

## 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 Molle at 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

13. J. Jouve, [V. Romero](#), R. Narain, L. Boissieux, T. Kim, F. Bertails-Descoubes. Modelling a feather as a strongly anisotropic elastic shell. ACM Proceedings of SIGGRAPH North America (2024). [[HAL](#) | [PDF](#)]
12. D. Jourdan, [V. Romero](#), E. Vouga, A. Bousseau, M. Skouras. Simulation of printed-on-fabric assemblies. ACM Symposium on Computational Fabrication (2022). [[DOI](#) | [HAL](#) | [PDF](#)]
11. M. Trejo, [V. Romero](#), E. Hamm, E. Cerda. Lateral Indentation of an Elastic Thin Film. Soft Matter, 18, 3369, (2022). [[DOI](#) | [HAL](#) | [PDF](#)]
10. A. H. Rasheed, [V. Romero](#), F. Bertails-Descoubes, S. Wuhner, 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, (2022). [[DOI](#) | [HAL](#) | [PDF](#)]
9. [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](#) | [HAL](#) | [PDF](#)]
8. A. H. Rasheed, [V. Romero](#), F. Bertails-Descoubes, S. Wuhner, J. S. Franco and A. Lazarus, Learning to Measure the Static Friction Coefficient in Cloth Contact. IEEE CVPR (2020). **Selected for oral presentation.** [[DOI](#) | [HAL](#) | [PDF](#)].
7. R. Charrondière, F. Bertails-Descoubes, S. Neukirch, [V. Romero](#). Numerical modelling of inextensible elastic ribbons with curvature-based elements, 1–28. Computer Methods in Applied Mechanics and Engineering, Volume 364,112922, (2020). [[DOI](#) | [HAL](#) | [PDF](#)].
6. F. Bertails-Descoubes, A. Derouet-Jourdan, [V. Romero](#), and A. Lazarus. 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, (2018). [[DOI](#) | [HAL](#) | [PDF](#)]
5. S. Yashima, [V. Romero](#), E. Wandersman, C. Frétygny, M. K. Chaudhury, A. Chateauminois, and A. M. Prevost. Normal contact and friction of rubber with model randomly rough surfaces, Soft Matter, 11(5), 871-881, (2014). [[DOI](#) | [HAL](#) | [PDF](#)]
4. [V. Romero](#), E. Wandersman, G. Debrégeas, and A. M. Prevost. Probing Locally the Onset of Slippage at a Model Multi-contact Interface. Physical Review Letter, 112, 094301, (2014). [[DOI](#) | [HAL](#) | [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. Multiple coiling of an elastic sheet in a tube. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 464(2099), 2847–2866, (2008). [[DOI](#) | [PDF](#)]
1. [V. Romero](#), E. Cerda, T. A. Witten, and T. Liang. FAST TRACK COMMUNICATION: Force focusing in confined fibres and sheets. Journal of Physics D: Applied Physics, 41(1), (2008). [[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

- 01/2024 - 05/2024** : 33 Hours. TD Electromagnétisme et optique pour la chimie PHY405. Université Grenoble-Alpes (France).
- 01/2023 - 05/2023** : 33 Hours. TD Electromagnétisme et optique pour la chimie PHY405. Université Grenoble-Alpes (France).
- 01/2022 - 05/2022** : 33 Hours. TD Electromagnétisme et optique pour la chimie PHY405. Université 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 Université (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.

## References

- **Postdoc supervisor, 2016 - 2021**  
[Dr. Florence BERTAILS-DESCOUBES](#)  
Directrice de Recherche  
Elan Team  
Inria de l'Université Grenoble Alpes  
Email : [florence.descoubes\[at\]inria.fr](mailto:florence.descoubes@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](mailto:arnaud.lazarus@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](mailto:christian.fretigny@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](mailto:laurence.talini@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](mailto: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](mailto: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](mailto:ecerda[at]usach.cl)