



DEEP
LEARNING
INSTITUTE

PRACE Workshop: Deep Learning and GPU programming workshop

7 – 10 September 2020



VSB TECHNICAL
UNIVERSITY
OF OSTRAVA

IT4INNOVATIONS
NATIONAL SUPERCOMPUTING
CENTER

PRACE Survey



DEEP
LEARNING
INSTITUTE



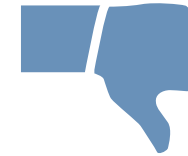
DEEP
LEARNING
INSTITUTE



- Please fill out the PRACE online survey under



<https://tinyurl.com/dli-survey-csc>



- This helps us and PRACE to
 - increase the quality of the courses,
 - design the future training programme at CSC, IT4Innovations, LRZ and in Europe according to your needs and wishes,
 - get future funding for training events.

CSC Certificate



DEEP
LEARNING
INSTITUTE



- A digital certificate for the whole workshop will be send to you by CSC next week if you have attended at least 3 days of the course.



VSB TECHNICAL
UNIVERSITY
OF OSTRAVA

IT4INNOVATIONS
NATIONAL SUPERCOMPUTING
CENTER

What's next?



- Visit the NVIDIA Deep Learning Institute's website at <https://www.nvidia.com/en-gb/deep-learning-ai/education/> to access more training and resources.
 - Start online, self-paced training in deep learning and accelerated computing (using the account you created today).
 - View upcoming workshops around the world and request an onsite workshop at your company or organization
 - Learn about the University Ambassador Program.
- Ready to kick off a deep learning project or already working on one? Choose the best software and hardware solutions at <https://developer.nvidia.com/deep-learning>

NVIDIA DEEP LEARNING INSTITUTE

Learn more at
www.nvidia.co.uk/dli

ONLINE SELF-PACED TRAINING

Deep Learning, Accelerated Computing and Accelerated Data Science courses online

TEACHING KITS

- Qualified university educators can download courseware across deep learning, accelerated computing, and robotics.
- Kits include lecture materials, GPU cloud resources, free access to self-paced DLI courses, and more.

<https://developer.nvidia.com/teaching-kits>

UNIVERSITY AMBASSADOR PROGRAM

- Qualified faculty and researchers can get certified to teach DLI workshops to their students at no cost.

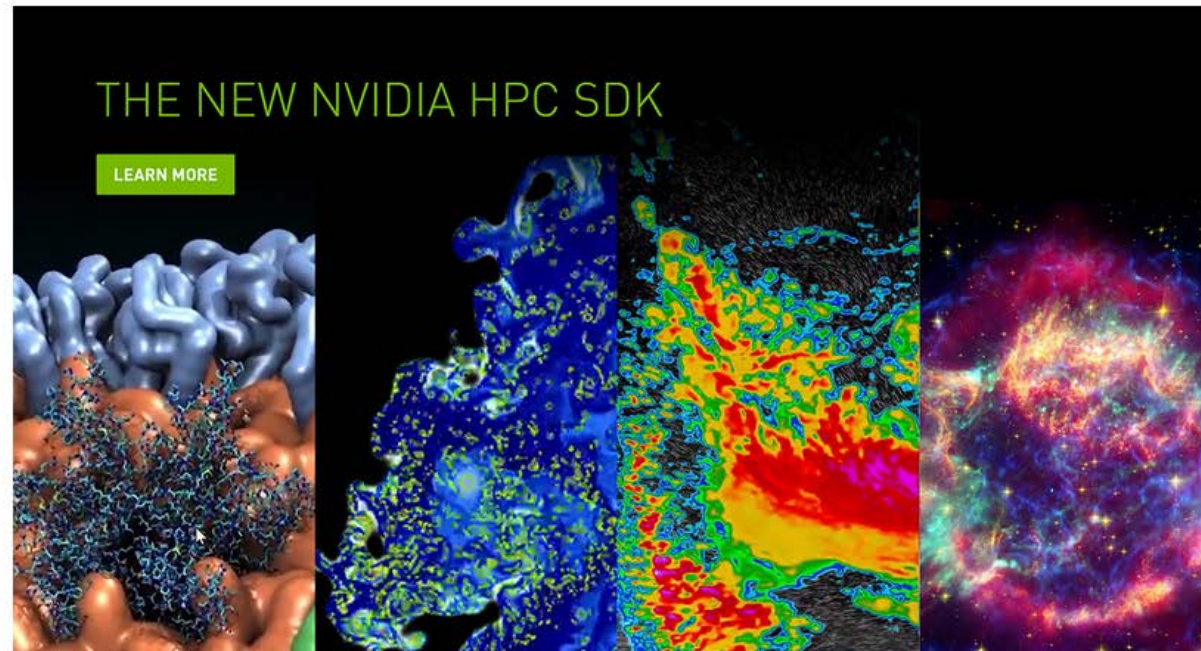
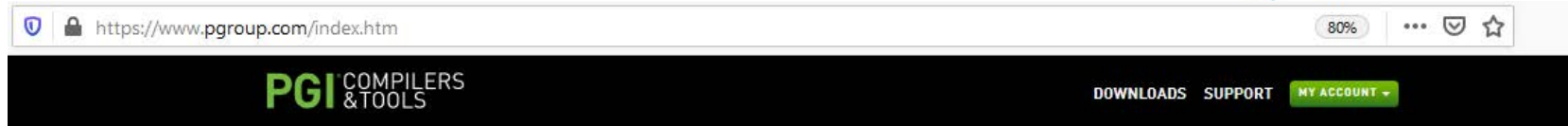
GTC 5.-9. OCTOBER 2020

