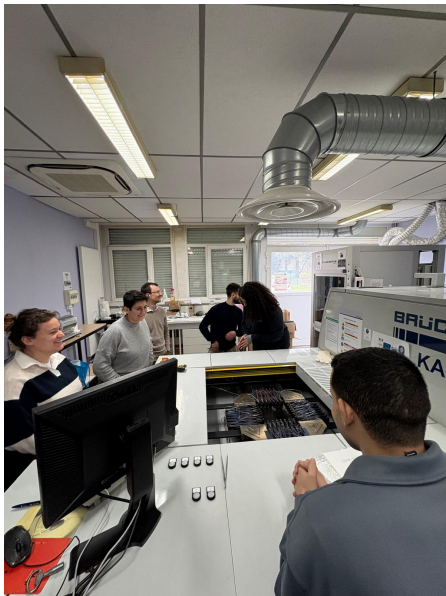


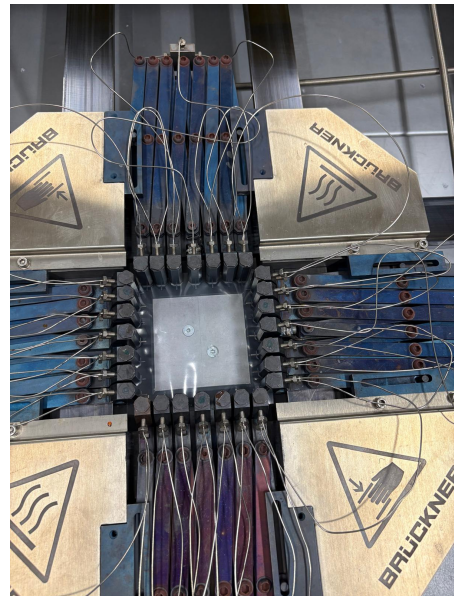
# Scientific meeting organized by the UMET Doctoral Students Association

In Villeneuve d'Ascq on February 18, 2026

This meeting took place on Wednesday, February 18, 2026. Donna BOUTALDI, a second-year PhD student within the ISP team, presented the equipment she uses for her thesis. Dona studies *the biaxial stretchability and recyclability of multilayer films based on ethylene and vinyl alcohol copolymers*. These materials are found in our daily lives, particularly in food packaging. EVOH is known for its good gas barrier properties and mechanical strength. However, it is not resistant to moisture. In industry, EVOH is protected by two layers of hydrophobic polyethylene (PE) polymer to offset its sensitivity to moisture, forming a multilayer film that is quite difficult to recycle. Dona primarily works on optimizing gas barrier properties through biaxial stretching operations, focusing on the copolymer composition, stretching temperature, deformation rate, and film thickness. fig. 1 illustrates the equipment used for her work.



(a) external view of the device



(b) stretching platform

Figure 1: Illustration of the stretching platform

Using WAXS (Wide Angle X-Ray Scattering), Dona can study the evolution of the microstructure of her material following mechanical testing. She will also conduct permeability tests on

her material to assess the sealing properties of her film. Due to the need to reprocess our waste, the second objective of her thesis is to study the recyclability of PE/EVOH/PE multilayer films.

The Amicale would like to thank Dona for her time and her excellent popularization of her topic. The Amicale also thanks the PhD students who attended Dona's presentation.

See you in March for the next meeting!