

11TH HEP C++ COURSE AND HANDS-ON TRAINING

30 SEPT - 4 OCT 2024

STEFAN ROISER



WELCOME

- ▶ Eleventh edition of a C++ course and training
 - ▶ 749 students in the HEP C++ course trainings since Oct 2020
 - ▶ Course split into “Essentials” (next in spring ‘25) and “Advanced” (this course)
 - ▶ Stay informed, register at <https://indico.cern.ch/e/HepCplusplusInfo>
 - ▶ We will record the morning lectures and post them on indico and CDS
 - ▶ Lectures and training sessions on Monday, Wednesday and Friday
- ▶ Organised by volunteers from within the HEP community for HEP
 - ▶ Please join us for a future training as mentor!

OVERALL ORGANISATION

- ▶ Feedback is more than welcome
 - ▶ Pre-training survey link sent to participants last week
 - ▶ We'll send you a link to a post-training survey on Friday, please fill it in
- ▶ Communication tools
 - ▶ Zoom room used for broadcasting the morning lectures
 - ▶ [Mattermost channel](#), interact with organisers, ask questions ([register first](#))

MORNING LECTURES

- ▶ Mon, Wed, Fri, 9.00 - 12:00 CEST including a 15 minutes coffee break
 - ▶ All lectures in this room (593/R-010)
- ▶ The slides are available on the indico page
- ▶ Content is organised in smaller chapters (~ 15 minutes each)
- ▶ Please keep your questions until the end of a section

Monday	Wednesday	Friday
Recap (language basics & object orientation) Core Modern C++ (constexpr, move semantics, ...)	Core Modern C++ II (lambda, STL, ranges, RAll ...) Concurrency	Tools (sanitizers, profiling, ...) Expert C++ (variadic templates, 3 way comparison, ...)

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IMPORTANT: PLEASE KEEP THE
COFFEE AREA TIDY WHEN LEAVING

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AFTERNOON TRAININGS

- ▶ Monday, Wednesday and Friday @ 14.00 - 16.00 CET for local participants
- ▶ Trainings will happen in another room in this training center
 - ▶ 572/R-006 and/or 527/R-010
- ▶ A set of examples are provided at the end of the morning
- ▶ Style “a la university lab”, i.e. students work mostly on their own, ask mentors for help in case they have questions or get stuck

