

## Volatile Whiskey Congeners for Authentication and Quality

**Walsh Scholars Reference Number:** 2026029

**Research Institution:** Teagasc

**University:** Technological University Dublin (TU Dublin)

**Location:** Teagasc Moorepark, Fermoy, Co. Cork

**Funding:** Teagasc

**Proposed Start Date:** June 2026

### Project Summary

This PhD project will support the characterisation and protection of Irish whiskey under its Geographical Indication (GI), overseen by the Department of Agriculture, Food and the Marine (DAFM) at national and EU levels. Irish whiskey has experienced significant growth, with exports now exceeding €1 billion, highlighting the importance of a strong scientific basis to support GI compliance and product integrity.

The project will develop a comprehensive database of volatile congeners formed during the production of different styles of Irish whiskey. Using recent advances in gas chromatography, the research will generate detailed chemical “fingerprints” of authentic Irish whiskey products produced in accordance with the Irish whiskey technical file.

Gas chromatography–olfactometry will be used to identify volatile congeners that influence sensory perception. Linking chemical and sensory data will improve understanding of the compounds contributing to product character. Together, these datasets will support the identification of outliers, strengthen authentication and compliance checks, and assist in the identification of quality biomarkers.

The outcomes will provide an enhanced scientific basis for protecting GI status while supporting quality, consistency, and flavour across the Irish whiskey sector.

### Supervision

The project will be supervised by Professor Kieran Kilcawley (Teagasc), whose expertise spans flavour chemistry and the analytical characterisation of food and beverage products. Co-supervision will be provided by Professor Christine O’Connor (Technological University Dublin). Together, the supervisory team brings complementary expertise in analytical chemistry, sensory science, and agri-food quality assurance, providing a strong and well-aligned framework for the project.

### Research Environment

You will be registered at Technological University Dublin and based at the Teagasc Food Research Centre, Moorepark, a national centre of excellence for food science, processing, and analytical research, for the duration of your studies.

The project provides access to state-of-the-art analytical laboratories, including advanced gas chromatography and sensory analysis facilities, and benefits from strong links with industry stakeholders and regulatory bodies. As a Walsh Scholar, you will join a vibrant national and international research community, with opportunities for interdisciplinary collaboration across academia, industry, and policy-focused research programmes.

Project outputs will be disseminated through the Department of Agriculture, Food and the Marine (DAFM) to relevant stakeholders within the Irish whiskey sector, offering the successful candidate in-depth insight into the structure, regulation, and quality assurance practices of the Irish whiskey industry.

### Career and Training Opportunities

The Teagasc Walsh Scholars Programme provides a structured four-year training and development framework designed to support both academic excellence and long-term career readiness. Scholars develop advanced scientific and analytical expertise alongside transferable skills in communication, project management, and stakeholder engagement through expert-led training, workshops, and tailored professional development.

Opportunities are provided to present research at national and international conferences, supporting professional networking and active engagement with the wider research community. Dedicated final-year career supports focus on preparing scholars for impactful roles across research, industry, advisory services, and policy, in Ireland and internationally.

Through the Teagasc International Training Awards, scholars may undertake an international research placement of up to 12 weeks aligned with their PhD project. Outstanding achievement may also be recognised through the Walsh Scholars of the Year and Gold Medal Awards.

### Candidate Profile and Eligibility

Applicants should ideally:

- Hold a First or Second Class Honours degree (2.1 or equivalent) in chemistry, food science, analytical science, or a related discipline
- Demonstrate a strong interest in analytical chemistry, flavour chemistry, or food and beverage quality
- Possess good laboratory practice and data-handling skills
- Demonstrate the ability to work effectively both independently and as part of a multidisciplinary research team
- Possess strong written and verbal communication skills
- Meet Technological University Dublin postgraduate entry requirements, including English language requirements where applicable
- Hold a full, clean driving licence (desirable)

### Funding Details

This is a fully funded four-year PhD funded by Teagasc, including:

- €25,000 annual stipend
- University fees covered up to €6,000 per annum

### How to Apply

Applicants should complete the [online application form](#) by **5:00pm on Wednesday, 18 March 2026**.

Applications must include a **curriculum vitae** and a **1–2 page statement of motivation**, submitted as part of the online application.

### Interviews

Shortlisted candidates will be invited to interview in **early to mid-April 2026**. Online interviews can be accommodated.

### Further Information

Informal enquiries are welcome and may be directed to: Professor Kieran Kilcawley – [kieran.kilcawley@teagasc.ie](mailto:kieran.kilcawley@teagasc.ie)



Further information on the Walsh Scholars Programme is available at:

<https://www.teagasc.ie/about/research-innovation/the-walsh-scholars-programme/about-the-programme/>