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**Date and place of birth:** 10-8-1976 (The New Valley)

**Degree:** Associate Lecturer

**Specialization:** Restoration of monuments

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**Title of thesis:** "Comparative and analytical study on the deterioration & treatment and conservation of historical buildings of composite building materials at El Kharga & El Dakhla Oases, with application on some selected historical buildings"

**Summary:**

The Kharga and Dakhla oases contain many unique historical buildings which are characterized by the diversity in its history and architectural aspects. The Kharga and Dakhla oases are located in an area where an arid desert climate prevails. This climate is characterized by high temperature, severe winds and storms, and rare heavy rain in the form of floods which are very destructive, particularly in the case of historical adobe buildings. Such climatic conditions have caused severe damage forms in historical buildings built in the oases.

This study consists of seven chapters which can be summarized as follows:

**Chapter One** discusses the historical and archaeological background of historical buildings located in Kharga and Dakhla oases.

**Chapter Two** studies the geographical, geomorphological, topographical, geological, hydrological, hydrochemical, geotechnical features of the Kharga and Dakhla oases.

**Chapter Three** presents a full scientific study of the physiochemical, mechanical, and mineralogical properties of the building materials in historical buildings of composite building materials located in Kharga and Dakhla oases (sandstone, adobe bricks, mortar, and plaster).

**Chapter Four** studies the deterioration mechanisms and the risks which face historical buildings of composite building materials located in Kharga and Dakhla oases.

**Chapter Five** discusses proper scientific methodology of restoration and conservation of historical buildings of composite building materials built in oases region.

**Chapter Six** includes experimental studies to test selected chemical consolidants and investigate their properties. The study was carried out on a number of chemical consolidants.

**Chapter Seven** includes a practical study carried out by the researcher. The old mosque (masjid) in the Islamic city of Al-Hindaw was selected for this study.

The final section shows the most significant results and recommendations. The researcher pointed out the necessity to preserve, restore, conserve, and develop the architectural heritage in the Kharga and Dakhla oasis as well as benefit from it economically speaking.

**Supervisor:**

Prof. Dr. **Mohamed Abd El Hady**

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