Monday

Wednesday

Friday

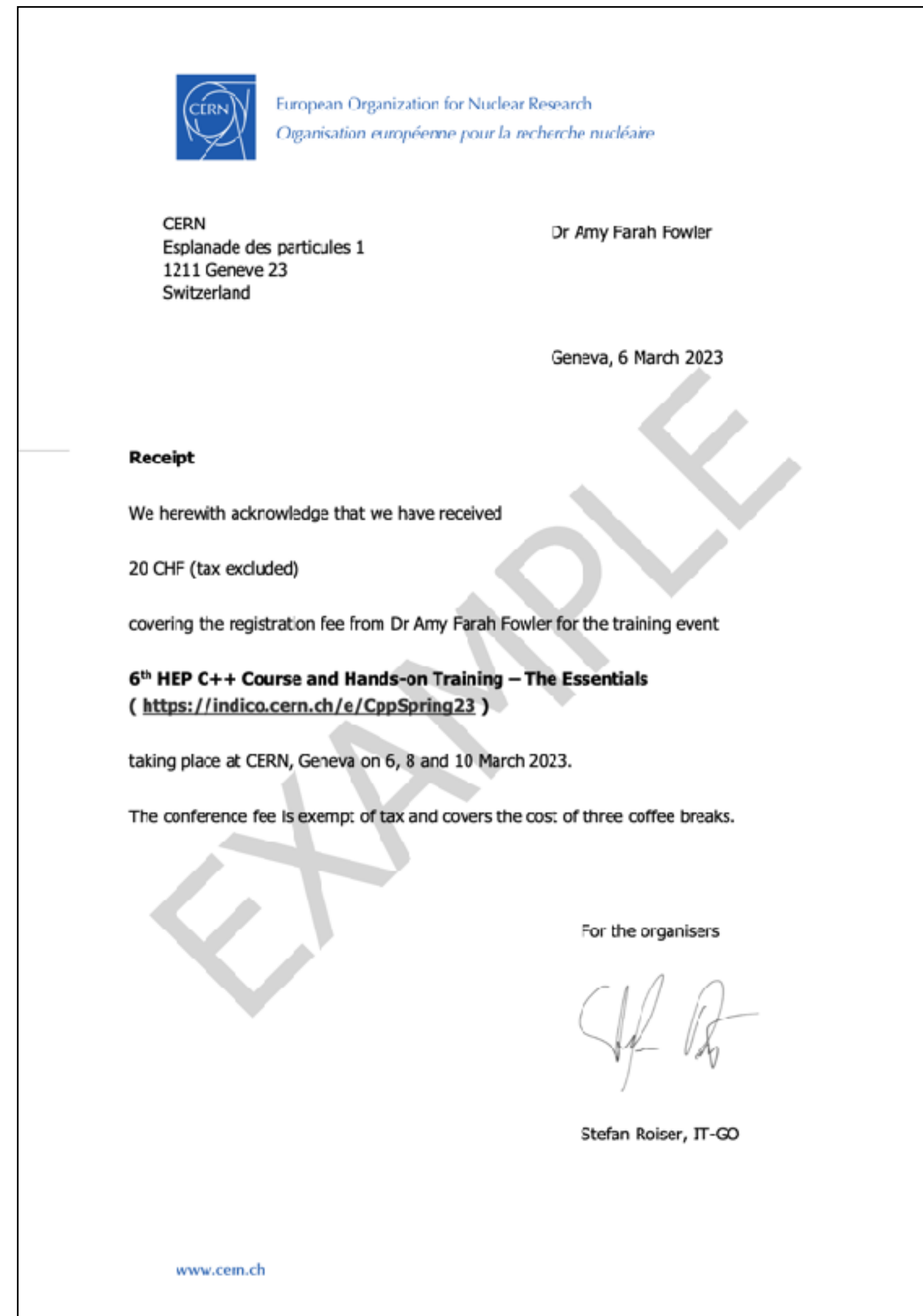
Sebastien, Oliver &
Laura


David & Attila

Stephan & Daniele

ATTENDANCE CERTIFICATE AND PAYMENT RECEIPT

- ▶ We will provide attendance certificates
- ▶ Remote participants please sign google doc shared on zoom
- ▶ We will also provide receipts for payments
- ▶ If you need a special address / change of the form pls drop a mail to StefanR with the details



 European Organization for Nuclear Research
Organisation européenne pour la recherche nucléaire

CERN
Esplanade des particules 1
1211 Geneve 23
Switzerland

Dr Amy Farah Fowler

Geneva, 6 March 2023

Receipt

We herewith acknowledge that we have received

20 CHF (tax excluded)


covering the registration fee from Dr Amy Farah Fowler for the training event

6th HEP C++ Course and Hands-on Training – The Essentials
(<https://indico.cern.ch/e/CppSpring23>)

taking place at CERN, Geneva on 6, 8 and 10 March 2023.

The conference fee is exempt of tax and covers the cost of three coffee breaks.

For the organisers



Stefan Roiser, IT-GO

www.cern.ch



CERTIFICATE OF PARTICIPATION

Amy Farrah Fowler

has attended the first HEP C++ Course and Hands-on Training from 12 - 16 October 2020

The course was organised into 12.5 hours of lectures and 8 hours of training sessions.

The lessons were taught by Dr. Sebastien Ponce (CERN) and the training sessions supported by mentors from within the high energy physics community.

