

# 1<sup>st</sup> National Seminar on Structural Mechanics and Materials (SNMSM'25)

October 29-30<sup>th</sup>, 2025



University Mohamed Boudiaf of M'Sila  
Faculty of Technology  
Mechanical Engineering Department

## CERTIFICATE OF APPRECIATION

This certificate is awarded to :

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**Title : Elaboration and characterization of certain coatings applied in industry**

In recognition for giving a **PLENARY** Talk in the 1<sup>st</sup> National Seminar on Structural Mechanics and Materials (SNMSM'25), held at M'Sila University- Algeria, on October 29-30<sup>th</sup> 2025.

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## ***Elaboration and characterization of certain coatings applied in industry***

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**Abstract** – Surface treatments for materials are increasingly used. They allow the modification of the surface characteristics of these materials to optimize their applications. These treatments also enable parts to fulfill opposing functions, such as core ductility and good resistance to wear and corrosion. Among these surface treatments, we can distinguish between surface treatments by structural transformation of mechanical or thermal origin, thermochemical treatments, and the deposition of thin films and coatings. The surface treatment of metallic materials, polymers, glass, and ceramics is therefore largely a service used by many industrial sectors, including automotive, heavy industry, light industry, eyewear, decoration, currency, clothing, telecommunications, renewable energy, construction, medical, aerospace, aeronautics, and nuclear energy. Our purpose is to present various surface treatments applied to certain materials to enhance their surface properties. Regarding the treatments discussed, we will then present some research work that addresses the development and characterization of thin films and metallic coatings deposited on certain materials to improve their mechanical behavior, particularly hardness and adhesion.

**Keywords** – Coating ; thin films ; surface treatment ; hardness ; adhesion;