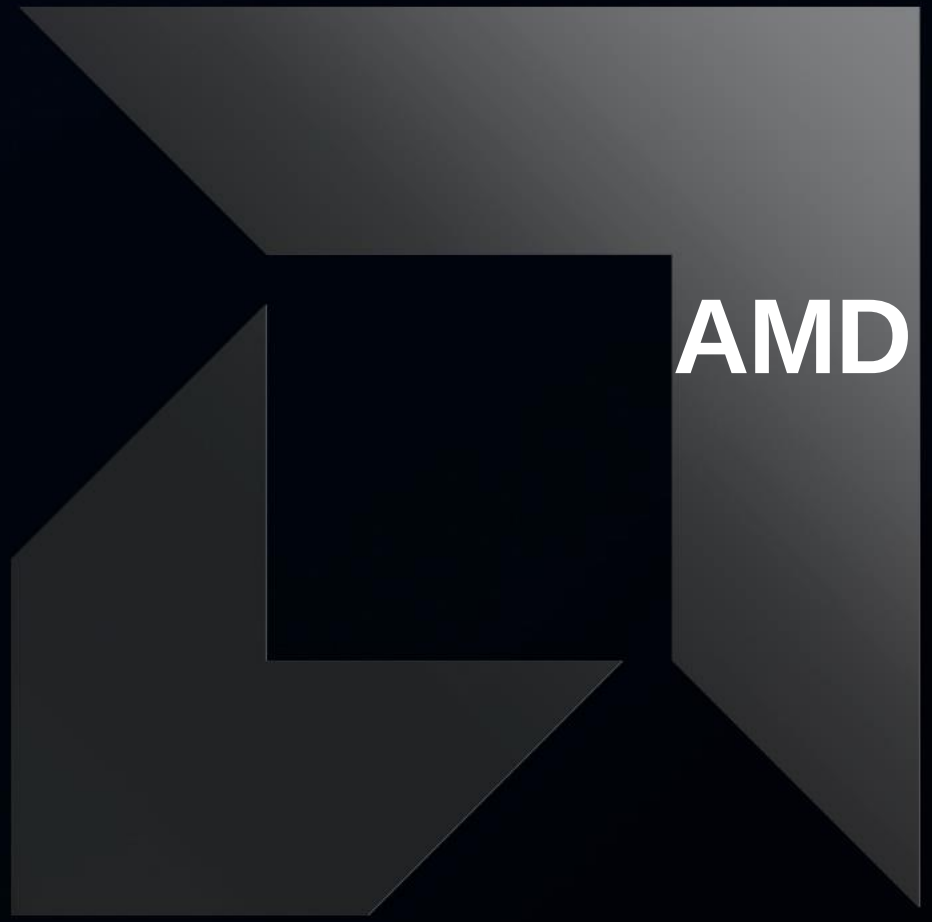

AMD Presentation Roadmap

Bob Robey
Global Training Lead
Data Center GPUs, AMD

AMD @HLRS

AMD
together we advance_

Training Workshop Guidelines – help us create a positive environment

Please help us create a positive collaborative environment for this event. Our top goal is to attract and build the community in high performance computing. Please consider not only the technical aspects of your interactions, but also how it affects other participants.

- Start your comments with a positive statement before your comment or question
- Give equal time to all participants
- Please, help others with technical issues and without negative comments
- And most importantly, respect all participants, regardless of background, language, culture

And if there are any concerns, please contact either Bob Robey Bob.Robey@amd.com or Khatuna Kakhiani kakhiani@hlrs.de

Day 1 Schedule – Monday, 25 September 2023

Time (CET)	Topic	Presenter
13:00	HLRS Intro	Khatuna Kakhiani
13:15	AMD Presentation Roadmap	Bob Robey
13:25	Introduction to the System for Exercises	Bob Robey
13:50	Introduction to AMD Architecture	Samuel Antao
14:10	Overview of ROCm, Compilers, Infinity Hub, and HPC Community	Samuel Antao
14:30	Break	
14:40	Introduction to HIP	Samuel Antao
15:40	HIP Exercises	Samuel Antao
16:00	Break	
16:15	Porting applications to HIP	Bob Robey
16:40	Porting exercises	Bob Robey
16:55	Wrapup	Bob Robey