- Free for academia. DLI workshops cost 99 USD.
- www.nvidia.com/gtc
- Use reference code NVMDIERINGER, it provides industry customers 10 USD discount on the conference passes (not applicable to alumni rates or DLIs)

New NVIDIA HPC SDK



DEEP
LEARNING
INSTITUTE



PGI Compilers & Tools have evolved into the **NVIDIA HPC SDK™**.

Existing PGI customers with a for-fee license have continued access to **downloads** and **license administration**; along with **technical support** through their support term.

NVIDIA DLI Workshops @ LRZ

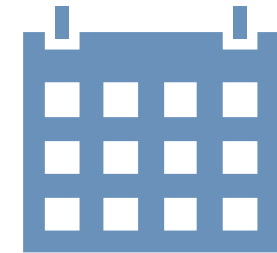


- The **NVIDIA Deep Learning Institute (DLI) @ LRZ** offers hands-on training for developers, data scientists, and researchers looking to solve challenging problems with deep learning.
- Topics:
 - **Fundamentals of Deep Learning for Computer Vision**
 - **Fundamentals of Deep Learning for Multiple Data Types**
 - **Fundamentals of Deep Learning for Multi-GPUs**
 - **Fundamentals of Accelerated Computing with CUDA C/C++**
 - **Fundamentals of Accelerated Computing with OpenACC**
- **NVIDIA Certified University Ambassadors @ LRZ:**
 - Dr. Momme Allalen, Dr. Juan Durillo Barrionuevo, Dr. Volker Weinberg
- **NVIDIA Certified University Ambassador @ IT4Innovations: Georg Zitzlsberger**

Upcoming PRACE Courses and Workshops



- 29 Oct
[Data Management with iRODS and Compute @SURFsara](#)
- 26 Oct - 28 Oct
[\[MOOC\] Tools and techniques to quickly improve performances of HPC applications in Solid Earth@Cineca](#)
- 21 Oct - 23 Oct
[\[POSTPONED\] Introduction to Deep Learning Models @ JSC](#)
- 21 Oct - 23 Oct
[\[ONLINE\] ChEESE Advanced Training on HPC for Computational Seismology @ HLRS](#)
- 19 Oct - 20 Oct
[Introduction to ScaLAPACK and MAGMA libraries @ MdlS/Ildris](#)
- 13 Oct - 22 Oct
[\[ONLINE\] Parallel Programming Workshop @ BSC](#)
- 12 Oct - 13 Oct
[\[POSTPONED\] Performance portability for GPU application using high-level programming approaches with Kokkos @ MdlS/Ildris](#)
- 12 Oct - 16 Oct
[\[ONLINE\] Parallel Programming Workshop \(MPI, OpenMP and advanced topics\) @ HLRS](#)
- 12 Oct - 16 Oct
[\[ONLINE\] Parallel Programming Workshop \(Train the Trainer\) @ HLRS](#)
- 06 Oct - 15 Oct
[Shared-memory programming with OpenMP @ EPCC Online](#)
- 05 Oct - 08 Oct
[Modern Scientific C++ @ MdlS/Ildris](#)
- 05 Oct - 09 Oct
[\[ONLINE\] School on Scientific Data Analytics and Deep Learning @ Cineca](#)
- 24 Sep
[Parallel Visualization of Scientific Data using Blender @ IT4Innovations](#)
- 22 Sep - 25 Sep
[\[ONLINE\] Advanced Fortran Topics @ LRZ](#)
- 21 Sep - 24 Sep
[Introduction to parallel programming @ UL](#)



Upcoming LRZ Courses and Workshops



- **Upcoming Courses at LRZ:**

- [ONLINE: PRACE Course: Advanced Fortran Topics](#)

- Tuesday, September 22 - Friday, September 25, 2020, 10:00-16:00 CEST

- [ONLINE: Introduction to LRZ HPC Systems with Focus on CFD Workflows](#)

- Wednesday, October 07, 2020, 14:00-16:30 CEST

- [ONLINE: Introduction to ANSYS Fluid Dynamics on LRZ HPC Systems](#)

