# Víctor ROMERO, Ph.D

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## Academic Background

- **Université Pierre et Marie Curie, Paris VI** — France
  *Docteur école doctorale SMAE, Advisor B. Roman* — *2007 - 2010*
- **Universidad Santiago de Chile** — Chile
  *PhD in Physics, Advisor E. Cerda* — *2006 - 2010*
- **Universidad de Santiago** — Chile
  *Graduate in Applied Physics* — *2002 - 2006*

## Qualification CNU, France

**2021** : Qualified, Section 28. **MCF-2021-28-21228356709**.

**2021** : Qualified, Section 60. **MCF-2021-60-21260356709**.

## Work Experience

- **ELAN Team (Inria)** — France
  *Starting faculty* — *2021 - to date*
- **ELAN Team (Inria) and Institut Jean Le Rond d'Alembert (UPMC)** — France
  *Postdoc with Florence Bertails-Descoubes and Arnaud Lazarus* — *2017 - 2021*
- **Bipop Team (Inria) and Institut Jean Le Rond d'Alembert (UPMC)** — France
  *Postdoc with Florence Bertails-Descoubes and Arnaud Lazarus* — *2016 - 2017*
- **Laboratoire Sciences et Ingénierie de la Matière Molle at ESPCI** — France
  *Postdoc with Christian Fretigny, Francois Lequeux and Laurence Tallini* — *2014 - 2016*
- **Laboratoire Sciences et Ingénierie de la Matière Molleat ESPCI** — France
  *Colaboration with Antoine Chateauminois* — *2013*
- **Laboratoire Jean Perrin at UPMC** — France
  *Postdoc with Alexis Prevost* — *2011 - 2013*
- **Universidad Central** — Chile
  *Professor in Calculus, Algebra and Physics* — *2011*
- **Universidad de Santiago de Chile** — Chile
  *Physics Professor at the Engineering Department* — *2011*
- **Instituto Nacional Jose Miguel Carrera** — Chile
  *High School join Professor* — *2004 - 2005*

## Peer-Reviewed Publications

12. D. Jourdan, V. Romero, E. Vouga, A. Bousseau, M. Skouras. Simulation of printed-on-fabric assemblies. ACM Symposium on Computational Fabrication (2022). [DOI , Pre-print]

11. M. Trejo, V. Romero, E. Hamm, E. Cerda. Lateral Indentation of an Elastic Thin Film. Soft Matter (2022), 18, 3369. [DOI , PDF]

10. V. Romero, M. Ly , A. H. Rasheed , R. Charrondière , A. Lazarus, S. Neukirch, F. Bertails-Descoubes. Physical validation of simulators in computer graphics: a new framework dedicated to slender elastic structures and frictional contact. ACM Trans. Graph. 40, 4, Article 66, (2021). [DOI , PDF]

9. A. H. Rasheed, V. Romero, F. Bertails-Descoubes, S. Wuhrer, JS. Franco, A. Lazarus. A Visual Approach to Measure Cloth-Body and Cloth-Cloth Friction. IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 40, No. 10. (2021). [DOI , PDF]

8. A. H. Rasheed, V. Romero, F. Bertails-Descoubes, S. Wuhrer, J. S. Franco and A. Lazarus, Learning to Measurethe Static Friction Coefficient in Cloth Contact. IEEE CVPR 2020. **Selected for oral presentation**. [DOI , PDF].

7. R. Charrondière, F. Bertails-Descoubes, S. Neukirch, V. Romero. Numerical modelling of inextensible elastic ribbons with curvature-based elements, 1–28. (2020). Computer Methods in Applied Mechanics and Engineering, Volume 364,112922. [DOI , PDF].

