PRINCETON UNIVERSITY

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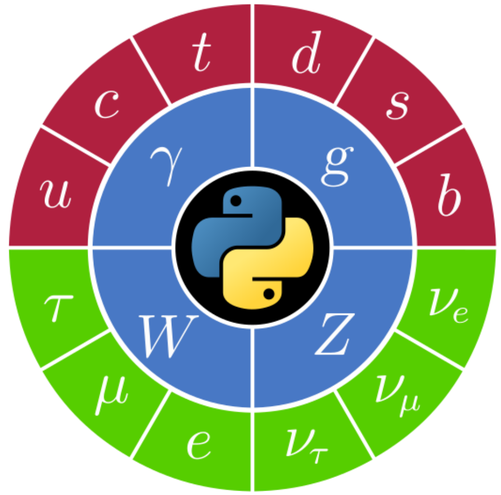
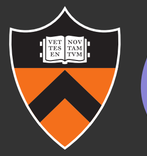
Welcome to PyHEP.dev 2026



Peter Fackeldey

7.9.2026

PyHEP and PyHEP.dev



- “PyHEP”: Python in HEP activity group of HEP Software Foundation
- Organizing yearly two workshops “PyHEP.dev” and “PyHEP User” since 2023 (from 2018 - 2023 there was only a merged PyHEP workshop)
  - PyHEP.dev: focus on developers and maintainers of Python software
  - PyHEP User: focus on show-casing new libraries, features and tutorials
- At PyHEP.dev we want to encourage expert discussions to shape the future of the Pythonic HEP ecosystem

→ Morning - Noon: Talks about latest developments in PyHEP
→ Afternoon: Discussions / Hackathons (many small groups are encouraged)

Please document discussions and links (Github PR, issue, …) in
https://codimd.web.cern.ch/ttbNPMWETCq7VRnaaxUB8w?both

3 Timetable

Monday

- 09:00 **Welcome** — *Manfred Peter Fackeldey*
- **Coffea Framework: Current Status, Recent Updates, and…** — *Iason Krom…*
- **Evolving ROOT's Python Interfaces** — *Silia Taider*
- 10:00 **Uproot: RNTuple support and future plans** — *Andres Rios-Tascon*
- **Pepper: a CMS columnar analysis framework** — *Dominic Stafford*
- **Coffee Break**
- 11:00 **FCCAnalyses: Python-Driven Analysis at Scale for the Fut…** — *Birgit Sylvi…*
- **coffea-workflow: coffea extension for HEP workflow ma…** — *Yana Holobor…*
- **A python-based analysis pipeline for the ATLAS Integr…** — *Alexander Hel…*
- **An update on CMS analysis pipelines through the Integratio…** — *Mohame…*
- 12:00 **Lunch** — *Veltman Centre, Nikhef* 12:00 - 13:30
- 13:00 **Model Context Protocol for Scientific Software: Building…** — *Giordon Holt…*
- **An AI Assistant for CMS Combine** — *Massimiliano Galli*
- 14:00 **Agentic Software Engineering** — *Henry Schreiner*
- **Creating HEP analyses with Agents** — *Gordon Watts*
- **Discussion / Coding: Agents and LLMs** — *Veltman Centre, Nikhef* 14:30 - 16:00
- 15:00
- 16:00 **Coffee Break**
- **Discussion / Coding: Agents and LLMs / Distributed HEP analysis** — *Veltman Centre, Nikhef* 16:30 - 18:00
- 17:00
- 18:00

Tuesday

- 09:00 **Luigi and Workflow Managers in HEP** — *Jonas Eppelt*
- **Did we accidentally build a compiler for HEP workflows? F…** — *Lukasz;…*
- 10:00 **ParaO: Ease of Use for In Situ Workflows** — *Benjamin Fischer*
- **ParaO: First hand experience within a Run 3 analysis** — *Felix Philipp Zinn*
- **Coffee Break**
- 11:00 **Efficient Statistical Modeling for Particle Physics Using …** — *Giordon Holt…*
- **SysVar: Consistent and scalable treatment of systematic unc…** — *Agrim A…*
- **evermore - Differentiable Binned Likelihood Functions w…** — *Felix Philipp …*
- **everwillow: model-agnostic statistical inference in pure JAX** — *Mohamed Aly*
- 12:00 **Lunch** — *Veltman Centre, Nikhef* 12:00 - 13:30
- 13:00 **Packaging ROOT for Python: Progress and Challenges** — *Silia Taider*
- **HEP Packaging Coordination: Distributing the HEP softwar…** — *Matthew …*
- 14:00 **Scipy, Numpy, Xarray and Python all have a pixi.toml. Why?** — *Ruben Arts*
- **Discussion / Coding: Package Management / Workflows** — *Veltman Centre, Nikhef* 14:30 - 16:00
- 15:00
- 16:00 **Coffee Break**
- **Discussion / Coding: Workflows / Statistical Tools** — *Veltman Centre, Nikhef* 16:30 - 18:00
- 17:00
- 18:00

Wednesday

- 09:00 **Histogramming Updates** — *Henry Schreiner*
- **Rebuilding a legacy Dalitz-plot fitter** — *Josue Molina*
- 10:00 **Omnifold- a Python package for publishing, and comparing …** — *Aashirva…*
- **Coffee Break**
- 11:00 **Summary Discussion** — *Veltman Centre, Nikhef* 11:00 - 12:00
- 12:00

Topics:

- Agentic SWE and Tooling ***New!***
- Distributed Computing and Workflows
- Packaging & Distribution
- Data Analysis Tools, e.g., I/O, Histogramming, Statistical Tools

Please upload your slides in time!

4 Local Information

- ***Python Programming Language was created here in Amsterdam (~1990)!***
- **Coffee** breaks: 10:30-11:00 and 16:00-16:30
- **Lunch**: 12:00-13:30 (Monday downstairs, Tuesday on this floor)
- **Important**: public transport strike on Wednesday, please pre-book uber/taxis and account for delays!
- Social dinner, please reply in this sheet: https://docs.google.com/spreadsheets/d/1TYYdxG8T6wIR1m9GD307iWMvrXcc6BID4gY1YXjV46I/edit?gid=0#gid=0
- In case of questions or problems, please reach out directly to Alexander Heidelbach and me

Enjoy PyHEP.dev 2026!