

Adrien Meynard

Assistant Professor / Maître de conférences

Laboratoire de Physique · École Normale Supérieure de Lyon

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 Website

 HAL  ORCID

Lyon, France

Signal processing researcher working on nonstationary signals, time–frequency and time–scale methods, inverse problems, and machine-learning approaches to signal analysis. Applications include audio, bioacoustics, biomedical data, and physical measurements.

Academic Appointments

2021–present **Maître de conférences (Assistant/Associate Professor)**, École Normale Supérieure de Lyon, Laboratoire de Physique, Lyon, France

Research and teaching in signal processing and data analysis.

2020–2021 **Postdoctoral Associate**, Department of Mathematics, Duke University, Durham, USA

Research with Hau-Tieng Wu and Jana Schaich Borg.

2016–2019 **Doctoral Researcher**, Aix-Marseille Université, Institut de Mathématiques de Marseille, France

Supervisors: Bruno Torrèsani and Matthieu Kowalski.

Research Interests

- Time–frequency / time–scale analysis, nonstationarity, time warping, spectral estimation.
- Inverse problems, optimization, source separation and image decomposition.
- Learning-based signal processing, wavelet methods and scientific applications.

Education

2019 **PhD**, Aix-Marseille Université, France. *Stationnarités brisées : approches à l'analyse et à la synthèse*.

2015–2016 **Master's degree**, Automatic Control, Signal and Image Processing, Université Paris-Saclay, France.

2014–2015 **Master's degree**, Teacher training in applied physics, École Normale Supérieure de Cachan.

2012–2016 **École Normale Supérieure de Cachan**, French Grande École programme.

2010–2012 **Classes préparatoires**, Physics and Engineering Sciences, Lycée Blaise Pascal, Clermont-Ferrand.

Selected Publications

Journal articles

- A. Meynard and B. Torrèsani, “Synthesis-based time-scale transforms for non-stationary signals”. *Applied and Computational Harmonic Analysis*, 65, 112–136 (2023).
- A. Meynard and H.-T. Wu, “An Efficient Forecasting Approach to Reduce Boundary Effects in Real-Time Time-Frequency Analysis”. *IEEE Transactions on Signal Processing*, 69, 1653–1663 (2021).
- A. Meynard, “Spectral Estimation for Multivariate Locally Time-Warped Signals”. *IEEE Signal Processing Letters*, 27, 311–315 (2020).
- A. Meynard and B. Torrèsani, “Spectral Analysis for Nonstationary Audio”. *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, 26(12), 2371–2380 (2018).
- M. Kowalski, A. Meynard and H.-T. Wu, “Convex Optimization Approach to Signals with Fast Varying Instantaneous Frequency”. *Applied and Computational Harmonic Analysis*, 44(1), 89–122 (2018).

Recent conference papers and preprints

- C. Presvôts and A. Meynard, “Time-warping estimation via stationarity-based learning of the de-warped signal”. *IEEE MLSP* (2026).
- P. Pajuelo, S. Roux, A. Meynard, F. Liénard, É. Freyssingheas et al., “Inverse Laplace Transform for Dynamic Light Scattering: Impact of Regularization”. *EUSIPCO* (2026).
- A. Meynard, N. Pustelnik, L. M. Briceño-Arias and S. Meignen, “Post-Composition Primal-Dual Algorithm for Texture, Geometry, and Noise Separation”. *EUSIPCO* (2025).
- M. Krémé and A. Meynard, “Consistent Spectrogram Separation from Nonstationary Mixture”. *EUSIPCO* (2024).

Full publication list: [HAL researcher profile](#) · [Personal website](#)

Teaching

- 2021–present** **ENS de Lyon** — Lectures, tutorials and practical sessions
Undergraduate and master's levels: signal and image processing; machine learning in physics and chemistry; mathematical methods for physics; experimental physics; data analysis and modelling.
- 2017–2019** **Aix-Marseille Université** — Tutorials and practical sessions
Calculus, probability and statistics, and signal processing, from undergraduate to master's levels.
- 2015** **IUT Clermont-Ferrand** — Teaching internship
Two-week internship in experimental physics and electromagnetism.

Research Supervision

Doctoral and postdoctoral researchers

- 2026–present** **Florian Couriol** — PhD student, ENS de Lyon (since September 2026)
Thesis: *Nouvelles représentations temps-fréquence de signaux non stationnaires*. Principal scientific supervisor: A. Meynard; official thesis director: S. Roux (HDR).
- 2025–2026** **Corentin Presvôts** — Postdoctoral researcher
Learning-based estimation of time warping using wavelet representations.

Student research projects

- 2024** **Natalie Khanafer** — Master's research internship (M2), ENS de Lyon
Sleep and glycaemic dynamics in type 1 diabetes (Diabnight collaboration).
- 2024** **Lilas Gerthoffer** — Undergraduate research internship (L3)
Classification of marine mammals using underwater acoustic signals.

Teaching and Academic Responsibilities

- **Internship coordination:** coordinator of L3 physics internships, ENS de Lyon (since 2025).
- **Student mentoring:** academic tutor for approximately four to six ENS de Lyon students each year; organization of laboratory immersion activities for incoming students.
- **Admissions and service:** member of the ENS de Lyon physics admission committee (since 2023); member of the PHAST doctoral-school fellowship selection panel (2023).
- **Community manager:** redesign and maintenance of the Physics Department website.
- **Academic recruitment committees:** Member of two AGPR recruitment committees (2025 and 2026) and one ATER recruitment committee (2026).

Scientific Service and Outreach

- **EUSIPCO 2024, Lyon:** Publication and Communication Chair; conference website, institutional communication and conference materials.
- **DIPOpt 2023, Lyon:** co-organizer, workshop on deep learning, image analysis, inverse problems and optimization.
- **Fête de la science:** co-organizer of an interactive outreach activity on Fourier analysis and time–frequency representations of sounds (yearly, since 2024).
- Reviewer for journals and conferences in signal and image processing.

Additional Research Experience

- 2016–2017** Research visits, University of Toronto and Centre de Recherches Mathématiques, Montréal
Collaborations with Hau-Tieng Wu and Jean-Marc Lina.
- 2016** Research internship, Institut de Mathématiques de Marseille
Supervisor: Bruno Torrèsani.
- 2014** Research internship, Laboratoire des Signaux et Systèmes
Supervisor: Matthieu Kowalski.