The German HPC course landscape
An overview of skills and audience

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ProPE[*] – Process-Oriented Performance Engineering

- ProPE is a project funded by the German Science foundation (DFG) 2017-2019

- The aim is to develop a *blueprint* for a sustainable process-oriented service infrastructure for Performance Engineering (PE) of HPC applications in German tier-2 or tier-3 scientific computing centers.

- Project partners:
  - RRZE – University of Erlangen-Nuremberg (coordinator)
  - ZIH – Technical University Dresden
  - IT Center – RWTH Aachen University

*- https://blogs.fau.de/prope/

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- Part of WP4 of ProPE project is to develop a *blueprint* of an HPC Curriculum

- Collected and reviewed information on the available HPC courses offered in Germany at Tier 1/2/3 centers in 2019.

- Mapping of the courses based on:
  - Prerequisite Skills
    - Levels: Basic, Intermediate, Advanced
  - Gained Skills
    - Levels: Basic, Intermediate, Advanced
  - Target Audience: Beginner, User, Developer, Administrator, Expert
  - HPC Skill Tree (by Hamburg)

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- Based on the collected courses information, we developed an overview of all the German HPC courses

- The overview showcases the courses

    o with "Gained Skills": color coded by levels
    o taught locally (not the sponsoring institutions)
    o with omitted frequency of the courses (some courses are offered multiple times a year)
    o that may have different course names, but the core is the same
    o that are offered in 2019 at the particular location (some courses are rotated at different locations at different times)

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- Challenges

  - Course descriptions are vague, missing essential information as:
    - the target audience (often only scientists or HPC users, such profiles are very generic)
    - the prerequisite skills (listing of "*some*" knowledge of an OS and a programming language is insufficient!)
    - gained skills after the course (what exactly a student will learn)
    - the levels of prerequisite / gained skills (at what level a skill is mastered)
  - Difficult to find a specific course without insiders recommendation or reference

  - Gauss-Allianz HPC Calendar is an excellent one-point source for listing HPC courses. The more it's populated with HPC courses, the better (https://hpc-calendar.gauss-allianz.de/).

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- Work in progress

  - Development of the blueprint for the HPC Curriculum

  - Train the Trainer concept for enabling trainees to become trainers at their respective locations

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Thank you!