Accumulation and cementation of dust indoors

*Young Hun Yoon¹, Peter Brimblecombe ¹, Kate Frame², David Howell², Barry Knight³, Helen Lloyd⁴, David Thickett⁵,

Coarse and fine dust indoors is often considered a nuisance and a burden on house staff, but if allowed to accumulate can become more strongly bound to surfaces, which requires more aggressive and potentially damaging approaches to cleaning. We have been investigating the accumulation of dust on horizontal surfaces such as bedspreads and the tops of books. Humidity seems an important factor in the cementation of dust and fibres to surfaces, although both biological (formation of biopolymers) and chemical (cementation) changes may account for the development of cements. Our understanding of the composition of these cements remains limited, but the work suggests some features of cleaning regimes, such as timing and frequency, that might be appropriate for historic houses.

1 University of East Anglia, 2 Historic Royal Palaces, 3 British Library, 4 National Trust, 5 English Heritage