



Gorffennol Digidol Digital Past - 2020

THE HILL HOUSE:

A Collaboration in Digital Documentation and Scientific Investigation

Sophia Mirashrafi: Digital Project Officer, [Historic Environment Scotland](#) and [National Trust for Scotland](#)

The Hill House is one of Charles Rennie Mackintosh's most iconic works. However, due to his experimental use of cement render subjected to the persistently wet Scottish weather, it has been plagued with water ingress since it was built in 1901-3.



1. External View

The teams at Historic Environment Scotland (HES) and the National Trust for Scotland (NTS) have joined forces in a 2-year collaborative project, concentrating on the application of state of the art technology and digital resources to investigate, document, and ultimately support the conservation of this vital piece of Scotland's heritage.

[Digital Past 2020](#): New technologies in heritage, interpretation and outreach | 12 & 13 February 2020, Aberystwyth Arts Centre, Aberystwyth

Mae'r ddogfen hon hefyd ar gael yn y Gymraeg | This document is also available in Welsh.

The digital documentation of a site creates a 3D snapshot in time, aiding in anything from conservation and site management, to interpretation and education. Combining this 3D dataset with thermography and moisture mapping takes it a step further, enabling us to examine and fully visualise the movement of water ingress through the cement fabric in 3D space.

This presentation will walk through the workflow of digitising such a unique site, accumulating in the creation of a photorealistic 3D model to act as a foundation for the project as a whole. It will also examine the collaboration with the Conservation Science team at HES in order to incorporate their scientific survey into the 3D model. Finally, it will outline future steps of the project moving forward.



2. South Elevation Thermal Imaging

The Hill House is oversaturated, and the NTS has taken firm steps to protect it from the Scottish elements. As the house takes the time to dry out, now is the time for us act. Through collaboration between those who know the building and the scientists who can read it, the digital documentation and scientific investigation of the Hill House will play a crucial role in the understanding, conservation, and future management of Mackintosh's masterpiece.

Biography

Sophia Mirashrafi is the Digital Project Officer for The Hill House, jointly employed by Historic Environment Scotland and the National Trust for Scotland. Previously, she was the Digital Innovation Intern in 2018 at Historic Environment Scotland. She holds an MSc in Digital Heritage from the University of York and an MA(Hons) in Medieval History and Archaeology from the University of St Andrews. Her interests focus on the utilisation of innovative techniques and digital technologies to tell complex stories about our past.