Day 3 Schedule – Wednesday, 27 September 2023

Time (CET)	Topic	Presenter
13:00	AMD Communication Fabrics and GPU-Aware MPI	Mahdieh Ghazimirsaeed
13:30	GPU-Aware Exercises	Mahdieh Ghazimirsaeed
13:45	Break	
13:55	AMD Node Memory Model	Bob Robey
14:35	Memory Model Exercises	Bob Robey
14:50	Break	
15:00	Affinity – Placement, Ordering, and Binding	Gina Sitaraman
15:40	Affinity Exercises	Gina Sitaraman
16:00	Debuggers – rocgdb	Essam Morsi
16:40	Rocgdb exercises	Essam Morsi
16:55	Wrapup	Bob Robey

Day 2 Schedule – Tuesday, 26 September 2023

Time (CET)	Topic	Presenter
13:00	Introduction to OpenMP® Offload	Jose Noudohouenou
13:50	OpenMP® exercises	Jose Noudohouenou
14:30	Break	
15:00	Advanced OpenMP® and Mixing HIP and OpenMP	Bob Robey and Samuel Antao
16:00	Break	
16:10	Kokkos/Performance Portable Languages	Bob Robey
16:40	Kokkos Exercises	Bob Robey
16:55	Wrapup	Bob Robey

Day 4 Schedule – Thursday, 28 September 2023

Time (CET)	Topic	Presenter
13:00	Introduction to Rocprof	Essam Morsi
13:20	Rocprof Exercises	Essam Morsi
13:30	Introduction to Omnitrace	Bob Robey
14:00	Omnitrace Exercises	Bob Robey
14:15	Introduction to Omniperf	Bob Robey
14:40	Omniperf Exercises	Bob Robey
14:50	Break	
15:00	Machine Learning in HPC; Introduction to ML on AMD	Yaoming Mu
15:30	Examples of Machine Learning projects	
16:55	Wrapup	Bob Robey

Notes

- Bob Robey, Bob.Robey@amd.com
- Samuel Antao, samuel.antao@amd.com
- Essam Morsi, Essam.Morsi@amd.com
- Jose Noudohouenou, Jose.Noudohouenou@amd.com
- Mahdieh Ghazimirsaeed, Mahdieh.Ghazimirsaeed@amd.com
- Gina Sitaraman, Gina.Sitaraman@amd.com
- David Doscher, David.Doscher@amd.com
- Yaoming Mu, Yaoming.Mu@amd.com

- Course Webpage: https://www.hlrs.de/training/2023/gpu-amd
- Slack Channel https://join.slack.com/t/hlrshq/shared_invite/zt-20pfqevwh-4zYSeymtEQM~nYn8E6y3vg
- Zoom https://us06web.zoom.us/j/85367267606?pwd=V1NnUm1RRkFCMG95RzA5bEtUVVl2QT09
  - Meeting ID: 853 6726 7606
  - Passcode: 488919
- Slides from these presentations are at the Course Webpage
- Hands-on Exercises – two locations
  - On the web: https://github.com/AMD/HPCTrainingExamples
  - On the AAC system: directory /users/examples – copy the directory with
    - mkdir HPCTrainingExamples && cp –r /users/examples/* HPCTrainingExamples

Disclaimer

The information presented in this document is for informational purposes only and may contain technical inaccuracies, omissions, and typographical errors. The information contained herein is subject to change and may be rendered inaccurate for many reasons, including but not limited to product and roadmap changes, component and motherboard version changes, new model and/or product releases, product differences between differing manufacturers, software changes, BIOS flashes, firmware upgrades, or the like. Any computer system has risks of security vulnerabilities that cannot be completely prevented or mitigated. AMD assumes no obligation to update or otherwise correct or revise this information. However, AMD reserves the right to revise this information and to make changes from time to time to the content hereof without obligation of AMD to notify any person of such revisions or changes.

THIS INFORMATION IS PROVIDED ‘AS IS.” AMD MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE CONTENTS HEREOF AND ASSUMES NO RESPONSIBILITY FOR ANY INACCURACIES, ERRORS, OR OMISSIONS THAT MAY APPEAR IN THIS INFORMATION. AMD SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL AMD BE LIABLE TO ANY PERSON FOR ANY RELIANCE, DIRECT, INDIRECT, SPECIAL, OR OTHER CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF ANY INFORMATION CONTAINED HEREIN, EVEN IF AMD IS EXPRESSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.


AMD