



**PAUL GRANDGEORGE**  
SOFT MATTER EXPERIMENTALIST

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d'Alembert Institute  
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**RESEARCH INTERESTS** – **Experiments and modelisation** on soft matter. Elastic fibers and elasto-capillary interactions. Smart mechanical actuators.

## EDUCATION

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**PhD. in Mechanics**, d'Alembert Institute, Université Pierre et Marie Curie, Paris (France)  
– 2015-2018

*Elasto-capillarity in fibrous media for the creation of ultra-extensible objects*

During my PhD, I have participated in several **international conferences**, supervised undergraduates in the laboratory and followed the course "Instabilities" given by Romain Lagrange. I also actively participated in the departmental life.

Supervisors: Pr. Sébastien Neukirch Pr. Arnaud Antkowiak.

**R&D engineer at Electro-Medical Systems (EMS)**, Nyon (Switzerland) – 2014 (6 months internship)

*Dental small-scale sandblast nozzle: Characterization and design*

New and innovating experimental setup – statistic results analysis (ANOVA method on multi-parameter experimental plans) – prototypes **manufacturing**.

Supervisors: Marcel Donnet (EMS research engineer) and Eric Boillat (EPFL teaching assistant)

**BSc and MSc in Mechanical Engineering**, Ecole Polytechnique Fédérale de Lausanne (EPFL - Switzerland) – 2009-2014

I graduated with a major in **Solid and Fluid Mechanics** and a minor in a **Conception**.

**Erasmus** year at the Universitat Politècnica de Catalunya, Barcelona (Spain).

During my 3<sup>rd</sup>, year I was granted an **excellence scholarship** by EPFL.

**Scientific** high school Baccalaureat with international **Dutch** option, Lycée International de Ferney Voltaire (France) – 2009

Grade A pass with honors.

## EMPLOYEMENT

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**Manufacturing internship** at the Nestlé R&D **prototype workshop**, Vers-Chez-Les-Blancs (Switzerland) – 2011 (1 month)

Conception with **CAD software** (AutoCAD) and **manufacturing** with the main **machine tools** (drilling, milling, and lathe machines).

**Tutoring in mathematics and physics** – 2009-2014

General help and preparation for exams (students from 12 y/o to bachelors level)

## PUBLICATIONS

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**P. Grandgeorge**, A. Antkowiak, S. Neukirch

Advances in colloids and interfaces (submitted 2017)

*Auxiliary soft beam for the amplification of the elasto-capillary coiling: towards stretchable electronics.*

**P. Grandgeorge**, S. Neukirch, A. Antkowiak

Comptes-rendus de la rencontre du non-linéaire (2017)

*Une fibre auxiliaire souple pour l'enroulement élasto-capillaire d'une fibre fonctionnelle dure*

H. Elettro, **P. Grandgeorge**, S. Neukirch

Journal of Elasticity, **127** (2017), 235-247

*Elastocapillary coiling of an elastic rod inside a drop.*

## CONTRIBUTED TALKS

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**Rencontres du Non-Linéaire**, Paris (France) – 2017

*Une fibre auxiliaire souple pour l'enroulement élasto-capillaire de fibre fonctionnelles dures*

**Euromech Colloquium 569: Multiscale Modeling of Textile and Fibrous Materials**, Châtenay-Malabry (France) – 2016

*Liquid wires – fiber coiling inside a droplet provides highly compressible device*

**MicroMast: 1st International Conference on Multiscale Applications of Surface Tension**, Bruxelles (Belgium) – 2016

*Liquid wires – coiling rigid microfibers inside liquid droplets*

**Rencontres du Non-Linéaire**, Paris (France) – 2016

*Enroulement élasto-capillaire pour la création de fibres ultra-extensibles*

## TEACHING AND PUBLIC OUTREACH

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**64 teaching hours/year** (2nd and 3rd year undergraduate students) – 2015-2017

Theoretical fluid mechanics and waves (3A101)

Experimental fluid mechanics (2A004 and 3A004)

Fortran classes (3A104)

Closely supervised a 3 month internship (Manon L'estimé) in the  $\partial$ 'Alembert Institute experimental laboratory

French **scientific vulgarisation TV-show** “E=M6” – 2016

*Hommes vs. animaux : le match*

**Experimental conference** at the Espace Pierre-Gilles de Gennes at the ESPCI, Paris (France) – 2016

*La soie de capture de l'araignée : gluante, liquide et solide à la fois*

## SKILLS

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	Languages	Computer skills	Experimental skills
<b>Fluent:</b>	<b>French</b> , English (CAE - level C1), Spanish, Dutch	Python, Matlab, Illustrator, Catia V5, ImageJ, ffmpeg, Surface Evolver, L <sup>A</sup> T <sub>E</sub> X	High speed imagery, photography, Thorlabs setups, tensile testing
<b>Medium Level:</b>	Catalan	Photoshop, C++, Fenics, AutoCad, Ansys CFX	Particle Image Velocimetry, polymer synthesis, 3D printing, laser cutting

## COMMUNITY INVOLVMENTS AND OTHER ACTIVITIES

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**Representative member of the PhD students**, at the Council of the Institut Jean le Rond d'Alembert, UPMC, Paris – *2016-2017*

**Experimental group meetings organizer**, monthly meeting between the experimentalists of the d'Alembert Institute – *2015-2017*

### Hobbies

Taekwondo, hiking, ping-pong, football, swimming, horse riding

## REFERENCES

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Prof. **François Gallaire**  
LFMI  
Ecole Polytechnique Fédérale de Lausanne  
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Prof. **Pierre-Thomas Brun**  
Chemical and Biological Engineering  
Princeton University  
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