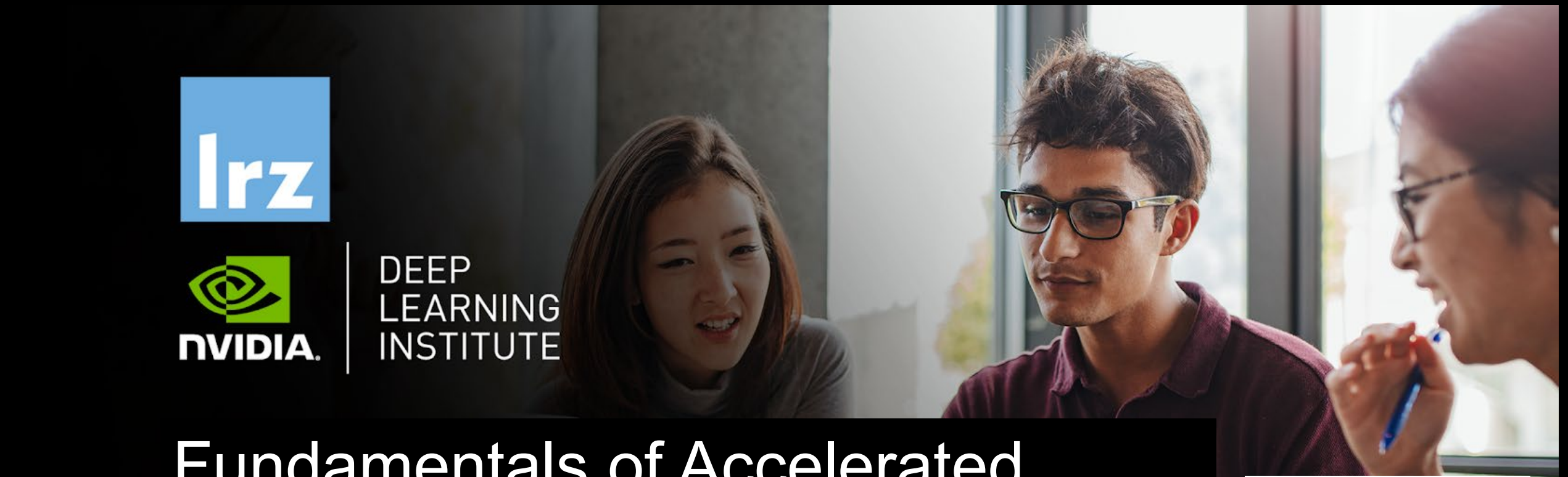


Fundamentals of Accelerated Computing with CUDA C/C++

28 November 2022

Overview

- The course is co-organised by LRZ, NHR@FAU and NVIDIA Deep Learning Institute (DLI).

- NVIDIA Deep Learning Institute (DLI) offers hands-on training for developers, data scientists, and researchers looking to solve challenging problems with deep learning.

- In this course you experience C/C++ application acceleration by:
  - Accelerating CPU-only applications to run their latent parallelism on GPUs
  - Utilising essential CUDA memory management techniques to optimise accelerated applications
  - Exposing accelerated application potential for concurrency and exploiting it with CUDA streams
  - Leveraging command line and visual profiling to guide and check your work

- The lectures are interleaved with many hands-on sessions using Jupyter Notebooks. The exercises will be done on a fully configured GPU-accelerated workstation in the cloud.

