

KTP Associate - Building Performance Specialist
Building Performance Evaluation of Social Housing in Scotland

The Glasgow School of Art

The Glasgow School of Art is one of Europe's leading higher education institutions for creative education and research. We are organised into three main Schools - the School of Design, the School of Fine Art, and the Mackintosh School of Architecture, with the Forum for Critical Inquiry providing a key component to all undergraduate degrees in art and design, and Research and Postgraduate Studies providing a significant area of growth and development. The School's Digital Design Studio (DDS) is the largest research centre at the Glasgow School of Art and combines academic study at masters level with a range of research and commercial activities. The School has over 500 full and part-time staff and has an annual turnover in excess of £27 million. Over 84% of academic staff are research active.

Our distinctive, specialist, practice-based education in architecture, design and fine art is internationally recognised. About 23% of our 2,400 students are international and the School continues to be an institution of choice for many Scottish students, reflecting the important role the institution has within Glasgow and nationally within Scotland.

The GSA is an environment in which difference is encouraged and diversity of background and approach is valued. We share a passion and concern for visual culture and this is central to our vision to provide world-class creative education and research which make a significant economic, educational, cultural and social contribution.

The Role

Job Title	KTP Associate - Building Performance Specialist for the KTP project Building Performance Evaluation of Social Housing in West of Scotland
Location	John Gilbert Architects based in Glasgow (JGA) Mackintosh Environmental Architecture Research Unit (MEARU), Mackintosh School of Architecture (MSA) The position FT based at John Gilbert Architects, Glasgow
Reports to	Prof. Tim Sharpe, Director (MEARU)
Responsible to	Prof. Tim Sharpe, Knowledge Base Supervisor
Purpose	To assist in fulfilling the specific requirements of the Knowledge Transfer Partnership between JGA and MEARU

Funding Provider and Collaborating Company

KTP	Knowledge Transfer Partnerships funded by Governmental organizations led by the Technology Strategy Board
JGA	John Gilbert Architects is a Scottish design studio, passionate about designing places for people and the planet. We deliver beautiful, ecological, low carbon development designed with users, residents and the community, we undertake design work from a strategic level to detailed architecture with creativity, enthusiasm and knowledge. Our work includes Sustainable architecture, Conservation & Retrofit and Masterplanning. We work for public sector, community and commercial clients across Scotland.

Principal Accountabilities

The aim of the project is to develop a series of Building Performance Evaluation (BPE) studies for Housing Associations and Local Councils on behalf of JGA. This will principally focus on existing buildings to assist with strategies to retrofit them. Results of this will be used to feedback information on performance to the client groups, to help JGA develop knowledge that can be applied in design about building performance, and to identify marketing and income opportunities through the development of BPE services by JGA.

Key stages include:

- Undertake a review of BPE processes, methodologies and tools appropriate to existing buildings, working with JGA and HA's to develop the scope and purpose of the BPE study.
- A detailed BPE methodology development, including developing skills in techniques and equipment.
- Undertake a series of BPE studies, undertaken on different HA sites and under different seasonal conditions, with analysis of these at each stage to produce datasets and an outline analysis of the findings and recommendations.
- Meta analysis of the entire dataset and production of analytical report.
- Develop methods for communicating the findings to the various stakeholders and provide a series of case studies and recommendations for occupants, landlords and designers.

This is a new project and the candidate will have a key role in shaping it. There is a generous training budget available to the successful candidate.

Key Challenges

- To become an expert in both the scientific and the social science skills needed for BPE, and to be able to instruct members of the Company so they can replicate the process.
- Working with a diverse range of personnel including landlords, residents, builders, architects and commercial, business and marketing teams.
- Resolve significant technical challenges for data collection and analytical challenges for synthesis, analysis and dissemination of key data.
- Interpretation and presentation of data for different user groups.
- Correlation of BPE information for integration into procurement and design requirements for successful retrofit of existing housing.
- Identify and develop opportunities for future business streams emerging from the project

Relationships

Internal Contacts:

- All MEARU research active staff and support staff where appropriate
- JGA staff where appropriate

External Contacts:

- Client HA staff where appropriate

- Occupants
- Industry and manufacturers of monitoring equipment.

Background Experience/Qualifications

- Degree or higher in architecture or related discipline is essential. A masters (or higher) is desirable.
- Experience of architecture, housing design, energy and environmental analysis
- Knowledge of the context and construction of pre and post war housing in Scotland
- Knowledge of low energy design, environmental performance
- Excellent grasp of analytical and numerical skills, ability to understand and process datasets, monitored data
- Research skills including knowledge of research methods including social science methodologies
- CAD and graphic design skills
- Ability to interpret complex data sets in a way that is useful and understandable to multiple audiences
- Excellent communication abilities – the ability to present findings verbally, graphically and in written form
- Strong people skills for working with occupants and tenants
- Passion for the built environment and design

Person Specification

The associate should be able to demonstrate the following attributes and interpersonal skills.

- Self motivated and ability to use own initiative to develop work programmes and deadlines, but able to work collaboratively with diverse groups of people.
- Ability to work under pressure and to tight deadlines
- Good project management skills and abilities to organise tasks and demands
- Ability to communicate verbally and graphically with a diverse group of audiences
- Professional attitude
- Excellent presentation skills
- Planning
- Co-ordination of resources
- Ability to meet deadlines
- Ambitious
- Entrepreneurial

Appendix 1 – Research Aims

Most buildings underperform by around 30% due to poor design, poor construction methods and inappropriate usage of buildings. Architecture is traditionally an industry that is slow to embrace change. Architects design buildings and take little responsibility for them once the construction is completed. In both new builds and renovation it is important that how the building performs, its energy efficiency and its impact on the mental and physical wellbeing of the occupant are known. Existing housing is an increasingly important context with 80% of the 2050 stock already existing, and built to poor thermal standards.

Better performance of buildings in terms of energy use, environmental performance, usability and feedback from building users about occupancy and satisfaction is needed to test and verify retrofit options, which are inherently higher risk than new build due to restrictions on the depth of measures that can be undertaken. This will aim to reduce energy consumption, enhance environmental performance and reduced health costs, which aligns with UK government priorities. UK currently under-perform in building performance by comparison to other EU countries

John Gilbert Architects is engaging in this research project in order to be able to formally incorporate evidence-based data into the architectural design process, enabling development of a new service area. This knowledge will be applied to retrofit and refurbishment projects, and to other building types.

The potential market for BPE is very large. The construction industry represents 10% of the UK's GDP with 80% of new house owners dissatisfied with the quality/performance of their home and the UK government has recently indicated that, in future, all publicly funded buildings will be required to have BPE, so increasing demand for BPE.

It is anticipated that the outcomes of this project will be published in peer reviewed scientific journals and trade press and further promoted at national and international conferences. It is anticipated that the outcomes of this project could influence the wider construction industry through understanding better the performance of different types of building practices.