Research at the Architectural Design & Conservation Research Unit
This handbook has been produced by

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Architectural Design & Conservation Research Unit (ADCRU)
Architects, engineers, planners and other built environment professionals, conservators and building patrons have a duty to understand the values and nature of existing buildings and to critically act accordingly while conserving and reusing them.

ADCRU deals with the challenges of properly conserving built heritage while allowing changes to adapt it to contemporary uses in an appropriate way. We also deal with the design of new buildings which contribute to the conservation of our environment, learning from traditional strategies and the latest technological innovations.

Our research aims to provide the necessary knowledge, methodologies and approaches to conceive and deliver conservation design projects and new buildings which will have a positive impact on people’s sense of identity, well-being and the environment.

To do research at ADCRU contact:

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RESEARCH AT ADCRU

About us

ADCRU promotes research-informed practice and practice-informed research. It was established in 2013 by Dr Cristina Gonzalez-Longo together with the MSc in Architectural Design for the Conservation of Built Heritage (MSc ADCoBH). She is a Chartered Architect in UK and Spain and RIBA Specialist Conservation Architect, with over twenty years’ experience. After graduating at the Technical University of Madrid (ETSAM), she spent three years in Rome with a scholarship from the Italian government to study architectural conservation at the Specialisation School of the University of ‘La Sapienza’. She was the project architect and resident architect of Queensberry House (part of the new Scottish Parliament Building, RIBA Stirling Prize) and designed Bowbridge Primary School in Newark (RICS Sustainability Award).

Our research interests

Our research focuses on a variety of subjects such as theory of conservation, architectural design, architectural history, survey & investigations, construction & construction history, structural and environmental design in conservation.

We encourage PhD applications on a variety of topics

ADCRU has an international and diverse cohort of PhD students and has attracted researchers funded by the Commonwealth Scholarship Commission in the UK, the European Commission and former students of the MSc ADCoBH. Topics we promote include:

- Complex architectural conservation projects
- Transformation of buildings & architectural conservation theory
- The architecture & conservation of 17th & 18th centuries Scottish architecture
- Environmental design, energy and historic buildings
- Application of Image Processing and new technologies needs for architectural conservation
KEY RESEARCH AREAS

Architectural Stratification & Complex Architectural Conservation Projects
The research unravels the complexities of buildings and relating conservation projects to improve current design and conservation methodologies.

Environmental Design of New buildings
We promote an integrated research about old and new buildings, as we see the present as a continuum of the past and consider conservation in a wider environmental sense.

Architectural conservation theory
ADCRU researches the development of the discipline over the centuries, both internationally and locally and proposes new developments.

Architecture, assessment & conservation of 17th and 18th century architecture in Scotland
We investigate the design, methodologies, materials and techniques employed in order to disseminate good conservation practice.

Digital applications needs & new methodologies for architectural conservation
ADCRU considers all the stages of the architectural conservation project, from the early investigation and assessment of historic buildings to the creation and dissemination of architectural knowledge.
PHD TOPICS WE SUPERVISE

**Current PhD topics**

*New Conservation and Consolidation Methods for Sandstone to Avoid Replacement*
Noemi Giovelli (co-supervised by the Department of Pure and Applied Chemistry)

*Innovative Technologies for Architectural Conservation*
Diana Avramica

*Achieving Indoor Comfort, Air Quality and Energy Efficiency in High-Rise Residential Buildings*
Mohd Firrdhaus Bin Mohd Sahabuddin

*Historic Buildings in UK (Modernist, Victorian, Georgian): a Study Qualifying the Health Benefits Inherent in their Architecture*
Sarah-Jane Stewart (co-supervised by the Department of Mechanical and Aerospace Engineering)

*The Application of Image Processing to the Survey, Assessment and Monitoring of Historic Buildings*
Bowen Qiu (co-supervised by Department of Electronic and Electrical Engineering)

*Conserving 17th and 18th century Stone Built Heritage in Scotland: Materials and Techniques*
Clara Gonzalez Manich

