

# Joris Labarbe

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## Education

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<b>Northumbria University</b> <i>PhD in Applied Mathematics</i> <ul style="list-style-type: none"><li>Supervisor: O.N. Kirillov</li><li>Title: "Radiative and diffusive instabilities in moving fluids"</li></ul>	2018 – 2021 Newcastle-upon-Tyne, UK
<b>Université Toulouse III – Paul Sabatier</b> <i>Licence and MSc "Fluid dynamics, Energetic and Transfers"</i>	2015 – 2018 Toulouse, France
<b>Université de Bordeaux</b> <i>DUT "Mechanical Engineering and Industrial Production"</i>	2013 – 2015 Gradignan, France

## Research experiences

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<b>Postdoctoral position</b> <i>Laboratoire Jean Alexandre Dieudonné (LJAD)</i> <ul style="list-style-type: none"><li>Collaborator: D. Clamond</li><li>Research topic: "Surface wave recovery from pressure measurements at the seabed"</li><li>Funding: UCA<sup>JEDI</sup> fellowship by the Agence Nationale de la Recherche (ANR)</li></ul>	2022 – 2024 Nice, France
<b>Postdoctoral position</b> <i>Institut de Recherche sur les Phénomènes Hors Équilibre (IRPHE)</i> <ul style="list-style-type: none"><li>Collaborators: P. Le Gal, B. Favier, S. Le Dizès &amp; U. Harlander (BTU-Cottbus)</li><li>Research topic: "Shear instabilities in stratified flows"</li><li>Funding: AMIDEX fellowship by the Institut de Mécanique et Ingénierie (IMI)</li></ul>	2021 – 2022 Marseille, France

## Teaching experiences

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<b>Teaching fellow</b> <i>Université Côte d'Azur</i> <ul style="list-style-type: none"><li>48h – module "Mathematics for Engineers" for 2<sup>nd</sup>-year students.</li><li>Marking of exam papers</li></ul>	2023 – 2024 Nice, France
<b>Teaching fellow</b> <i>Northumbria University</i> <ul style="list-style-type: none"><li>48h – module "Mathematics for Engineers" for 2<sup>nd</sup>-year students.</li><li>24h – module "Logics and Algorithmics" for Foundation Year students.</li><li>Marking of exam papers</li></ul>	2018 – 2021 Newcastle-upon-Tyne, UK

## Book chapters and thesis

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- (2023) **J. Labarbe**; D. Clamond. *Numerical computation of steady rotational waves and recovery of the surface profile from bottom pressure measurements*. To appear as a book volume in *Advances in Mathematical Fluid Mechanics*.
- (2021) **J. Labarbe**. *Radiative and diffusive instabilities in moving fluids*. PhD Thesis, Northumbria University.

## Publications

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- (2023) D. Clamond; **J. Labarbe**. *Steady water-waves with arbitrary surface-pressure: Their recovery from bottom-pressure measurements*. arXiv preprint, arXiv:2310.20311.
- (2023) **J. Labarbe**; D. Clamond. *General procedure for free-surface recovery from bottom pressure measurements: Application to rotational overhanging waves*. In press in J. Fluid Mech.
- (2023) D. Clamond; **J. Labarbe**; D. Henry. *Recovery of steady rotational wave profiles from pressure measurements at the bed*. J. Fluid Mech., 961, R2.
- (2022) **J. Labarbe**; P. Le Gal; U. Harlander; S. Le Dizès; B. Favier. *Localized layers of turbulence in stratified horizontally sheared Poiseuille flow*. J. Fluid Mech., 963, A27.
- (2022) **J. Labarbe**; O. N. Kirillov. *Radiation-induced instability of a finite-chord Nemtsov membrane*. Phys. Fluids, 34, 014106.
- (2021) **J. Labarbe**; O. N. Kirillov. *Diffusive instabilities of baroclinic lenticular vortices*. Phys. Fluids, 33, 104108.
- (2020) **J. Labarbe**; O. N. Kirillov. *Membrane flutter induced by radiation of surface gravity waves on a uniform flow*. J. Fluid Mech., 901, A4.
- (2020) R. Zou; **J. Labarbe**; O. N. Kirillov; Y. Fukumoto. *Analysis of azimuthal magnetorotational instability of rotating magnetohydrodynamic flows and Tayler instability via an extended Hain-Lüst equation*. Phys. Rev. E, 101, 013201.

## Invited seminars

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|---------------------------------|---------------------------------|
| <b>Invited seminar at INRIA</b> | 19 December, 2023               |
| <i>Oral presentation</i>        | <i>Sophia Antipolis, France</i> |
| <b>Invited seminar at UCC</b>   | 16 November, 2023               |
| <i>Oral presentation</i>        | <i>Cork, Ireland</i>            |
| <b>Invited seminar at IMFT</b>  | 14 December, 2020               |
| <i>Oral presentation</i>        | <i>Toulouse, France</i>         |

## International conferences

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|---|---|
| <b>Anti-diffusive dynamics: from sub-cellular to astrophysical scales</b> | 15–26 January, 2024                         |
| <i>Oral presentation</i>  | <i>Cambridge, UK</i>                        |
| <b>Geophysical Astrophysical Fluid Dynamics: Experiments and models</b>   | 11–15 September, 2023                       |
| <i>Poster presentation</i>  | <i>Nice, France</i>                         |
| <b>UCC - Waves Workshop 2023</b>  | 24–25 April, 2023                           |
| <i>Oral presentation</i>  | <i>Cork, Ireland</i>                        |
| <b>IX International Symposium on Stratified Flows</b>                     | 29 August – 1 <sup>st</sup> September, 2022 |
| <i>Oral presentation</i>  | <i>Cambridge, UK</i>                        |
| <b>2022 SPARC Gravity Waves Symposium</b>                                 | 28 March – 1 <sup>st</sup> April, 2022      |
| <i>Oral presentation</i>  | <i>Frankfurt, Germany</i>                   |
| <b>International Congress of Theoretical and Applied Mechanics</b>        | 22–27 August, 2021                          |
| <i>Poster and short oral presentation</i>                                 | <i>Online</i>                               |
| <b>DynamicsDays–XL</b>  | 22–27 August, 2021                          |
| <i>Oral presentation</i>  | <i>Nice, France</i>                         |
| <b>Summer School on Gravitational Waves</b>                               | 08–13 September, 2019                       |
| <i>Poster presentation</i>  | <i>Bad Honnef, Germany</i>                  |
| <b>LIA–ISTROF Workshop</b>  | 19–20 June, 2019                            |
| <i>Oral presentation</i>  | <i>Cottbus, Germany</i>                     |
| <b>MHD Days and GdRI Dynamo Meeting</b>                                   | 26–28 November, 2018                        |
| <i>Poster presentation</i>  | <i>Dresden, Germany</i>                     |