

## MECÁNICA COMPUTACIONAL

### Líneas de investigación

- Análisis estructural.
- Análisis y optimización de mecanismos.
- Modelado numérico de problemas de metalurgia.
- Modelado de problemas de mecánica de fluidos.
- Problemas de interacción fluido-sólido.
- Modelado numérico del comportamiento de materiales.
- Modelado de problemas de fatiga y de problemas de fisuración de materiales.
- Aerodinámica vehicular.
- Modelado de motores de combustión.

### Publicaciones relevantes

- Franck, G.; Nigro, N.; Storti, M.; D'Elía, J. "Numerical simulation of the Ahmed vehicle model near-wake", en *Latin American Applied Research*, 2009.
- Kler, Pablo; López, E.; Dalcín, L.; Guarnieri, F.A.; Storti, M. "High Performance Simulations of Electrokinetic Flow and Transport in Microfluidic Chips", en *Computer Methods in Applied Mechanics and Engineering*, 2009.
- Garelli, L.; Paz, R.R.; Storti, M. "Aeroelastic study in rocket nozzle via fluid structure interaction", en *Computers and Fluids*, 2009.
- Storti, M.; Nigro, N.; Paz, R.R.; Dalcín, L. "Dynamic boundary conditions in Computational Fluid Dynamics", en *Computer Methods in Applied Mechanics and Engineering*, 2008.
- Sanchez P.; Sonzogni V.; Huespe A. "Study of stabilized mixed finite element with emphasis on its numerical performance for strain localization problems", en *Communications in Numerical methods in Engineering*, 2008.
- Oñate E.; Idelsohn S.R.; Celigueta M.A.; Rossi R. "Advances in the Particle Finite Element Method for the Analysis of Fluid-Multibody Interaction and Bed Erosion in Free-surface Flows", en *Computer Methods in Applied Mechanics and Engineering*, 2008.
- Limache A.C.; Sánchez P.J.; Dalcín L.D.; Idelsohn S.R. "Objectivity tests for NavierStokes simulations: the revealing of nonphysical solutions produced by Laplace formulations", en *Computer Methods in Applied Mechanics and Engineering*, 2008.
- Pucheta M.; Cardona A. "An Automated Method for Type Synthesis of Planar Linkages based on a Constrained Subgraph Isomorphism Detection", en *Multibody System Dynamics*, 2007.
- Fachinotti V.; Cardona A. "A Fixed-Mesh Eulerian-Lagrangian Approach for Stress Análisis in Continuous Casting", en *International Journal for Numerical Methods in Engineering*, 2007.
- Battaglia, L.; D'Elía, J.; Storti, M.; Nigro, N. "Numerical Simulation of Transient Free Surface Flows", en *Journal of Applied Mechanics*, 2006.
- Sonzogni V.; Yommi A.; Nigro N.; Storti M. "A parallel finite element program on a Beowulf cluster", en *Advances in Engineering Software*, 2002.