# Euroean Trilinos User Group Meeting 2022

Alexander Heinlein[1]    Matthias Mayr[2]

September 13-14, 2022

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EuroTUG 2022
12–14 September 2022, Munich, Germany

Virtual Meeting
Link to registration

### What is EuroTUG?

- EuroTUG Meeting = European Trilinos User Group Meeting
- Meeting series for Europe-based users and developers of the TRILINOS projects:
  - learn about recent developments in TRILINOS
  - report on their use cases and experiences with TRILINOS
  - interact with the TRILINOS leadership and core developers
  - form a European network of TRILINOS users and developers

### Acknowledgement:

The EuroTUG 2022 is organized under the auspices of the *Center for Digitization and Technology Research of the Bundeswehr (dtec.bw)*[a] and is embedded into the project "hpc.bw – Competence Platform for High Performance Computing" of dtec.bw.

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[a]https://dtecbw.de

# Organization

**Schedule:**

- Sept. 12, 2022 (yesterday): Tutorial "Trilinos for Beginners"
- Sept. 13 - 14, 2022 (today & tomorrow): User & Developer Presentations

Detailed schedule on the EuroTUG website: https://eurotug.github.io

**Organizers:**

- Dr. Alexander Heinlein, TU Delft, FROSCH developer
- Dr. Matthias Mayr, University of the Bundeswehr Munich, MUELU developer

**Support from Sandia National Laboratories:**

- Mike Heroux
- Siva Rajamanickam

## Technical program

**Tuesday, Sept 13, 2022:**

14:15 Opening (Alexander Heinlein, Matthias Mayr)

14:30 User Talk: "Application of Trilinos to nonlinear finite element simulations of deep tunnel advance" (Peter Gamnitzer, U Innsbruck)

15:00 User Talk: "On substitution of commercial FE codes with an in-house solution for real-world problems: A short review on the competition between ease-of-use and speed" (Georg Hammerl, Hereon)

15:30 Break

15:45 User Talk: "Use of Trilinos and Stokhos ensembles in a multiphysics application code with embedded UQ" (Maartens Arnst, U Liege)

16:15 Developer Talk: "What's new in Tpetra & Data Services?" (Christopher M. Siefert, SNL)

17:00 Roundtable discussion (all participants)

17:30 Break

17:45 Developer Talk: "The Kokkos Ecosystem" (Luc Berger-Vergiat, SNL)

18:30 Keynote: "Leadership Scientific Software Trends from 2000 – 2040 through the Lens of the Trilinos Project" (Mike A. Heroux, SNL)
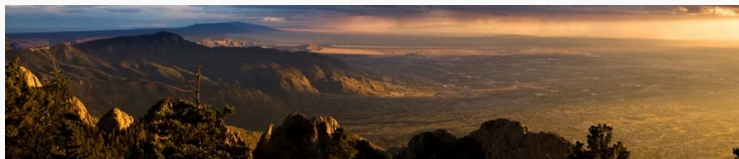
19:15 Wrap-up (Alexander Heinlein, TU Delft)

**Wednesday, Sept 14, 2022:**

15:15 User Talk: "The FROSch framework applied to Chemo-Mechanics" (Friederike Röver, TU Freiberg)

15:45 User Talk: "Physics based block preconditioning with sparse approximate inverses in MueLu: An application to beam/solid interaction" (Max Firmbach, Unibw M)

16:15 Developer Talk: "Linear Solvers" (Graham Harper / Jennifer Loe, SNL)

17:00 Roundtable discussion (all participants)

17:30 Break

17:45 Developer Talk: "An Introduction to the Rapid Optimization Library" (Aurya Javeed, SNL)

18:05 Developer Talk: "Automatic Differentiation of C++ Codes on Emerging Manycore Architectures with Sacado" (Eric Phipps, SNL)

18:30 Closing (Alexander Heinlein / Matthias Mayr)

# Announcement: 2022 Trilinos User Group Meeting

**2022 Trilinos User Group Meeting**

October 25 – 27, 2022, 8 am to 12 pm MDT each day



**Hybrid format:**

- attend in-person at Sandia in Albuquerque, NM
- on-line via MS Teams
- details on Trilinos website[a]

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[a]https://trilinos.github.io/trilinos_user-developer_group_meeting_2022.html

**Tentative agenda:**

- Tuesday, Oct. 25th – Keynote Speaker and Product Area/Package Updates
- Wednesday, Oct. 26th – Application and User Talks
- Thursday, Oct. 27th – Developer's Day

Share your TRILINOS development, usage, experience. Contributions are welcome!