Lennon Ó Náraigh	Date of birth: 4th August 1982
School of Mathematics and Statistics	Nationality: Irish
University College Dublin	Web: https://maths.ucd.ie/~onaraigh.html
Belfield	Publications: https://maths.ucd.ie/~onaraigh/research_pubs.html
Dublin 4, Ireland	

Current position:

- Lecturer, School of Mathematics and Statistics since January 2010
- Tenured lecturer since October 2014

Previous position held:

- 2008-2009 Postdoc at Imperial College London, Department of Chemical Engineering (two years)

Visiting appointments:

- **École Centrale de Lyon visiting professor (January 2017)**
- HPC Europa visiting scientist at the Edinburgh Parallel Computing Centre (2011,2012)

Degrees:

- 2008 Ph.D. in Applied Mathematics, Imperial College London
  Title: The role of advection in phase-separating binary liquids
  Advisor: Jean-Luc Thiffeault
- 2005 B.A. (Mod.) Theoretical Physics,
  First Class Honours, Trinity College Dublin

Publications:

- **Large number of first-author and single-author publications for career stage, showing independent approach to research - includes 5 lead-author articles in _Journal of Fluid Mechanics_ and 1 lead-author article in _Proceedings of the Royal Society of London A_**
- Total 26 peer-reviewed articles in leading international journals since 2007
- 4 peer-reviewed conference proceedings and 1 book chapter
- Google Scholar citations: 432. H-index: 11 (as of February 2020)

Commissions of trust:

- Grant reviewer, Israeli Science Foundation (2018)
- Review panel member, National University of Ireland Travelling PhD Scholarships (2018) **– invited panel member in recognition of my expertise in turbulence research**
- Abstract reviewer, International Conference on Multiphase Flow (Rio, 2019)

Commissions of trust (continued):

- Regular reviewer in _Physical Review, European Journal of Mechanics B, Journal of Fluid Mechanics, Physics of Fluids_

Research highlights:

- **Creator of open-source TPLS supercomputing framework** (over 840 downloads on sourceforge.net in 2015) – TPLS is an open-source high-performance computing platform for two-phase flow simulations. It currently has an active user base in UCD, University of Edinburgh, KTH, and Lyon
- Book chapter on hydrodynamic stability theory in the _Encyclopaedia of Two-Phase Heat Transfer and Flow_ (2018)

PhD Supervision:
- Supervised 1 PhD student to completion
- Currently 1 PhD student under supervision
- Closely guided two further successful PhD students through major components of their doctorates

Highlighted research grants:

- 2017-2021: **Principal Investigator in the Horizon 2020 Marie Skłodowska-Curie action ThermaSMART (total budget €1.3 million).** A funded worldwide network of research laboratories working on modelling, simulation, and experiments for the development of novel thermal management systems for microelectronic devices. I am the UCD PI in the network (UCD budget is €100,000).
- 2016-2017: UCD seed funding career development award (€8,000 as principal investigator).
- 2012-2013: Principal Investigator, IRCSET/Egide Ulysses programme. Competitive travel grant to seed collaboration between UCD and École Centrale de Lyon (Peter Spelt, Aurore Naso). Outcome: development of a parallel code for the simulation of two-phase interfacial instabilities (€2,500).

Supercomputer access:

- 2016: Grant of two NVIDIA Titan X Pascal graphics cards for developing a GPU framework for classical problems in Computational Fluid Dynamics
- 2010-2016: PI (with Prashant Valluri) on a series of high-profile awards of supercomputer time in the UK, on both the HECToR and ARCHER machines, culminating in **a class 1a license on ARCHER (the highest tier of supercomputer access in the UK, competitively awarded, requiring rigorous external peer review).**
- 2014-2016: Principal investigator under a Class B supercomputing license at the Irish Centre for High-End computing (2014) – again requiring external peer review.

Teaching activities:

- A range of undergraduate and graduate level in modules including Classical Mechanics, Partial Differential Equations, Fluid Dynamics, Computational Science, typically four modules per academic year
- Certificate of Continuous Professional Development in University Teaching and Learning in 2016
- Founder and Director, MSc in Data and Computational Science (2015-2018) **Oversaw growth of programme from 3 students in 2015 to over 50 students in 2018.**

Institutional responsibilities:

- **Head of Applied and Computational Mathematics** (2015-2018)
- School head of taught graduate programmes (2014-2015)
- Head of teaching and learning in the subject of Applied and Computational Mathematics (2012-2013)

Organization of scientific events:

- **Chair of scientific committee for 2019 IUTAM symposium**, *Computational modelling of instabilities and turbulence in separated two-phase flows*, to be hosted in Dublin.
- Member, organizing committee, European Turbulence Conference 2021 (to be hosted in Dublin)

Institutional collaborations:

- 2017-present: **Principal Investigator, ThermaSMART consortium**
- 2011-present: Member and co-director of TPLS user group. The TPLS user group is tasked with maintaining, updating, and disseminating the TPLS code and is a partnership involving users and developers throughout Europe: Iain Bethune (SFTC, Daresbury, UK), Prashant Valluri (University of Edinburgh), Peter Spelt (Ecole Centrale de Lyon)
- 2012-2016 – Member of TRANSPACC consortium. This was an industrial/academic partnership tasked with modelling and experiment for developing post-combustion carbon capture techniques. The partnership involved academics in Edinburgh (Prashant Valluri, Mathieu Lucquiaud, Jon Gibbins), one industrial partner (Sulzer Innotec), and a team of Ph.D. and M.Sc. students.

Industrial collaborations:

- 2012-2016: Participation in industry-academic consortium TRANSPACC
- **2014: Consulted for the International Research Institute of Stavanger. Project title: Agglomeration and transport of drilling generated particles in the oil well.**
- 2010: Participated as a collaborator in the ZEAL consortium (Zero Emission by Advanced Cleaning) to apply linear stability analysis to optimize plant cleaning processes
- 2009: Consulted for Air Liquide. Project title: Instability in falling films
- 2009-2010 Participated in multiphase flow academic-industry consortium (TMF4) as a research associate. Developed mathematical models and numerical tools to predict stability boundaries in two-phase channel flow.