6. F. Bertails-Descoubes, A. Derouet-Jourdan, V. Romero, and A. Lazarus. (2018). Inverse design of an isotropic suspended Kirchhoff rod: theoretical and numerical results on the uniqueness of the natural shape. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 474(2212), 20170837–27. [DOI , PDF]

5. S. Yashima, V. Romero, E. Wandersman, C. Frétigny, M. K. Chaudhury, A. Chateauminois, and A. M. Prevost (2014). Normal contact and friction of rubber with model randomly rough surfaces, Soft Matter, 11(5), 871-881. [DOI , PDF]

4. V. Romero, E. Wandersman,G. Debrégeas, and A. M. Prevost. (2014). Probing Locally the Onset of Slippage at a Model Multi-contact Interface. Physical Review Letter, 112, 094301. [DOI , PDF]

3. V. Romero, B. Roman, E. Hamm, and E. Cerda. Spiral tearing of thin films, 9, 8282, Soft Matter, (2013) [DOI , PDF]

2. V. Romero, T. A. Witten, and E. Cerda. (2008). Multiple coiling of an elastic sheet in a tube. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 464(2099), 2847–2866. [DOI, PDF]

1. V. Romero, E. Cerda, T. A. Witten, and T. Liang. (2008). FAST TRACK COMMUNICATION: Force focusing in confined fibres and sheets. Journal of Physics D: Applied Physics, 41(1), 2003. [DOI , PDF]

## Patents

**Patent.-** With the support of CNRS and Universidad de Santiago, we obtain the patent *Film mince d'emballage à amorce de déchirure* Number 0958660, France (2010). In march 2015 this patent has been extended to the United States under the name *Thin Packaging Film Having an Incipient*. Patent Number US 8,974,883 B2.

## Teaching Experience

**01/2022 - 05/2022** : 33 Hours. TD Electromagnétisme et optique pour la chimie PHY405. Unversité Grenoble-Alpes (France).

**05/2021 - 07/2021** : 24 Hours. Supervision of final term projects for Master students. Sorbonne Université (France).

**02/2021 - 04/2021** : 27 Hours. Practical works in elastic structures. Sorbonne Unversité (France).

**03/2011 - 09/2011** : 312 Hours in 26 weeks. Physics for first year students at Civil Engineering department. Universidad de Santiago (Chili).

**03/2011 - 09/2011** : 312 Hours in 26 weeks. Physics for first year students at Mines Engineering department. Universidad de Santiago (Chili).

**03/2011 - 10/2011** : 130 Hours in 26 weeks, Algebra for first year students at Science and Engineering department. Universidad Central (Chili).

**03/2011 - 10/2011** : 130 Hours in 26 weeks, Calculus for first year students at Science and Engineering department. Universidad Central (Chili).

**03/2011 - 10/2011** : 130 Hours in 26 weeks, Electrostatic for second year students at Science and Engineering department. Universidad Central (Chili).

**03/2011 - 09/2011** : 120 Hours in 5 weeks, Physics for continuation program. Universidad Central (Chili).

**03/2004 - 12/2005** : 680 Hours in 68 weeks. Physics for high School students. Instituto Nacional Jose Miguel Carrera (Chili).

## Conference proceedings

- R. Charrondière, F. Bertails-Descoubes, S. Neukirch, V. Romero. Modélisation numérique de rubans en éléments de haut degré. JF.IG.RV 2019 - Journées Françaises d'Informatique Graphique et de Réalité Virtuelle, Nov 2019, Marseille, France. pp.1-7., PDF, **Best paper award at AFIG-EGFR 2019.**
- V. Romero, B. Roman, E. Cerda, *Spiral rupture of thin sheet with a blunt object*, Crack Path, Venice, 2010.
- V. Romero, B. Roman, E. Cerda, *Spiral rupture of thin sheet with a blunt object*, Congrès Français de Mécanique, 2009.

