Hippolyte Labarrière

Postoc in Applied Mathematics, 25

Università di Genova - Dipartimento di Matematica

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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, L. Calatroni, C. Dossal, **H. Labarrière**, A. Rondepierre. 2024. Parameter-Free FISTA by Adaptive Restart and Backtracking. *Accepted 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

Invited Talks

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*, Séminaire doctorant SO, Institut de Mathématiques de Toulouse.

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

Organizing Experience

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: elementary.

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