

الجمهورية الجزائرية الديمقراطية الشعبية  
وزارة التعليم العالي والبحث العلمي

MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE SCIENTIFIQUE

Ecole Polytechnique  
d'Architecture et d'Urbanisme

Ecole Nationale  
Supérieure d'Informatique



**epau**

ECOLE POLYTECHNIQUE D'ARCHITECTURE ET  
D'URBANISME "LE MOUDJAHID HOCINE AIT AHMED"



**Laboratoire Ville, Architecture  
et Patrimoine**

**Laboratoire de la Communication  
dans les Systèmes Informatiques**

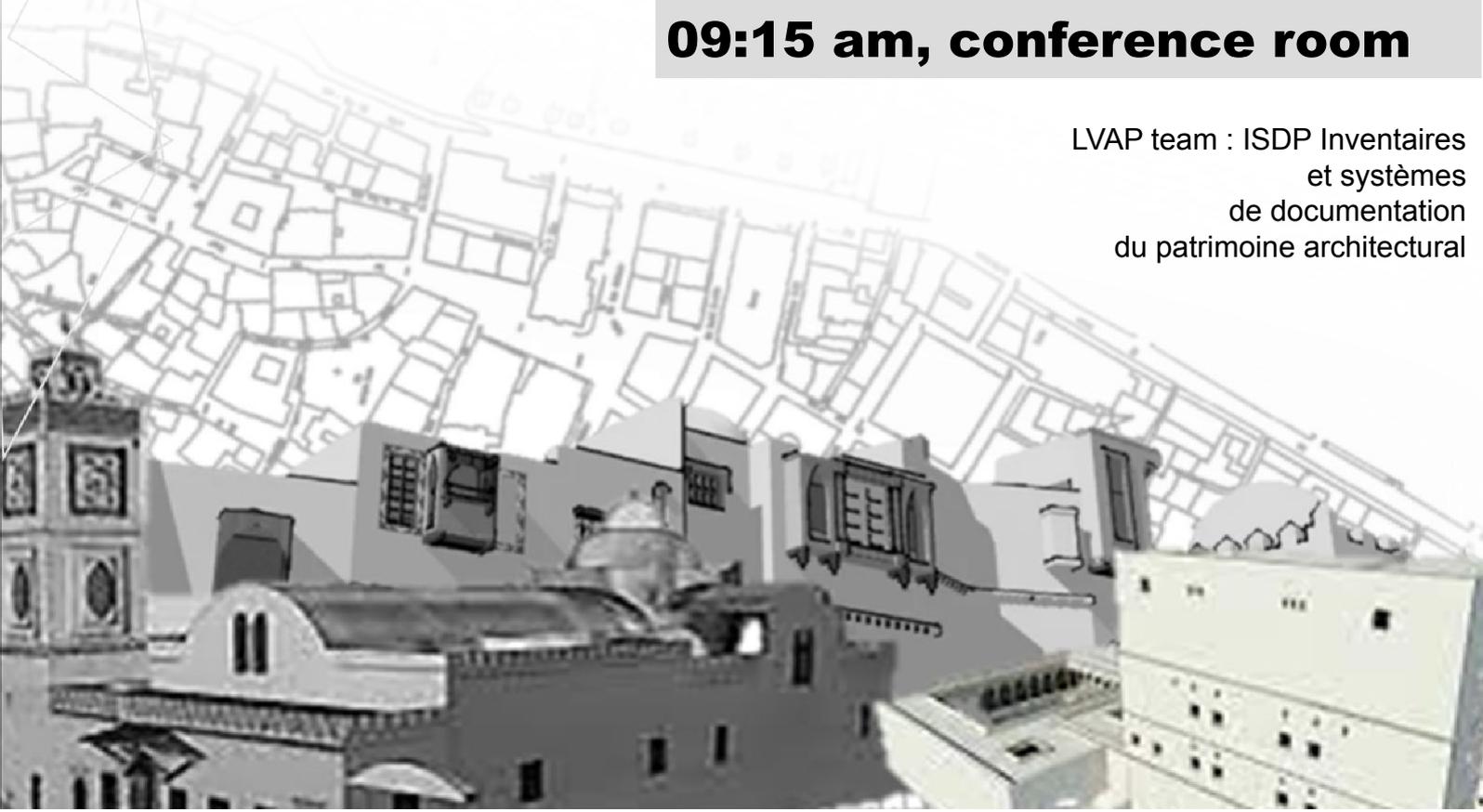
# Data and knowledge management for the safeguarding and enhancement of the Algerian built heritage

**Study day**

**December 19<sup>th</sup>, 2023**

**09:15 am, conference room**

LVAP team : ISDP Inventaires  
et systèmes  
de documentation  
du patrimoine architectural



# Data and knowledge management for the safeguarding and enhancement of the Algerian built heritage

## Summary :

Algeria's architectural heritage is extremely rich, thanks to including the know-how of the many civilisations that have succeeded one another on its territory. As a result, Algeria has a highly diverse built heritage that needs to be preserved. A great deal of know-how has been developed here, both in terms of construction and the environment. Today, several buildings require restoration and would benefit from being known to a wider population.

Nowadays, computer science technologies can help to overcome many of these problems. Digitising this heritage is proving to be a very effective way of preserving it on the one hand, and making it accessible to as many people as possible on the other.

Nevertheless, it is generally difficult to find and access the necessary documentation on little-known buildings or on certain components of the building in a practical and instantaneous way, which greatly complicates work on them and their restoration. Certain 3D modelling techniques make it possible to overcome this shortcoming and produce reconstructions based on a minimum of data.

Restoring built heritage is a long and complex process requiring the manipulation of different types of data. It is a collaborative project combining the efforts of several stakeholders from diverse backgrounds, with the goal of converging their different needs. New information technologies can provide innovative solutions to make it easier to access, structure, cross-reference and interrogate the information and knowledge collected about heritage.

With this in mind, researchers and students from the two schools, ESI and EPAU, have joined forces to put forward approaches, techniques and IT solutions for enhancing and safeguarding Algeria's built heritage.

The first objective of this day is to present an overview of the results of this collaboration. The second objective is to open up the fields of research that could be explored in order to help safeguard this heritage:

- Digital databases and knowledge bases for the capitalisation of knowledge applied to Algerian architectural heritage.
- Automatic knowledge extraction from heterogeneous documents.
- Use of AI, NLP and Semantic Web technologies, etc. to propose solutions for capitalising on and safeguarding built heritage.