

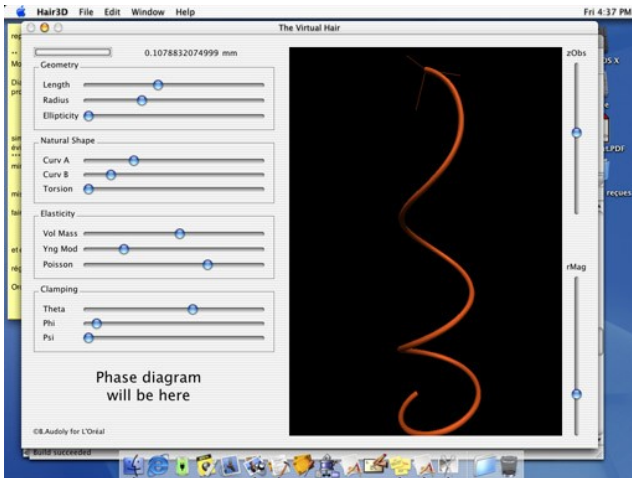
24 & 25 October 2019



Welcome!

Florence Bertails-Descoubes & Basile Audoly

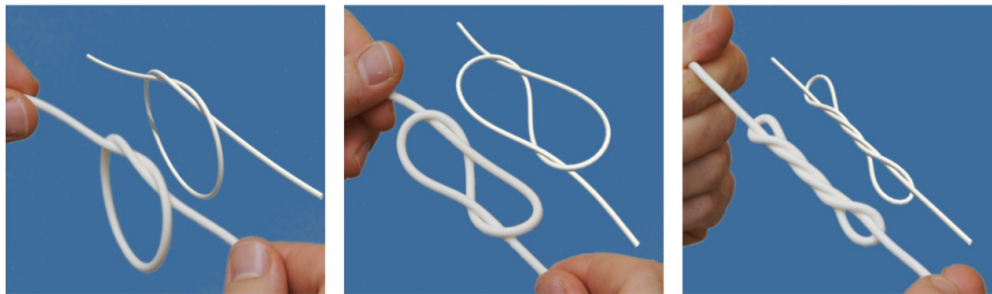
# How everything started



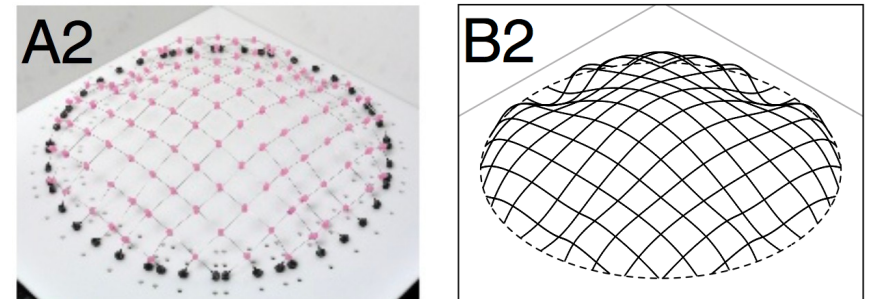
Collaboration L'Oréal, 2002



Bertails et al., SIGGRAPH 2006



Bergou et al. SIGGRAPH 2008



Baek et al. PNAS 2018



# How everything started



Paris, ESPCI, October 6, 2016  
Colloquium in honor of [Yves Pomeau](#)  
to celebrate his Boltzmann medal

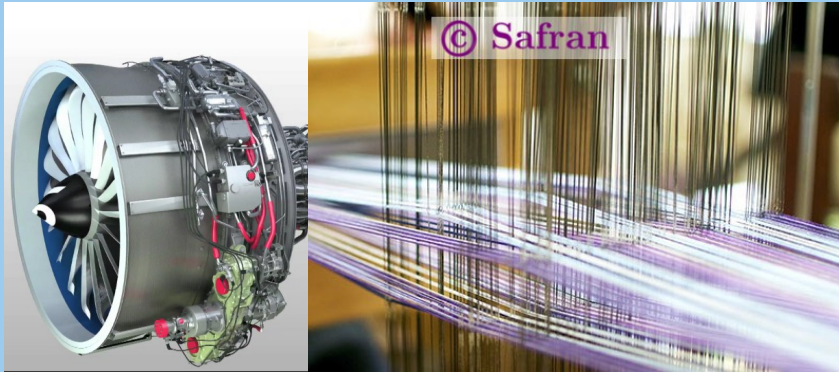


Inria Grenoble – 24&25 October 2019



# Computer Graphics & Physics

So many differences

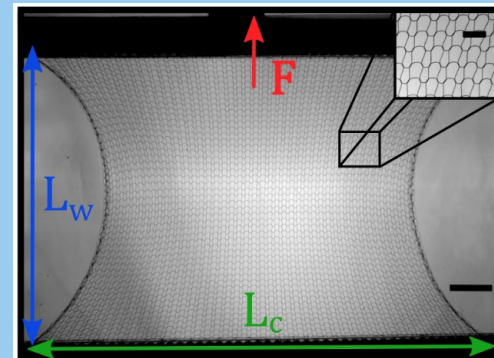
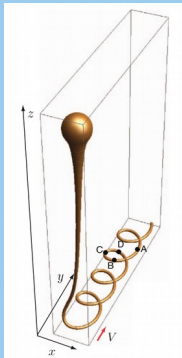


