

Joris Labarbe

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Education

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

Research experiences

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

Teaching experiences

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

Book chapters and thesis

- (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 in peer-review journals

- (2023) J. Labarbe; D. Clamond. *General procedure for free-surface recovery from bottom pressure measurements: Application to rotational overhanging waves*. J. Fluid Mech., 976, A20.
- (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 Némsov 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.

Submitted and under preparation

- (2024) J. Labarbe; P. Le Gal; S. Le Dizès; B. Favier. *Hole solutions in nonlinear plane Poiseuille flow with spanwise stratification*. Under preparation
- (2024) J. Labarbe; A. Vieira; D. Clamond. *Optimal reconstruction of water-waves from noisy pressure measurements at the seabed*. arXiv preprint, https://jorislabarbe.github.io/assets/pdf/2024_LVC_arXiv.pdf Submitted to J. Fluid Mech.
- (2023) D. Clamond; J. Labarbe. *Steady water-waves with arbitrary surface-pressure: Their recovery from bottom-pressure measurements*. arXiv preprint, arXiv:2310.20311. Submitted to J. Fluid Mech.

Invited seminars

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

International conferences

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