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **25** Type: **Poster**

LLM-Powered Software Engineering

Large language models (LLMs) bear great potential for automating tedious development tasks, like creating and maintaining source code documentation. We assist software developers of European XFEL (EuXFEL) with LLM-powered tools that facilitate knowledge and documentation management. We present findings from two controlled experiments conducted with EuXFEL's Data department, focusing on LLM-generated documentation for the Karabo control system and knowledge retrieval within the Data Operation Center. We also outline a recent project on analyzing ethical requirements discussed in artificial intelligence (AI) guidelines, with a focus on how these considerations can be integrated into AI model documentation. Documentation such ethical requirements can support organizations like EuXFEL in selecting models that align with their values and integrating AI responsibly into their workflows.

I want to give a Lightning Talk

no

Author: PUHLFÜRSS, Tim (University of Hamburg)

Co-authors: Prof. MAALEJ, Walid (University of Hamburg); Dr APLIN, Steve (European XFEL)

Presenter: PUHLFÜRSS, Tim (University of Hamburg)

Session Classification: Poster Session

Contribution ID: **26** Type: **Poster + Lightning Talk**

The Sign Language Dataset Compendium

Wednesday 16 July 2025 10:15 (3 minutes)

Resources for research on sign languages are rare and can often be difficult to locate. Few centralised sources of information exist. The Sign Language Dataset Compendium helps by providing an overview of existing lexical resources and linguistic corpora, as well as summary of popular data collection tasks shared among corpora. To date it covers resources for 82 different sign languages. The Compendium is published as a website, a PDF document and using metadata formats suitable for integration with dataset aggregator platforms. Its production pipeline includes a web editor for editorial staff, XML-based semantic markup and automatic integration of archival copies for external links to counter link rot and content drift.

I want to give a Lightning Talk

yes

Authors: SCHULDER, Marc (IDGS, Universität Hamburg); KOPF, Maria (Universität Hamburg); HANKE, Thomas (Universität Hamburg)

Presenter: SCHULDER, Marc (IDGS, Universität Hamburg)

Session Classification: Lightning Talks

Contribution ID: **27** Type: **Poster + Lightning Talk**

xbat –An Easy-to-Use and Universally Applicable Benchmarking Automation Tool for HPC Software Within the Project hpc.bw (dtec.bw)

Wednesday 16 July 2025 10:06 (3 minutes)

Benchmarking applications in high-performance computing (HPC) systems is essential for optimising runtime, reducing energy consumption, and ensuring efficient hardware utilisation. However, accessing and interpreting performance metrics can be challenging and error prone. To address this, we present xbat (extended benchmarking automation tool), developed by MEGWARE Computer Vertrieb und Service GmbH, as an easy-to-use and universally applicable tool to automate benchmarking and simplify performance analysis for HPC users of all skill levels.

This poster provides an overview of xbat's architecture, features, and case studies within the project hpc.bw (dtec.bw). We focus on the open-source molecular dynamics research software ls1 mardyn, which comes with an auto-tuning library AutoPas, and the closed-source mathematical optimisation package Gurobi.

I want to give a Lightning Talk

yes

Author: LEINEN, Willi (Helmut Schmidt University)

Co-authors: Mr DAS SHARMA, Amartya (Helmut Schmidt University); Prof. FINK, Andreas (Helmut Schmidt University); Dr AUWETER, Axel (MEGWARE Computer Vertrieb und Service GmbH); Mr TIPPMANN, Nico (MEGWARE Computer Vertrieb und Service GmbH); Prof. NEUMANN, Philipp (Deutsches Elektronen-Synchrotron (DESY), University of Hamburg)

Presenter: LEINEN, Willi (Helmut Schmidt University)

Session Classification: Lightning Talks

Contribution ID: **28** Type: **Poster + Lightning Talk**

The Data Hub: Enhancing Collaborative Research and Intelligence through Reproducible Data Harmonization

Wednesday 16 July 2025 14:33 (3 minutes)

The Data Hub is an open source software framework created to address the needs of collaborative research using diverse data across disciplines. It is developed in Python, on top of the Django web-framework and a PostGIS/PostgreSQL database, following computer science best practices as well as the FAIR4RS principles.

