

ANSELMO S. PEREIRA

Ph.D., Mechanical Engineer, Rheologist/Soft Matter Scientist



PERSONAL RECORD

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Date and place of birth: 18 August 1984 - Vitória, Espírito Santo - Brazil

Nationality: Brazilian

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AWARDS AND ACHIEVEMENTS

2018 **CNRS Finalist** - Competitive Examinations for Researcher Positions in the CNRS (*Centre National de la Recherche Scientifique*, France) - Section 10.

2017 **Thesis Award** - **French Group of Rheology** (*Le prix de thèse du Groupe Français de Rhéologie*)

2017- **Scientific Grant** - Postdoctoral financial support - *Université Paris Sciences et Lettres* (France)

2017- **Scientific Grant** - Resource hours at IDRIS (*Institut du développement et des ressources en informatique scientifique*, France), GENCI projet i100790 dossier DARI A0032A10304 (with Dr. Gilmar Mompean, Politech'Lille, France)

2016-2017 **Scientific Grant** - Resource hours at IDRIS (*Institut du développement et des ressources en informatique scientifique*, France), GENCI projet i20162a2277 (with Dr. Laurent Thais, Politech'Lille, France)

2015-2016 **Scientific Grant** - Resource hours at IDRIS (*Institut du développement et des ressources en informatique scientifique*, France), GENCI projet i20152b2277 (with Dr. Laurent Thais, Politech'Lille, France)

2014-2015 **Scientific Grant** - Resource hours at IDRIS (*Institut du développement et des ressources en informatique scientifique*, France), GENCI projet 2014-i20142b2277 (with Dr. Laurent Thais, Politech'Lille, France)

2013-2016 **Scientific Grant** - PhD financial support attributed by the "*Science Without Borders*" Program managed by the *Brazilian Research Council*, CNPq (Brazil/France)

2010-2012 **Scientific Grant** - M.Sc. financial support attributed by the *Brazilian National Agency for Petroleum, Natural Gas and Biofuels*, ANP (Brazil)

2008-2009 **Scientific Grant** - B.Sc. financial support attributed by the *Brazilian National Agency for Petroleum, Natural Gas and Biofuels*, ANP (Brazil)

EDUCATION and CAREER

- 2017-now **Postdoctoral Research Fellow (Paris Sciences et Lettres Grant)** - *Centre de mise en forme des matériaux (CEMEF)*, MINES ParisTech, Université Paris Sciences et Lettres (PSL), France.
- 2013-2016 **PhD in Fluid Mechanics** - Laboratoire de Mécanique de Lille, *École Polytechnique Universitaire de Lille, Université de Lille 1 - Sciences et Technologie*, France : *Transient aspects of the polymer induced drag reduction phenomenon* (phd supervisor: Dr. Gilmar Mompean and Dr. Laurent Thais).
- 2012 **Assistant professor** and **visiting researcher**, Department of Mechanical Engineering, *Universidade Federal do Espírito Santo*, Brazil.
- 2010-2012 **M.Sc. in Mechanical Engineering** - Rheology Laboratory (LabReo), *Universidade Federal do Espírito Santo*, Brazil.
- 2005-2009 **B.Sc. in Mechanical Engineering** - *Universidade Federal do Espírito Santo*, Brazil.

TEACHING EXPERIENCE

- 2017 **Teaching Assistant**, *Centre de mise en forme des matériaux (CEMEF)*, MINES ParisTech, Université Paris Sciences et Lettres (PSL), France - M.Sc. course “Numerical Methods in Fluid Mechanics” (*Mécanique des Fluides Numérique*) developed with Dr. Rudy Valette.
- 2013-2016 **Teaching Assistant (vacataire)**, Department of Mechanical Engineering, *École Polytechnique Universitaire de Lille*, France - B.Sc. course “Fundamentals of Fluid Mechanics” (*Mécanique des Fluides*) and “Numerical Methods in Fluid Mechanics” (*Mécanique des Fluides Numérique*) developed with Dr. Gilmar Mompean.
- 2012 **Assistant professor**, Department of Mechanical Engineering, *Universidade Federal do Espírito Santo*, Brazil - B.Sc. course “Fundamentals of Fluid Dynamics” and “Fundamentals of Petroleum Engineering”.

