

MICHELE VIDULIS

PhD Student @ EPFL | Computer Science

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RESEARCH INTERESTS

Optimization, Physics-Based Simulation, Inverse Problems, Computational Design and Fabrication, Computer Graphics

SELECTED PUBLICATIONS

C-Tubes: Design and Optimization of Tubular Structures Composed of Developable Strips

Michele Vidulis*, Klara Mundilova*, Quentin Becker*, Florin Isvoraru, Mark Pauly

ACM Transactions on Graphics (SIGGRAPH 2025) – Best Paper Award (Honorable Mention)

Tencers: Tension-Constrained Elastic Rods

Liliane-Joy Dandy*, **Michele Vidulis***, Yingying Ren, Mark Pauly

ACM Transactions on Graphics (SIGGRAPH Asia 2024)

Computational Exploration of Multistable Elastic Knots

Michele Vidulis, Yingying Ren, Julian Panetta, Eitan Grinspun, Mark Pauly

ACM Transactions on Graphics (SIGGRAPH 2023)

*equal contribution

RESEARCH EXPERIENCE

2021 - Present **PhD Student, Geometric Computing Laboratory, EPFL**
Physics-based simulation and computational design

Advisor: Prof. **Mark Pauly**

Spring 2025 **Research intern, Disney Research | Studios**
Real-time neural simulation

Advisors: Dr. **Vinicio Da Costa De Azevedo**, Dr. **Jingwei Tang**

EDUCATION

2019 - 2021 **MSc, EPFL**
Computational Science and Engineering (GPA: **5.8/6**)

2018 - 2019 **MSc, Politecnico di Milano**
Computational Science and Computational Learning (GPA: **29.7/30**)

2015 - 2018 **BSc, Politecnico di Milano**
Mathematical Engineering (GPA: **29.4/30**)

SELECTED PROJECTS

Fall 2024 **Neural Latent-Space Physical Simulation**
Reduced order modeling for efficient physics-based simulation

Student project, advisee: **Antoine Tran**

Spring 2024 **Smooth-Rolling Knots**
Simulation and geometric optimization of space curves with smooth rolling behavior
Published at *Bridges 2025: Mathematics and the Arts*

Student project, advisee: **Max Brodeur**

Spring 2020 **Topology Optimization for 3D Printing**
FEM-based fabrication-aware inverse design of compliant elastic structures

Geometric Computing Laboratory (EPFL), Prof. **Julian Panetta**

Fall 2019 **Anomaly Detection in Energy Consumption Time Series**
Statistical analysis of time series and design of problem-specific anomaly detection metrics
Published at the *International Conference on Applied Energy 2020*

LESO-PB (EPFL), Dr. **Roberto Castello**

Spring 2019 **Machine Learning for Stabilization of Advection-Diffusion PDEs**
Optimal stabilization of numerical PDEs via neural networks

MOX (PoliMi), Prof. **Luca Dedè**

Spring 2018 **A Mathematical Model for Traffic Jams**
Fluid-based traffic simulator modelling shock waves

BSc Thesis, MOX (PoliMi), Prof. **Lorenzo Valdettaro**

TEACHING

Geometric Computing, Computer Graphics, Theory of Computation, Advanced Information and Computation

AWARDS and HONORS

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|-------------|---|
| 2024 | <i>EPFL Teaching Assistant Award</i> |
| 2021 | <i>EPFL EDIC Fellowship</i> |
| 2019 - 2020 | <i>EPFL Excellence Fellowship</i> |
| 2015 - 2019 | <i>PoliMi Student with Particularly High Merit (GPA > 29/30)</i> |
| 2015 | <i>PoliMi Best Freshmen Award</i> |