

CV – Mariano Vázquez

Since 2005, MV is research group leader at the Computer Applications in Science and Engineering (CASE) Department of the Barcelona Supercomputing Center – Centro Nacional de Supercomputación de España (BSC-CNS). He leads the High Performance Computational Mechanics Group. His group's main task is to develop Computational Mechanics tools adapted to run efficiently in large-scale parallel computers. This involves Physical modelling, Mathematical algorithms and code development and optimization, all with the strong constraint of efficient use of parallel resources. This multidisciplinary group is composed by 10-15 researchers including post-docs, PhD students and programming engineers. MV is one of the three main architects of the Alya System, the in-house HPCM tool. His main research lines are Compressible Flows and stabilization issues in supersonic (Aerospace Industry applications) and low-Mach regimes (Mesoscale Meteorology or Automotive Industry applications), Optimal Shape Design and Computational Bio-Mechanics (particularly Solid Mechanics of organic tissue and Electrophysiology).

He has taken part in several European and Spanish projects, for instance: IPAS (antenna in aircrafts), NEXTGRID (grid computing), CDTEAM (clinical simulations), OPTIDIS (energetic optimization of buildings). Right now he is WP leader in DEISA (European supercomputing infrastructures) and takes part in ATMOST (volcanic ashes atmospheric dispersion).

MV was born in Buenos Aires. He holds an MSc in Physics from the Universidad de Buenos Aires (Argentina) and a PhD in Physics (Computational Fluid Mechanics) from the Universitat Politècnica de Catalunya, UPC, in Barcelona, Spain. He spent a total of three years as post-doctoral fellow at the Pôle Scientifique of Dassault Aviation and the Université Pierre et Marie Curie Paris VI in the outskirts of Paris, France, and at the research center INRIA Sophia-Antipolis, near Nice, France. Then he worked as consultant in GridSystems, a grid computing company in Palma de Mallorca, Spain and as lecturer at the Universitat de Girona, Spain.