Hippolyte Labarrière

POSTOC IN APPLIED MATHEMATICS, 26

Università di Genova - DIBRIS

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Education

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

REFEREED JOURNAL PUBLICATIONS

J.-F. Aujol, C. Dossal, **H. Labarrière**, A. Rondepierre. 2025. FISTA Restart Using an Automatic Estimation of the Growth Parameter. *Published in* Journal of Optimization Theory and Applications.

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

H. Labarrière, C. Molinari, L. Rosasco, C. Vega, S. Villa. 2024. Optimization Insights into Deep Diagonal Linear Networks. *Under review*.

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*.

PEER REVIEW

Journal of Optimization Theory and Applications, IEEE Transactions on Signal Processing, Inverse Problems, Journal of Machine Learning Research, SIAM Journal on Optimization, International Conference on Learning Representations 2025 (ICLR), Numerical Functional Analysis and Optimization.

Presentations

INVITED TALKS

November 2024. *Inertia in Optimization: Acceleration and Adaptivity*, Séminaire DAO, Saint-Martin-d'Hères.

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 Ĺab, 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

2025	**Organizer of the PhD Course "Theoretical Foundations of Machine Learning"**, Università di Genova
2024-2025	**Research meeting organizer for LCSL (Laboratory for Computational and Statistical Learning)**, Università di Genova
2024	**Group meeting organizer for LCSL (Laboratory for Computational and Statistical Learning)**, Università di Genova

Teaching Experience

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

Miscellaneous

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**: advanced; **German**: elementary.