*Building Skills for Conserving Seventeenth- and Eighteenth-Century Scottish Built Heritage: the Initial Assessment of Timber Roof Structures*
Anna Serafini
New techniques and methodologies for architectural conservation

Our innovative research is based on internationally recognised architectural conservation theory and involves a range of new and existing methodologies as well as collaboration across disciplines, with the scope to involve and influence professionals, policy makers and the wider society.
INTERNATIONAL EVENTS & FORUMS

Dr Cristina Gonzalez-Longo in member of the International Council on Monuments and Sites (ICOMOS) International Training Committee (CIF) and actively participate in the improvement of architectural conservation standards and practice. ADCRU had conceived and is invited to participate in a range of events such as:

- Workshop with the University of Edinburgh and University of Leuven, Edinburgh, 2018
Rising from the Ashes: the Conservation of Mackintosh's Glasgow School of Art
ADCRU organised this public conference and open table at The British School at Rome. It included presentations by the Mackintosh Restoration Project team and leading architects from the Italian Government, and an open table discussion with Professor Giovanni Carbonara and the Scuola di Specializzazione in Beni Architettonici e del Paesaggio at Sapienza Università di Roma. The event also included a series of site visits organised by ADCRU in Rome with the architects responsible of the projects, from the Italian Government.
KNOWLEDGE EXCHANGE

Teaching

ADCRU teaches theory and practice of conservation of built heritage at postgraduate level. It runs the MSc in Architectural Design for the Conservation of Built Heritage, a course fully accredited by the Institute of Historic Building Conservation (IHBC) and conforming to the internationally recognised Guidelines for Education and Training in the Conservation of Monuments, Ensembles and Sites adopted by ICOMOS.

Knowledge Exchange Events

ADCRU organises and delivers courses and lectures open to professionals and academics. It has created, organised, chaired, collaborated and participated in many local and international events, such as:

- Presentation of research on the Monteath Mausoleum for the Friends of Glasgow Necropolis, Glasgow (2018).
- “Rising from the Ashes: the Conservation of Mackintosh’s Glasgow School of Art”. Public conference and open table at The British School at Rome (2016).
New Opportunities for the Management of Scotland’s Historic Environment

ADCRU and The Heritage Place lead by Dr Deborah Mays (also Honorary Lecturer at ADCRU) combined their expertise and knowledge to organise this day conference. It was a pilot and fact-finding exercise designed to equip attendees with an appreciation of the wide range of benefits available from the Historic Environment Strategy for Scotland (‘Our Place in Time’). It highlighted the holistic value of architectural conservation and place-making. The target audience was ‘front line’ practitioners, particularly within local authorities, including councillors. The comprehensive range of speakers set out how the Strategy can be realized and how its application can bring wider returns. Delegates were given the opportunity to discuss specific case studies and share skills and thinking and the feedback was excellent.
RESEARCH GRANTS & PROJECTS

The Application of Image Processing to the Survey, Assessment and Monitoring of Historic Buildings.
Bridging The Gap (BTG), University of Strathclyde

Historic Environmental Scotland: Building skills for conserving 17th-18th centuries Scottish built heritage: timber roofs and masonry.
Historic Environment Scotland

Commonwealth Scholarship Commission in the UK
Materials & Techniques for conserving 17th and 18th Century Scottish Built Heritage.

This research project is focused on the stone masonry used to build residential architecture in 17th and 18th century Scotland. The objective of the research is to identify and classify masonry types, defining their characteristics and relating them to their specific historical context, which are essential to understand and assess the conservation of this unique heritage.

ADCRU leader, Cristina Gonzalez-Longo was the project and resident architect of Queensberry House (featured).
PUBLICATIONS BY RESEARCH AREA

Architectural Stratification & Complex Architectural Conservation Projects


Environmental Design of New buildings


**Architectural conservation theory**


**Architecture, assessment & conservation of 17\textsuperscript{th} and 18\textsuperscript{th} century architecture in Scotland**


**Digital applications needs & new methodologies for architectural conservation**


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