Sabbatical/Research Leave Application 2025–26

Dr. Barry Quinn

### Personal Details

| Field | Details |
| --- | --- |
| Name | Dr. Barry Quinn |
| Staff Number | 3045662 |
| Core Disciplinary Research Group | Finance and Financial Technology |
| Fellow/Associate Fellow of M1.0 | Yes |
| Present Appointment and Date of Appointment | Senior Lecturer in Finance, Technology and Data Science, appointed 2020 |
| Date of First Appointment at QUB | 01/10/2010 |

### Details of Previous Sabbatical Leave

Dr. Barry Quinn has previously been awarded sabbatical leave for six months, 2018.

### Period of Sabbatical Leave Applied For

**Requested Period**: Semester 1, 2025 (Monday, 4 August 2025 – Friday, 2 January 2026)

### Plans to Be Away from Belfast

* **Placement Location**: Momentum One Zero, Belfast
* **Proposed Duration**: Full sabbatical period
* **Contingency**: Remote collaboration with Momentum One Zero staff and local fintech firms as necessary.

### Current Commitments in Teaching and Administration

**Teaching Commitments**:

* AI and Trading
* Advanced Financial Data Analytics

**Administrative Commitments**:

* Co-Director, Finance and AI Research Lab
* Member, Academic Centre of Excellence for Cyber Security Education
* Lead Developer for QBS online analytics platform (Q-RaP)
* Programme Director for PG Cert in Fintech (starting 2025)

**Coverage Plan**:

* **Teaching**: Dr. Quinn has discussed teaching arrangements with his line manager. It has been agreed to reduce his teaching load to one module, while a former PhD student with expertise in the subject area will cover the larger module, ensuring continuity and quality. Preparatory materials for Semester 2 teaching will be developed in advance.
* **Administration**: Interim leadership for the Finance and AI Research Lab will be managed by a senior colleague in consultation with the Head of School.

### Proposed Programme of Work

**Title**: Advancing Fintech Research and Building Cross-Disciplinary Partnerships in Northern Ireland

**Overview**: The proposed sabbatical will focus on two interconnected objectives: (1) producing high-quality academic publications in fintech, and (2) developing a cross-disciplinary research programme with local fintech firms, leveraging Momentum One Zero’s unique position as a hub for financial technology innovation.

**Programme Goals**:

1. **High-Quality Publications**:
   * Develop and submit two academic journal articles to top-tier ABS3/ABS4-ranked journals. Key themes include regulatory technology (RegTech) innovations, the application of AI to systemic risk in financial markets, and the development of a unifying theory of market manipulation for trader surveillance.

* **Topics include**:
  + AI adoption and regulatory compliance, a collaboration with FinTech SMEs such as Funds Axis Ltd and Pytillia Ltd.
  + Safety and Assurance in Finance, co-led with Citigroup Belfast Tech Site Lead Carla McGlynn, focusing on market manipulation and trader surveillance.

1. **Cross-Disciplinary Research Development**:
   * Collaborate with Momentum One Zero to identify research priorities relevant to local fintech firms, including AI-driven regulatory compliance and safe and assured AI anomaly detection for financial services.
   * Organise workshops with local firms and Queen’s University colleagues in computer science, data science, and law to scope interdisciplinary projects.
2. **Mentorship and Knowledge Transfer**:
   * Engage PhD students in Momentum One Zero initiatives, providing real-world application opportunities for their research.
   * Develop practical frameworks for integrating fintech innovation into academic teaching resources at Queen’s University Belfast.
   * Develop of a simulation-based module in trading, focusing on trader surveillance and market manipulation.

### Measurable Outcomes

1. **Academic Outputs**:
   * Submission of at least two peer-reviewed journal articles to leading ABS3/ABS4 journals by the end of the sabbatical period.
   * Co-authorship opportunities with collaborators at Momentum One Zero.
2. **Grant Development**:
   * Preparation of a major grant application for Innovate UK or UKRI, focusing on AI applications in fintech and interdisciplinary market manipulation analytics projects.
3. **Capacity Building**:
   * Creation of a detailed research roadmap for collaboration between Queen’s University Belfast and local fintech firms.
   * Draft proposals for new MSc teaching modules based on research outcomes.
4. **Public Engagement**:
   * Organisation of an international symposium hosted at Momentum One Zero, showcasing the intersection of academic research and fintech innovation, targeting local and international stakeholders.

### Special Circumstances

There are no special circumstances requiring consideration.

### Recent Research Activity

* **Publications**: 13 peer-reviewed outputs, including one ABS4 and ten ABS3-ranked papers. Recent highlights:
* *Evolutionary Multi-Objective Optimisation for Portfolio Selection* (*IEEE Transactions on Evolutionary Computation*, ABS4).

### Consultation

**Director of Research Consultation**: [Simon to complete]

**Teaching and Administrative Arrangements Consultation**: [Gareth to complete]

**Signed**: Dr. Barry Quinn

**Date**: 29/11/2024