

## [LOCA SERIES/HPC@BSC from Code to Arch Series: Alya evolution](#)

### Objectives

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#### **Abstract:**

During this presentation, I will intend to delve into the evolutionary journey of the Alya code's development. Originating within the CASE department during the inception of BSC, Alya has undergone significant enhancements since 2005. With a repertoire comprising 16 distinct physical modules tailored to solve various coupled physics, its capabilities have expanded exponentially over the years. My primary emphasis will be on elucidating the array of optimizations undertaken throughout this period, shedding light on the rationale behind specific decisions. Additionally, I will delve into our Continuous Integration/Continuous Deployment (CI/CD) practices, delve into benchmarking methodologies, and explore our strategies for performance monitoring.

**Speaker:** Dr. Guillaume Houzeaux.

#### **Short bio:**

Since 2005, Dr. Guillaume Houzeaux is the leader of the team "Physical and Numerical Modeling" at Barcelona Supercomputing Center, Spain. His research focuses on High Performance Computational Mechanics. He is one of the main architects of Alya HPC simulation code, with application in aeronautics, combustion, wind energy and biomedicine.

### Speakers

**Speaker:** Guillaume Houzeaux. Physical and Numerical Modelling - Group Manager, CASE Department, BSC

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