UNIVERSITY OF
LEADING
THE WAY
WESTMINSTER

1. JOB TITLE:

Timber Housing Design Innovation Lead (KTP Associate)

2. REPORTS TO:

KTP Lead Academic and Company Supervisor

3. PURPOSE:

To lead the design, digital fabrication, and prototyping of an innovative bio-based housing system that integrates flexible timber partitions, in partnership with PLP Architecture and the University of Westminster, as part of a 32-month Knowledge Transfer Partnership (KTP) project.

4. PRINCIPAL ACCOUNTABILITIES

- Apply advanced technical expertise to lead the design, prototyping, and digital fabrication of a bio-based housing system that integrates flexible timber partitions, ensuring outcomes meet agreed technical, aesthetic, and sustainability objectives.
- To develop, test, and refine prototypes through iterative fabrication and performance evaluation in collaboration with PLP Labs and University of Westminster supervisors to ensure long-term system reliability before rollout. Identify, evaluate and manage potential risks and issues.
- To produce design documentation, technical drawings, and specifications supporting the commercialisation of the housing system. Champion knowledge sharing to strengthen team capability and drive operational excellence.
- To create a methodology and engagement framework for involving communities, clients, planners, lenders, insurers, and other key stakeholders in the adoption of bio-based housing.
- To research and compile a library of interchangeable bio-based materials suited to varying regional and climatic contexts, contributing to open-source and commercial dissemination.
- To ensure compliance with UK building regulations and relevant sustainability standards in all design and prototype outputs.
- To document, monitor, review and report project progress and outcomes to PLP Architecture, the University of Westminster, and UKRI KTP partners Ensure that project scope and objectives are clearly defined and consistent and that changes that arise during the project are managed through the correct approval process.
- To disseminate project findings through preparing presentations, publications, exhibitions, and stakeholder events, in conjunction with others strengthening the University's and PLP's profile in regenerative design.
- Contribute to the wider research and teaching culture of the University by sharing knowledge of bio-based materials, digital fabrication, and sustainable housing innovation.
- To undertake any other duties as appropriate within their competence, as required by the Line Manager from time to time.

5. CONTEXT

This post forms part of a 32-month Knowledge Transfer Partnership (KTP) between the University of Westminster and PLP Architecture, funded by Innovate UK. The

project aims to develop and commercialise a bio-based housing system that integrates engineered timber and other natural materials, incorporating flexible internal partitions to create adaptable, affordable, and low-carbon living environments. The role will bridge research and practice, translating academic expertise in regenerative design and digital fabrication into a scalable, market-ready prototype.

Working primarily within PLP Labs and reporting to the Lecturer in Regenerative Design within the School of Architecture and Cities, the postholder will lead design innovation, digital fabrication, and prototype development. The role involves close collaboration with architects, engineers, material scientists, and industry partners to ensure that the outputs meet technical, environmental, and commercial objectives.

This is a fixed-term, full-time position that supports the University's commitment to sustainability, innovation, and cross-sector collaboration as part of its Research and Knowledge Exchange Strategy. The project provides a unique opportunity to work at the intersection of academic research, architectural practice, and industrial application, delivering measurable environmental and social impact.

Areas of Responsibility

- Responsible for leading the design, prototyping, and testing of a bio-based housing system as part of the KTP between the University of Westminster and PLP Architecture.
- Coordinates interdisciplinary collaboration between academic researchers, professional designers, and industrial partners.
- Manages project workflows and fabrication schedules, ensuring that deliverables are achieved on time and to the highest quality standards.

Financial Responsibility

- Accountable for the effective use of resources within the KTP project budget, which is managed jointly by PLP Architecture and the University's KTP Office.
- Expected to monitor expenditure and procurement related to materials, fabrication, and travel, but does not hold direct budget sign-off authority.

Colleagues

- No direct line-management responsibilities.
- Works closely with KTP supervisors, FabLab technical staff, and external collaborators.
- May provide informal guidance or mentoring to students or early-career researchers engaged in related design or fabrication activities.

Resources

- Responsible for the safe and effective use of digital fabrication equipment (including CNC routers, 3D printers, and related tools) and management of physical prototypes, materials, and data generated through the project.
- Ensures compliance with all relevant health and safety standards and University procedures.

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PERSON SPECIFICATION

	Essential criteria	Desirable Criteria
Qualifications	- Postgraduate qualification (MSc, MArch, PhD, or equivalent expertise) in Architecture, Engineering, Design, or a closely related field. - Demonstrable experience or training in research-led design, digital fabrication, or regenerative construction.	- Additional qualification or training in innovation management, knowledge exchange, or business development. - Certification in project management or professional membership (e.g. ARB, RIBA, CIBSE, IStructE).
Training and Experience	- Proven ability to deliver advanced architectural design and prototyping projects, preferably using engineered timber or other bio-based materials. - Experience in digital fabrication processes (e.g. CNC, robotic milling, or modular prototyping). - Experience managing or contributing to interdisciplinary or industry-academic collaborations. - Evidence of producing technical or research documentation to a professional standard (e.g. drawings, reports, or specifications).	- Experience in regenerative housing systems, modular design, or circular construction. - Familiarity with Life Cycle Analysis and sustainability assessment frameworks (e.g. BREEAM, LETI, or RICS Whole Life Carbon). - Experience in stakeholder engagement, participatory design, or co-creation processes. - Track record of presenting or publishing research outcomes. - Demonstrated capability to work across design, material, and systems integration, with an understanding of requirements for housing.
Aptitude and abilities	- Strong problem-solving and analytical thinking, with capacity to translate research into tangible design innovation. - Excellent visual, written, and verbal communication skills, able to engage effectively with both design and technical audiences.	- Competence with environmental simulation or performance analysis tools (e.g. Ladybug, Climate Studio, or similar). - Ability to articulate design value and performance metrics to non-specialist audiences.

	- Skilled in parametric and computational design tools (e.g. Rhino, Grasshopper, Revit). - Capacity to organise, prioritise, and deliver complex projects on time and to a high standard. - Ability to operate across both academic and commercial settings, engaging with diverse stakeholders.	- Strong presentation and storytelling abilities for design communication.
Personal Attributes	- Creative, curious, and proactive, with a genuine interest in sustainability, material innovation, and regenerative design. - Adaptable and self-directed, capable of working independently and collaboratively. - Committed to contributing to a stimulating and inclusive working environment based on mutual respect and equality.	- Interest in long-term professional growth at the intersection of academia, design practice, and sustainable innovation. - Enthusiasm for cross-disciplinary collaboration and leadership in emerging fields.
Other	- Willingness to work flexibly between PLP Architecture's London office and the University of Westminster. - Availability to travel for site visits, workshops, and dissemination events as required. - Commitment to professional development through the KTP training programme.	- Willingness to represent the KTP at national and international conferences, exhibitions, and industry forums.