

Jean-Christophe Loiseau

Assistant Professor



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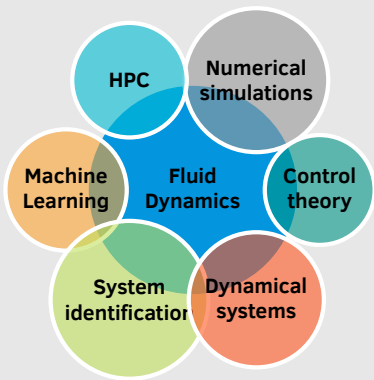


<https://loiseaujc.github.io>



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Skills



Interest

Open-Source and Open-Science

Applied mathematics

Teaching

Data Science

Research

Sep 2016 -
Present

Assistant Professor

Arts & Métiers Institute of Technology, France

Nonlinear system identification and machine-learning for reduced-order models and flow control. Collaboration with S. Brunton (UW, USA).

Mar 2015-
Aug 2016

Postdoctoral researcher

KTH Mechanics, Sweden

Numerical simulations and stability analysis of multiphase flows. Application to two-phase confined jets, flows in porous media and deformable particles in shear flows.

Jul 2014 -
Dec 2014

Postdoctoral researcher

Politecnico di Bari, Italy

Development of an optimization module in Nek5000 for the computation of linear and nonlinear optimal perturbations. Application to Couette flow and plane Poiseuille flow.

Sep 2013 -
Jun 2014

Research and Teaching Assistant

Université Lille-1, France

Influence of the spanwise aspect ratio on the stability of three-dimensional lid-driven cavity flows.

2010 - 2014

PhD candidate

Arts & Métiers Institute of Technology, France

Dynamics and stability of fully three-dimensional flows

Development of iterative eigensolvers for large-scale problems. Application to the study of the transition scenario of three-dimensional shear flows.

Lectures

Since 2024

Physics-Informed Neural Networks (10 hours/year)

Université de la

Rochelle

Set of invited lectures for Master students.

Since 2023

Linear Optimal Control (40 hours/year)

Arts & Métiers

Lectures for Master students from Arts & Métiers.

Since 2016

Convex optimization (36 hours/year)

Arts & Métiers

Hands-on session for Arts & Métiers engineering students.

Since 2016

Introduction to Scientific Computing (60 hours/year)

Arts & Métiers

Hands-on session for Arts & Métiers engineering students.

Since 2016

Mathematics for Engineers (30 hours/year)

Arts & Métiers

Applied linear algebra for engineering applications.

Education

2010 - 2014

PhD thesis

Arts & Métiers ParisTech, France

Thesis defended on May 26th 2014. Jury: D. Sipp (President), U. Ehrenstein (Opponent), L. Brandt (Opponent), S. Cherubini (Examinator), F. Lusseyran (Examinator) et D. Barkley (Examinator). Co-direction: J.-Ch. Robinet (ENSAM) et E. Leriche (LML).

2008 - 2010

International Master Program in Fluid Dynamics

UPMC - X, France

Specialization in hydrodynamic instabilities.

- Master 2: *Global stability analyses of axisymmetric stenotic flows using high-order finite differences schemes.* (Arts & Métiers, Paris)
- Master 1: *Local stability analyses of turbulent two-phase pipe flow.* (Imperial College, London)

2005 - 2008

Undergraduate studies in Physics

Université d'Orléans, France