

## Current employment

10/24– **Chargé de recherche au CNRS**, *Laboratoire Mathématiques de Reims*, Reims, France

## Academic professional experience

8/23–9/24 **Research Associate**, *Cambridge University*, Cambridge, United Kingdom

7/21 – 7/23 **Griffiths Research Assistant Professor**, *Duke University*, Durham, NC, USA

Spring 21 **Program Associate in the Mathematical Problems In Fluid Dynamics**, *MSRI*, Berkeley, USA

9/18–6/21 **PhD**, *ENS Paris Saclay*, Paris, France

9/19–9/20 **Teaching Assistant**, *Université de Paris Sud*, Paris, France

9/18–9/19 **Teaching Assistant**, *ENS Paris Saclay*, Paris, France

## Studies

9/18–6/21 **ENS Paris Saclay-Laboratoire de Mathématiques d'Orsay**, Paris, France  
Thesis

9/17–6/18 **École Polytechnique-Université de Paris Sud- Paris Saclay**, Paris, France  
M2 Analyse, Arithmétique, Géométrie.

9/14–3/17 **École Polytechnique**, Paris

9/13–7/14 **Classes préparatoires of lycée Hoche**, Versailles, France  
Mathematics and Physics (MP\*).

## Funding

9/25–9/30 **Member of the ANR project SmaSH**

8/23–9/24 **Research Associate at Cambridge University**, funded by UKRI grant SWAT.

8/21–8/23 **Phillip Griffiths Assistant Research Professor of Mathematics at Duke University**, Partially funded by NSF grants DMS-2043024 and DMS-2124748.

9/18–9/21 **Doctoral Grant AMX**, École Polytechnique

## Published Articles

1. **Wellposedness and singularity formation beyond the Yudovich class**, with T. M. Elgindi and R. M. Murray, Accepted, To appear in Journal of the European Mathematical Society
2. **On the long-time behavior of scale-invariant solutions to the 2d Euler equation and applications**, with T. M. Elgindi and R. M. Murray, Accepted, To appear in Les Annales de l'ENS
3. **Logarithmic spirals for 2d perfect fluids**, with I.-J. Jeong, Journal de l'École polytechnique — Mathématiques, 2024
4. **A geometric proof to the Quasi-linearity of the Water-Waves system**, SIAM Journal on Mathematical Analysis, 2023
5. **On the Cauchy problem for dispersive Burgers type equations**, Indiana University Mathematics Journal, 2023

6. **On Paracomposition and change of variables in Paradifferential operators**, Journal of Pseudo-Differential Operators and Applications, 2023
7. **Regularity results on the flow map of periodic dispersive Burgers type equations and the Gravity-Capillary equations**, Water Waves, 2023

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### Preprints in the peer review process

8. **Small scale creation of the Lagrangian flow in 2d perfect fluids**, arXiv preprint, arXiv:2401.06476
9. **Quantitative Estimates in Passive Scalar Transport: A Unified Approach in  $W^{1,p}$  via Christ-Journé Commutator Estimates**, with L. Huysmans, arXiv preprint, arXiv:2402.11642
10. **A Classification Theorem for Steady Euler Flows**, Tarek M. Elgindi, Yupei Huang, and Chunjing Xie, arXiv preprint, arXiv:2408.14662
11. **Mixing Estimates for Passive Scalar Transport by BV Vector Fields**, with L. Huysmans, arXiv preprint, arXiv:2504.03023