SCIENTIFIC SOCIETIES and COMMITTEE MEMBER

- 2017- Member of the *French Group of Rheology* (GFR).
- 2016 Member of the local committee of the *51ème Congrès Annuel du Groupe Français de Rhéologie - École Polytechnique Universitaire de Lille* (25-27/10/2016).
- 2016 Member of the scientific committee of the « *16th Brazilian Congress of Thermal Sciences and Engineering* » (07-10/11/2016).

PEER-REVIEWED PUBLICATIONS

- 2018 **Pereira, A.S., Mompean, G., Soares, E.J.** Modeling and numerical simulations of polymer degradation in a drag reducing plane Couette flow. *Journal of Non-Newtonian Fluid Mechanics* 256, 1-7 (2018).
- 2017 **Pereira, A.S., Mompean, G., Thompson, R.L., Soares, E.J.** Elliptical, parabolic, and hyperbolic exchanges of energy in drag reducing plane Couette flows. *Physics of Fluids* 29, 110156-1--110156-21 (2017).
- 2017 **Pereira, A.S., Mompean, G., Thais, L., Soares, E.J., Thompson, R.L.** Active and hibernating turbulence in drag-reducing plane Couette flow. *Physical Review Fluids* 2, 084605-1--084605-14 (2017).
- 2017 **Pereira, A.S., Mompean, G., Thais, L., Thompson, R.L.** Statistics and tensor analysis of polymer coil-stretch mechanism in turbulent flows. *Journal of Fluid Mechanics* 824, 135-173 (2017).

- 2017 **Pereira, A.S., Mompean, G., Thais, L., Soares, E.J.** Transient aspects of drag reducing plane Couette flows. *Journal of Non-Newtonian Fluid Mechanics* 241, 60-69 (2017).
- 2016 **Martins, R.S., Pereira, A.S., Mompean, G., Thais, L., Thompson, R.L.** An objective perspective for classic flow classification criteria. *Comptes Rendus Mécanique* 344, 52-59 (2016).
- 2016 **Andrade, R.M., Pereira, A.S., Soares, E.J.** Drag reduction in synthetic seawater by flexible and rigid polymer addition into a rotating cylindrical double gap device. *Journal of Fluid Engineering* 138, 021101-1--021101-10 (2016).
- 2016 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** On the Extension of Polymer Molecules in Turbulent Viscoelastic Flows: Statistical and Tensor Investigation. *In: Michel Stanislas; Javier Jimenez; Ivan Marusic. (Org.). ERCOFTAC Series. 1ed.: Springer International Publishing* 23, 171-180 (2016).
- 2016 **Matins, R.S., Pereira, A.S., Mompean, G., Thais, L., Thompson, R.L.** On Objective and Non-objective Kinematic Flow Classification Criteria. *In: Michel Stanislas; Javier Jimenez; Ivan Marusic. (Org.). ERCOFTAC Series. 1ed.: Springer International Publishing* 23, 419-428 (2016).
- 2015 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** Analyses statistiques et tensorielles de l'étirement des polymères dans les écoulements viscoélastiques turbulents en canal plan. *Rhéologie* 27, 34-42 (2015).
- 2015 **Sandoval, G.A.B., Silva, R.T., Soares, E.J., Silva, L.A.S., Thomaz, F., Pereira, A.S.** Polymer degradation in turbulent drag reducing flows in pipes. *Engenharia Térmica* 14, 3-8 (2015).
- 2015 **Soares, E.J., Sandoval, G.A.B., Silva, L.A.S., Pereira, A.S., Silva, R.T., Thomaz, F.** Loss of efficiency of polymeric drag reducers by high Reynolds number flows in tubes with imposed pressure. *Physics of Fluids* 27, 125105-1--125105-23 (2015).
- 2014 **Andrade, R.M., Pereira, A.S., Soares, E.J.** Drag increase at the very start of drag reducing flows in a rotating cylindrical double gap device. *Journal of Non-Newtonian Fluid Mechanics* 212, 73-79 (2014).
- 2013 **Pereira, A.S., Andrade, R.M., Soares, E.J.** Drag reduction induced by flexible and rigid molecules in a turbulent flow into a rotating cylindrical double gap device: Comparison between poly(ethylene oxide), polyacrylamide, and xanthan gum. *Journal of Non-Newtonian Fluid Mechanics* 202, 72-87 (2013).
- 2012 **Pereira, A.S., Soares, E.J.** Polymer degradation of dilute solutions in turbulent drag reducing flows in a cylindrical double gap rheometer device. *Journal of Non-Newtonian Fluid Mechanics* 179, 9-22 (2012).