The framework's core function allows reproducible data harmonization for analysis on temporal and spatial dimensions, while managing data governance through FAIR metadata and documentation. This way, it aims to be a piece in the diverse puzzle of open science standards and tools.

Its current status is tailored to global health and public health intelligence communities, while also focusing on transfer and reusabillity in other disciplines.

I want to give a Lightning Talk

yes

Author: STRÖBELE, Jonathan (BNITM)

Co-authors: BOENECKE, Juliane (BNITM); Prof. MAY, Juergen (BNITM)

Presenter: STRÖBELE, Jonathan (BNITM)

Session Classification: Lightning Talks

Contribution ID: **29** Type: **Poster**

Enhancing Developer Experience in Near Real-Time Scientific Data Processing: The AsapoWorker Library

High-throughput scientific experiments generate massive data streams requiring near real-time processing for time-critical decision making. However, developing robust streaming workflows presents significant challenges in distributed computing environments.
We present AsapoWorker 1, a Python library that simplifies the development of processing workers on top of the Asapo 2 streaming framework. AsapoWorker enhances developer experience by providing automated error handling, seamless stream switching, and simplified interfaces that abstract streaming complexity.
This poster introduces AsapoWorker's core concepts and demonstrates its capabilities for scientific streaming applications. We aim to initiate a conversation with the broader developer community from research centers to discuss how the library can be improved to achieve higher adoption rates, lower introduction barriers, and facilitate easier integration of new features following established software development principles. In turn, enabling more efficient experimental workflows and accelerating scientific discovery.

I want to give a Lightning Talk

no

Author: RUEDA, Diana (Deutsches Elektronen-Synchrotron DESY)

Co-authors: TOLSTIKOVA, Aleksandra (Deutsches Elektronen-Synchrotron DESY); BARTY, Anton (Deutsches Elektronen-Synchrotron DESY); ANDREZ, Marc-Olivier (Deutsches Elektronen-Synchrotron (DESY)); KARNEVSKIY, Mikhail (Deutsches Elektronen-Synchrotron DESY); TIRUMALAI, Parthasarathy (Deutsches Elektronen-Synchrotron DESY); SCHOOF, Tim (Deutsches Elektronen-Synchrotron DESY)

Presenter: RUEDA, Diana (Deutsches Elektronen-Synchrotron DESY)

Session Classification: Poster Session

Contribution ID: **30** Type: **Poster**

Project ”Conseydo” - GDPR-compliant, digital consent management for research

The consent management platform, *Conseydo*, developed in the Flutter framework and funded by the funding program Calls4Transfer, uses a privacy by design approach to enable the GDPR-compliant digital creation, documentation, management and tracking of consent for research, for example within the stakeholder triad of teachers, parents and researchers. The plattform solves organizational challenges such as low return rates and a lack of networking by providing a digital and GDPR-compliant workflow. Participants are verified and consents are signed, traceable and organized in real time. It connects stakeholders anonymously beyond the project period, for example for longitudinal surveys. The platform solves data protection challenges and offers a holistic approach to GDPR-compliant networking and transparent organization of data processing in the research process.

I want to give a Lightning Talk

no

Author: WUPPERMANN, Michael (Universität Hamburg)

Presenter: WUPPERMANN, Michael (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **31** Type: **Poster + Lightning Talk**

Analyze my data, I don’t care how

Wednesday 16 July 2025 14:15 (3 minutes)

We present MENTO, a data processing toolkit that remotely runs external analysis software on-demand using the DESY high-performance computing (HPC) cluster.
MENTO is set up to require no input from users except to point to the desired analysis software, and the entire processing pipeline is then managed automatically, including data input, access to the HPC cluster, job submissions to a batch processing scheduler, and result writing.
Analysis is triggered automatically during an experiment, and the processed results are transparently made available to users so they can immediately evaluate the experiment, without having to manually handle any raw data at all.

I want to give a Lightning Talk

yes

Author: KARTIK, Vijay (DESY)

Presenter: KARTIK, Vijay (DESY)

Session Classification: Lightning Talks

Contribution ID: **32** Type: **Poster**

A vector-based transcription system for vowel dots in early Qurʾanic manuscripts.