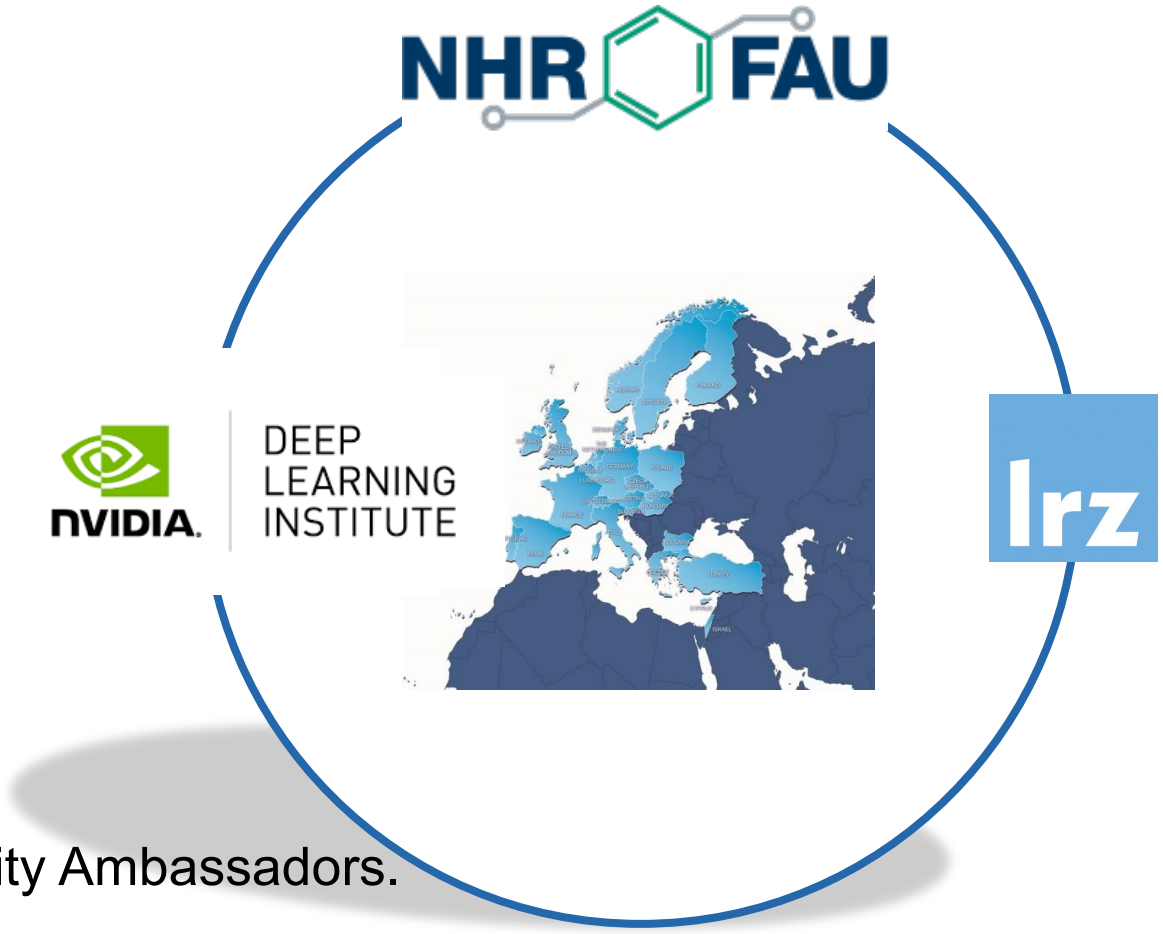
DEEP LEARNING INSTITUTE

DLI Mission: Help the world to solve the most challenging problems using AI and deep learning

We help developers, data scientists and engineers to get started in architecting, optimizing, and deploying neural networks to solve real-world problems in diverse industries such as autonomous vehicles, healthcare, robotics, media & entertainment and game development.

Lecturers

- **Lecturers**:
  - Dr. Momme Allalen (LRZ)
  - Dr. Sebastian Kuckuk (NHR@FAU)



All lecturers are NVIDIA certified University Ambassadors.

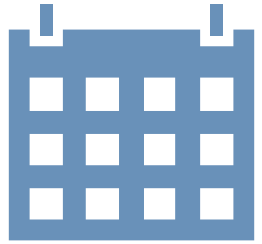
Tentative Agenda

All Times are in CET

09:00-09:20 Intro
09:20-09:45 Intro CUDA C/C++
09:45-10:45 Accelerating Applications with CUDA C/C++

10:45-11:00 Coffee Break

11:00-12:00 Accelerating Applications with CUDA C/C++



12:00-13:00 Lunch Break

13:00-14:15 Managing Accelerated Application Memory with CUDA Unified Memory and nsys

14:15-14:30 Coffee break

14:30-16:15 Asynchronous Streaming and Visual Profiling for Accelerated Applications with CUDA C/C++
16:15-16:30 Q&A, Final Remarks

Course Webpage

- All slides will be made available during the course under:
- https://tinyurl.com/hdlw1w22
- Further information on:
  - Agenda
  - Training Setup
  - Slides
  - Documentation

Training Setup

- To get started, follow these steps:
  - Create an NVIDIA Developer account at http://courses.nvidia.com/join
  - Visit http://courses.nvidia.com/dli-event and enter the event code provided by the instructor.
- You're ready to get started.

Participants List

Kindly use “<first name> <last name> (<institute>)” as your screenname.

