

# Hippolyte Labarrière

POSTOC IN APPLIED MATHEMATICS, 25

Università di Genova - Dipartimento di Matematica

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## Education

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### Università di Genova - MaLGa (Machine Learning Genoa Center)

Genoa

POSTDOC IN APPLIED MATHEMATICS

November 2023 - Present

- Advisors: Pr. Lorenzo Rosasco and Pr. Silvia Villa

### Institut National des Sciences Appliquées (INSA)

Toulouse

PHD IN APPLIED MATHEMATICS

October 2020 - September 2023

- Topic: Inertial methods in optimization under growth conditions
- Advisors: Pr. Jean-François Aujol, Pr. Charles Dossal and Pr. Aude Rondepierre

### Institut National des Sciences Appliquées (INSA)

Toulouse

ENGINEERING DEGREE IN APPLIED MATHEMATICS

September 2015 - August 2020

### Université Paul Sabatier

Toulouse

MS IN MATHEMATICS: RESEARCH AND INNOVATION

September 2019 - August 2020

## Publications

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### REFEREED JOURNAL PUBLICATIONS

J.-F. Aujol, L. Calatroni, C. Dossal, **H. Labarrière**, A. Rondepierre. 2024. Parameter-Free FISTA by Adaptive Restart and Backtracking. *Published in SIAM Journal on Optimization*.

J.-F. Aujol, C. Dossal, V.H. Hoàng, **H. Labarrière**, A. Rondepierre. 2023. Fast Convergence of Inertial Dynamics with Hessian-driven Damping under Geometry Assumptions. *Published in Applied Mathematics and Optimization*.

### PREPRINTS

J.-F. Aujol, C. Dossal, **H. Labarrière**, A. Rondepierre. 2024. Strong Convergence of FISTA Iterates under Hölderian and Quadratic Growth Conditions. *Under review*.

J.-F. Aujol, C. Dossal, **H. Labarrière**, A. Rondepierre. 2024. Heavy Ball for non-strongly convex optimization. *Under review*.

J.-F. Aujol, C. Dossal, **H. Labarrière**, A. Rondepierre. 2021. FISTA restart using an automatic estimation of the growth parameter. *Under review*.

### PEER REVIEW

Journal of Optimization Theory and Applications, IEEE Transactions on Signal Processing, Inverse Problems, Journal of Machine Learning Research, SIAM Journal on Optimization.

## Presentations

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### INVITED TALKS

October 2024. *Inertia in Optimization: Acceleration and Adaptivity*, Séminaire MLSP, Lyon.

July 2024. *Inertial methods beyond minimizer uniqueness*, 33rd European Conference on Operational Research, Copenhagen.

June 2024. *Inertial methods beyond minimizer uniqueness*, EUROPT 2024, Lund.

March 2024. *Inertial methods beyond minimizer uniqueness*, Journées SMAI-MODE, Lyon.

September 2023. *Étude de méthodes inertielles en optimisation et leur comportement sous conditions de géométrie*, PhD Defence, INSA, Toulouse.

June 2023. *An overview of accelerated methods in convex optimization*, Séminaire SPOT, Toulouse.

June 2023. *Automatic FISTA restart*, SIAM Conference on Optimization (OP23), Seattle.

January 2023. *An overview of accelerated methods in convex optimization*, Workshop "Images Optimisation et Probabilités", Institut de Mathématiques de Bordeaux.

October 2022. *FISTA restart using an automatic estimation of the growth parameter*, Journées du GDR MOA, Nice.

September 2022. *Automatic FISTA restart*, Workshop MIA-MIVA, I3S laboratory, Sophia-Antipolis.

December 2021. *Automatic FISTA restart*, PGMO days, EDF Lab, Palaiseau.

## POSTER SESSIONS

June 2022. *FISTA restart using an automatic estimation of the growth parameter*, Journées MODE, Limoges.

February 2022. *FISTA restart using an automatic estimation of the growth parameter*, Séminaire doctorant SO, Institut de Mathématiques de Toulouse.

## Organizing Experience

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2024 **Group meeting organizer for LCSL (Laboratory for Computational and Statistical Learning)**, Università di Genova

## Teaching Experience

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2020 - 2023	<b>Signal Processing and Wavelet analysis (1st year Bachelor students)</b> , Teaching Assistant	INSA Toulouse
2023	<b>Tutored project (1st year Bachelor students)</b> , Advisor	INSA Toulouse
2022	<b>Research Internship of Văn Hà Hoàng (1st year Bachelor Student)</b> , Advisor	INSA Toulouse

## Miscellaneous

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### ADDITIONAL EXPERIENCE

#### Conservatoire à Rayonnement Régional de Toulouse

##### VIOLIN CERTIFICATE

September 2005 - June 2019

- Violin training, music theory, chamber music, orchestra.
- Violin teachers: Clara Cernat, Nicole Rial, Magali Lemettre and Céline Lesage

### COMPUTER SKILLS

Programming: **Python**, C, C++, Fortran, Unix, RStudio.

Others: **LaTeX**, HTML5, CSS.

### LANGUAGES

French: Mother tongue.

English: advanced.

Italian: intermediate.

German: elementary.

### REFERENCES

**Jean-François Aujol**, PhD supervisor. Email: jean-francois.aujol@math.u-bordeaux1.fr

**Charles Dossal**, PhD supervisor. Email: dossal@insa-toulouse.fr

**Aude Rondepierre**, PhD supervisor. Email: [rondepie@insa-toulouse.fr](mailto:rondepie@insa-toulouse.fr)