
Registration Seminar

Seminar Title	: Experimental Studies on Microstructure and Mechanical Properties Characterization of Laser-Powder Bed Fused and Wire Arc Additively Manufactured IN718 Parts
Speaker	: Raj Kumar Bisoyi (Rollno : 523me1004)
Supervisor	: Saurav Datta
Venue	: Departmental Seminar Hall (ME-001), New Mechanical Science Building (Physical Mode)
Date and Time	: 30 Apr 2025 (04:30 PM)
Abstract	: The proposed work intends to study the <i>as printed</i> solidification microstructure and mechanical properties (tensile strength, elongation at break, microhardness, etc.) of the Laser-Powder Bed Fused (L-PBFed) and Wire Arc Additively Manufactured (WAAMed IN718) parts. The said parts are to be subjected to an identical heat treatment schedule (homogenization + double stage ageing treatments). The microstructure and mechanical properties of the post-heat treated specimens are to be compared to that of the <i>as printed</i> as well as the conventional wrought counterparts. An attempt is also to be made to study aspects of dry sliding wear behaviour of the <i>as printed</i> as well as the post-heat treated parts. The potentiodynamic polarization tests are to be carried out to study the corrosion rate of the said specimens. Finally, the machinability of the additively fabricated IN718 parts is to be compared to that of the conventional wrought alloy upon executing traditional/ non-traditional machining operations.