

User:Mendez

Welcome on Mendez's user page.

Contents

- 1 Personal Information
- 2 Personal Webpage
- 3 Lab Address
- 4 Research Activities
- 5 YALES2 Activities
- 6 Teaching Activities
- 7 Background
- 8 Reviewing activities
- 9 Publications

Personal Information



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Personal Webpage

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Lab Address

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Research Activities

- Red blood cell modeling
- Blood Flows
- Large-Eddy Simulation in complex geometries
- Computational Fluid Dynamics
- Supersonic jet noise

YALES2 Activities

- Level-set method for simulations of red blood cells
- ALE methods for cardiovascular flows
- Unsteady low-Reynolds number flows for cardiovascular applications
- Boundary conditions

Teaching Activities

- Mathematical methods for engineers at Polytech'Montpellier
- Data Processing at Polytech'Montpellier

Background

- 2008-2009: post-doctoral fellowship at the Center for Turbulence Research, Stanford University, CA, USA on LES for supersonic jet noise.
- 2007-2008: post-doctoral fellowship at CERFACS, France, on acoustics of perforated plates.
- 2004-2007: Ph.D. focused on Large-Eddy Simulation of the flow around perforated plates, CERFACS, France.
- 2003-2004: M.S. of Fluid Dynamics, INP Toulouse, France.
- 2001-2004: B.S. of Fluid Mechanics and Hydraulics, ENSEEIHT Toulouse, France.

Reviewing activities

Reviewer for International Journal of Numerical Methods in Fluids, Combustion and Flame.

Publications

- Jaegle, F., Cabrit, O., Mendez, S. and Poinso, T., "Implementation methods of wall functions in cell-vertex numerical solvers", *Flow, Turbulence and Combustion*, **2010**, 85(2), 245-272.
- Mendez, S. and Eldredge, J. D., "Acoustic modeling of perforated plates with bias flow for Large-Eddy Simulations", *Journal of Computational Physics*, **2009**, 228(13), 4757-4772.
- Gullaud, E., Mendez, S., Sensiau, C. Nicoud, F. and Poinso, T., "Effect of multiperforated plates on the acoustic modes in combustors", *Comptes Rendus de l'Académie des sciences, Mécanique*, **2009**, 337(6-7), 550-561.
- Duchaine, F., Mendez, S., Nicoud, F., Corpron, A., Moureau, V. and Poinso, T., "Conjugate Heat Transfer with Large Eddy Simulation for Gas Turbine Components", *Comptes Rendus de l'Académie des sciences*, **2009**, Mécanique, 337(6-7), 406-414.
- Mendez, S. and Nicoud F., "Adiabatic Homogeneous Model for Flow Around a Multiperforated Plate", *AIAA Journal*, **2008**, 46(10), 2623-2633.
- Senoner, J.-M., Garcia, M., Mendez, S., Staffebach, G., Vermorel, O. and Poinso, T., "Growth of rounding errors and the repetitivity of Large Eddy Simulations", *AIAA Journal*, **2008**, 46(7), 1773-1781.
- Mendez, S. and Nicoud F., "Large-eddy simulation of a bi-periodic turbulent flow with effusion", **2008**, *Journal of Fluid Mechanics*, 598, 27-65.