The poster presents findings from the DFG project InterSaME (2020–2023) focused on vowel-dots in early Qurʾanic manuscripts. It highlights a vector-based transcription system as there is no current encoding or transcription tool for vowel-dots. Using a customised Archetype software instance, the team developed a pointer-based encoding method that describes each dot's position relative to script skeletons via two vectors—one for the baseline and one for the dot's centre. By normalising the vectors, visual comparisons between multiple manuscripts become possible, revealing patterns and clusters. While designed for vowel-dots in Arabic manuscripts, the tool is adaptable to other handwriting components in any language, offering promising applications in the analysis of ancient written artefacts and manuscript studies.

I want to give a Lightning Talk

no

Authors: FEDELI, Alba (Universität Hamburg); KINNE-WALL, Carolin (Universität Hamburg)

Presenters: FEDELI, Alba (Universität Hamburg); KINNE-WALL, Carolin (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **33** Type: **Poster**

Signatures of Friendship. Exploring the Jerusalem Guestbook of Miryam and Moshe Ya'akov Ben-Gavriêl

This project presents a browsable digital exploration environment for a multilingual private guestbook from 20th-century Jerusalem. The goal is to investigate curiosity-driven browsing strategies in archival contexts, going beyond systematic searches. By providing intuitive, user-friendly visualization solutions, the project aims to facilitate an exploratory approach and increase serendipitous discoveries. The digital edition combines two open-source viewers, VIKUS Viewer and OpenSeadragon, offering different visual experiences and interaction possibilities. This dual approach addresses the challenge of processing large amounts of visual information from digitized cultural collections while preserving the original context of the historical artifact.

I want to give a Lightning Talk

no

Authors: SCHIRRMEISTER, Sebastian (Universität Hamburg); ISARD, Amy (IDGS, Universität Hamburg)

Presenter: SCHIRRMEISTER, Sebastian (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **34** Type: **Poster**

DATS: An Expandable AI Platform for Multi-modal Data Analysis

The Discourse Analysis Tool Suite (DATS) is a collaborative web-based platform enabling researchers to manage and analyze multi-modal data with AI. The core features aim to support and enhance rigoros research. I.e. data management, search & filtering, classification, and quantitative analyses. To further expand the DATS, we are keen on learning from your research projects to expand methodological support and implement blueprints of research methods.

I want to give a Lightning Talk

no

Authors: BIEMANN, Chris (House of Computing & Data Science); Mr PETERSEN-FREY, Fynn (University of Hamburg); Dr SEMMANN, Martin (Hub of Computing and Data Science, Universität Hamburg); AYKUT, Stefan (WISO Fakultät); FISCHER, Tim (Universität Hamburg)

Presenter: FISCHER, Tim (Universität Hamburg)

Session Classification: Poster Session

Contribution ID: **35** Type: **Poster**

Benchmarking Robustness of Pathology Vision Foundation Models for Prostate Cancer Relapse Prediction

Prostate cancer relapse prediction is a challenging task within computational pathology as tissue preparation and digitization are not standardized. The different protocols lead to domain shifts, against which a deep learning model must be robust and focus on biological information rather than variations in appearance. We address this challenge through the usage of vision foundation models that are pre-trained on large and diverse pathology datasets. Six different models are fine-tuned and evaluated on a histopathology dataset that includes multi-domain prostate cancer images on patient-level. The comparison shows that larger models are in general superior and that robustness varies depending on the vision foundation model and the domain.