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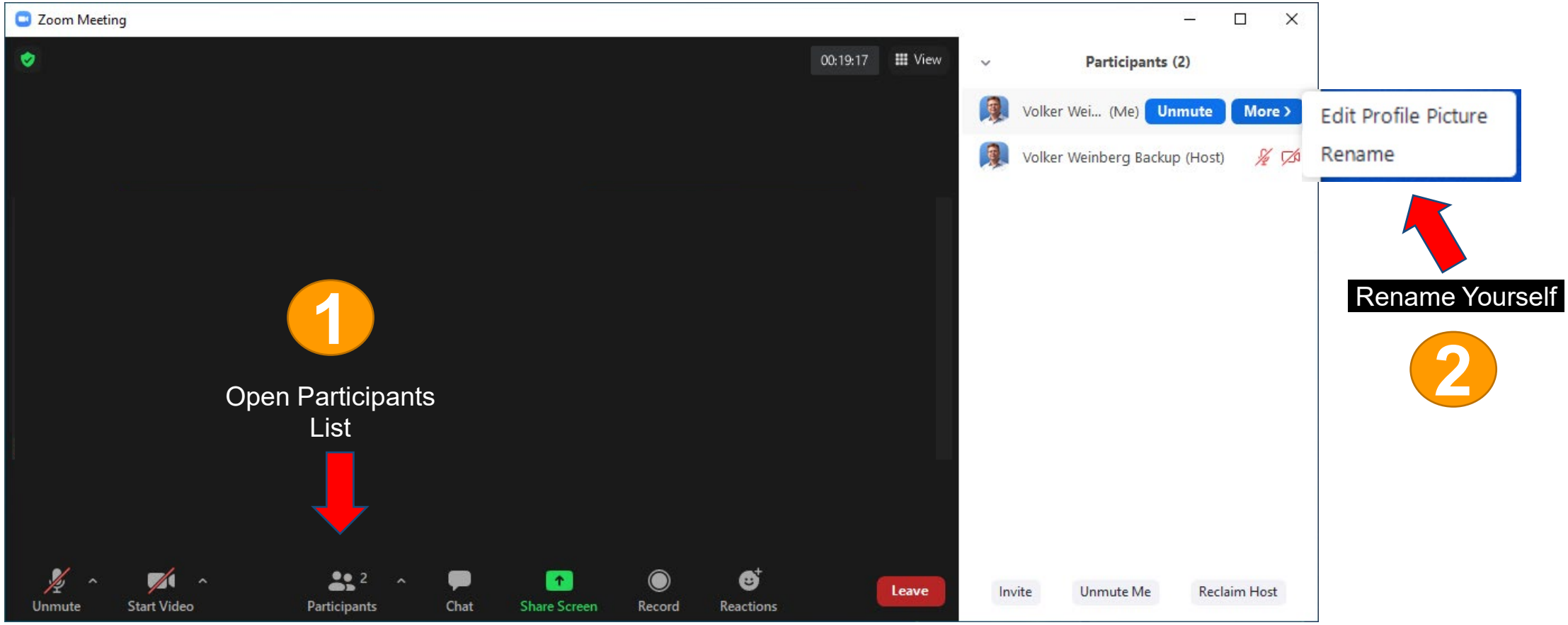
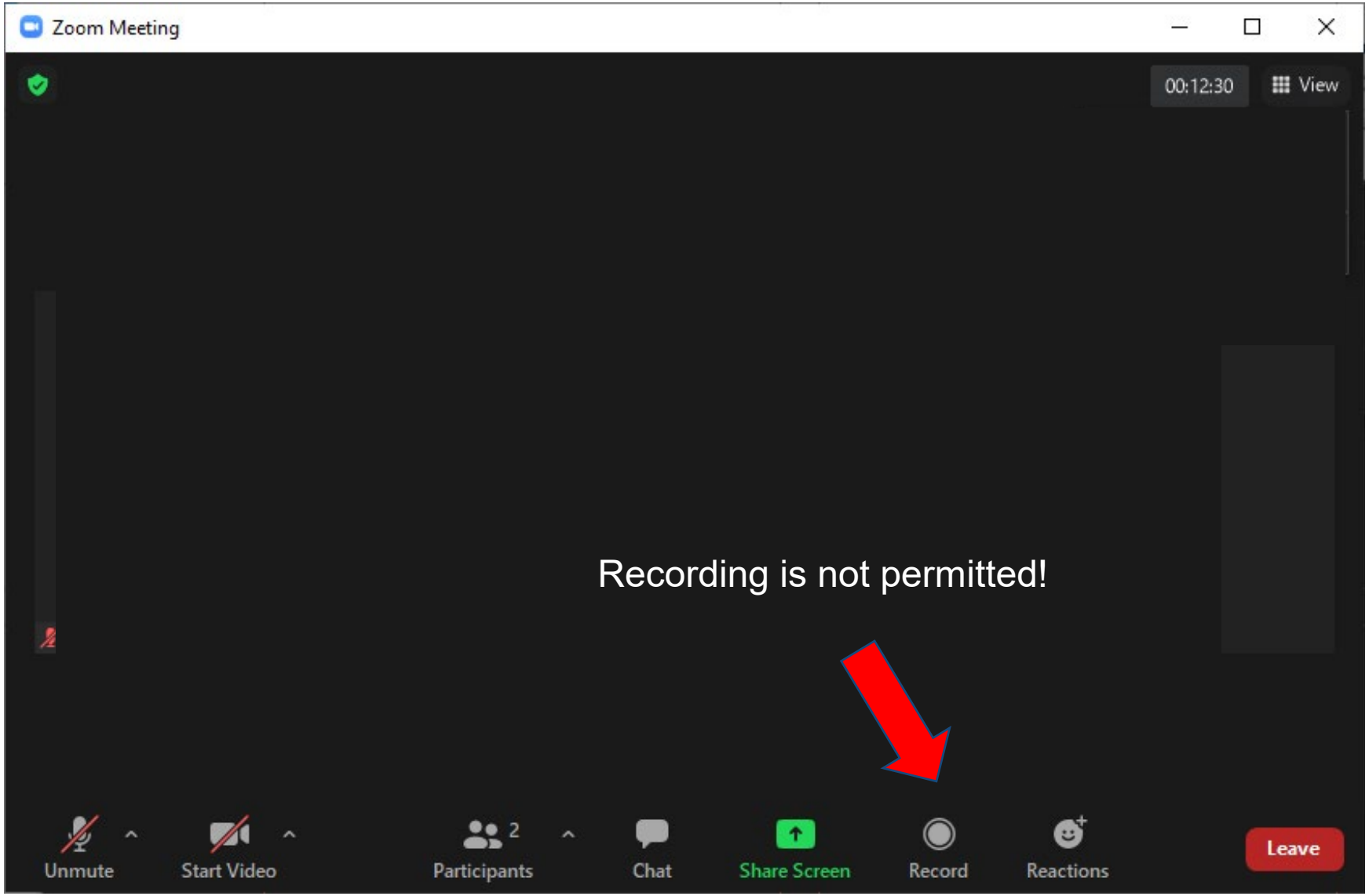
Otherwise you will not receive a certificate of attendance after the course.



