Candidate Information

Position:	Research Fellow in the re-use of concrete
School/Department:	School of Natural and Built Environment
Reference:	26/113544
Closing Date:	Monday 10 August 2026
Salary:	£42,972 - £51,270 per annum
Anticipated Interview Date:	Monday 24 August 2026
Duration:	Fixed Term - Full Time; Available for approx. 36 months

JOB PURPOSE:

We are seeking a highly-motivated post-doctoral researcher for 36 months for the beautiful re-use of concrete in compression structures. The holder will join the Intelligent and Sustainable Infrastructure Group at Queen's University Belfast and will support activities in an EU funded research project being led by QUB, with 9 EU partners, to explore a move towards the full re-use of old concrete structures in new forms aligned to Bauhaus, principles of modern industrial rationalism and "truth to materials". The researcher will work in a multidisciplinary team with researchers from industry and academia.

MAJOR DUTIES:

1. Review of existing compression typologies and recommendations.
2. Develop a range of typologies using structural optimisation algorithms and NLFEA for compression structures using re-use concrete voussoirs e.g. ReVault, flexiArch.
3. Testing of prototype concrete re-use compression structures using a range of sensors including a range of strain rates from static to impact load testing (from model scale to full scale),
4. Validation of NLFEA models using model-scale and full-scale tests and parametric study to explore more variables .
5. Develop sustainability metrics and undertake environmental assessments of the developed typologies and business-as-usual equivalents.
6. Write high quality outputs for publication in top international journals in structural engineering,
7. Assist in securing stake-holder buy-in by supporting cross-border policy development.
8. Support the supervision of PGR/Masters students within Civil Engineering.
9. Carry out undergraduate supervision/demonstrating/teaching duties under direction. Carry out routine administrative duties as requested, e.g. arranging research group meetings.
10. Critically evaluate academic papers, journals and textbooks to provide state of the art in the research area .
11. Attend relevant conferences, consortium meetings, seminars or training days as required for the post.
12. Carry out any other duties designated by a line manager and which fall under the general remit of the post.

ESSENTIAL CRITERIA:

1. Have, or are about to obtain, a PhD in Structural Engineering.
2. Have obtained a first or upper second degree (or equivalent) in Civil/Structural Engineering or related discipline.
3. Specific, relevant research experience in:
   - Testing concrete structures
   - Use of sensors for SHM and post processing techniques e.g. computer vision
   - Experience in NL FEA of concrete structures
   - Impact testing of concrete
   - Carbon calc
4. Strong publication record commensurate with stage of career.
5. Demonstrate an ability to manage your own research and to plan research activities effectively.
6. Excellent verbal and written communication skills.
7. Demonstrate experience of communicating with, developing and maintaining academic and/or industrial relationships.

8. Ability to build relationships to develop internal and external networks.
9. Must be willing to work flexibility and travel to EU consortium meetings, partner sites and testing sites as necessary.

DESIRABLE CRITERIA:

1. Experience of concrete and compression testing.
2. Experience in structural and durability testing.
3. Experience in programming in MATLAB®, or similar high level language.

ADDITIONAL INFORMATION:

Informal enquiries may be directed to: Dr G Amato at g.amato@qub.ac.uk