SUBMITTED ARTICLES

- 2018 **Pereira, A.S., Mompean, G., Thompson, R.L.** The universal nature of the Newtonian transition to turbulence and the viscoelastic drag reducing turbulence. Submitted to *Nature*.
- 2018 **Pereira, A. S., Castellani, R., Khalloufi, M., Hachem, E., Valette, R.** Buckling of Newtonian fluid filaments under compression stresses: geometrical, capillary, viscous and inertial effects. Submitted to *Journal of Fluid Mechanics*.
- 2018 **Valette, R., Hachem, E., Khalloufi, M., Pereira, A. S., Mackley, M. R., Butler, S. A.** The effect of viscosity, yield stress, and surface tension on the deformation and breakup profiles of fluid filaments stretched at very high velocities; Submitted to *Journal of Non-Newtonian Fluid Mechanics*.
- 2018 **Valette, R., Riber, S., Pereira, A. S., Sardo, L., Hachem, E.** Finite element framework for simulating two and three-dimensional viscoplastic free surface flows. Submitted to *Journal of Computational Physics*.

ARTICLES IN PREPARATION

- 2018 **Pereira, A. S., Castellani, R., Khalloufi, M., Hachem, E., Valette, R.** Buckling of power-law fluid filaments under compression stresses: geometrical, capillary, viscous and inertial effects. To be submitted to *Computers & Fluids*.
- 2018 **Pereira, A.S., Castellani R., Hachem, E., Valette, R.** Coiling instabilities of power-law fluids. To be submitted to *Physics of Fluids*.
- 2018 **Pereira, A. S. Sardo, L., Hachem, E., Valette, R., Talansier, E., Magnin, A.** Container filling regimes with yield stress fluids. To be submitted to *Physics of Fluids*.
- 2018 **Pereira, A.S., Castellani R., Hachem, E., Valette, R., Lemaire, E.** Periodic folding of dense suspension sheets. To be submitted to *Physical Review Fluids*.
- 2018 **Pereira, A. S., Valette R., Hachem, E., Jalaal, M., Kemper, D., Lohse D.** Spherical Yield-Stress Droplet Water Entry. To be submitted to *Physical Review Letters*.
- 2018 **Pereira, A.S., Mompean, G., Thompson, R.L., Soares, E.J.** On the drag reducing plane Couette flows. Submitted to *Journal of Turbulence*.
- 2018 **Pereira, A.S., Mompean, G.** Inertial effects on the transient aspects of drag reducing plane Couette flows. To be submitted to *Journal of Non-Newtonian Fluid Mechanics* as a short communication.
- 2018 **Pereira, A.S., Mompean, G., Thompson, R.L.** Beyond the Virk's law. To be submitted to *Physical Review Letters*.
- 2018 **Pereira, A.S., Mompean, G., Thompson, R.L.** From inertial to elasto-inertial turbulence at a moderate-Reynolds-number channel flow. To be submitted to *Physical Review Fluids*.
- 2018 **Pereira, A.S., Mompean, G., Thompson, R.L.** Elasto-inertial turbulence in plane Couette flows. To be submitted to *Journal of Fluid Mechanics*.
- 2018 **Pereira, A.S., Mompean, G., Thompson, R. L.** Addition of polymers to Newtonian channel flows in laminar-turbulent transition. To be submitted to *Physics of Fluids*.

