



Pole for Doctoral Studies
Center for Doctoral Studies Sciences, Technologies, and Medical Sciences

ANNOUNCEMENT OF DOCTORAL THESIS DEFENSE



Ms. EL KOUARI Oumaima

**Will present here research work with the aim of earning a
Doctorate**

Doctoral program: Sciences and Techniques of Engineering
Discipline: Computer Science
Specialty: Cybersecurity

**On 11/10/2025 at 10H30 at Conference Hall Pr. FILALI
MEKNASSI Otman, National School of Applied Sciences of
Tangier, UAE
Under the Theme**

**Design and Evaluation of a Honeypot-Centric Cybersecurity
Architecture for Industrial Control Systems: Integrating
Honeypots, SIEM, and Cyber Threat Intelligence**

Front of the jury composed of :

First Name & Last Name	Establishment	Designation
Pr. KHOULJI Samira	ENSA of Tetouan, UAE	President
Pr. AMJAD Souad	FS of Tetouan, UAE	Reviewer
Pr. BOUCHKAREN Said	ENSA of Tangier, UAE	Reviewer
Pr. CHETIOUI Kaouthar	ENSA of Fez, USMBA	Reviewer
Pr. BEL MOKADEM Houda	ENSA of Tangier, UAE	Examiner
Pr. EL ALAMI HASSOUN Mohamed	ENSA of Tangier, UAE	Examiner
Pr. LAZAAR Saiida	ENSA of Tangier, UAE	Supervisor

Host Research Structure: Research Team in Mathematics, Computer Science and Applications (ERMIA), ENSA Tangier

Abstract



Industrial Control Systems (ICS) are integral to the operation of critical infrastructure sectors, yet their increasing adoption makes them attractive targets for cyberattacks. Compromising these systems can lead to significant operational disruptions, safety concerns, and threats to public welfare.

This thesis proposes a novel architecture that integrates honeypots across all layers of the Industry 4.0 framework. The system incorporates automated detection and response mechanisms and leverages a combination of technologies, including Security Information and Event Management (SIEM), Snort Intrusion Detection System (IDS), Wazuh, Malware Information Sharing Platform (MISP) as a Cyber Threat Intelligence (CTI) tool, and the ELK stack. The architecture demonstrates enhanced threat detection and defense capabilities compared to conventional security measures in industrial environments. Furthermore, it emphasizes the critical role of proactive security strategies and threat intelligence in safeguarding ICS infrastructures.

Keywords: ICS, honeypot, cyber-attack, threat intelligence, IDS, industry 4.0