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Introduction

After a PhD thesis focused on fluid dynamics and acoustics (1999) in the civil engineering field, I put my competences in dynamics, fluid mechanics, experiments and simulation into application to the transportation domain, by joining in 2001 the french road and bridges laboratory (LCPC).
Starting from tire-to-road grip to vehicle handling and road safety, my researches have been more focused on transportation energy savings since 2011, concomitantly with the merging of Inrest and LCPC into the Ifsttar institute. My research field became then the use phase of transportation infrastructure, whether for railways and roads. General aim is the reduction of use phase energies, due to traveling of trains or road vehicles, by means of a better infrastructure design or exploitation.
Since january 2020 the institute I belonged to is now part of the new french Gustave Eiffel University.

Employment History

2020 – · · · · **Senior researcher.** Gustave Eiffel University, Nantes Campus, Bouguenais.

2011 – 2019 **Researcher. (energy, infrastructure, transportation)** Ifsttar, French science, network and transportation institute, Bouguenais, France.

2001 – 2011 **Researcher. (road safety)** LCPC, French road and brigdes central laboratory, Bouguenais, France. I

2000 – 2001 **Post doctorate.** CSTB, french building research center, Nantes, France.

1999 – 2000 **Research and teaching assistant.** La Rochelle University, France.

1996 – 1999 **Assistant teacher.** Mechanics, optics, acoustics, reinforced concrete; master level. La Rochelle University, France

Education

1996 – 1999 **Ph.D., Poitiers University, France** Civil Engineering.
Thesis title: *Experimental study on flow noise reduction using stable paths of bifurcation.*
https://tel.archives-ouvertes.fr/tel-02166666/document

1995 – 1996 **Postgraduate Degree (DEA), Poitiers University**.

1995 **M.Sc. Civil Engineering, Poitiers University**.

Research Publications

Journal Articles (18 in total, 11 as first author)

1. **Coiret, A.**, & Vandanjon, P.-O. (2025). Road force sensor for vehicle grip estimation and road monitoring devices verification. *Transportation Research Procedia*, *83*, 538–545.
https://doi.org/https://doi.org/10.1016/j.trpro.2025.03.023

2. Noël, R., & **Coiret, A.** (2025). Applicability of the mesoscopic lattice boltzmann method to estimate road capacity depending on lane number decrease. *Transportation Research Procedia*, *90*, 226–233.
https://doi.org/https://doi.org/10.1016/j.trpro.2025.06.062