
Education

- Since **Doctoral student**, *Institut Camille Jordan - Université Lyon 1*, France.
- Feb. 2014 Theoretical and numerical study of the Euler-Korteweg system: periodic waves, modulations and dispersive shocks. (Advisors: S. Benzoni-Gavage and L.M. Rodrigues)
- 2010 – 2013 **Engineering degree**, *École Centrale de Lyon*, France.
Field of study: research, innovation and development engineering.
Options: mathematics and risk engineering, acoustics and partial differential equations.
- 2012 – 2013 **Master of Mathematics and Applications, Mathematical Engineering and Advanced Mathematics**, *École Normale Supérieure de Lyon*, France.
Options: partial differential equations, kinetic theory and shape optimisation.
- 2012 **Exchange program**, *UPC BarcelonaTech*, Barcelona, Spain.
Facultad de Matemáticas y Estadística (FME).
Escuela Técnica Superior de Ingeniería de Barcelona (ETSEIB).
- 2007 – 2010 **Preparatory classes**, *Lycée Faidherbe*, Lille, France.
Intensive undergraduate preparation course for the national entrance exams to the French "Grandes Écoles" (Majors: advanced mathematics and physics).

Professional experiences

- 2014 – 2016 **Teaching**, *INSA*, Lyon, France.
Course and practical work on Numerical Analysis.
- Oct. 2013 to Feb. 2014 **Research Engineer**, *CERFACS*, Toulouse, France.
Mathematical and numerical analysis of acoustic propagation.
- Apr. 2013 to Sep. 2013 **Master thesis**, *EADS Innovation Works - CERFACS*, Toulouse, France.
Mathematical analysis and development of numerical methods for the computation of turbo-reactors acoustic fields in a flow. Goldstein equations for acoustic propagation in a complex flow and Finite Element Method.
- 2011 – 2012 **Industrial project**, *École Centrale de Lyon*, France.
Study of the impact of thermic models simplifications on the running temperatures of micro-electronic circuits.
- Aug. 2011 **Blue-collar internship**, *AEROLIA S.A.S.*, Méaulte (80), France.
Technical assistant on production support.

Publications

- 2016 *Modulated equations of Hamiltonian PDEs and dispersive shocks*
S. Benzoni-Gavage, C. M., and L.M. Rodrigues. (In preparation)
- 2016 *On the well-posedness of a quasi-linear Korteweg-de Vries equation.*
C. M. (Annales Mathématiques Blaise Pascal, Preprint)
- 2015 *Study of a depressurisation process at low Mach number in a nuclear reactor core.*
A. Bondesan, S. Dellacherie, H. Hivert, J. Jung, V. Lleras, C. M. and Y. Penel.
(Proceeding CEMRACS 2015, Preprint)
- 2015 *Co-periodic stability of periodic waves in some Hamiltonian PDEs.*
S. Benzoni-Gavage, C. M., and L.M. Rodrigues. (Nonlinearity, Preprint)
- 2014 *Acoustic Propagation in a Complex Homentropic Flow : a new model based on Goldstein's Equations.*
J-F. Mercier, C. M., F. Millot, and V. Pagneux. (SIAM Journal on Applied Mathematics, submitted)

Languages and Other Skills

- English **EU level : C1, TOEFL 637/670**
- Spanish **EU level : B2**
- Chinese **EU level : A2**
- Computer Skills Windows, Linux, MacOS, Office, LaTeX, C/C++, Fortran, Matlab.
- Others Driving license, First Aid Certificate.

Miscellaneous

- Sports Handball : regular sport, former manager of the École Centrale de Lyon team.
Climbing. Running.
- Cinema Movies and series in original version.
- Music Guitar.
- Reading Science-fiction. Books in English.