

## **Professor Céline MORIN**

### **Education**

2009: Diploma to supervise research of PhD students and to access to the function of Professor, *University "Pierre et Marie Curie" - Paris 6 (UPMC), France.*

1999: Doctor of Philosophy Degree (PhD) in Energetics and Fluid Mechanics with honours, *University of Orléans, France.*

1996: Master of Science degree (MSc) in Energetics with honours, *University of Orléans, France.*

1996: Master of Science in Engineering Science and Energetics, *University of Orléans, France.*

### **Work Experience**

September 2011 – present: Professor, LAMIH CNRS, INSA Hauts-de-France, Université Polytechnique Hauts-de-France (France). Leader of the Team « Materials and Fluids at the Vicinity of Surfaces and Interfaces ».

October 2000 – September 2011: Assistant Professor, University « Pierre et Marie Curie » (UPMC, Paris 6), Institut Jean Le Rond d'Alembert (IJLRA, CNRS Paris France).

January 2000 – October 2000: Assistant Teacher – UPMC (Paris France).

October 1996 – December 1999: PhD thesis in Energetics and Fluid Mechanics. Laboratory of Combustion and Reactive Systems (CNRS Orléans France).

### **Main Research Fields**

- Development and optimization of experimental methods in combustion and energetics
- Multi-scale and multi-physics modelling of thermal machines (internal combustion engines, hot air engines...).
- Study and modelling of droplet vaporization
- Biomass micro-cogeneration unit

### **Scientific Project Experience**

Project with French laboratories and companies (French automotive manufacturers: PSA, Renault, CD-Adapco): Study of auto-ignition delays for different fuels. Characterization of the concentration, temperature and velocity fields by optical diagnostics in a rapid compression machine.

Collaboration with ONERA (French Aerospace Research Center) with Physics Measurement Department and Fundamental and Applied Energetic Department: Spectroscopic studies of CO fluorescence at high temperature and high pressure.

Collaboration with Daimler (Stuttgart, Germany): Investigation of droplet condensation and vaporization on a windshield.

Participation in a national pole of 19 French Laboratories on HCCI combustion.

Project with French laboratories and a company ENERBIOM (company for the development of biomass applications): development of a biomass micro-cogeneration unit and a hot air engine.

Project of French Research National Agency with French laboratories: clean and efficient biomass combustion.

Projects with the Arts Carnot Institute: Numerical developments for fine particles transport modelling in a gaseous medium: experimental validation for different types of particles. Dynamic modelling of the elementary components of energy conversion installations in a system approach

## **Academic achievements**

Publications: 38 articles in peer-reviewed journals, 45 published acts of international and national conferences.

Since 2000: Supervisions of 15 PhD students, 27 Master students, participation to 47 national and international thesis juries.

Since 2009: Member of 22 expert groups for recruitment of Assistant Professors and Professors in French Universities.

2007-2010: Scientific secretary of the French Section of the Combustion Institute: organization of symposia in France for PhD students and workshops.

2006 - 2009: Assistant Director of the Department of Mechanical Engineering (University Paris 6).

2009 - 2012: Member of National Committee of CNRS (French National Center for Scientific Research).

2010-2015: Member of a committee of CNES (government agency responsible for shaping and implementing France's space policy in Europe).

2013-2014-2016: Member of expert committee of French Research National Agency (Sustainable Transport and Mobility Program).

April – May 2013: Invited Professor at CIMA (Automotive Engineering Research Center), Tecnologico de Monterrey, Campus Toluca, Mexico.

Since 2014: Director of the International Master "Transportation and Energy" (INSA Hauts-de-France, Université Polytechnique Hauts-de-France, France).

Since 2015: Leader of the Team « Materials and Fluids at the Vicinity of Surfaces and Interfaces » at LAMIH.

Since 2017: Member of the Scientific Council of the French Thermal Society: organization of workshops.

November 2017: Invited Professor at University of Kasetsart (Bangkok, Thailand).

May 2019: Invited Professor at University of Pitesti (Romania).

Since 2019: Member of the Council for Training and Student Life and the Academic Council (Université Polytechnique Hauts-de-France, Valenciennes).

Since 2020: Member of the Scientific Council (INSA Hauts-de-France).

Since 2021: Member of a national research group about "Contribution of biomass to the decarbonisation of industry".

Since 2021: Member of the Energy group of CNRS (France).

Since 2021: Member of the International Relation Cell (Université Polytechnique Hauts-de-France, France).