## International internships

- **University of Chicago** — USA
  *Ten weeks internship at the James Frank Institute* — *2005*
- **École Supérieure de Physique et Chimie Industrielles** — France
  *Eight months internship at PMMH* — *2007*

- **Massachusetts Institute of Technology** — USA
  *Three month internship at the applied mathematics lab* — *2008*
- **École Supérieure de Physique et Chimie Industrielles** — France
  *Eleven months internship at PMMH* — *2009*

## Conferences and Presentations

- **Rencontre de Physique Statistique** — France
  *Spiraling Cracks in thin sheets* — *2008*
- **APS March meeting** — USA
  *Spiraling Cracks in thin sheets* — *2008*
- **Frontiers in Materials Research** — Chile
  *Spiraling Cracks in thin sheets* — *2008*
- **Rencontre du physique non-linéaire** — France
  *Spiraling Cracks in thin sheets* — *2009*
- **Congrès Français de Mécanique** — France
  *Spiral rupture of thin sheet with a blunt object* — *2009*
- **Congress Crack Path** — Italy
  *Spiral rupture of thin sheet with a blunt object* — *2010*
- **Journées de la Matière Condensée** — France
  *Probing the frictional Dynamics of Model Multi-Contact Elastomer Interfaces* — *2012*
- **APS March meeting** — USA
  *Probing Locally the Onset of Slippage at a Model Multi-contact Interface* — *2014*
- **Physics and Mechanics of soft complex materials** — France
  *Probing Locally the Onset of Slippage at a Model Multi-contact Interface* — *2016*
- **European Solid Mechanics Conference** — Italy
  *Inverse design of a suspended Kirchhoff rod* — *2018*
- **APS March meeting** — USA
  *Inverse design of a suspended Kirchhoff rod: From theory to practice* — *2019*
- **European Solid Mechanics Conference** — Ireland
  *Physical validation of simulators in Computer Graphics* — *2022*

## Press and Hihlights

- Review of our work Universal law of coiling, Nature, Vol. 453, 19 (2008).
- The publication Force focusing in confined fibers and sheets was selected to be in the highlight edition of year 2008 in the Journal of Physics D: Applied Physics.

## Scholarships

- 2007.- National Scholarship to PhD Students, CONICYT.
- 2007.- Scholarship of the école doctoral Franco-Chileno, CONICYT.

- 2008.- Grant ALFA-SCAT Project for Scientific Computing Advanced Training for an eight months internship in the lab PMMH in Paris.
- 2012.- Postdoctoral fellowship Becas Chile.

## Programming skills

- Advanced knowledge in Matlab, Python, LabView, Mathematica, Blender and ABAQUS.

## Referencees

- **Postdoc supervisor, 2016 - 2021**
  Dr. Florence BERTAILS-DESCOUBES
  Directrice de Recherche
  Elan Team - Inria
  Email : florence.descoubes[at]inria.fr
- **Postdoc supervisor, 2016 - 2021**
  Dr. Arnaud LAZARUS
  Maître de Conférences
  Institut Jean le Rond d'Alembert - UMR 7190, Sorbonne Université
  Email : arnaud.lazarus[at]upmc.fr
- **Postdoc supervisor, 2014 - 2016**
  Dr. Christian FRETIGNY
  Directeur de recherche au CNRS
  Laboratoire SIMM - UMR 7615, ESPCI
  Email : christian.fretigny[at]espci.fr
- **Postdoc supervisor, 2014 - 2016**
  Dr. Laurence TALINI
  Chargé de Recherche CNRS
  Laboratoire SVI - UMR 125, Saint-Gobain
  Email : laurence.talini[at]saint-gobain.com
- **Postdoc supervisor, 2011 - 2013**
  Dr. Alexis PREVOST
  Directeur de Recherche CNRS
  Laboratoire Jean Perrin - UMR 8237, Sorbonne Université
  Email : alexis.prevost[at]upmc.fr
- **PhD Advisor, 2007 - 2010**
  Dr. Benoit ROMAN
  Directeur de Recherche CNRS
  Laboratoire PMMH - UMR 7636, Sorbonne Université
  Email : benoit.roman[at]espci.fr
- **PhD Advisor, 2006 - 2010**
  Dr. Enrique CERDA
  Tenure Professor
  Physics Department, Universidad de Santiago, Chile
  Email : ecerda[at]usach.cl