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/HepCppInfo

  ▸ 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++ II** (lambda, STL, ranges, RAII …)	**Tools** (sanitizers, profiling, …)
Core Modern C++ (constexpr, move semantics, …)	**Concurrency**	**Expert C++** (variadic templates, 3 way comparision, …)

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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
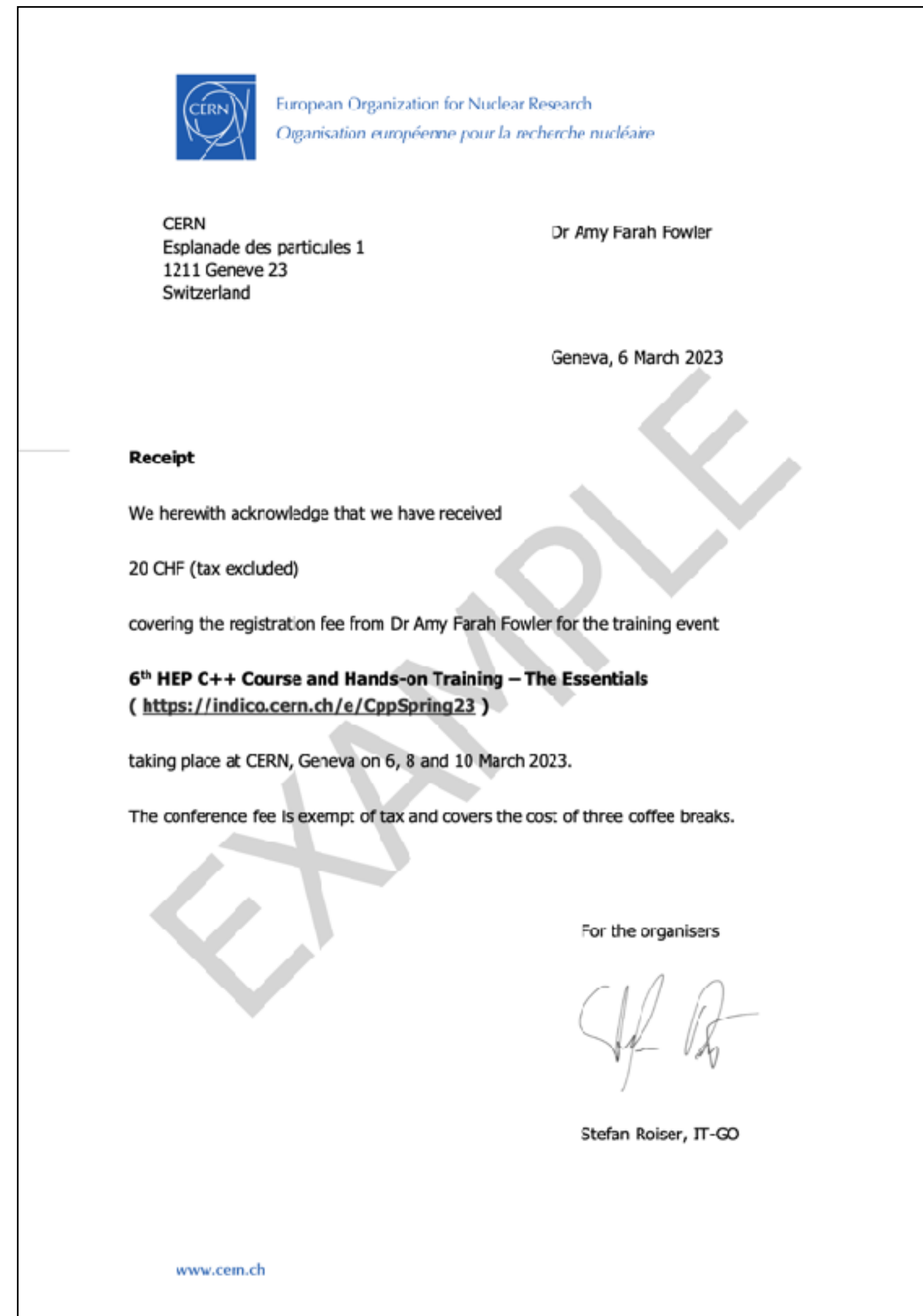
Monday	Wednesday	Friday
Sebastien, Oliver & Laura	David & Attila	Stephan & Daniele

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

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/HepCppInfo
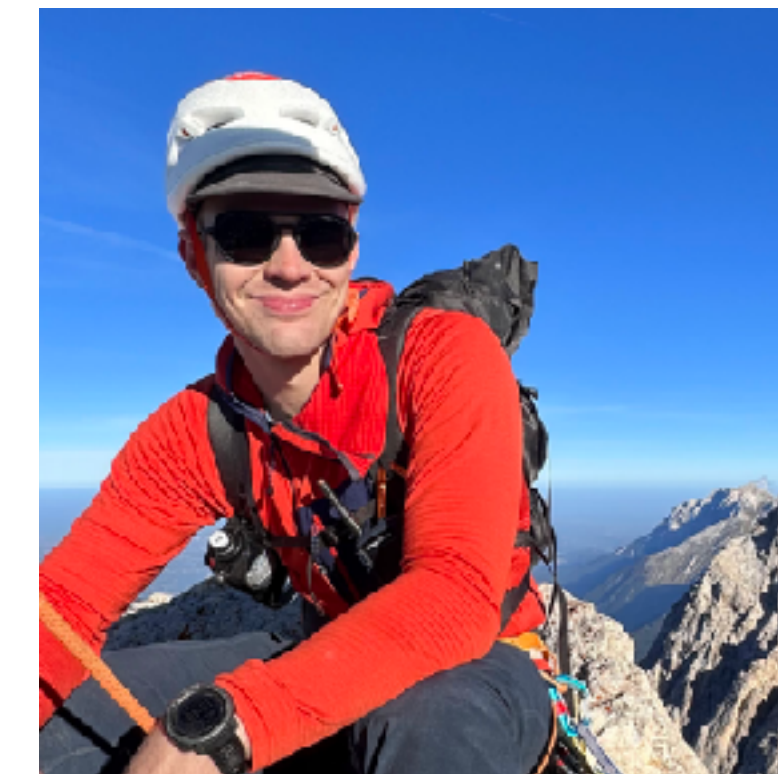
LECTURERS AND MENTORS THIS WEEK

Sebastien

Stephan

David

Attila

Laura

Daniele

Oliver