

# Introduction

**Marta Czurylo** (CERN, EP-SFT)  
on behalf of Hackathon coordinators

25.11.24, Idea Square @CERN



**ROOT**

## ROOT::RHackathon

Topic: Python, documentation and tutorials

---

### Join us for the second ROOT Hackathon!

**This edition, we are:**

- Enhancing the Python documentation interfaces
- Extending ROOT's Python interfaces
- Modernising ROOT's collection of tutorials



Help us make an impact on HEP software, sign up today!  
*Places are limited*

### Details

<b>For whom</b>	All levels of experience, from new users to seasoned contributors
<b>When</b>	November 25 - 27, 2024
<b>Where</b>	IdeaSquare, CERN
<b>Good to know</b>	Home cooked lunches are included!



EP-SFT **ROOT** CERN  
Data Analysis Framework IdeaSquare



## Main goals:

1. Enhance Python documentation interfaces
2. Extend ROOT's Python interfaces
3. Modernise ROOT's collection of tutorials

## Secondary goals:

4. Explain, hands-on, how to contribute to ROOT, following the guidelines of the project and Open Source best practices.
5. Illustrate how software development happens for large scientific, open source software package.
6. Spend three pleasant and very productive days together - devs and users, learning from each other.



# Agenda for today

- The schedule: [indico page](#)
- Important: do you have a **working development environment with a ROOT installation with debug symbols?**

MONDAY 25 NOVEMBER			
09:00	→ 09:45	Welcome and introduction	3179/R-E06
09:45	→ 10:30	Hacking session	3179/R-E06
10:30	→ 10:45	Coffee break	15m 3179/R-E06
10:45	→ 12:30	Hacking session	3179/R-E06
12:30	→ 13:30	Lunch	1h 3179/R-E06
13:30	→ 15:30	Hacking session	3179/R-E06
15:30	→ 16:00	Coffee Break	30m 3179/R-E06
16:00	→ 17:45	Hacking session	3179/R-E06
17:45	→ 18:15	Daily wrap up	3179/R-E06
		<ul style="list-style-type: none"><li>▪ What did we achieve?</li><li>▪ What was working well?</li><li>▪ What can we improve for tomorrow</li></ul>	



# Groups and coordinators

- We will be 27 in total
  - Split into 3 groups
  - Each group has two coordinators

## Pythonizations

Jonas R.
Aaron
Eric
Ianna
Jakob
Jonas H.
Lukas
Maciej
Vit

## Python docs

Vincenzo
Olivier
Danilo
Declan
Fernando
Florine
Marta K.
Mateusz
Stephanie

## Tutorials

Monica
Marta C.
Alexandr
Bertrand
Daniel
Emanuele
Giacomo
Grigori
Martin



# Plan for the day

- Suggested items to work on during the 3 days - collected in the [kanban board](#)
- Details of workflow and work split will be given within each group

2nd ROOT Hackathon

General Table | General Board | Pythonic Interface | Docs | Tutorials | + New view

Filter by keyword or by field

Title	Assignees	Status	Pythonic interface	Python Docs	Tutorials
1 Split ROOT7 category		Todo			Tutorials - Yes
2 Create "Get started" list		Todo			Tutorials - Yes
3 Add last modified date		Todo			Tutorials - Yes
4 Improve category description - for all categories		Todo			Tutorials - Yes
5 Cross reference tutorials and documentation		Todo			Tutorials - Yes
6 Modernise out-dated but relevant tutorials		Todo			Tutorials - Yes
7 Move tutorials to legacy folder		Todo			Tutorials - Yes
8 Use JSROOT for all displayed graphics		Todo			Tutorials - Yes
9 Add graphics icons to the graphics tutorials		Todo			Tutorials - Yes
10 UHI support for histograms		Todo	Pythonic Interface - Yes		
11 Allow passing color names as strings (e.g. "kRed + 2...		Todo	Pythonic Interface - Yes		
12 Testing what can be done with the Numba pythoniza...		Todo	Pythonic Interface - Yes		
13 Investigate and improve RNTuple <-> NumPy		Todo	Pythonic Interface - Yes		
14 Pythonize TH1::Fill and TRandom		Todo	Pythonic Interface - Yes		
15 ROOT.TGraph.Create(x, y, xerr=(a, b), yerr=c)		Todo	Pythonic Interface - Yes		
16 Allow RGB tuples in Set*Color(n)		Todo	Pythonic Interface - Yes		
17 Document how to define the fitting function in Python		Todo	Pythonic Interface - Yes		
18 [DF] Extend parsing capabilities of CSV dat... #15045	jblomer	In Progress	Pythonic Interface - Yes		

+ You can use Control + Space to add an item



# Coffees, lunches & dinner



The **coffee** machine is located in the kitchen - take as many coffees and snacks as you need



**Lunch** will be prepared here, in the kitchen, by Danilo & Vincenzo

- Vegan, vegetarian and non-vegetarian variations available
- If you have any dietary requirement talk to us directly



Social dinner - **tomorrow**, in a restaurant nearby: [La Meyrinoise](#)



# Pictures during the day

- We would like to take some pictures during the day
- Some will be posted on our website (potentially also on official CERN or ROOT social media accounts)
  - if you don't want to be in the pictures - please let us know now



Let's move to a round of  
introductions





Thanks for coming!  
Enjoy!