



Simulation Laboratories for Climate Sciences and Environmental Research

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The Juelich Supercomputing Centre (JSC) and the Steinbuch Centre for Computing (SCC) have established Simulation Laboratories (SimLabs) as a new community-oriented research and support infrastructure. Dedicated SimLabs for climate sciences and environmental research at both sites act as an interface between the atmospheric science community and high-performance computing specialists at the centres. The SimLabs' mission is to provide high level support in utilizing the HPC facilities at JSC or SCC, first by porting global and regional climate models to the supercomputers, and then in optimizing the performance of these models by enhancing their parallel scalability, load balancing and data I/O. The SimLabs also perform their own research on scientific applications, including the development of highly-scalable algorithms for climate models, numerical weather prediction and data assimilation. This work is typically done in close cooperation with atmospheric institutes through common projects in climate science and environmental research. This presentation gives an overview on the supercomputing facilities hosted by JSC and SCC, the structure and workflow of the SimLabs, and scientific projects in which the SimLabs are involved.