CONGRESS ARTICLES

- 2017 **Pereira, A.S., Castellani, R., Antonioti, A., Valette, R.** Analyse numérique des instabilités de flambage dans un fluide rhéoépaississant. *23ème Congrès Français de Mécanique [CFM2017]*, Aug. 2017, Lille, France (2017).
- 2016 **Pereira, A.S., Mompean, G., Thais, L., Soare, E.J.** Numerical analysis of the developing time in turbulent drag reducing plane Couette flows. *16th Brazilian Congress of Thermal Sciences and Engineering*, Vitória-ES, Brazil, 1-8 (2016).
- 2016 **Silva, R.T., Soares, E.J., Siqueira, R., dos Santos, L., Pereira, A.S., Campos, A.A.S.** Drag reduction in nutrient solution: effect of different polymers, concentration and degradation. *16th Brazilian Congress of Thermal Sciences and Engineering*, Vitória-ES, Brazil, 1-7 (2016).
- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** On the extension of polymer molecules in turbulent viscoelastic flows: statistical and tensor investigation. *Workshop Progress in wall turbulence: understanding and modelling*, Villeneuve d'Ascq, France, 1-10 (2014).
- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** On objective and non-objective kinematic flow classification criteria, *Workshop Progress in wall turbulence: understanding and modelling*, Villeneuve d'Ascq, France, 1-10 (2014).

- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** Analyses statistiques et tensorielles de l'étirement des polymères dans les écoulements visco-élastiques turbulents en canal plan. *49ème Congrès Annuel du Groupe Français de Rhéologie*, Grenoble, France, 1-10 (2014).
- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** Interactions entre les structures cohérentes et les polymères dans les écoulements visco-élastiques turbulents en canal plan. *49ème Congrès Annuel du Groupe Français de Rhéologie*, Grenoble, France, 1-10 (2014).
- 2014 **Sandoval, G.A.B., Silva, R.T., Silva, L.A.S., Thomaz, F., Pereira, A.S. Soares, E.J.** Degradation of flexible polymers in turbulent drag reducing flows in pipes, *Rio Oil & Gas 2014*, Rio de Janeiro, Brazil, 1-9 (2014).
- 2014 **Sandoval, G.A.B., Silva, R.T., Soares, E.J., Silva, L.A.S., Thomaz, F., Pereira, A.S.** Redução de arrasto e degradação de polímeros flexíveis em escoamentos turbulentos em dutos, *Congresso Nacional de Engenharia Mecânica 2014 (CONEM 2014)*, Uberlândia - MG, Brazil, 1-7 (2014).
- 2013 **Martins, R.S., Pereira, A.S., Mompean, G., Thais, L., Thompson, R.L.** Critères d'identification des structures cohérentes appliqués aux écoulements visco-élastiques turbulents dans un canal plan. *48ème Congrès Annuel du Groupe Français de Rhéologie*, Nantes, France, 1-10 (2013).
- 2013 **Pereira, A.S., Andrade, R.M., Soares, E.J.** Drag reduction induced by flexible and rigid molecules in a turbulent flow into a rotating cylindrical double gap device: Comparison between Poly(ethylene oxide), Polyacrylamide, and Xanthan Gum. *22nd International Congress of Mechanical Engineering (COBEM 2013)*, Ribeirão Preto, Brazil, 1-10 (2013).
- 2013 **Andrade, R.M., Pereira, A.S., Soares, E.J.** Drag reduction into a rotating cylindrical double gap device by polymer addition: Effect of Reynolds number, concentration, temperature and different polymers at the very beginning of the test. *22nd International Congress of Mechanical Engineering (COBEM 2013)*, Ribeirão Preto, Brazil, 1-10 (2013).
- 2012 **Pereira, A.S., Soares, E.J.** Polymer degradation of dilute solutions in turbulent drag reducing flows in a cylindrical double gap rheometer device. *VII Congresso Nacional de Engenharia Mecânica (CONEM 2012)*, São Luís do Maranhão, Brazil, 1-9 (2012).
- 2011 **Pereira, A.S., Soares, E.J.** Experimental analysis of temperature effects on drag reduction by polymer additives. *21nd International Congress of Mechanical Engineering (COBEM 2011)*, Natal, Brazil, 1-8 (2011).

