

Dario Cortese

Curriculum Vitae

EMPLOYEMENT HISTORY

JAN. 2021– PRESENT

Postdoctoral Research Fellow

Living Systems Institute, University of Exeter

PI: Dr Kirsty Wan

Research group: Micromotility

Analytical and numerical modelling of swimming microorganisms at low Reynolds numbers.

JAN. 2019– JAN. 2021

Postdoctoral Research Associate

Living Systems Institute, University of Exeter

PI: Dr Kirsty Wan

Research group: Micromotility

Developing analytical and numerical models of swimming flagellated algae.

SEPT. 2017–DEC. 2018

Teacher of Physics and Electronics

Exeter School, Exeter

AUG. 2015– MAR. 2017

Teaching Unit Developer

University of Bristol and Urban Pursuit,

Woodland Academy Project

SEPT. 2014–JUN. 2015

Teaching Assistant

University of Bristol, School of Mathematics

Taught courses: Calculus I, Computational Mathematics, Mechanics I.

ADDITIONAL SKILLS

LANGUAGES English - fluent
Italian - native speaker
French - fluent

PROGRAMMING C, Python, MatLab,
Mathematica, \LaTeX ,
HTML, CSS

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EDUCATION

JAN. 2013 – JULY 2017

Ph.D., Applied Mathematics

University of Bristol

Thesis: Nonlinearities and Defect Dynamics in Active Fluids

Supervisors: J. Eggers, T. B. Liverpool

SEPT. 2016 – JULY 2017

Post-Graduate Certificate in Education, Science with Physics

University of Bristol

supported by IOP Teacher Training Scholarship

SEPT. 2010 – Nov. 2012

Laurea Magistrale (M.Sc.), Physics

Sapienza, Università di Roma - 110/110 c.I.

Thesis: Optimal Kinematics of Ideal Cilia

Advisor: E. Lauga

SEPT. 2011 – APR. 2012

Study abroad - Erasmus grant

École Normale Supérieure de Lyon

Courses: Hydrodynamiques et turbulence, Physique non-linéaire et instabilités

SEPT. 2008 – SEPT. 2010

Laurea Triennale (B.Sc.), Physics

Sapienza, Università di Roma - 110/110 c.I.

Dissertation: The Standard Model and the inflationary Universe

REFERENCES

Dr. Kirsty Y. Wan (Principal Investigator)

Research Fellow

University of Exeter

e-mail: k.y.wan2@exeter.ac.uk

Prof. Tanniemola Liverpool (PhD Supervisor)

Professor of Theoretical Physics

University of Bristol

e-mail: tbl@bristol.ac.uk

Prof. Jens Eggers (PhD Supervisor)

Professor of Applied Mathematics

University of Bristol

e-mail: jens.eggerts@bristol.ac.uk

PUBLICATIONS

- (1) Dario Cortese, Jens Eggers, and Tanniemola B. Liverpool. Nonlinear spontaneous symmetry breaking in active polar films. *EPL (Europhysics Letters)*, 115(2):28002, 2016.
- (2) Dario Cortese, Jens Eggers, and Tanniemola B. Liverpool. Pair creation, motion, and annihilation of topological defects in two-dimensional nematic liquid crystals. *Phys. Rev. E*, 97:022704, Feb 2018.
- (3) Dario Cortese and Kirsty Y. Wan. Control of helical navigation by three-dimensional flagellar beating. *Phys. Rev. Lett.*, 126:088003, Feb 2021.