FABIEN DUFOULON

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Academic Experience

Technion
Postdoc with Shay Kutten, Yuval Emek and Keren Censor-Hillel. Mainly on:

Israel
2019 – now

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

Université Paris-Saclay
Ph.D. in Computer Science

Paris
2016 – 2019

- Thesis: Overcoming Interference in the Beeping Communication Model
- Advisor and co-advisor: Joffroy Beauquier and Janna Burman.

Education

Centrale Supélec, Grande École d'Ingénieurs
Engineering Degree with a Computer Science Major

Paris
2013 – 2016

Lycée Stanislas, Preparatory Classes for Grandes Écoles
Two-year undergraduate intensive course in mathematics and physics

Paris
2011 – 2013

Research Interests

- **Theoretical Computer Science / Algorithm Design and Analysis**
  - Distributed Computing
  - Coding Theory
- **Programmable Matter** and **Swarm Robotics**

Publications

Efficient Deterministic Leader Election for Programmable Matter — PODC 2021
Fabien Dufoulon, Shay Kutten and William K. Moses Jr.

Can Uncoordinated Beeps tell Stories? — PODC 2020
Fabien Dufoulon, Janna Burman and Joffroy Beauquier

Optimal Multi Broadcast with Beeps using Group Testing — SIROCCO 2019
Joffroy Beauquier, Janna Burman, Peter Davies and Fabien Dufoulon

Beeping a Deterministic Time-Optimal Leader Election — DISC 2018
Fabien Dufoulon, Janna Burman and Joffroy Beauquier

Brief Announcement: Beeping a Time-Optimal Leader Election — PODC 2018
Fabien Dufoulon, Janna Burman and Joffroy Beauquier

Fast Beeping Protocols for Deterministic MIS and $(\Delta + 1)$-Coloring in Sparse Graphs — INFOCOM 2018
Joffroy Beauquier, Janna Burman, Fabien Dufoulon and Shay Kutten

Load Prediction for Energy-Aware Scheduling for Cloud Computing Platforms — ICDCS 2017
Alexandre Dambreville, Joanna Tomasik, Johanne Cohen, Fabien Dufoulon

Scientific Activities

- **Conference talks:** INFOCOM 2018, PODC 2018, DISC 2018, SIROCCO 2019, PODC 2020, HALG 2020 ("Can Uncoordinated Beeps tell Stories?")

- **Seminars:**
  - Early results from "Can Uncoordinated Beeps tell Stories?" were presented at:
    * Université Sorbonne's DELYS seminar (March 2019)
    * Technion's TDC seminar (May 2019)
  - An overview of my thesis' results were presented at:
    * Université Aix-Marseille's DALGO seminar (September 2019)
    * Université Paris-Saclay's GALAC seminar (October 2019)
    * Université de Bordeaux's distributed algorithms seminar (October 2019)
  - The PODC 2020 paper "Can Uncoordinated Beeps tell Stories?" was also presented at:
    * Université de Bordeaux's distributed algorithms seminar (March 2021)

- **External Reviewer:** PODC '18,'20 and '21, DISC '18 and '20, OPODIS '18, SSS '19, SPAA '20, Distributed Computing, IEEE Wireless Communications

Teaching Experience

- **Teaching Assistant:**

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

Internships

Technion and Université Paris-Saclay (with Shay Kutten, Janna Burman and Joffroy Beauquier)   5 months, 2016
Verification Protocols in the Beeping model

Université Paris-Saclay (with Johanne Cohen and Lin Chen)   2 months, 2015
Game Theory in Communication Networks