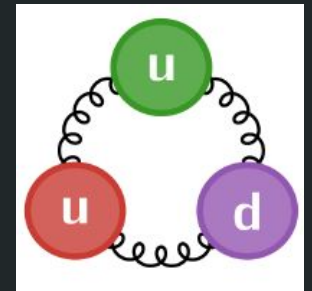




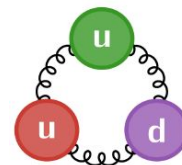
JuliaHEP News

Pere Mato Vila, Tamas Gal, Uwe Hernandez Acosta,
Alexander Moreno Briceño



Summer Students

- **GSoC 2024** projects related to **JuliaHEP**
 - **Yash Solanki** - [Julia interoperating with HEP C++ libraries](#) (mentors: Philippe Gras and Pere Mato)
 - **Daniel Regado** - [Machine Learning in Julia for Calorimeter Showers](#) (mentors: Graeme Stewart, Pere Mato and Piyush Raikwar)
- CERN Summer Students
 - **Elvis Agüero** - [Enabling Julia code to run at scale with artefact caching](#) (supervisors: Graeme Stewart, Pere Mato)



JuliaHEP 2024

- **JuliaHEP 2024 Workshop at CERN**
 - 30 September- 3 October
 - Poster ready (thanks Graeme!)
 - We should open registrations and send the first bulletin with the call for abstracts this week or next
- **Julia Training**
 - Visualization
 - Data Analysis
 - Practice sessions



JuliaHEP 2024 

@CERN
25 - 27 September, Tutorial
30 September - 3 October, Workshop

From the curious to the expert, JuliaHEP is the place to be to explore this growing language that brings the ease of Python and the speed of C++ to Scientific Computing!

Register Now!

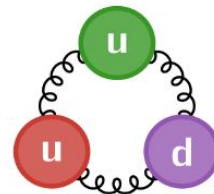
  

Workshop Tutorial


hsf-juliahep-organisation
@googlegroups.com

JuliaCon 2024 - July 9th-13th

- Contributions
 - **UnROOT.jl - Data I/O for High-Energy Physics in Julia** - Jerry Ling. 07-10, 16:30–17:00
 - **Geant4.jl - Particle transport in Julia** - Pere Mato. 07-10, 14:30–15:00.
 - **Jet Reconstruction in Julia** - Graeme Stewart. 07-10, 15:00-15:30



CHEP 2024 - October 21-25

- Contributions
 - **Julia in HEP.** Graeme A Stewart, CERN; Pere Mato, CERN; Tamas Gal, FAU; Benedikt Hegner, CERN; Uwe Hernandez Acosta, HZDR; Alexander Moreno, UAN; Allen Caldwell, MPI for Physics; Oliver Schulz, MPI for Physics; Samuel Skipsey, University of Glasgow; Jerry Ling, Harvard University; Mikhail Mikhasenko, Ruhr University Bochum; Philippe Gras, IRFU/CNRS
 - **Bridging Reproducibility Gaps in Partial Wave Analysis.** Remco De Boer, RUB; Mikhail Mikhasenko, RUB; Ilya Segal, RUB
 - **Fast Jet Reconstruction in Julia.** Philippe Gras (CNRS/IRFU), Benedikt Hegner (CERN), Atell-Yehor Krasnopolski (University of Würzburg), Graeme A Stewart (CERN)
 - **BAT.jl, the Bayesian Analysis Toolkit in Julia.** Allen Caldwell (MPP), Cornelius Grunwald (TU Dortmund), Kevin Alexander Kröniger (TU Dortmund), Oliver Schulz (MPP), Salvatore La Cagnina (TU Dortmund)
 - **EDM4hep.jl: Analysing EDM4hep files with Julia.** Pere Mato, CERN

The JuliaHEP organization website

- The site <https://www.juliahep.org> should be our focal point for spreading information on JuliaHEP
 - Sourced from github www.juliahep.org repo
- Updated this week with the recent packages added to the JuliaHEP ecosystem
 - You are encouraged to update with your information!!
- Contact us at hsf-juliahep-organisation@googlegroups.com

Home **J** Packages

ROOT file and event-loop based workflow

- [ROOT.jl](#) wraps a selected number of classes from [ROOT](#)
- Reading ROOT files (TTree/RNTuple): [UnROOT.jl](#)
- Histogramming: [FHist.jl](#) ([example plots](#))
- Analysis Grand Challenge example: [LHC_AGC.jl](#)
- [EDM4hep.jl](#) Prototype of the [EDM4hep](#) (generic Event Data Model for HEP experiments part of [Key4hep](#)) for Julia. Read access to ROOT files with EDM4hep data

Simulation

- [Geant4.jl](#) wraps the major user interface classes of the [Geant4](#) simulation toolkit. It allows to develop detector simulation applications with Julia. Example applications are hosted in a separate package [G4Examples.jl](#). A jupyter book with tutorials is available at [Geant4.jl-tutorial](#)

Reconstruction

- [JetReconstruction.jl](#) Set of algorithms for jet clustering based on the C++ [FastJet](#) package.

Data access

- [XRootD.jl](#) wraps the client functionality of [XRootD](#), which is high performance, scalable, and fault tolerant access to data repositories

[cc by-sa 4.0](#) juliahep. last modified: last modified: june 19, 2024. website built with [franklin.jl](#) and the [julia programming language](#).

HEP Software Foundation

Today's Agenda

- **Update on Jet Reconstruction**
 - Graeme A Stewart (CERN), Mr Sattwamo Ghosh (Indian Institute of Science Education and Research, Kolkata)
- **WrapIt and the new ROOT.jl**
 - Philippe Gras (Université Paris-Saclay (FR))
- **Plans for RootIO.jl**
 - Yash Solanki (GSOC, Indian Institute of Technology)

