

# ANTONIO D'AQUILIO

Senior Building Physics and Sustainability Engineer (BSc, MSc, MCIBSE, LFA)

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## WORK EXPERIENCE

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10.2017 - present

**Elementa Consulting (London, UK)**  
**Senior Building Physics Engineer**

**Confidential Tech Hub | 80,000m<sup>2</sup> | Stages 1-4**

Advanced indoor thermal comfort (PMV/PPD processing CFD analysis results) - CFD whole building analysis to confirm the mechanical ventilation performance - Outdoor thermal comfort (UTCI processing CFD results for 16 wind directions) - LEED HVAC system energy modelling (IES ApacheHVAC) - Project tasks management - Client presentations

**150 Holborn | 17,600m<sup>2</sup> | Stage 4**

LEED HVAC system energy modelling (IES ApacheHVAC) - LEED daylight analysis - LEED credit evidence documentation

**Confidential Tech Hub | 50,000m<sup>2</sup> | Stage 4**

Car Parking ventilation strategy assessment for the optimisation of impulse fans location (with CFD)

**Confidential Tech Hub | 18,000m<sup>2</sup> | Stage 1**

Indoor comfort and envelope strategies - Daylight analysis - Central cooling strategies - Project management - Fee proposal for following stages - Client presentations

**Paul Street Hotel | 6,800 m<sup>2</sup> | Stage 2**

Part L energy modelling - Envelope optimisation - Overheating analysis

**Environmental Design Guide for Arch. Studio**

Research on climate-responsive design measures - Development of a climate summary script in Grasshopper - Project management - Fee proposals for further work - Client presentations

**Confidential Office | 40,000m<sup>2</sup> | Stage 1**

Air Change Effectiveness analysis for the optimisation of the mechanical ventilation system design (with CFD)

**Skills acquired**

IES-VE (inc. Apache HVAC) - Advanced thermal comfort analysis (with CFD) - LEED energy and daylight analysis - Part L modelling - BREEAM energy, daylight and thermal comfort analysis - CIBSE TM52/59 Overheating risk analysis - Python scripting in IES-VE - Indoor/Outdoor CFD (OpenFoam, Helyx, FDS) - MatLab - Complex Daylighting analysis (Radiance) - LBNL Therm/Window - HTML+Javascript - Technical report writing - Tutoring young engineers - Client presentations - Project management - Fee proposal/scope of work writing

01.2016 - 09.2017

**Arup (Amsterdam, The Netherlands)**  
**Graduate Engineer**

**The Valley | 75,000m<sup>2</sup> | Stages 1-2**

Parametric analysis interface for execution with the architect - Massing optimisation for daylight and structural performance - Daylight analysis and script development based on Dutch Building Code ([link](#))

**Casa Brutale | 180m<sup>2</sup> | Stages 1-2**

Mechanical design - Thermal calculations - Report writing - Design team meeting attendance

**Royal vanLent Shipyard | 4,500m<sup>2</sup> | Stages 1-3**

Thermal modelling - Mechanical design - Development of IES-VE to Revit workflow

**Skills acquired**

Building services design - Mechanical plant sizing - Envelope thermal analysis (Trisco) - Computational design automation for MEP - User Interface development in Grasshopper - Ladybug Tools for Grasshopper - Dynamo for Revit & API integration

08.2015 - 12.2015

**TU Delft (Delft, The Netherlands)**  
**Researcher**

**Natural ventilation optimisation in the early design stages**

Development in Grasshopper of a novel simulation workflow for naturally ventilated large indoor spaces, coupling thermal analysis with airflow network - Parametric optimisation and multivariate analysis of the design space

**Skills acquired**

Python scripting - EnergyPlus - Academic paper writing - Research project planning

04.2015 - 07.2015

**Arup (Amsterdam, The Netherlands)**  
**Intern**

**Skills acquired**

Building services design

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## EDUCATION

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09.2013 - 06.2015

**Delft University of Technology**  
**(Delft, The Netherlands)**

MSc Building Technology (cum Laude)  
Specialization in Building Physics

09.2009 - 03.2013

**Università degli Studi Roma Tre**  
**(Rome, Italy)**

BSc Architecture Sciences (cum Laude)

09.2011 - 07.2012

**Universitat Politecnica Catalunya**  
**(Barcelona, Spain)**

Erasmus Exchange Programme

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## PUBLICATIONS

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**Pigeon - Plugin for Grasshopper**

Links the parametric environment to Contam software, for natural ventilation analysis ([link](#))

**SimAUD 2016 London | Conference paper**

*Simulating Natural Ventilation in Large Sports Buildings*

**SimAUD 2016 London | Conference paper**

*Supporting Exploration of Design Alternatives using Multivariate Analysis Algorithms*

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## ACCREDITATIONS

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**MCIBSE Chartered Building Services Engineer**  
**(CEng)**

**Living Future Accredited (LFA) - LBC Living Building Challenge**

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## CONTACT DETAILS

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**Email**

ant.daquilio@gmail.com

**Phone number**

+44(0)7526733099

**LinkedIn**

<https://www.linkedin.com/in/antoniodaquilio/>