**Motivation:** understanding the world and “serious” applications **vs** movie industry



# Computer Graphics & Physics

So many differences



Brun et al. 2012

Barreiro et al. 2017

Poincloux et al. 2018

Kaldor et al. 2010

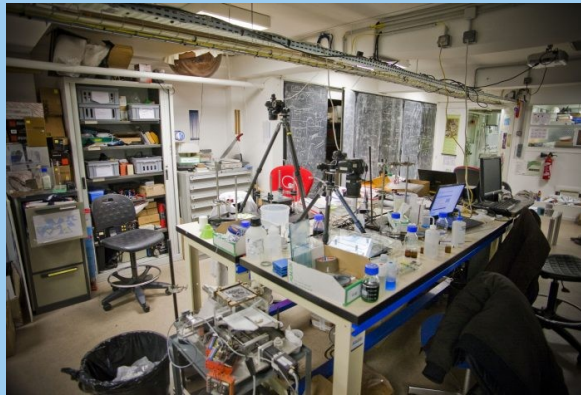
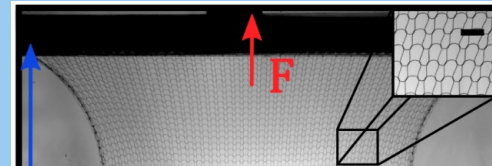
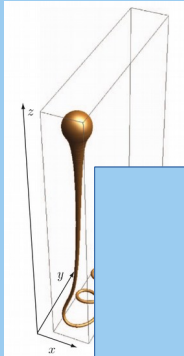
**Playground:** streamlined configurations vs large complex scenes





# Computer Graphics & Physics

So many differences



**Validation:** experimental setup in physics *vs* no consensus in graphics!



# Computer Graphics & Physics

So many convergences

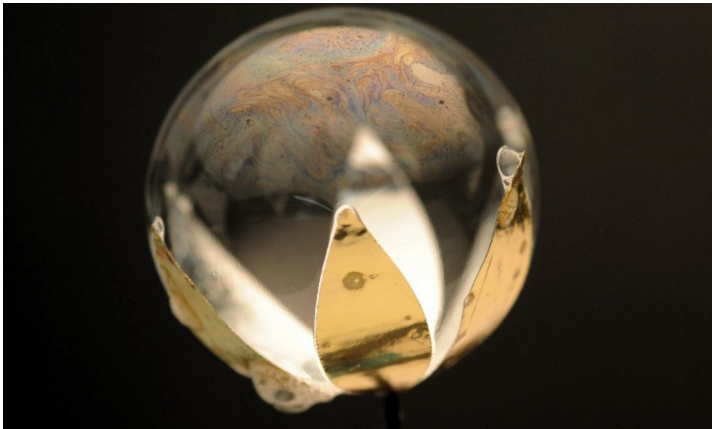
- **Visual complexity** arises from underlying physics
- Numerical tools at the interface
- Experiments & fabrication



# Computer Graphics & Physics

So many convergences

- **Visual complexity** arises from underlying physics
- Numerical tools at the interface
- Experiments & fabrication
- A common sense of aestheticism...



B. Roman



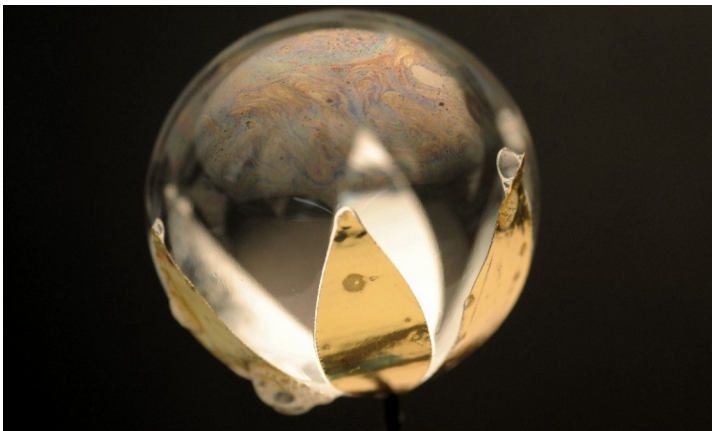
Ijiri et al. 2014



# Computer Graphics & Physics

So many convergences

- **Visual complexity** arises from underlying physics
- Numerical tools at the interface
- Experiments & fabrication
- A common sense of aestheticism...



B. Roman



Ijiri et al. 2014

=> So many things to share and learn from each other!



# A wonderful scientific program

+ insightful talks as  
introduction & perspectives



Rods & Shells




Sand & Snow



Viscous fluids & inflatable structures



# Practical recommendations

- Please do not enter nor exit during a session (we have a lot of breaks)
- We will strive to be on time for each session 
- Indications for dinner will be given after the last session





# Acknowledgements

## Many thanks to

- Our 15 great speakers  
7 physicists, 8 computer scientists  
*EPFL, U. Penn, Columbia, U. Montréal, U. Waterloo, Weta Digital, ESPCI, École Polytechnique, CNRS, Inria*
- ERC and Inria  
- All the local organizers  
Diane Courtiol, Sophie Azzaro, and the ELAN team 
- You for your enthusiastic participation  
Event full within a few days! (80 in total)  
Good mix between physicists, mechanicists, and computer scientists



24 & 25 October 2019



Let's start!