

Julien Flaig | Modelling & Simulation

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Summary

- Freelance consultant. Use of mathematical modelling and numerical simulation to tackle business and industry issues.
- Strong versatility. Involvement in interdisciplinary research projects. Exploration of related disciplines and acquisition of relevant new skills.
- Engineering background.
- Access to academia.

Experience

Ecole nationale des travaux publics de l'Etat (ENTPE) **Vaulx-En-Velin, France**
Tutor in Statistics 2016–present

- Introduction to Statistics for engineering students.
- R language tutorials.

Epidemiology

Vaccination decision modelling 2015–present
My coauthors and I are investigating how individuals' vaccination decision may affect outbreaks.

Université de Lyon, Groupe d'Analyse et de Théorie Economique **Lyon, France**
Research Engineer July 2014–March 2016

As part of the Smart Electric Lyon smart grid pilot project, we conducted a prospective analysis of the adoption by households of new smart grid technologies.

- I developed a prospective model of the French heating equipment market.
- I modelled how households decide to replace their heating device.
- I investigated how future energy prices may impact adoption of household smart grid technologies.
- I conducted sensitivity analyses so as to single out key factors.

eSmart Systems AS

Researcher Halden, Norway
July 2013–December 2013

- I worked on contract design for an electricity consumption flexibility aggregator.
- I developed a real time electricity consumption optimisation model to emulate existing smart grid consumption optimisation devices.
- I modelled a range of incentives offered to consumers to reward their flexibility, and conducted sensitivity analyses.
- I tested the relevance of my model with a real life case study.

G-SCOP laboratory

Assistant research engineer Grenoble, France
2012

- I investigated business models for supplying school catering with local food.
- I compared two existing supply chains.
- I made business model recommendations.

Technical skills

Programming languages: C++, Python

Statistical analysis: R

Parallel computing: Message Passing Interface

Other tools: Git, Vim, Rstudio, Linux, AWK, Gnuplot

PhD Thesis

Title: *Diffusion of smart grid innovations: from individual investment decisions to macroeconomic effects*

Supervisor: Stéphane Robin

Expected date of submission: late 2018

Education

Université de Lyon

PhD candidate, Economics

Doctoral training in Scientific Computing, Population Dynamics, Econometrics, and Comportmental Economics.

Lyon

2015–present

Grenoble Institute of Technology

Industrial Engineering Degree

Supply Chain Management and Operations Research

Grenoble, France

2010–2013

Norwegian University of Science and Technology

Exchange Semester

Power Markets, Power System Planning and Operation, Optimization and Decision Support, Production and Network Economics.

Trondheim, Norway

January 2013–June 2013

Université Joseph Fourier

Auditor

Optimisation, Scheduling, Yield Management, Operations Research applied to Logistics and Transportation.

Grenoble, France

September 2012–December 2012

Lycée Kléber

Classe Préparatoire aux Grandes Ecoles

Undergraduate intensive training in Mathematics and Physics.

Strasbourg, France

2007–2010

Languages

English: Proficient

French: Native speaker

German: B2

Publication

Julien Flaig, Nicolas Houy, and Philippe Michel. Canonical modeling of anticipatory vaccination behavior and long term epidemic recurrence. *Journal of Theoretical Biology*, 436:26–38, 2018.