

## CERTIFICATE OF ATTENDANCE

This is to certificate that,

**Ali saoucha khawla**

attended the 1<sup>st</sup> National Conference of Thermal Engineering  
on Renewable and Conventional Processes (NCTE'22), on October 25-26, 2022,  
held at the University of Batna 2, Algeria.

**Ali saoucha khawla** presented the paper entitled: "3D Numerical study of  
thermal-flow characteristics of heat exchanger with flat tubes and sinusoidal  
wavy fins"

Co-authored by **Farouk Tahrour, Fares Djefal, Soumia Laouar and Lyes Bordja**

Head of NCTE'22

Chairman  
Pr. SIAMEUR Mohamed

