INTERNATIONAL WORKSHOP

Integrated Strategies to Safeguard Built Cultural Heritage
Study, Conservation, and Valorization
of The Kasbahs in Morocco – Maeci Project

Rabat November 19 – 23

Introduction

The workshop, organized by the International University of Rabat in collaboration with Institute of Heritage Science of the CNR, and with the support the E-RIHS Research Infrastructure and by the Italian Ministry of Foreign Affairs and International Cooperation (MAECI) is focused on enhancing cultural heritage preservation and management through innovative digital technologies, promoting collaboration among various research groups and resource sharing.

The workshop aims to promote a digital approach to the conservation, restoration, and reuse of tangible and intangible heritage knowledge related to built heritage and archaeological site. By bringing together scholars, researchers, and local authorities, the event strengthens ties with local communities, encouraging knowledge exchange in architecture and Digital Humanities.

The sessions will cover both theoretical discussions and hands-on field activities, focusing on integrating digital tools and methods to document and analyse traditional construction systems in particular geographic and historical contexts of the Mediterranean region. One of the main focuses will be on HBIM (Heritage Building Information Modelling) as a critical tool for the management and restoration of architectural heritage, applying best practices in data acquisition, storage, and interoperability.

The workshop will bring together international experts in the fields of architecture, engineering, conservation, and technology to explore the potential of digital technologies as a key tool in managing and restoring historical buildings and archaeological sites. Participants will have the opportunity to learn the best practices in the data acquisition process, from 3D scanning to data collection, and the subsequent creation of BIM models respecting good practices of knowledge representation for data interoperability.

Workshop Structure

The five-day workshop will alternate between expert-led lectures and presentations, fieldwork for hands-on application at the historic Kasbah of Mahdiyya in Kenitra, and lab sessions for data processing and digital production. Field activities will include 2D and 3D surveying, structural analysis, and exploration of historical construction techniques.

Theoretical Sessions and Lectures

The workshop will begin with theoretical sessions led by national and international experts, offering a deep dive into essential concepts and best practices in architectural heritage conservation. Topics covered may include surveying techniques, digital modelling approaches, and foundational principles in heritage conservation. These sessions will equip participants with the theoretical knowledge necessary for subsequent practical exercises.

Practical Fieldwork and Data Processing

Participants will engage in field activities to apply their knowledge in a real-world setting, conducting surveys and analysing building structures at the Kasbah of Mahdiyya. Following the fieldwork, participants will move to a lab setting to process and analyze the data collected. Using specialized software, they will create digital models, visualize results, and conduct further analyses. This phase of the workshop offers practical experience with advanced tools and techniques in heritage conservation.

Scientific Board

Imane Bennani I School of Architecture of Rabat – UIR

Costanza Miliani | CNR Institute of Heritage Science   and E-RIHS.it

Youssef Al Ganadi I School of Architecture of Rabat – UIR

Khalid El Hadri I Head of the Urban Planning Department - Urban Agency of Kénitra

Nahid Hamtami I Director of the Urban Agency of Kénitra

Atmani Fatima-Zahrae I School of Architecture of Rabat – UIR

Lamiae Moujoud I School of Architecture of Rabat – UIR

Giovanni Cangi I CNR Institute of Heritage Science

Luciano Cessari I CNR Institute of Heritage Science

Elena Gigliarelli I CNR Institute of Heritage Science

Filippo Calcerano I CNR Institute of Heritage Science

Letizia Martinelli I CNR Institute of Heritage Science

Anna Paola Pola I CNR Institute of Heritage Science

Stefano Cursi I CNR Institute of Heritage Science

Antonio Mirandola I CNR Institute of Heritage Science

Angela Calia I CNR Institute of Heritage Science

Chadi El Khoury I CNR Institute of Heritage Science

Michele Calvano I Sapienza University of Rome

09.00 –09.15 . I OPENING REMARKS

Imane Bennani I School of Architecture of Rabat – UIR
Nahid Hamtami I Director of the Urban Agency of Kénitra

