Emile Hohnadel

emile.hohnadel@inria.fr

Education

July 1st 2025 **PhD defence**, *UGA, INRIA, LJK*, France

2021–2025 **PhD thesis**, *UGA, INRIA, LJK*, France, supervised by Florence Bertails-Descoubes and Thibaut Métivet
High order contact detection and mixed rod model for predictive numerical simulations of tangled fibrous assemblies.

2017–2021 **Diplome de l'ENS de Lyon**, *ENS de Lyon*, France

2018–2020 **Master Degree in Computer Science**, *ENS de Lyon*, France, Mention Très Bien

2017–2018 **Bachelor Degree in Computer Science**, *ENS de Lyon*, France, Mention Bien

2017–2018 **Bachelor Degree in Mathematics**, *Université Claude Bernard*, France

2014–2017 **Classe préparatoire, MPSI/MP***, *Lycée Kléber*, France

2014 **Baccalauréat Série S Sciences de l'ingénieur Section européenne**, *Lycée Jean-Jacques Henner*, France, Mention Très Bien

Internships

April. 21–July 21
4 months **Research Internship**, *∂'Alembert Institute*, France, supervised by Sébastien Neukirch
Drops on fibre, how big can it go ? Modelisation of droplet hanging from thin fibre to test an experimental observation

Sept. 20–Mars 21
6 months **Research Internship**, *INRIA Grenoble*, France, supervised by Florence Bertails–Descoubes and Thibaut Métivet
Simulation of elastic fibre flow : Extension of a 2D elastic fibre simulator to account for fibre/fibre contact.

Jan. –June 2020
6 months **Research Internship**, *LIRIS*, France, supervised by Nicolas Bonneel, Julie Digne and Bruno Lévy
Lagrangian Simulation of Navier-Stokes Fluid with Free Surfaces : Extension of an inviscid fluid solver based on the theory of optimal transport to model buckling effects.

May–July 2019
3 months **Research Internship**, *JAIST*, Japan, supervised by Mizuhito Ogawa
Windows API call impact on path condition : Study of the impact of external calls to the path condition during dynamic symbolic execution.

June 2018
7 weeks **Research Internship**, *INRIA Nancy*, France, supervised by Bruno Lévy
Numerical fluid simulation using power diagrams : Applying results of the optimal transport theory to the Lagrangian modelisation of fluids.

Languages

French Mother tongue

English C1 - Cambridge Advanced Exam

German B1 - Deutsches Sprachdiplom

Japanese A2

Computer skills

Programming C, C++ (Eigen), Python (numpy, scipy)

Tools LaTeX, Git

Publications

July 2024 **Contact detection between curved fibres : high order makes a difference**, *O. Crespel*, E. Hohnadel*, T. Métivet, F. Bertails-Descoubes*, ACM Trans. Graph. 43, 4, Article 132, 23 pages
*These authors contributed equally.

August 2023 **Randomly stacked open cylindrical shells as functional mechanical energy absorber**, *T. G. Sano*, E. Hohnadel*, T. Kawata, T. Métivet, F. Bertails-Descoubes*, Communications Materials, 4(1) :59
*These authors contributed equally.

Conferences and seminars

7-11 July 2025 **Accurate frictional contact algorithms for the numerical exploration of the mechanics of fibrous assemblies**, *ESMC Lyon*, E. Hohnadel, O. Crespel, T. G. Sano, T. Métivet, F. Bertails-Descoubes

28 July 2024 - 1 August 2024 **Contact detection between curved fibres : high order makes a difference**, *Siggraph 2024*, O. Crespel, E. Hohnadel, T. Métivet, F. Bertails-Descoubes

18-20 Mars 2024 **High order contact detection between fibres**, *Rencontre du Non Linéaire 2024*, E. Hohnadel, O. Crespel, T. Métivet, F. Bertails-Descoubes

22-26 September 2023 **Accurate contact detection and response in fibre assemblies with friction**, *Highly Flexible Slender Structure 2023*, E. Hohnadel, O.Crespel, T. Métivet, F. Bertails-Descoubes

6-7 July 2023 **Randomly stacked open cylindrical shells as functional mechanical energy absorber**, *Groupe de travail "Animation & Simulation"*, E. Hohnadel, T. G. Sano, T. Kawata, T. Métivet, F. Bertails-Descoubes

16-19 October 2022 **Investigating the compaction of open ring stacks through real and numerical experiments**, *Graphyz 2*, E. Hohnadel, T. G. Sano, T. Kawata, T. Métivet, F. Bertails-Descoubes

10 October 2022 **Frictional three-point bending test : disentangling the role of friction through real and numerical experiments**, *GdR Méphy : Friction & Slender Structures*, E. Hohnadel, J. Marthelot, I. Andrade-Silva, T. Métivet, O. Pouliquen, F. Bertails-Descoubes

7-11 July 2022 **Investigating the compaction of open ring stacks through real and numerical experiments**, *ESMC Galway*, E. Hohnadel, T. G. Sano, T. Kawata, T. Métivet, F. Bertails-Descoubes

7-11 July 2022 **Frictional three-point bending test : disentangling the role of friction through real and numerical experiments**, *ESMC Galway*, E. Hohnadel, J. Marthelot, I. Andrade-Silva, T. Métivet, O. Pouliquen, F. Bertails-Descoubes
(speakers underlined)

Teaching

September 2023– January 2024 **Automata and languages**, *UGA*
L2 tutorial classes

September 2021– January 2022 **Automata and languages**, *UGA*
L2 tutorial classes