

# bwRSE4HPC



*Enabling Scientific Discovery  
Through RSE Support*

Case Studies from bwRSE4HPC



SCIENTIFIC  
SOFTWARE  
CENTER



UNIVERSITÄT  
HEIDELBERG  
ZUKUNFT  
SEIT 1386



**Baden-Württemberg  
Ministerium für Wissenschaft,  
Forschung und Kunst**

# Who are we?



Currently Team of 10



6 @ SCC / KIT



4 @ SSC / Uni Heidelberg



Helping researchers in BW develop better research software for HPC



Jasmin Hörter



Marcel Koch



René Caspart



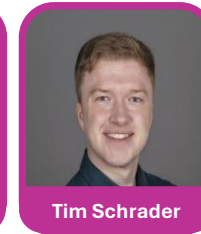
Inga Ulusoy



Dominic Kempf



Andreas Baer



Tim Schrader



Glen Hunter



Kai Riedmiller



Thomas Isensee

# Support for Research Software



**Software is essential in almost all research disciplines**

→ Even in fields not traditionally focused on computation.



**Often developed under time pressure**

→ Focus lies on scientific output, not code quality.



**Researchers lack time or expertise for optimization**

→ Parallelization, performance tuning, testing, etc. are hard to implement.



**Adapting software to HPC systems is complex**

→ Requires knowledge about MPI, GPU programming, build systems, etc.



**Efficient use of HPC resources is essential**

→ Limited compute hours, shared clusters, and energy consumption must be considered.



**This is where bwRSE4HPC can help**

→ We support researchers in improving and adapting their software for HPC.

# What kind of Support do we offer?



-  Parallelize your code (OpenMP, MPI)
-  Port CPU code to GPU
-  Performance optimization
-  Develop prototypes for new methods
-  Improve build systems, testing, portability
-  Add Python, Julia, or CLI interfaces

# How to get started with bwRSE4HPC



 Projects from a few weeks up to 6 months are free of charge (as long as capacity is available!)

 Small, clearly defined requests especially welcome! All levels of code quality are fine

 Website: [www.bwrse4hpc.de](http://www.bwrse4hpc.de)

 Apply via web form

 Contact us via email: [support@bwrse4hpc.de](mailto:support@bwrse4hpc.de)

