

**SCIENTIFIC REPORT**  
**2<sup>nd</sup> EUROPEAN FLUID DYNAMICS CONFERENCE (EFDC2)**  
**DUBLIN, 26-29 AUGUST 2025**

The EFDC2 conference ([www.ucd.ie/efdc2](http://www.ucd.ie/efdc2)) took place in University College Dublin, Ireland, from 26 to 29 August 2025. The event attracted over 1,100 delegates from all over the world.

Scientific Developments discussed at the Conference in the plenary lectures.

There were a total of 5 plenary lectures:

Professor Megan Davies Wykes (University of Cambridge) discussed the topic of the fluid mechanics of natural ventilation, showing how to combine theoretical models and laboratory experiments to demonstrate the principles of effective ventilation of rooms and buildings.

Professor Camille Duprat (Institute Polytechnique de Paris) discussed the topic of the interaction of liquids with fibrous materials, including experiments and applications to paper manufacturing, which feature complex interplays between elasticity, viscous flows and capillary forces.

Professor Stefania Cherubini (Politecnico di Bari) discussed the topic of the mechanism of formation of large-scale structures in wall-bounded turbulent shear flows, demonstrating how numerical simulations provide evidence of a mechanism based on a modal detuned instability of periodic near-wall structures.

Professor Saverio Spagnolie (University of Wisconsin-Madison) discussed the topic of active matter in complex fluids, in a unifying mean-field theory approach that covers problems ranging from active particles in Newtonian flows to active suspensions in fluids with bulk complex rheologies.

Professor Frédéric Dias (University College Dublin) discussed the topic of ocean waves, providing a wide overview of the challenges involved in modelling, observing and experimenting on ocean water waves, concluding how a multi-disciplinary approach is often the only way to move forward.

Scientific Developments discussed at the Conference in the parallel sessions.

There were 60 scientific categories running in various parallel sessions of contributed talks. These categories included 5 Mini Symposia, which dealt with hot topics such as “data assimilation in geophysical flows, turbulence and nonlinear PDEs”, “data science and data-drive models in turbulence and fluid dynamics”, “unsteady turbulence”, “blood flow in the heart” and “poroelastic flows”. These Mini Symposia were given prominence in the conference, and they were quite well attended and popular.

Of the other categories, the most popular were “biological/biomedical fluid mechanics”, “instability and transition”, “convection and buoyancy-driven flows”, and “drops and bubbles”, with about 45 talks in each category. Adjacent to these “top” categories, there were many other categories with significant numbers of talks (ranging from 20 to 35 talks in each category).

Finally, below is a list of the number of accepted abstracts per country.

France	178	Poland	6
United Kingdom	134	Portugal	6
Germany	111	Czech Republic	5
Italy	95	Denmark	5
China	93	Greece	5
India	69	Hong Kong	4
United States	58	Saudi Arabia	4
Netherlands	46	Chile	3
Japan	42	Hungary	3
Switzerland	41	Lithuania	3
Ireland	40	Iceland	2
Spain	26	Mexico	2
Sweden	26	Philippines	2
Austria	17	Slovenia	2
Norway	16	Argentina	1
Brazil	12	Cyprus	1
South Korea	12	Estonia	1
Belgium	11	Finland	1
Canada	11	New Zealand	1
Australia	9	Singapore	1
Israel	7	Turkey	1