BOOK CHAPTERS

- 2016 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** On the Extension of Polymer Molecules in Turbulent Viscoelastic Flows: Statistical and Tensor Investigation. *In: Michel Stanislas; Javier Jimenez; Ivan Marusic. (Org.). ERCOFTAC Series. 1ed.: Springer International Publishing 23*, 171-180 (2016).
- 2016 **Martins, R.S., Pereira, A.S., Mompean, G., Thais, L., Thompson, R.L.** On Objective and Non-objective Kinematic Flow Classification Criteria. *In: Michel Stanislas; Javier Jimenez; Ivan Marusic. (Org.). ERCOFTAC Series. 1ed.: Springer International Publishing 23*, 419-428 (2016).

CONFERENCE ABSTRACTS

- 2018 **Pereira, A.S., Mompean, G., Thompson, R.L.** The universal nature of the Newtonian transition to turbulence and the viscoelastic drag reducing turbulence. *GDR phénoménologie de la turbulence*, October 16-18, Nice, France (2018)
- 2018 **Pereira, A.S., Castellani, R., Khalouffi, M., Hachem, E., Valette, R.** Buckling of viscoplastic fluid filaments under compression stresses. *13th World Congress on Computational Mechanics*, July 22-27, NY, USA (2018).

- 2018 **Pereira, A.S., Castellani, R., Khalouffi, M., Hachem, E., Valette, R.** Buckling of viscoplastic fluid filaments under compression stresses. *The Annual European Rheology Conference*, April 17-21, 2018, Sorrento, Italy (2018)
- 2016 **Pereira, A.S., Mompean, G., Thais, L., Soares, E.J.** Numerical analysis of the effects of the elasticity on the developing time in viscoelastic turbulent plane Couette flows. *51ème Congrès Annuel du Groupe Français de Rhéologie*, Villeneuve d'Ascq, France (2016).
- 2016 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** On the polymer coil–stretch mechanism in turbulent viscoelastic channel flows: statistical and tensor investigation. *The XVIIth International Congress on Rheology (ICR2016)*, Kyoto, Japan (2016).
- 2016 **Pereira, A.S., Mompean, G., Thais, L. Soares, E.J.** Developing Time in Viscoelastic Turbulent Flows by Direct Numerical Simulations. *The XVIIth International Congress on Rheology (ICR2016)*, Kyoto, Japan (2016).
- 2015 **Pereira, A.S., Mompean, G., Thais, L. Soares, E.J.** Numerical simulation of turbulent drag reducing flows considering the effects of polymer degradation. *1st International Conference on Mechanics of Complex Solids and Fluids*, Villeneuve d'Ascq, France (2015).
- 2014 **Matins, R.S., Pereira, A.S., Mompean, G., Thais, L., Thompson, R.L.** Comparison between objective and non-objective kinematic flow classification criteria. *9th Annual European Rheology Conference (AERC 2014)*, Karlsruhe, Germany (2014).
- 2014 **Andrade R.M., Pereira, A.S., Soares, E.J.** Turbulent structures development in drag reducing flows from the start-up of a rotating double gap cylindrical device. *9th Annual European Rheology Conference (AERC 2014)*, Karlsruhe, Germany (2014).
- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** Analyses statistiques et tensorielles de l'éirement des polymères dans les écoulements visco-élastiques turbulents en canal plan. *49ème Congrès Annuel du Groupe Français de Rhéologie*, Grenoble, France, 1-10 (2014).
- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** Interactions entre les structures cohérentes et les polymères dans les écoulements visco-élastiques turbulents en canal plan. *49ème Congrès Annuel du Groupe Français de Rhéologie*, Grenoble, France, 1-10 (2014).
- 2014 **Soares, E.J., Silva, L.A.S., Sandoval, G.A.B., Thomaz, F., Silva, R.T., Pereira, A.S.** Polymer degradation in drag-reducing flows in pipes at fixed inlet pressure. *The 86th Annual Meeting of the Society of Rheology*, Philadelphia, Pennsylvania, USA (2014).
- 2013 **Martins, R.S., Pereira, A.S., Mompean, G., Thais, L., Thompson, R.L.** Critères d'identification des structures cohérentes appliqués aux écoulements visco-élastiques turbulents dans un canal plan. *48ème Congrès Annuel du Groupe Français de Rhéologie*, Nantes, France, 1-10 (2013).
- 2012 **Pereira, A.S., Soares, E.J.** The very beginning of the polymer degradation process of dilute solutions in turbulent drag reducing flows in a cylindrical double gap rheometer device. *The XVIth International Congress on Rheology*, Lisbon, Portugal (2012).
- 2011 **Pereira, A.S., Soares, E.J.** Polymer degradation of dilute solutions in turbulent drag reduction flows in a cylindrical double gap rheometer device. *The Society of Rheology 83rd Annual Meeting*, Cleveland, Ohio, USA (2011).

