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Ayman Rimah Said

Current employment

10/24– **Chargé de recherche au CNRS**, *Laboratoire Mathématiques de Reims*, Reims, United 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**, *Paris, France*
Thesis:"On the regularity of the flow of the Euler system with free Boundary"

9/17–6/18 **École Polytechnique-Université de Paris Sud- Paris Saclay**, *Paris, France*
Masters 2 in theoretical mathematics: M2 AAG, the Title of "Polytechnician Engineer".

9/14–3/17 **École Polytechnique**, *Paris*
Generalist engineering diploma, Bachelors in mathematics and physics and Masters 2 in theoretical mathematics.

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

Funding

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. **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
2. **Logarithmic spirals for 2d perfect fluids**, *with I-J. Jeong*, Journal de l'École polytechnique — Mathématiques, 2024
3. **A geometric proof to the Quasi-linearity of the Water-Waves system**, SIAM Journal on Mathematical Analysis, 2023
4. **On the Cauchy problem for dispersive Burgers type equations**, Indiana University Mathematics Journal, 2023
5. **On Paracomposition and change of variables in Paradifferential operators**, Journal of Pseudo-Differential Operators and Applications, 2023

6. **Regularity results on the flow map of periodic dispersive Burgers type equations and the Gravity-Capillary equations**, Water Waves, 2023

Preprints in the peer review process

7. **Wellposedness and singularity formation beyond the Yudovich class**, *with T. M. Elgingi and R. M. Murray*, arXiv preprint, arXiv:2312.17610
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 W1,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