

Rémi Feuillet
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Ph.D. Student in Applied Mathematics at INRIA

Professional Experience

- 2016 Oct. – Present **INRIA Saclay-Île-de-France** – Palaiseau (France)
Ph.D. Student under the project-team GAMMA3.
– Subject : *Embedded and high order meshes ; High-order meshes and solutions visualization.*
– Supervisors : F. Alauzet, A. Loseille (INRIA) and P. Ciarlet (ENSTA).
– Developments in the FVM/FEM solver **Wolf** of F.Alauzet.
– Developments of high-order features (mesh curving and optimization ; HO CG-FEM resolution for the linear elasticity equation) in **Wolf** meshing modules.
– Developments of high-order surface mesh features in surface meshing module of A.Loseille’s **feflo.a** software using **EGADS** library.
– Developments in the next generation of the visualization software **Vizir** of A.Loseille.
- 2017 – Present **ENSTA ParisTech** – Palaiseau (France)
Teaching Assistant for Discrete Optimization and FEM courses (20 hours).
- 2016 April – Sep. **INRIA Saclay-Île-de-France** – Palaiseau (France)
Graduation internship under the project-team GAMMA3.
– Subject : *Embedded mesh methods and its application to CFD.*
– Developments in the FVM/FEM solver **Wolf** of F.Alauzet.
- 2015 May – Aug. **University of Minnesota** – Minneapolis (USA)
Research internship in the department of Civil Engineering.
– Subject : *Computation of the Effective Dynamic Properties of Composite Materials.*
– Development of a basic BEM solver using **Matlab** software.
- 2014 – 2015 **EPF** - Sceaux (France)
Instructor 1 hour per week in mathematics for undergraduate students.
- 2014 July – August **Trigano** - Poggibonsi (Italy)
Labour trainee during 5 weeks.
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Education

- 2016 – Present **Université Paris-Saclay** – Paris (France)
Ph.D. in Applied Mathematics. Graduation expected in Autumn 2019.
- 2015 – 2016 **Université Paris-Saclay** – Paris (France)
M.S. in *Analysis, Modelling and Simulation* with High Honors.
- 2013 – 2016 **ENSTA ParisTech** – Palaiseau (France)
Engineering degree.
Specialization : Applied Mathematics ; Modelling and Simulation.
– Analysis, Numerical Analysis, Scientific Computing and Parallelism.
– Differentiable Optimization , Automatic and Systems Control.
- 2011 – 2013 **Lycée du Parc** – Lyon (France)
Undergraduate studies in mathematics and sciences. (Classes préparatoires)
- 2011 **Lycée Fauriel** – Saint-Etienne (France)
Baccalaureat scientifique (A-levels) awarded with High Honors.
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Communications with Proceedings

- A. Loseille, **RF**. *Vizir : High-order mesh and solution visualization using OpenGL 4.0 graphic pipeline.* 56th AIAA Aerospace Sciences Meeting, AIAA Scitech, 2018.
- **RF**, A. Loseille, D. Marcum, F. Alauzet. *Connectivity-change moving mesh methods for high-order meshes : Toward closed advancing-layer high-order boundary layer mesh generation.* 2018 Fluid Dynamics Conference, AIAA AVIATION Forum.
- J. Vanharen, **RF**, F. Alauzet. *Mesh adaptation for fluid-structure interaction problems.* 2018 Fluid Dynamics Conference, AIAA AVIATION Forum.

- **RF**, A. Loseille, F. Alauzet. *P2 mesh optimization operators*. 27th International Meshing Roundtable, 2018.

Communications without Proceedings

- **RF**, A. Loseille, F. Alauzet. *Generation and motion of high-order meshes based on a high-order linear elasticity model*. ECCM VI - ECCFD VII, 2018.
- J. Vanharen, **RF**, F. Alauzet. *Mesh adaptation for fluid-structure interaction problems*. ECCM VI - ECCFD VII, 2018.
- **RF**, A. Loseille, F. Alauzet. *High-order mesh operations based on a linear elasticity model*. ICOSAHOM 2018.
- A. Loseille, **RF**. *On Almost Pixel-exact Real-time Rendering of High-order Solution on Unstructured Meshes*. WCCM XIII, 2018.

Computing Skills

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| <i>Operating systems</i> | Windows, Linux and Mac. |
| <i>Prog. languages</i> | C, C++, Fortran, GLSL. |
| <i>Libraries</i> | libMeshb, LPLib, OpenGL, OpenMP, MPI. |
| <i>Scientific Computing</i> | Matlab, Simulink, Maple. |
| <i>Other</i> | Python, Bash, L ^A T _E X, HTML. |

Language Skills

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| <i>French</i> | Mother tongue. |
| <i>English</i> | Fluent (written and spoken). |
| <i>German & Italian</i> | Basic knowledge. |

Other

Student organisations Member of the alumni organisation of the gaming student organisation of ENSTA.