

INTRODUCTION TO THE PROGRAMMING AND USAGE OF THE SUPERCOMPUTING RESOURCES IN JÜLICH

ONLINE COURSE PROVIDED BY

JÜLICH
SUPERCOMPUTING
CENTRE

20.11.2023 | ILYA ZHUKOV, JOLANTA ZJUPA



DISCLAIMER

This course offers the opportunity to attend lectures selectively, based on individual needs and knowledge levels. Participants are not required to attend all sessions as some may cover advanced or basic material. While flexibility is offered, it is important to assess personal needs and choose sessions accordingly, as attending lectures out of order may result in knowledge gaps.

SCHEDULE MONDAY – NOVEMBER 20TH

13:00 - 13:10	Welcome	I.Zhukov, J.Zjupa (JSC)
13:10 - 13:40	Introduction to JSC	Bernd Mohr (JSC)
13:40 - 14:20	HPC in a Nutshell	Ilya Zhukov (JSC)
14:20 - 14:40	Break	
14:40 - 15:20	User Portal and Job Monitoring	Jolanta Zjupa (JSC)
15:20 - 16:00	JUST: Jülich Storage Cluster	Stephan Graf (JSC)
16:00 - 16:20	Break	
16:20 - 17:00	JSC Systems — JUWELS, JURECA & JUSUF	Damian Alvarez (JSC)

SCHEDULE TUESDAY – NOVEMBER 21ST

09:00 - 12:00	Hands-on I - Access, UNIX Shell Basics, Environment	
12:00 - 13:00	Lunch	
13:00 - 13:30	HPC Software - Modules, Libraries & Software	Ruth Schöbel (JSC)
13:30 - 14:20	Work load management with Slurm	Chrysovalantis Paschoulas (JSC)
14:20 - 14:40	Break	
14:40 - 15:25	JupyterLab - Supercomputing in your Browser	Jens Henrik Göbbert (JSC)
15:25 - 15:45	Break	
15:45 - 16:15	Proper Pinning Prevents Pretty Poor Performance	Thorsten Hater (JSC)
16:15 - 17:00	Uniform Resource Access, Data Access and Cloud Resources	Björn Hagemeyer (JSC)

SCHEDULE WEDNESDAY – NOVEMBER 22ND

09:00 - 12:00	Hands-on II - Software Modules, Custom Software, Accounting and Running Jobs	
12:00 - 13:00	Lunch	
13:00 - 14:10	Using GPU accelerators on JURECA and JUWELS	Andreas Herten (JSC)
14:10 - 14:30	Break	
14:30 - 15:30	Deep Learning on Supercomputers	Alexandre Strube (JSC)
15:30 - 15:50	Break	
15:50 - 17:00	HPC Software - Debuggers and Performance Analysis Tools	Michael Knobloch (JSC)

SCHEDULE THURSDAY - NOVEMBER 23RD

09:00 - 11:00	Hands-on III - CPU Affinity, Using GPUs	
11:00 - 12:00	Hands-on III - Remote Visualisation	Herwig Zilken (JSC)
12:00 - 13:00	Lunch	
13:00 - 14:00	Performance Analysis Tools (demo)	Michael Knobloch (JSC)
14.00 - 14:20	Break	
14:20 - 15:20	JUWELS - Tuning and Tweaks	Heinrich Bockhorst (Intel)
15:20 - 15:40	Break	
15:40 - 16:20	ParTec Cluster Management	Daniel Rosskopp (ParTec)
16:20 - 16:50	Evolution of the Sequana System Architecture	Thomas Warschko (Atos)
16:50 - 17:00	Wrap-up	I.Zhukov, J.Zjupa (JSC)

ORGANISATIONAL INFORMATION

- For communication join our Slack chat
http://go.fzj.de/slack_intro_1123
- **During** a talk you can ask questions either in the Zoom chat or the Slack chat general channel.
- **After** a talk you can also ask questions verbally by turning on your microphone.
- For hands-on questions please use only the Slack chat *hands-on* channel.
- Only screensharing will be recorded and published if allowed.
- Certificates will be based on attendance of the hands-on component.
- Slides and videos of selected talks are available after the course at
<https://www.fz-juelich.de/en/ias/jsc/news/events/training-courses/2023/supercomputing-2>

- More workshops and conferences on JSC website:
<https://www.fz-juelich.de/en/ias/jsc/education/training-courses>
- Twitter: [@fzj_jsc](https://twitter.com/fzj_jsc), [@fzj_jscuser](https://twitter.com/fzj_jscuser)
- Mastodon: [@fzj_jsc@social.fz-juelich.de](https://social.fz-juelich.de/@fzj_jsc)