I want to give a Lightning Talk

yes

Author: WITTE, Anja (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany)

Co-authors: SAUTER, Guido (Department of Pathology, University Center Hamburg-Eppendorf, Hamburg, Germany); BAUMBACH, Jan (Department of Computational Systems Biology, University of Hamburg, Hamburg, Germany; Computational Biomedicine Lab, Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark); LOHMANN, Jens J. G. (Department of Computational Systems Biology, University of Hamburg, Hamburg, Germany;); ZIMMERMANN, Marina (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany); FUHLERT, Patrick (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany; Spearpoint Analytics AB, Stockholm, Sweden); BONN, Stefan (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany; Spearpoint Analytics AB, Stockholm, Sweden)

Presenter: WITTE, Anja (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany)

Session Classification: Poster Session

Contribution ID: **36** Type: **Poster + Lightning Talk**

Ten Years of Experience with the Online Media Monitor for Climate Change

Wednesday 16 July 2025 14:21 (3 minutes)

For many people, the media are the main source of information about climate change. An increasing number of people have turned to online services from both traditional and new media providers to stay informed. As a result, studying online reporting is essential to understand how public debates about climate change are shaped. To support this, the University of Hamburg developed the Online Media Monitor (OMM) for climate change in 2015. Here, we want to share our experiences with developing and, especially, maintaining the OMM over the past ten years as the online world has continued to change.

I want to give a Lightning Talk

yes

Authors: Mr SADIKNI, Remon; Prof. BRÜGGEMANN, Michael

Presenter: Mr SADIKNI, Remon

Session Classification: Lightning Talks

Contribution ID: **37** Type: **Poster**

bAIome Center for biomedical AI at University Medical Center Hamburg-Eppendorf (UKE)

bAIome is the center for biomedical AI at University Medical Center Hamburg-Eppendorf (UKE). The center consists of faculty and staff from various institutes within the UKE who are engaged in research and education in broad areas of biomedical AI. bAIome serves as a competence center bundling knowledge, expertise, & resources to provide a portfolio of services to help students, researchers and clinicians in their research and learning. Within this framework, bAIome also supports the development of software, creating tools and models that underpin novel biomedical research.

I want to give a Lightning Talk

no

Author: Dr REINICKE-VOGT, Anna (Universitätsklinikum Hamburg-Eppendorf)

Presenter: Dr REINICKE-VOGT, Anna (Universitätsklinikum Hamburg-Eppendorf)

Session Classification: Poster Session

Contribution ID: **38** Type: **Poster**

RAG for Fact-Checking with Real-World Claims

This paper presents UHH's approach developed for the AVeriTeC shared task. The goal of the challenge is to verify given real-world claims with evidences from the Web. In this shared task, we investigate a Retrieval-Augmented Generation (RAG) model, which mainly contains retrieval, generation, and augmentation components. We start with the selection of the top 10k evidences via BM25 scores, and continue with two approaches to retrieve the most similar evidences: (1) to retrieve top 10 evidences through vector similarity, generate questions for them, and rerank them or (2) to generate questions for the claim and retrieve the most similar evidence, again, through vector similarity. After retrieving the top evidences, a Large Language Model (LLM) is prompted using the claim along with either all evidences or individual evidence to predict the label. Our system submission, UHH, using the first approach and individual evidence prompts, ranks 6th out of 23 systems.

I want to give a Lightning Talk

Authors: BIEMANN, Chris (House of Computing & Data Science); Dr NIKISHINA, Irina (Hub of Computing and Data Science, University of Hamburg); Dr SEMMANN, Martin (Hub of Computing and Data Science, Universität Hamburg); Ms SEVGILI, Özge (Hub of Computing and Data Science, University of Hamburg)

Presenter: Ms SEVGILI, Özge (Hub of Computing and Data Science, University of Hamburg)

Session Classification: Poster Session

Contribution ID: **39** Type: **Poster**

Framework for Distributed Near Real-Time Data Processing Pipelines

Processing large amount of data in near real-time during experiments at synchrotrons is enabling scientists to make the best use of limited beamtime 1. However, building systems capable of handling data rates of several gigabytes per second over long periods of time requires specialized expertise in distributed computing 2, which limits the broader adoption of such systems at beamlines.

The presented framework, designed and developed as part of the ROCK-IT project [3], aims to simplify the creation and operation of distributed near real-time data processing pipelines. Users of this framework will create data processing pipelines by assembling together existing data processing units (workers) in a way similar to existing Flow-Based Programming [4] or Workflow frameworks [5] [6] mainly used for batch processing. When needed, developers will have the possibility to develop their own workers, for example using the AsapoWorker library [7]. In addition, the framework will provide tools to deploy and manage these pipelines on HPC clusters, visualize data from different workers, and save the relevant data into standard file formats such as NeXus [8].