CONFERENCES and SEMINARS

- 2018 **Pereira, A.S., Mompean, G., Thompson, R.L.** The universal nature of the Newtonian transition to turbulence and the viscoelastic drag reducing turbulence. *GDR phénoménologie de la turbulence*, October 16-18, Nice, France (2018)
- 2018 **Pereira, A.S., Castellani, R., Khalouffi, M., Hachem, E., Valette, R.** Buckling of viscoplastic fluid filaments under compression stresses. *13th World Congress on Computational Mechanics*, July 22-27, NY, USA (2018).
- 2018 **Pereira, A.S., Castellani, R., Khalouffi, M., Hachem, E., Valette, R.** Buckling of viscoplastic fluid filaments under compression stresses. *The Annual European Rheology Conference*, April 17-21, 2018, Sorrento, Italy (2018)
- 2017 **Pereira, A.S. (invited speaker)** The universal nature of the Newtonian transition to turbulence and the viscoelastic drag reducing turbulence. *Rencontre Niçoise de Mécanique des Fluides*, Nice, France (09/10/2017).
- 2016 **Pereira, A.S., Mompean, G., Thais, L., Soares, E.J.** Numerical analysis of the effects of the elasticity on the developing time in viscoelastic turbulent plane Couette flows. *51ème Congrès Annuel du Groupe Français de Rhéologie*, Villeneuve d'Ascq, France (2016).
- 2016 **Pereira, A.S. (invited speaker)** Experimental and numerical analysis of the developing time in turbulent drag reducing flow. *Seminar - Laboratoire Ondes et Milieux Complexes - Université du Havre*, Havre, France (11/02/2016).
- 2015 **Pereira, A.S., Mompean, G., Thais, L., Soares, E.J.** Numerical simulation of turbulent drag reducing flows considering the effects of polymer degradation. *1st International Conference on Mechanics of Complex Solids and Fluids*, Villeneuve d'Ascq, France (17-22/05/2015).
- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** Analyses statistiques et tensorielles de l'étirement des polymères dans les écoulements visco-élastiques turbulents en canal plan. *49ème Congrès Annuel du Groupe Français de Rhéologie*, Grenoble, France (27-29/10/2014).
- 2014 **Pereira, A.S., Mompean, G., Thais, L., Soares, E.J.** Analyses expérimentales et numériques des écoulements viscoélastiques turbulents prenant en compte les effets de dégradation du polymère. *7ème Journée des Doctorants du Domaine Mécanique, Génie Civil, Énergétique et Matériaux de l'EDSPI*, Villeneuve d'Ascq, France (24/06/2014).
- 2014 **Pereira, A.S., Martins, R.S., Mompean, G., Thais, L., Thompson, R.L.** On the extension of polymer molecules in turbulent viscoelastic flows: statistical and tensor investigation. *Workshop Progress in wall turbulence: understanding and modelling*, Villeneuve d'Ascq, France (18-20/06/2014).
- 2014 **Andrade R.M., Pereira, A.S., Soares, E.J.** Turbulent structures development in drag reducing flows from the start-up of a rotating double gap cylindrical device. *9th Annual European Rheology Conference (AERC 2014)*, Karlsruhe, Germany (08-11/04/2014).
- 2012 **Pereira, A.S. (invited speaker)** Analyse expérimentale de la dégradation polymérique en écoulement turbulent avec réduction de la traînée dans une géométrie rotative. *Seminar - Laboratoire de Mécanique de Lille, École Polytechnique Universitaire de Lille, Université de Lille 1 - Sciences et Technologie*, Villeneuve d'Ascq, France (11/2012).
- 2011 **Pereira, A.S., Soares, E.J.** Experimental analysis of temperature effects on drag reduction by polymer additives. *21st International Congress of Mechanical Engineering (COBEM 2011)*, Natal, Brazil (24-28/10/2011).

