

## **A Tale of Two Programming-Models: Enhancing Heterogeneity, Productivity, and Performance through OmpSs-2 + OpenACC Inter-Operation**

### **Author**

Simon Garcia de Gonzalo (Barcelona Supercomputing Center)

### **Abstract**

Learn about the new possible interoperation between two pragma-based programming models: OmpSs-2 and OpenACC. Two pragma-based programming models made to function completely independent and unaware of each other can be made to effectively collaborate with minimal additional programming. We'll go over the separation of duties between models and describe in-depth the mechanism needed for interoperation. We'll provide concrete code examples using ZPIC, a 2D plasma simulator application written in OmpSs-2, OpenACC, and OmpSs-2 + OpenACC. We'll compare the performance and programmability benefits of OmpSs-2 + OpenACC ZPIC implementation against the other single-model implementations. OmpSs-2 + OpenACC is part of the latest OmpSs-2 release and all ZPIC implementations are open source.