

Dr. Michaël BAUERHEIM

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Nationality: French

WORK EXPERIENCE & DIPLOMA

- 2021 – present **CONSULTING – Consulting in Artificial Intelligence and Physics for industry and academia.**
- 2017 – present **ISAE-SUPAERO – Associate Professor in fundamental aerodynamics (DAEP)**
Leading research in Artificial Intelligence for fluid mechanics and aerodynamics. Research in aeroacoustics, fluid-structure interactions, and bio-inspired aerodynamics, using high-fidelity simulations (NS and LBM)
- 2015 – 2017 **ETHZ/ECL, CAPS laboratory (Zurich) and LMFA (Lyon) – Co-financed post-doctoral position**
Aeroacoustic instabilities and broad-band/tonal noise. Reduced models with non-linear sources on academic cases (ETHZ). LES simulations of the LP3 test bench, and analytical impedance of blades cascade (LMFA).
- 2014 – 2015 **CERFACS/IMFT – Post-doctoral position in fluid mechanics and combustion**
DNS (CERFACS) and experiment (IMFT) of flame stabilization on a rotating cylinder. Industrialization of the tools CHORUS (combustion noise) and ATACAMAC (combustion instabilities).
- 2012 – 2014 **CERFACS/SNECMA – PhD (CIFRE) in fluid mechanics, acoustics, and combustion**
Large Eddy Simulations of thermo-acoustics instabilities in annular chamber
Acoustics, Fluids mechanics, combustion, non-linear theory, multi-phase flow, CFD
- 2011
(6 months) **GEORGIA INSTITUTE OF TECHNOLOGY – Computational Combustion Lab (CCL), USA, Atlanta**
In charge of LES simulations for combustion instabilities (turbulent and acoustic) analysis on a combustor Ox/Ch4
- Structured Mesh generation, chemistry studies using Cantera
- LES axisymmetric/3D simulations on an in-house program (LESLIE) coded in FORTRAN
- Post- processing on FieldView, analysis using PSD, analysis of combustion instabilities
- 2009 – 2010
(1 year) **AIRBUS France (long-term internship) – Aircraft Performance and Embedded Systems Department**
In charge of designing an embedded system for monitoring high energy in approach
- Creation of simulation, learning and validation tools based on optimal design and Sobol indices
- Flight testing (A380 flight demonstrator) and bench testing
- 2007 – 2011 **ISAE-ENSICA – High Institute of Aeronautics and Space**
Specialization in: Fluid mechanics (CFD, Experiment, Turbulence, Acoustics and Turbomachinery)
Additional diploma 1 - Research Master's Degree: Ms in Fluid Mechanics and Heat Transfers
Additional diploma 2 - Master's Degree in Management: Ms in Management of Innovation and Research

AWARDS

- 2016 PhD “qualification” delivered by CNU (Section 62)
- 2015 Paul Laffitte 2014-15 award for the best PhD thesis on “Combustion” delivered by the French Combustion Institute
- 2015 Paul Caseau 2015 award for the best PhD thesis on “*Simulation and modeling*” delivered by EDF
- 2015 Award of excellence for the contribution to “*Ignition capability studies*” in the FP7 European project LEMCOTEC
- 2015 Léopold Escande award for the best INP thesis 2014, delivered by the University of Toulouse

LANGUAGES

- French Mother tongue
- English Good level
- Spanish Studied for 5 years
- Japanese Elementary knowledge (studied for 3 years)