Gilles Daviet

French nationality
404/38 Jessie Street — Wellington 6011, New Zealand
☎ (+64)20 41 30 20 73 ✉ gdaviet@gmail.com

Profile

I have recently completed my PhD in Computer Science and Applied Mathematics at the french research institute Inria, and now continue to investigate state of the art physical simulation techniques in the visual effects industry.

Employment

2016 – Present	**Simulation Researcher** at *Weta Digital* (Wellington, New Zealand)
2013	(9 months) **Research engineer** at *Inria* (Grenoble, France) Transfer of research prototypes to industrial partners.
2011 – 2012	(14 months) **Researcher** at *Weta Digital* (Wellington, New Zealand) Production-ready tools for the numerical simulation of hair and fur in feature films.
2009 – 2011	(2 years) **Research engineer** at *Inria* (Grenoble, France) Developed novel and robust algorithms for the numerical simulation of hair dynamics with friction.
2009	(6 months) Internship at **Dassault Systèmes** (Paris, France) Shape and functionality-based similarity search algorithm for 3d models.

Education

2013 – 2016	**PhD in Computer Science and Applied Mathematics** at *Inria* and *Université Grenoble Alpes* (Grenoble, France), advised by Florence Bertails-Descoubes Numerical simulation of granular materials as continua, with applications to Computer Graphics.
2006 – 2009	**Master's degree** (with honors) in Computer Science and Applied Mathematics at the french Grande École *Grenoble INP - ENSIMAG* (Grenoble, France)
2004 – 2006	Post-secondary preparatory classes in Mathematics and Physics (Annecy, France)

Skills

Programming	C++, C, Ruby
Tools	**Source control:** Git, SVN **Toolkits:** OpenGL, Qt, Autodesk Maya **Parallel computing:** POSIX threads, OpenMP, Cuda
Languages	**French** Mother tongue **English** Fluent

Selected Publications

A Semi-Implicit Material Point Method for the Continuum Simulation of Granular Materials (2016)
G. Daviet et F. Bertails-Descoubes, *ACM SIGGRAPH 2016*
Nonsmooth simulation of dense granular flows with pressure-dependent yield stress (2016)
G. Daviet et F. Bertails-Descoubes, *Journal of Non-Newtonian Fluid Mechanics*
A hybrid iterative solver for robustly capturing Coulomb friction in hair dynamics (2011)
G. Daviet, F. Bertails-Descoubes et L. Boissieux, *ACM SIGGRAPH Asia 2011*

Additional information

References: available upon request.

Movie credits: *The Hobbit: An Unexpected Journey* (2012)

Hobbies: Mountaineering, trail running, ski touring. Photography.