# Curriculum Vitae Hannah Duggan

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# **EDUCATION**

University College London, London, UK 2017

» Master of Research in Science and Engineering in Arts, Heritage, and Archaeology (SEAHA), Institute of Sustainable Heritage

#### Tufts University, Medford, MA 2015

» Bachelor of Science in Chemical Engineering with a second major in Art History

# EMPLOYMENT HISTORY

Scientific Analysis of Fine Art, New York, NY Research Scientist

October 2020 - present

» Scientist on various projects involving materials studies, authentication, attribution, and state of preservation for works of art including fine art, decorative arts, antiques, and contemporary art.

#### Bard Graduate Center, New York, NY Cultural Heritage Science Fellow

July 2022 - present

» Support the teaching of Professor Jennifer Mass

» Offer scientific support for student and exhibition research

#### Johns Hopkins University, Remote Adjunct Lecturer

January 2021 - present

» Instruct an online course on Conservation to museum professionals

#### Building Conservation Associates, New York, NY Architectural Conservator

February 2018 - June 2022

- » Helped manage 15+ restoration projects at various historic sites in the New York City area
- » Conducted technical analysis of a wide range of historic building materials included cross-sectional analysis of paint samples, micro exposure of paint samples, gravimetric analysis of mortar, XRF analysis, and adhesion testing
- » Communicated results of technical analysis and conditions assessment in reports of varying detail for clients
- » Determined appropriate treatment strategies, budgets and developed construction documents for projects of varying scopes

# Parchem - Fine & Specialty Chemicals, New Rochelle, NY Process Engineer

June 2015 - September 2016

- » Optimized internal processes and found creative solutions to company challenges
- » Analyzed data from various sources to develop and execute marketing and supply chain strategies

#### Mahlstedt Gallery, New Rochelle, NY Data Engineer

#### December 2015 - September 2016

- » Innovated and executed techniques for managing artwork data for two online galleries in relational databases
- » Communicated with a global network of contracted artists to effectively market their work on a variety of platforms

# MASTER'S DISSERTATION

The influence of animal glue on mechanical properties of painting canvases  $2017\,$ 

- » This project aimed to further understand what mechanical reinforcement traditional animal glue provides to canvas and what variables affect this reinforcement
- » Various glues and canvas were artificially aged to different degrees and the mechanical strength of the glue and canvas system was analyzed

## **RESEARCH PROJECTS**

Imaging for the Documentation and Condition Assessment of Paintings March 2017

» Documented a selection of oil paintings with Hyperspectral Imaging, Multispectral Imaging, and Infrared Reflectography

- » Accessed condition of paintings and evidence of past treatment based on an analysis of the processed images
- » Developed preventative conservation strategy based on imaging results and analysis of environmental data provided by HOBO Data Loggers

# Preventative Conservation Case Study of Wren Library at St. Paul's Cathedral, London

November - December 2016

- » Analyzed the feasibility of opening the Wren Library to visitors based on the temperature and RH fluctuations, current and predicted pest presence, VOC content measured with diffusion tubes, visible light levels, and dust accumulation
- » Created a preventative treatment plan to allow visitors to enjoy the space without contributing to deterioration

## **RESEARCH CONFERENCES AND INVITED LECTURES**

Smithsonian Museum Conservation Institute, Topics in Museum Conservation

September 2017

» Delivered lecture on the topic of degradation of materials used in lining paintings, subject of master's dissertation

#### SEAHA Conference 2017, University of Brighton

June 2017

» Member of the Conference Committee

# PROFESSIONAL ORGANIZATIONS

- » American Institute for Conservation (AIC)
- » International Council of Museums (ICOM)

# SKILLS

- » Laboratory: FTIR, XRF, Raman, Cross-sectional Paint Analysis, Viscometry, Dynamic Mechanical Analysis, Instron Tensile Testing, Gravimetric Mortar Analysis, Bioreactor Operation, Membrane Ultrafiltration
- » Imaging: Multispectral Imaging, Hyperspectral Imaging, IR Reflectography, Digital Image Correlation
- » Computer: AutoCAD, MATLAB, VBA, Access, Aspen, SQL, HTML, and SuperPro

# LANGUAGES

» Spoken: English, Spanish

- **CERTIFICATIONS** » OSHA 10-hour Safety Training » Supported Scaffolding Training » Suspended Scaffolding Training