Fabien Dufoulon

Curriculum Vitae

▬▬▬ Academic Experience

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