1 “Real-time data processing for serial crystallography experiments”, Thomas White et al., 2025, https://doi.org/10.1107/S2052252524011837.
2 “Eight Fallacies of Distributed Computing”, Gareth Wilson, 2015, https://web.archive.org/web/20171107014323/http://blog.
fallacies-of-distributed-computing-tech-talk/.
[3] “Remote, Operando Controlled, Knowledge-driven, and IT-based (ROCK-IT)”, https://www.rock-it-project.de/
[4] “Flow-Based Programming 2nd Edition: A New Approach to Application Development”, J. Paul Morrison, 2011, https://www.jpaulmorrison.com/fbp/book.html
[5] “Airflow is an open-source platform for developing, scheduling, and monitoring batch-oriented workflows”, https://airflow.apache.org/docs/apache-airflow/stable/index.html.
[6] “Extensible Workflow System (Ewoks)”, https://ewoks.esrf.fr/en/latest/.
[7] “AsapoWorker” library, https://gitlab.desy.de/fs-sc/asapoworker.
[8] “The NeXus data format”, J. Appl. Cryst. (2015). 48, 301-305, https://doi.org/10.1107/S1600576714027575.

I want to give a Lightning Talk

no

Author: ANDREZ, Marc-Olivier (Deutsches Elektronen-Synchrotron (DESY))

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Presenter: ANDREZ, Marc-Olivier (Deutsches Elektronen-Synchrotron (DESY))

Session Classification: Poster Session

Contribution ID: **40** Type: **Poster**

From Metadata to Models: Graph-Based Representation of Data Reduction Workflows at the European XFEL

The European XFEL has updated its scientific data policy to require detailed data management plans (DMPs) and mandatory data reduction. We explore how DMPs, together with metadata and empirical traces from data management and storage systems, can be integrated into a scientific knowledge graph (SKG). This heterogeneous information network serves as a foundation for applying Heterogeneous Graph Transformers (HGTs) to learn embeddings and labels for data reduction, conceptualised as graph transformations. Our approach grounds workflow descriptions in observable data, enabling integration with named entity recognition (NER) and LLM-based methods. It offers future potential for predictive data quality assessment, automated DMP evaluation, and recommender systems as services within the European XFEL's data management platform.

I want to give a Lightning Talk

no

Author: SCHUH, Michael (European XFEL)

Presenter: SCHUH, Michael (European XFEL)

Session Classification: Poster Session

Contribution ID: **41** Type: **Poster + Lightning Talk**

GraphRAG based research data retrieval

Wednesday 16 July 2025 14:24 (3 minutes)

The presentation will introduce a GraphRAG-based approach to research data retrieval from research data catalogues, using the Text+ Registry as an example.
Retrieval-Augmented Generation (RAG) systems have become a cornerstone for LLM-based question-answering tasks involving individual (potentially private or sensitive) unstructured data. However, traditional RAG pipelines often lack an in-depth understanding of the underlying data and the ability to retrieve contextual information from it.
GraphRAG based approaches can address this by utilizing structured data in a knowledge graph to capture deeper relational context, enabling more precise retrieval and a more nuanced understanding.
The first implementation has already shown that GraphRAG outperforms standard RAG in terms of both retrieval precision and response quality.
The presentation will also contain a system demonstration.

I want to give a Lightning Talk

yes

Author: LEHMBERG, Timm (Akademie der Wissenschaften in Hamburg)

Presenter: LEHMBERG, Timm (Akademie der Wissenschaften in Hamburg)

Session Classification: Lightning Talks

Contribution ID: **42** Type: **Poster + Lightning Talk**

ISO Schematron: A feather duster to reach the parts other schema languages cannot reach

Wednesday 16 July 2025 14:27 (3 minutes)

Schematron is an ISO-standardized validation language for structured data (ISO/IEC 19757:3). It lets you evaluate assertion tests for selected parts of a document. It was first designed as an international standard in 2006 and has been updated continuously. The standardization process of the 4th edition is in its final stages and is expected to finish in September this year.

