



EUROMECH-ETC17 YOUNG SCIENTIST AWARDS

Name: Davide Proment

Date of birth: 30/10/1983

Nationality: Italy

Institution: University of East Anglia (United Kingdom)

Abstract n. 548 Title: Flying in a superfluid

Area of research

My past and present research interests focus mainly on vortex dynamics, wave interactions, and turbulence in superfluids. More generally, I am interested in nonlinear physics, statistical mechanics and out-of-equilibrium systems.

Academic positions & education

2018-present: Senior Lecturer at the School of Mathematics, University of East Anglia.

2012-2018: Lecturer at the School of Mathematics, University of East Anglia.

2011-2012: Postdoctoral position at the Dipartimento di Fisica, Università degli Studi di Torino.

2008-2010: Ph.D. in Physics at Dipartimento di Fisica Generale, Università degli Studi di Torino.

Recent grants & awards

2018: François Frenkiel Award for Fluid Mechanics shared with Dr Alberto Villois and Dr Giorgio Krstulovic.

2017: EPSRC First Grant, project EP/P023770/1 entitled On the interaction between quantum vortices and phonon radiation in Bose–Einstein condensates.

2015: Royal Society International Exchanges Cost Share Scheme together with Dr Giorgio Krstulovic.

Three selected publications

Universal and nonuniversal aspect of vortex reconnections in superfluids, Alberto Villois, Davide Proment and Giorgio Krstulovic, *Physical Review Fluids*, Volume 2, Issue 4, 044701 (2017)

Helicity conservation by flow across scales in reconnecting vortex links and knots, Martin W. Scheeler, Dustin Kleckner, Davide Proment, Gordon L. Kindlmann, William T.M. Irvine, *Proceedings of the National Academy of Sciences*, Volume 111, Issue 43, pages 15350–15355 (2014)

Vortex knots in a Bose–Einstein condensate, Davide Proment, Miguel Onorato, and Carlo F. Barenghi, *Physical Review E*, Volume 85, Issue 3, 036306 (2012)

University of Torino *Department of Physics*