

## Fully-funded 4-year PhD Project at Loughborough University – Reducing the Energy Demand of UK Housing

<b>Project Title</b>	Reducing the Energy Demand of UK Housing
<b>Supervisor(s)</b>	Dr David Allinson
<b>Project Description</b>	<p>Reducing the energy demand of the UKs existing housing stock is essential for achieving emissions targets and alleviating fuel poverty.</p> <p>The highest levels of heat loss occur in the 8 million homes that have solid masonry walls (SMWs). Insulating these walls can save energy but may cause moisture problems. Water accumulates within SMWs when it is raining outside or humid inside and diminishes with drier conditions. This moisture can lead to mould growth, interstitial condensation and freeze-thaw damage, which can cause severe damage and affect the health of occupants.</p> <p>This PhD will produce new methods and metrics, backed by rigorous scientific evidence, that enable moisture risk assessment of SMWs to be carried out routinely, new insulation materials to be developed and more homes to be insulated. The research will use our state-of-the-art Hygrothermal Test Facility, full-sized test houses and the latest modelling software.</p>