RESEARCH IN PROGRESS

2018-now **Soft Matter Physics**

Laboratory: *Centre de mise en forme des matériaux* (CEMEF), MINES ParisTech, *Université Paris Sciences et Lettres* (PSL), France.

Members: Anselmo Soeiro Pereira, Rudy Valette, Elie Hachem, Romain Castellani, Lucas Sardo, Malcolm R. Mackley, Emeline Talansier, Albert Magnin, Mazyar Jalaal, Detlef Lohse.
Research topics:

- Non-Newtonian Droplet Water Entry;
- Deformation and breakup profiles of fluid filaments stretched at very high velocities;
- Buckling of Newtonian and non-Newtonian fluid filaments under compression stresses;
- Container filling regimes with non-Newtonian fluids;
- Non-Newtonian dam-breaks.

2018-now **Granular and dense suspension flows**

Laboratory: *Centre de mise en forme des matériaux* (CEMEF), MINES ParisTech, *Université Paris Sciences et Lettres* (PSL), France.

Members: Anselmo Soeiro Pereira, Rudy Valette, Elie Hachem, Romain Castellani, Lucas Sardo, Elisabeth Lemaire, Pierre Jop.

2017-now **Theoretical, experimental and numerical analyses of dense suspension jets**

Laboratory: *Centre de mise en forme des matériaux* (CEMEF), MINES ParisTech, *Université Paris Sciences et Lettres* (PSL), France.

Members: Anselmo Soeiro Pereira, Rudy Valette, Elie Hachem, Romain Castellani, Elisabeth Lemaire.

2017-now **Elastic turbulence, elasto-inertial turbulence and polymer drag-reducing flows**

Laboratory: *Centre de mise en forme des matériaux* (CEMEF), MINES ParisTech, *Université Paris Sciences et Lettres* (PSL), France ; Laboratoire de Mécanique de Lille, *École Polytechnique Universitaire de Lille*, Université de Lille 1 – Sciences et Technologie, France; and *Instituto Alberto Luiz Coimbra de Pós-Graduação e Pesquisa de Engenharia* (COOPE), Department of Mechanical Engineering, Universidade Federal do Rio de Janeiro, Brazil.

Members: Anselmo Soeiro Pereira, Gilmar Mompean, Roney Leon Thompson.

2012-2016 **Transient aspects of drag reducing flows.**

Laboratory: Laboratoire de Mécanique de Lille, *École Polytechnique Universitaire de Lille*, *Université de Lille 1 - Sciences et Technologie*, France.

Members: Anselmo Soeiro Pereira, Gilmar Mompean, Roney Leon Thompson, Edson José Soares.