

BAPTISTE PLAQUEVENT-JOURDAIN

PERSONAL INFORMATION

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Webpage

Age – 28

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STUDIES

Master 2 Optimization, Palaiseau-Orsay – IP Paris

2020 – 2021

English formation in optimization, analysis, convexity,
optimal control, markov processes, game theory

Classes (September-April) then research internship

(Ranked 1st/17)

ENSTA Paris, Palaiseau – general engineer degree

2017 – 2021

Culture, sport, foreign languages, economy classes

(Ranked top 5% out of 162 students in the 1st year)

Applied Mathematics option:

numerical analysis, statistics, probabilities, optimization

Sciences of Optimization and Data specialization:

Linear optimization, graphs, metaheuristics, complexity

“CPGE” (MP), High School Chateaubriand Rennes

2014 – 2017

Sustained classes in mathematics, physics, computer science, literature, english

RESEARCH EXPERIENCE

PhD thesis, international co-supervision

01/2022-08/2025

A Robust Linearization Method for Complementarity Problems

A Detour Through Hyperplane Arrangements: manuscript (in French), slides

Supervised by Jean Charles Gilbert, Inria Paris and

Jean-Pierre Dussault, Université de Sherbrooke

Nonsmooth analysis/optimization, complementarity,

Algorithms, computational geometry

Stage-CDD, Inria Paris, Paris, France

04/2021 – 12/2021

Master internship (April-September) and

“Pre-thesis” (October-December) on the PhD’s topic

Gap year, Inria Saclay – École Polytechnique, Palaiseau, France

03/2020 – 08/2020

Internship (6 months) in the RANDOPT team

BFGS for multiobjective optimization,

Dynamic maximization of the hypervolume

Gap year, Thales DMS, Élancourt, France

09/2019 – 02/2020

Internship (6 months) on modelling of meta-networks for wave redirection

Physical analysis, bibliographic work, simulation

Research Internship (3.5 months), Delft, The Netherlands

05/2019 – 08/2019

Finite Elements for nonlinear PDEs

Numerical analysis, simulation, Newton’s method

ACTIVITIES

Teaching

2021-2024

Optimization sessions in first and second year at ENSTA and at Sherbrooke
Participation in exercises and exams preparation

MOOC GENIUS for high school students – Polytechnique, Palaiseau

2020 – 2021

Co-writing of a module of the maths section

PUBLICATIONS

- *On the B-differential of the componentwise minimum of two affine vectorial functions*, online, accepted (Mathematical Programming Computation) : [DGP25a] (detailed version).
- *Primal and dual approaches for the chamber enumeration of real hyperplane arrangements*, submitted : [DGP25b], detailed version [DGP25c].
- *DMS and MultiGLODS: black-box optimization benchmarking of two direct search methods on the bbob-biobj test suite*, online, accepted : [Bro+21].
- PhD thesis: English manuscript, French manuscript, slides.

CODES

- `ISF.m` : code and documentation ([DGP23]) of [DGP25a], identification of the chambers of central arrangements and related problems.
- `ISF.jl` : code and documentation of [DGP25b], identification of the chambers of arrangements.

TALKS

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| • CEA-List DILS seminar, slides | October 2025, Palaiseau, France |
| • CAS seminar, slides, to be given at PGMO Days' 25 | October 2025, Paris, France |
| • PhD defense at Inria Paris, slides, | July 2025, Paris, France |
| • ISMP 2024, slides | July 2024, Montréal, Canada |
| • NOPTA 2024 (poster) | April 2024, Anvers, Belgium |
| • Julia Days 2023, slides | October 2023, Paris, France |
| • Québec colloquium of the ISM, slides | June 2023, Sherbrooke, Canada |
| • JOPT2023 – slides | May 2023, Montréal, Canada |
| • Annual days of reseach group MOA | October 2022, Nice, France |
| • JOPT2022 – same slides | May 2022, Montréal, Canada |

GRANTS

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| ISM Excellence Grant (2000€)– Institute of Mathematical Sciences of Canada | 2024 |
| Globalink Research Grant (4000€) – MITACS-Inria | 2023 |
| Sophie Germain Academic Excellence Grant (master) – FMJH | 2020 – 2021 |

TRIVIA

Software: Julia, Matlab
French: mother tongue *English*: fluent (for work)
Hobbies: cooking, board/card/video games

References

- [Bro+21] Dimo Brockhoff et al. “DMS and MultiGLODS: black-box optimization benchmarking of two direct search methods on the bbob-biobj test suite”. In: July 2021, pp. 1251–1258. DOI: 10.1145/3449726.3463207.
- [DGP23] Jean-Pierre Dussault, Jean Charles Gilbert, and Baptiste Plauevent-Jourdain. *ISF and BD-IFFMIN - MATLAB Functions for Central Hyperplane Arrangements and the Computation of the B-differential of the Componentwise Minimum of Two Affine Vector Functions*. Technical Report. Inria Paris, Université de Sherbrooke, 2023.
- [DGP25a] J.-P. Dussault, J.Ch. Gilbert, and B. Plauevent-Jourdain. *On the B-differential of the componentwise minimum of two affine vectorial functions*. Research Report. 2025.
- [DGP25b] Jean-Pierre Dussault, J.Ch. Gilbert, and B. Plauevent-Jourdain. *Primal and dual approaches for the chamber enumeration of real hyperplane arrangements*. Research Report (in preparation). 2025.
- [DGP25c] Jean-Pierre Dussault, J.Ch. Gilbert, and B. Plauevent-Jourdain. *Primal and dual approaches for the chamber enumeration of real hyperplane arrangements – The full report*. Research Report (in preparation). 2025.