- Monday, October 12 - Monday, December 14, 2020, 10:00-12:00 and 14:00-16:00 CET

- [ONLINE: Advanced C++ with Focus on Software Engineering](#)

- Wednesday, November 18 - Friday, November 20, 2020, 10:00 - 17:00 CET

- [ONLINE: PRACE Course: Node-Level Performance Engineering](#)

- Wednesday, Dec 2, 2020 10:00 - Friday, Dec 4, 2020 17:00

- [ONLINE: Introduction to LRZ HPC Systems with Focus on CFD Workflows](#)

- Wednesday, December 09, 2020, 14:00-16:30 CET



- **Information on further HPC courses:**

- by the Partnership for Advanced Computing in Europe (PRACE): <http://www.training.prace-ri.eu/>
 - by CSC: <https://www.csc.fi/en/training>
 - by IT4Innovations: <https://www.it4i.cz/en/education/training-activities>
 - by LRZ: <http://www.lrz.de/services/compute/courses/>
 - by the Gauss Centre of Supercomputing (GCS): <http://www.gauss-centre.eu/training>
 - by German Centres (collected by the Gauß-Allianz): <https://hpc-calendar.gauss-allianz.de/>

PRACE Training



LRZ as part of the Gauss Centre for Supercomputing (GCS) and IT4Innovations belong to the 14 **PRACE Training Centres** that started in 2012-2017-2020:

- Barcelona Supercomputing Center (Spain)
- CINECA Consorzio Interuniversitario (Italy)
- CSC – IT Center for Science Ltd (Finland)
- EPCC at the University of Edinburgh (UK)
- Gauss Centre for Supercomputing (Germany)
- Maison de la Simulation (France)
- GRNET – Greek Research and Technology Network (Greece)
- ICHEC – Irish Centre for High-End Computing (Ireland)
- IT4I – National Supercomputing Center VSB Technical University of Ostrava (Czech Republic)
- SURFsara (The Netherlands)
- TU Wien – VSC Research Center (Austria)
- University ANTWERPEN – VSC & CÉCI (Belgium)
- University of Ljubljana – HPC Center Slovenia (Slovenia)
- Swedish National Infrastructure for Computing (SNIC) (Sweden)



DEEP
LEARNING
INSTITUTE



GCS
Gauss Centre for Supercomputing



Univerza v Ljubljani



ICHEC
Irish Centre for High-End Computing

VSb TECHNICAL
UNIVERSITY
OF OSTRAVA

IT4INNOVATIONS
NATIONAL SUPERCOMPUTING
CENTER



University
of Antwerp



Mission: Serve as **European hubs and key drivers of advanced high-quality training** for researchers working in the computational sciences.

<http://www.training.prace-ri.eu/>



VSb TECHNICAL
UNIVERSITY
OF OSTRAVA

IT4INNOVATIONS
NATIONAL SUPERCOMPUTING
CENTER

PRACE Courses 2020 / 2021 @ LRZ



- **Advanced Fortran Topics**
2 days, 2 LRZ lecturers (Sep 2021)
- **Node-Level Performance Engineering**
2 days, 2 RRZE lecturers (Dec 2020)
- **OpenMP Programming Workshop**
3-days, members of the OpenMP ARB, invited speakers (Feb 2021)
- **Advanced Topics in High Performance Computing**
4-days, 3 LRZ + 2 RRZE lecturers (Mar 2021)
- **Introduction to hybrid programming in HPC**
2-day, 1 HLRS & 1 RRZE lecturers & 2 VSC lecturers (Apr 2021)
- **VI-HPS Tuning Workshop**
5-days, 15 lecturers (May 2021)
- **HPC Code Optimisation Workshop**
3 days, 2 LRZ + 1 Intel lecturer (Jun 2021)
- **Deep Learning and GPU Programming Workshop**
4 days, 4 LRZ NVIDIA certified lecturers, in collaboration with NVIDIA Deep Learning Institute (DLI) (September 2020 by CSC, July 2021 by LRZ)



Mailing Lists



- Subscribe via <https://lists.lrz.de/mailman/listinfo/aktuell> to get regular information on events, courses, workshops, positions etc. at LRZ.
- Subscribe via <https://www.csc.fi/en/newsletter> and you will receive news from CSC, including updates on new services and information on upcoming courses.
- To receive the latest information on upcoming training events at IT4Innovations, send an e-mail to training@it4i.cz.
- Subscribe via <https://prace-ri.eu/subscribe-to-prace-mailing-lists/> to the PRACE training mailing list, to get regular information on PRACE training.



DEEP
LEARNING
INSTITUTE



Thank you!
We hope to see you again in a future training event!



VSB TECHNICAL
UNIVERSITY
OF OSTRAVA

IT4INNOVATIONS
NATIONAL SUPERCOMPUTING
CENTER