

Lee Tuffnell

Research Officer

Work Experience

Environmental Building Solutions Ltd. 2003 - Present

Research Officer at Environmental Building Solutions Ltd. specialising in environmental monitoring, ventilation measurements and building simulation techniques.

University College London 2003 - 2005

KTP Associate at The Centre for Sustainable Heritage, The Bartlett School of Graduate Studies. Research included the development of new mechanisms for data analysis of large quantities of historical environmental data and utilising building simulation of the historic built environment to develop new methodologies for interpretation of historic environmental data.

Project Experience

Building Simulation & Computer Modelling

St Peters Church, Northampton, UK

Modelling of the building envelope to identify cost-effective environmental strategies to minimise the potential of mould growth and decrease the possibility of any future damage to the decorative finishes & building fabric.

Debno Church, Debno, Poland

Modelling the building envelope to predict how climate change by the periods 2025-2054 and 2070-2099 will affect the moisture content of the historic fabric and the indoor RH and temperature for collections.

Galley Cottage, Milton Keynes, UK

Modelling the building fabric to investigate insulation levels and the possibly of interstitial conditions.

Ventilation Testing

The Meadows School, Sandwell, UK

Infiltration and ventilation testing of selected spaces to access compliance to the Department for Education and Employment (DfEE) and the Chartered Institution of Building Service Engineers (CIBSE) ventilation guidelines.

Abington, Malahide, Dublin, Ireland

Infiltration testing of selected spaces to access compliance to the Chartered Institution of Building Service Engineers (CIBSE) ventilation guidelines and UK Building Regulations.

Deal Castle, Deal, UK

Infiltration testing of selected spaces to access background ventilation levels and its affect on mould growth.

St Peters Church, Northampton, UK

Infiltration testing to access background ventilation levels and its affect on mould growth.

Diagnostic Environmental Monitoring for Indoor Air Quality and Building Health

Mentmore House, St. Albans, UK

Monitoring of the building environment over a twelve-month period to establish preferred comfort levels.

Cardiff Castle, Cardiff, UK

Monitoring of the building environment to determine the source of water damage to historic plaster.

National Library of Scotland, Edinburgh, UK

Monitoring of the building environment over a one-month period to establish causes of ill health to the occupants.

Crown Prosecution Services, London, UK

Detailed indoor air quality and building health survey followed by continuous environmental and air quality assessment.

Food Standards Agency, London, UK

Monitoring of the building environment for moulds and to provide recommendations for the environmental remediation and management.

Royal Institute of Chartered Surveyor Headquarters, London, UK

Monitoring of the building environment to establish causes of ill health to the occupants.

Port Regis School, Dorset, UK

Monitoring of the building environment to establish the causes of mould growth and to provide recommendations for their environmental remediation and management.

Deal Castle, Deal, UK

Monitoring of the building environment to provide recommendations for environmental remediation and sustainable environmental strategies.

Secret Wartime Tunnels, Dover Castle, Dover, UK

Monitoring of the building environment to provide recommendations for environmental remediation and sustainable environmental strategies.

The Meadows School, Sandwell, UK

Monitoring of the building environment over a twelve-month period to establish causes of ill health to the occupants.

The Middle Street Synagogue, Brighton, UK

Monitoring of the building environment to provide recommendations for environmental remediation and sustainable environmental.

Port Regis, Port Regis School, Dorset, UK

Monitoring indoor air quality for Mycoflora and biological contaminants to provide recommendations for environmental remediation and sustainable environmental strategies.

Kent Archives, Kent, UK

Monitoring indoor air quality for Mycoflora and biological contaminants to provide recommendations for environmental remediation and sustainable environmental strategies.

Sheffield Archives, Sheffield, UK

Monitoring indoor air quality for Mycoflora and biological contaminants to provide recommendations for environmental remediation and sustainable environmental strategies.

All Saints, University of Cambridge, UK

Monitoring indoor air quality for Mycoflora and biological contaminants to provide recommendations for environmental remediation and sustainable environmental strategies.

Timber Surveys

St Mary's Church, Bungay, UK

Detailed investigation of decay to timbers throughout the floor of the building.

BBC Hippodrome Theatre, London

Detailed investigation of decay to principal structural beams throughout the building.

Dorchester Abbey, Oxford

Detailed investigation of decay to principal structural beams throughout the building.

Tatten Park, Manchester

Detailed investigation of decay to timbers throughout the building.

Hampton Court Palace

Detailed investigation of decay to principal structural beams throughout a section of the building.

Moisture Damage Surveys

1-10 Grosvenor Place, London, UK

Investigating and advising on the extent of damp problems and remedial actions required.

Marriot Hotel, Hollins Hall, UK

Investigating and advising on the extent of damp problems and remedial actions required.

Walpole St Andrews Church, Norfolk, UK

Investigating and advising on the extent of damp problems and remedial actions required.

Additional information:

Academic Training

BSc (HONS) Computer Aided Design and Technology - 1st Class

Institutions

1. Chartered Institution of Building Services Engineers (CIBSE) – Graduate Member
2. Chartered Management Institute (CMI) - Graduate Member
3. International Building Performance Simulation Association (IBPSA) – Central Member

Papers:

1. Tuffnell, L., Ridley, I., Cassar, M. & Singh, J. 2003, 'Testing and Calibrating a TAS Model of a Historic Building', paper presented at Environmental Monitoring of Our Cultural Heritage Conference, Edinburgh, 13th-14th November 2003.
2. Tuffnell, L., Ridley, I., Cassar, M., Singh, J. & Lloyd, H 2004, 'Building Simulation Tools and European Immoveable Cultural Heritage: A Case Study of Technology Transfer from Research to SMEs', poster presented at Sustaining Europe's Cultural Heritage Conference, London, 1st-3rd September 2004.
3. Tuffnell, L., 'Building Simulation Tools for Prediction of Moulds', paper presented at Moulds - A Threat to the Health of Our Cultural Heritage, Building Fabric & Occupants: Way Forward for Risk Assessment, Prevention & Successful Scientific Sustainable Solutions, 13th-14th June 2005.