09.15 – 11.00 THEORETICAL DISCOURSE AND LECTURES

Presentation of Mehdia and its urban structure
Khalid El Hadri I Head of the Urban Planning Department - Urban Agency of Kénitra

Advanced innovative methodologies for the analysis of the built environment
Elena Gigliarelli I CNR Institute of Heritage Science

Traditional construction techniques, from critical reading to surveying
Giovanni Cangi I CNR Institute of Heritage Science

Introducion on Instrumental Survey Techniques and Point Cloud management
Antonio Mirandola I CNR Institute of Heritage Science

Semantic web approach for Built Heritage representation
Stefano Cursi I CNR Institute of Heritage Science

11.30 – 13.30 I LABORATORY IN THE CLASSROOM

Introduction and organisation of SITE ANALYSIS
Luciano Cessari I CNR Institute of Heritage Science

Systematic approach to data acquisition for the preservation of heritage buildings
Theoretical approaches and practices of advanced innovative methodologies in survey of Built Heritage and Archaeology
Elena Gigliarelli, Giovanni Cangi, Stefano Cursi, Antonio Mirandola I CNR Institute of Heritage Science

10-13.00 I FIELD WORK ON SITE ACTIVITIES by MOLAB@E-RIHS.it facility

Introducion to the site
Khalid El Hadri I Head of the Urban Planning Department – Urban Agency of Kénitra

First inspection of the site and organisation and planning of the survey

Site Analysis
Elena Gigliarelli I CNR Institute of Heritage Science
Luciano Cessari I CNR Institute of Heritage Science
Youssef Al Ganadi I School of Architecture of Rabat – UIR
Giovanni Cangi I CNR Institute of Heritage Science

13.00 – 14.00 I LUNCH BREAK

14–16.30 I FIELDWORK ON SITE ACTIVITIES by MOLAB@E-RIHS.it facility

Field analysis of structural failures in relation to building types and construction technique
Giovanni Cangi I CNR Institute of Heritage Science

Survey Planning – SLAM Survey
Stefano Cursi I CNR Institute of Heritage Science
Antonio Mirandola I CNR Institute of Heritage Science

10.00 – 13.00

Desktop analysis of survey data
Point Cloud Post Processing in the Classroom

Elena Gigliarelli, Luciano Cessari, Giovanni Cangi, Stefano Cursi, Antonio Mirandola, Filippo Calcerano, Letizia Martinelli, Elena Verticchio, Chadi El Khouri, Alma Vecchiotti I CNR Institute of Heritage Science

13.00 - 14.00 I LUNCH BREAK

14.00 – 16.00

Survey Data processing
SCAN–TO-BIM Process in the Classroom

Stefano Cursi, Antonio Mirandola, Filippo Calcerano, Letizia Martinelli, Elena Verticchio, Chadi El Khouri, Alma Vecchiotti I CNR Institute of Heritage Science

22 November KASBAH DE MEHDIYA, KÉNITRA

10-13.00 I FIELDWORK ON SITE ACTIVITIES by MOLAB@E-RIHS.it facility
Description of the site
Khalid El Hadri I Head of the Urban Planning Department - Urban Agency of Kénitra

Site Analysis
Elena Gigliarelli I CNR Institute of Heritage Science
Luciano Cessari I CNR Institute of Heritage Science
Youssef Al Ganadi I School of Architecture of Rabat – UIR
Giovanni Cangi I CNR Institute of Heritage Science

13.00 - 14.00 I LUNCH BREAK

14-16.30 I FIELD ACTIVITIES
Survey Planning – SLAM Survey
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Field analysis of structural failures in relation to building types and construction technique
Giovanni Cangi I CNR Institute of Heritage Science

23 November INTERNATIONAL UNIVERSITY OF RABAT – ONLINE

10.00 – 13.00

Stefano Cursi, Antonio Mirandola, Filippo Calcerano, Letizia Martinelli, Elena Verticchio, Chadi El Khouri, Alma Vecchiotti I CNR Institute of Heritage Science

Desktop analysis of survey data
Point Cloud Post Processing in the Classroom
SCAN–TO-BIM Process in the Classroom