The course content ranged from basic to advanced concepts of C++ software engineering and included up to the C++ '17 ISO standard.

The event was co-organised by the training working group of the HEP Software Foundation* and the Software Institute for Data Intensive Sciences**

More information about the event can be found at <https://indico.cern.ch/e/cppfall20>

Dr. Graeme A Stewart **Dr. Sebastien Ponce** **Dr. Stefan Roiser**
CERN / HSF CERN / Course Lecturer CERN / SIDIS

* <https://hepssoftwarefoundation.org>
** <https://sidis.web.cern.ch>

MORE C++ COURSES

- ▶ Organised by the [CERN training center](#) (registration fees apply)

Course Title	Start Date	End Date	Enrolment deadline	URL
Introduction to Modern C++	14-Oct-2024 09:00	18-Oct-2024 17:30	7 October (if maintained)	https://lms.cern.ch/ekp/servlet/ekp?TX=FORMAT1&LOTYPE=R&CID=EKP000043329
Introduction to Concurrency-aware C++	16-Oct-2024 09:00	16-Oct-2024 17:30	9 October (if maintained)	https://lms.cern.ch/ekp/servlet/ekp?TX=FORMAT1&LOTYPE=R&CID=EKP000044279
Advanced Modern C++	19-Nov-2024 09:00	22-Nov-2024 17:30	12 November	https://lms.cern.ch/ekp/servlet/ekp?TX=FORMAT1&LOTYPE=R&CID=EKP000043824

- ▶ HEP C++ courses organised by this team
 - ▶ Next “Essentials Course” ~ March 2025
 - ▶ Idea to “mix” it with more HSF training modules on tools and languages (git, shell, python, ...)
 - ▶ Emails about upcoming HEP C++ courses will be sent to registrants @ <https://indico.cern.ch/e/HepCplusplusInfo>

LECTURERS AND MENTORS THIS WEEK



Sebastien



Stephan



David



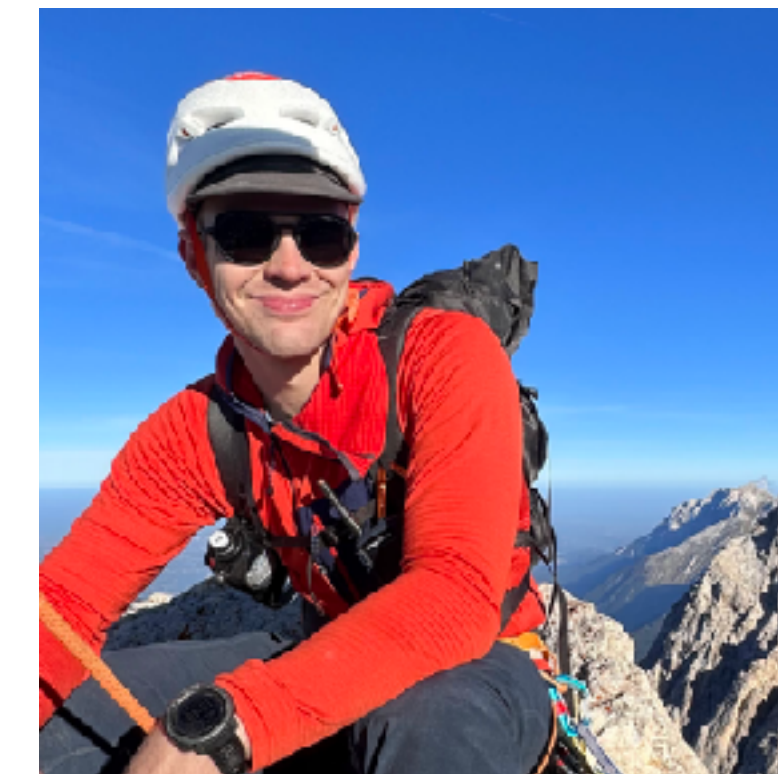
Attila



Laura



Daniele



Oliver