Schematron's use of XPath both as the language to select the portion of a document and as the language of the assertion tests gives Schematron the flexibility to validate arbitrary relationships and dependencies of information items in a document. What also sets Schematron apart from other languages is that it encourages the use of natural language descriptions targeted to human readers. This way, validation can be more than just a binary distinction (document valid/invalid) but also support authors of in-progress documents with quick feedback on erroneous or unwanted document structure and content. The flexibility and (relative) simplicity of Schematron make it an invaluable tool for XML-based text-encoding projects.

SchXslt is one of the leading implementations of ISO Schematron, powered by the mature XSL Transformations language. It goes beyond the features of the ISO standard and supports, among other things, streaming validation. It is MIT-licensed and used across a wide range of industries, such as publishing and the digital encoding of humanities artifacts (TEI/MEI).

I want to give a Lightning Talk

yes

Author: MAUS, David (Staats- und Universitätsbibliothek Hamburg Carl von Ossietzky)

Presenter: MAUS, David (Staats- und Universitätsbibliothek Hamburg Carl von Ossietzky)

Session Classification: Lightning Talks

Contribution ID: **43** Type: **Poster**

KI4Demo: Research Software to promote AI for Demokratie and fight Disinformation

Social media increasingly fuel extremism and disinformation, especially in the right-wing agenda, and enable the rapid spread of antidemocratic narratives. Although there is plenty of research being done in the socio/political fields against these phenomena, there is a considerable gap between it and putting policy into practice. Our conjoined software engineer project called KI4Demo supports functionalities that span KIFürDemokratie (AI for Democracy) and KIDHHS (KI-basierter Desinformationsindikator für Hamburger Schulen) to tackle this gap. A unified platform applies machine learning models to large-scale German online data gathered on a daily basis, providing a comprehensive view of trends in the German digital sphere. For KIFürDemokratie, the platform assists journalists, researchers, and policymakers in monitoring right-wing discourse that may undermine democratic values. In the cases of KIDHHS, KI4Demo is used to facilitate the discovery of disinformation movements and talking points, helping teachers to fight them in the classroom and transmit the knowledge of media literacy against them.

I want to give a Lightning Talk

no

Authors: HORWEGE, Florian; FORTHMANN, Jörg (FAKTENKONTOR); Dr SEMMANN, Martin (Hub of Computing and Data Science, Universität Hamburg); NAHAR, Ritesh (Zirkel Technologies GmbH); GARRIDO VELIZ, Rudy Alexandro (Universität Hamburg); YIMAM, Seid Muhie (House of Computing and Data Sceince); BERGMOSER, Simon (NORDAKADEMIE); BANSAL, Somya' (Zirkel Technologies GmbH); SCHALAND, Till

Presenters: Dr SEMMANN, Martin (Hub of Computing and Data Science, Universität Hamburg); GARRIDO VELIZ, Rudy Alexandro (Universität Hamburg); YIMAM, Seid Muhie (House of Computing and Data Sceince)

Session Classification: Poster Session

Contribution ID: **44** Type: **Poster + Lightning Talk**

Computational pathology - the gap between clinics and research

Wednesday 16 July 2025 10:24 (3 minutes)

Computational pathology has made tremendous progress on dedicated datasets in the past years. However, currently such algorithms are still not used routinely for diagnostics in the clinics. There is still a large gap between research and clinics and the factors that contribute to this, such as the focus on reproducing subjective scores and the large variance in performance depending on the data source. One important goal is, therefore, to overcome subjective scores by introducing objective endpoints, as well as developing quantifiable and objective metrics based on specialised microscopy types. In order to further close the gap, robustness to domain shifts between datasets and generalizability, as well as measures of uncertainty to defer uncertain decisions are important topics.

