

Dario Cortese

Curriculum Vitae

EDUCATION

JAN. 2013 – JULY 2017

Ph.D., Applied Mathematics

University of Bristol, School of Mathematics

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, Graduate School of Education

supported by IOP Teacher Training Scholarship

SEPT. 2010 – NOV. 2012

Laurea Magistrale (M.Sc.), Physics

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

Thesis: Kinematics of Ideal Cilia

Advisors: E. Lauga, R. Di Leonardo

SEPT. 2011 – APR. 2012

ERASMUS European Exchange Program

École Normale Supérieure de Lyon

Courses: Hydrodynamics and turbulence, Nonlinear Physics and instabilities

SEPT. 2007 – SEPT. 2010

Laurea Triennale (B.Sc.), Physics

Sapienza, University of Rome - 110/110 c.l.

Dissertation: The Standard Model and the inflationary Universe

ACADEMIC INTERESTS

Fluid dynamics: Hydrodynamic instabilities, biolocomotion in fluids, at low and high Re .

Plant and Animal Biomechanics: Transport of liquids in plants and wind-plant interactions.

Sustainability: Environmental Fluid Dynamics, Degrowth solutions, Agrophysics.

Permaculture and Food Systems: Organic Gardening methods and Agroforestry.

TRANSFERABLE SKILLS

COMMUNICATION	Delivered talk and presentations in international contexts
LANGUAGES	English - fluent Italian - native speaker French - fluent
TEACHING	Physics and Electronics, Qualified Teacher Status (QTS)

☺ Born: 02/04/1989 - Milano, Italy

📍 2 Midwinter Cottages
EX6 7BD Exeter, United Kingdom

☎ +44 (0)7873921397

✉ dario.cortese89@gmail.com

🌐 dariocortese89.weebly.com

EMPLOYMENT HISTORY

SEPT. 2017–PRESENT

Teacher of Physics and Electronics

Exeter School, Exeter

Planning, delivering lessons to year 7-13 students. Evaluating student progress.

AUG. 2015– MAR. 2017

Teaching Unit Developer

University of Bristol and Urban Pursuit, Woodland Academy Project

Development of a range of curriculum materials for an outdoor Academy, established by Urban Pursuit, an alternative education provider in Bristol.

SEPT. 2014–JUN. 2015

Teaching Assistant

University of Bristol, School of Mathematics

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

SEPT. 2014 - JUN. 2015

Seminar Organiser

University of Bristol, School of Mathematics

Planning and organisation for the Fluids and Materials journal club seminar series.

COMPUTER SKILLS

Simulation: Modelization of physical systems governed by nonlinear partial differential equations

Programming: C, Pascal, Matlab, Html, CSS

Commercial: Microsoft Office, Origin, Photoshop, Matlab, Mathematica, Final Cut

ADDITIONAL SKILLS

HORTICULTURE Level 2 Certificate in the Principles and Practices of Horticulture (2016, Royal Horticultural Society)

MUSIC Amateur piano playing, Diploma of music theory and solfeggio

ACADEMIC REFERENCES

Tanniemola Liverpool (PhD Supervisor)-
Professor of Theoretical Physics, University of Bristol
e-mail: tbl@bristol.ac.uk

Jens Eggers (PhD Supervisor)
Professor of Applied Mathematics, University of Bristol
e-mail: jens.eggers@bristol.ac.uk

Helen Knowler (Woodland Academy Principal Investigator)
Senior Lecturer in Education, University of Bristol
e-mail: helen.knowler@bristol.ac.uk

AWARDS

- Teacher Training Scholarship (Institute of Physics, 2016)
- ERASMUS European Exchange Program Scholarship (European Union, 2011)
- Fully funded PhD Scholarship, Engineering and Physical Sciences Research Council (EPSRC, 2013)
- Collaboration grant, Library of the Physics Department (Sapienza University of Rome, 2010)

PUBLICATIONS

1. Cortese, D., Eggers, J., & Liverpool, T. B. (2018). Pair creation, motion, and annihilation of topological defects in two-dimensional nematic liquid crystals. *Phys. Rev. E*, *97*, 022704. Available at <https://link.aps.org/doi/10.1103/PhysRevE.97.022704> doi: doi: 10.1103/PhysRevE.97.022704
2. Cortese, D., Eggers, J., & Liverpool, T. B. (2016). Nonlinear spontaneous symmetry breaking in active polar films. *EPL (Europhysics Letters)*, *115*(2), 28002. Available at dx.doi.org/10.1209/0295-5075/115/28002

THESES AND DISSERTATIONS

1. Cortese, D. (2013). Kinematics of ideal cilia. Available at <http://dariocortese89.weebly.com/uploads/1/5/1/8/15180506/tesi.pdf>
2. Cortese, D. (2017). Nonlinearity and defect dynamics in active fluids. Available at https://www.dropbox.com/s/648mr7is4h15upq/Nonlinearity_and_Defect_Dynamics_in_Active_Fluids.pdf?dl=0