

# Fabien Dufoulon

## Curriculum Vitae

### Academic Experience

2019–present **Postdoc**, *Working with Shay Kutten, Yuval Emek and Keren Censor-Hillel*, Technion, Israel.

Our main research topics are:

1. **Programmable Matter**, or more specifically, leader election in the amoebot model,
2. **Distributed Complexity Theory** and the hardness of approximation in CONGEST.

2016–2019 **Thesis: Overcoming interference in the beeping communication model**, *PhD in Computer Science (defended)*, Université Paris-Saclay, France.

**Advisor and co-advisor:** Joffroy Beauquier and Janna Burman

### Education

2013–2016 **Graduate Engineering School**, *Grande École CentraleSupélec*, École Supérieure d'Électricité, Gif-sur-Yvette.

**Major:** Computer Science

2011–2013 **Two-year undergraduate intensive course in mathematics and physics**, *Preparatory classes for the Grandes Écoles*, Lycée Stanislas, Paris.

### Research Interests

Beeping model, Programmable matter, Bio-inspired distributed computing, Distributed graph algorithms, Interference control, Randomization, Self-stabilization, Coding theory

### Publications

- **Efficient Deterministic Leader Election for Programmable Matter**  
Fabien Dufoulon, Shay Kutten and William K. Moses Jr., in *40th ACM Symposium on Principles of Distributed Computing (PODC 2021)*.
- **Can Uncoordinated Beeps tell Stories?**  
Fabien Dufoulon, Janna Burman and Joffroy Beauquier, in *39th ACM Symposium on Principles of Distributed Computing (PODC 2020)*.
- **Optimal Multi Broadcast with Beeps using Group Testing**  
Joffroy Beauquier, Janna Burman, Peter Davies and Fabien Dufoulon, in *26th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2019)*.
- **Beeping a Deterministic Time-Optimal Leader Election**  
Fabien Dufoulon, Janna Burman and Joffroy Beauquier, in *32nd International Symposium on Distributed Computing (DISC 2018)*.
- **Brief Announcement: Beeping a Time-Optimal Leader Election**

Fabien Dufoulon, Janna Burman and Joffroy Beauquier, in *37th ACM Symposium on Principles of Distributed Computing (PODC 2018)*.

- **Fast Beeping Protocols for Deterministic MIS and  $(\Delta + 1)$ -Coloring in Sparse Graphs**  
Joffroy Beauquier, Janna Burman, Fabien Dufoulon and Shay Kutten, in *IEEE International Conference on Computer Communications (INFOCOM) 2018*.
- **Load Prediction for Energy-Aware Scheduling for Cloud Computing Platforms**  
Alexandre Dambreville, Joanna Tomasik, Johanne Cohen, Fabien Dufoulon, in *IEEE International Conference on Distributed Computing Systems (ICDCS) 2017*.

## Short Academic Experiences

- **Research Internship** (5 months, Summer 2016): *Verification Protocols in the Beeping model*.
  - With Joffroy Beauquier and Janna Burman (*LRI*), and Shay Kutten (*Technion*).
- **Research Internship** (2 months, Summer 2015): *Game Theory in Communication Networks*.
  - With Johanne Cohen and Lin Chen (*LRI*).
- **School Research Project** (1 year, 2014-2015): *Quantum Annealing versus Simulated Annealing*.
  - With Joanna Tomasik and Arpad Rimmel (*CentraleSupélec*).

## Teaching Experience

Teaching assistant at the Paris-Saclay University:

- **Introduction to Computer Science and Complexity Theory:** 2016-2018.
- **Numerical Computing:** 2016-2018.
- **Object Oriented Programming (Advanced):** 2016-2018.

## Scientific Activities

- **Public talks:**
  - **Conference talks:** INFOCOM 2018, PODC 2018, DISC 2018, SIROCCO 2019, PODC 2020
  - **Seminars:** LIP6 (Sorbonne University), LRI (Paris-Saclay University), Technion (Israel Institute of Technology), LIS (Aix-Marseille University) and LABRI (University of Bordeaux)
- **Reviewing experience:**
  - **As a reviewer:** Distributed Computing and IEEE Wireless Communication Letters
  - **As a sub-reviewer:** PODC 2018, DISC 2018, OPODIS 2018, SSS 2019, SPAA 2020, PODC 2020, DISC 2020, PODC 2021.