I want to give a Lightning Talk

yes

Authors: WITTE, Anja (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany); ZIMMERMANN, Marina (University Medical Center Hamburg-Eppendorf); FUHLERT, Patrick (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany; Spearpoint Analytics AB, Stockholm, Sweden); BONN, Stefan (Institute of Medical Systems Bioinformatics, Center for Biomedical AI (bAIome), Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf, Hamburg, Germany; Spearpoint Analytics AB, Stockholm, Sweden)

Presenter: ZIMMERMANN, Marina (University Medical Center Hamburg-Eppendorf)

Session Classification: Lightning Talks

Contribution ID: **45** Type: **Poster**

Protokolibri –a convenient tool to track browsing behaviour

Our poster presents Protokolibri, a distributed application for logging the browsing behavior of large groups of students on iPads. The developed browser plugin records tab events via Javascript and sends them asynchronously to the Protokolibri node.js server, which stores the data sorted by device name and timestamp.

The focus of the tool is on simplifying data collection. Previously, researchers had to export the data from each tablet individually after each session using proprietary software. Our open-source tool Protokolibri reduces the effort of data collection to simply distributing the iPads to the students.

Protokolibri does not yet offer any further data processing - the researchers export the data from the server and analyze it using standard statistical software. However, the distributed architecture makes it easy to integrate data processing algorithms in the future.

I want to give a Lightning Talk

no

Author: ZIELKE, Felix (University of Hamburg)

Presenter: ZIELKE, Felix (University of Hamburg)

Session Classification: Poster Session

Contribution ID: **46** Type: **Poster**

STAC for federated data access to high-volume ESM datasets in preparation for Exascale

Contemporary earth system models (ESM) perform simulations at kilometer scale resolution at various HPC centers. The data from these simulations aid in research and policy making. Hence the design of the data access system for a federated setup should consider the data, analysis tools and computing resources at each center. Also for efficient discoverability, the data management at each center should consider the technicalities and usage patterns of the data and the storage constraints.
Spatial Temporal Asset Catalogs (STAC) facilitate the data discoverability based on the geographic location and time. In the Warmworld project we develop a federated data access system for DKRZ and JSC centers, usíng STAC as the frontend and satisfying user requirements. We explain how the aforementioned factors have been addressed.

I want to give a Lightning Talk

yes

Authors: MODALI, Kameswar Rao (Deutsches Klimarechenzentrum(DKRZ)); Dr PETERS-VON GEHLEN, Karsten (Deutsches Klimarechenzentrum(DKRZ))

Presenter: MODALI, Kameswar Rao (Deutsches Klimarechenzentrum(DKRZ))

Session Classification: Poster Session

Contribution ID: **47** Type: **Poster + Lightning Talk**

Continuous Integration and Continuos Deployment at DESY

Wednesday 16 July 2025 14:18 (3 minutes)

Continuous Integration and Continuous Deployment is a modern Software Engineering best practice that enables efficient large scale software development and use. There are a variety of popular Ci/CD tools that help in adopting these practices. In this poster we focus on the kinds of software, their runtime environments,packaging and deployment tools and techniques used at DESY that can easily be leveraged by participating institutions under DAPHNE4NFDI.

I want to give a Lightning Talk

yes

Author: TIRUMALAI NALLAM CHAKRAVARTY, Parthasarathy (DESY)

Co-authors: Mr KHOKHRIAKOV, Igor (DESY); Ms HINZMANN, Regina (DESY)

Presenter: TIRUMALAI NALLAM CHAKRAVARTY, Parthasarathy (DESY)

Session Classification: Lightning Talks

Contribution ID: **48** Type: **Poster**

EMOCONV-DIFF: Diffusion-based Speech Emotion Conversion for Non-parallel and In-the-wild Data

Speech emotion conversion is the task of converting the expressed emotion of a spoken utterance to a target emotion while preserving the lexical content and speaker identity. While most existing works in speech emotion conversion rely on acted-out datasets and parallel data samples, in this work we specifically focus on more challenging in-the-wild scenarios and do not rely on parallel data. To this end, we propose a diffusion-based generative model for speech emotion conversion, the EmoConv-Diff, that is trained to reconstruct an input utterance while also conditioning on its emotion. Subsequently, at inference, a target emotion embedding is employed to convert the emotion of the input utterance to the given target emotion. As opposed to performing emotion conversion on categorical representations, we use a continuous arousal dimension to represent emotions while also achieving intensity control. We validate the proposed methodology on a large in-the-wild dataset, the MSP-Podcast v1.10. Our results show that the proposed diffusion model is indeed capable of synthesizing speech with a controllable target emotion. Crucially, the proposed approach shows improved performance along the extreme values of arousal and thereby addresses a common challenge in the speech emotion conversion literature.