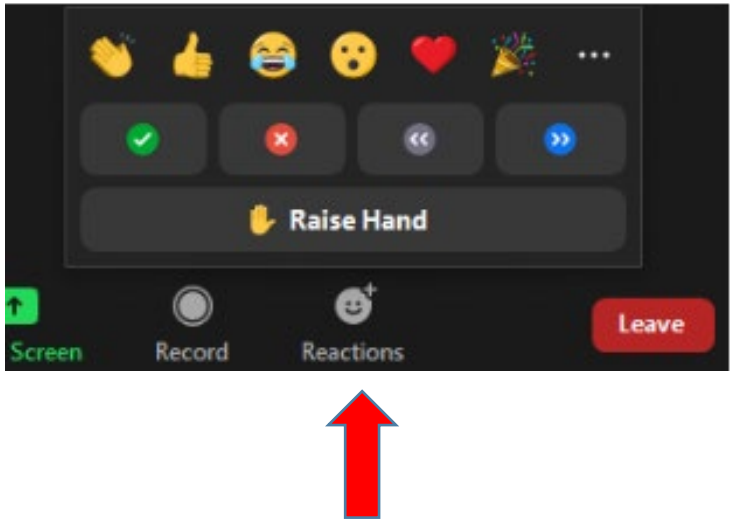
Zoom Recording



zoom Q&A

- Please **raise your hand** if you have questions (of general interest).
- You can also use **chat window** to ask questions.
- If you do not mind, please **show your video when asking questions** to make this course as interactive as possible.
- **Push to Talk:** The Push to Talk feature allows you to remain muted throughout the Zoom meeting and only if you hold down the spacebar you will be unmuted.

- **Instant Feedback:**



And now …

Enjoy the course!