I want to give a Lightning Talk

no

Author: RAJ PRABHU, Navin (Signal Processing)

Co-authors: Mr LAY, Bunlong (Universität Hamburg); Prof. LEHMANN-WILLENBROCK, Nale (Universität Hamburg); Mr WELKER, Simon (Universität Hamburg); Prof. GERKMANN, Timo

Presenter: RAJ PRABHU, Navin (Signal Processing)

Session Classification: Poster Session

Contribution ID: **49** Type: **Poster + Lightning Talk**

Memory Efficient Volumetric Deep Neural Network for Digital Volume Correlation

Wednesday 16 July 2025 14:36 (3 minutes)

The optical flow method is one of the emerging approaches for Digital Volume Correlation (DVC) to analyze the volumetric deformation during in situ experiments of material science research. However, deep optical flow neural networks for DVC are limited by memory requirement, especially for high volumetric resolution data from Synchrotron Radiation Computed Tomography (SRCT) in the scale of micro-meter or nano-meter.
In this work, we extend our study on optical flow networks VolRAFT, by focusing on memory efficiency during the supervised training of volumetric neural networks using high-resolution micro-CT and nano-CT data. We present approaches to reduce maximum memory requirement based on network architectural and non-architectural changes, utilizing cutting-edge Graphics Processing Units (GPUs). We develop an "on-the-fly"synthetic dataset generator to reduce the storage space needed during training. We compare these approaches by the memory requirement and the accuracy of deformation fields under various volumetric resolutions, based on experimental data of bone-implant materials, lignocellulosic tissues and shape memory alloy wires.

I want to give a Lightning Talk

yes

Author: WONG, Tak Ming (Helmholtz-Zentrum Hereon)

Presenter: WONG, Tak Ming (Helmholtz-Zentrum Hereon)

Session Classification: Lightning Talks

Contribution ID: **50** Type: **Poster + Lightning Talk**

SmartPhase: Start to End Holotomography

Wednesday 16 July 2025 14:30 (3 minutes)

X-ray near-field holography is a full-field phase-sensitive microscopy method. It allows to image specimen with a single exposure in a scalelable field of view. The measurements are so called holograms and require reconstruction to obtain the actual image of the specimen. The reconstruction is the bottleneck of this method. It can be time consuming and algorithm parameters need to be tuned precisely.
The goal of SmartPhase is to reduce these pain points and offer a solution which allows non-expert users to carry out reconstructions online during their experiment.

I want to give a Lightning Talk

yes

Author: HAGEMANN, Johannes

Presenter: HAGEMANN, Johannes

Session Classification: Lightning Talks

Contribution ID: **51** Type: **Poster**

HoloPipe: Streamlining Phase Retrieval and Tomographic Reconstruction for X-ray Near-Field Holography Experiments at P05

X-ray near-field holography (NFH) is an advanced imaging technique that reveals the nanoscale internal structures of materials, making it particularly useful for studying a plethora of materials. Moreover, the specimens can be imaged using a single exposure, in a scalable field of view. However, the analysis of NFH data is complex, requiring sophisticated phase retrieval and tomographic reconstruction processes. At the P05 beamline at PETRA III (DESY, Hamburg, Germany), these challenges are heightened by the large volumes of data generated during experiments. To tackle this, we have developed a specialized toolkit to improve the efficiency and scalability of NFH data analysis. This toolkit streamlines critical processes like phase retrieval and tomographic reconstruction. Supported by the SmartPhase project and funded by Helmholtz Imaging, our work aims to significantly enhance experimental workflows, enabling more precise and efficient analysis of NFH data.

I want to give a Lightning Talk

no

Author: LOPES MARINHO, Andre

Co-authors: ZELLER-PLUMHOFF, Berit; GREVING, Imke; REIMERS, Jan; DORA, Johannes; GRÜN, Johannes; HAGEMANN, Johannes; FLENNER, Silja

Presenter: LOPES MARINHO, Andre

Session Classification: Poster Session