

First editions of scientific meetings

Proposed by l'Amicale des Doctorants de l'UMET

Villeneuve d'Ascq, on the 07/10/2025

Benefits of scientific meetings

L'Amicale offers these lunchtime meetings so that doctoral students and other UMET staff can discover different research activities. The idea is not to present results but rather to disseminate the scientific culture of a team to the entire laboratory. These meetings also highlight scientific problems that may arise and thus help to solve them. Finally, these presentations promote cohesion between UMET doctoral students within and between teams.

In December, H el ene GINESTET will complete the tour of the platform *Haute Pression* and talk to us about her work.

L eo CARIN, a second-year PhD student at UMET in the team *Mat eriaux Terrestres et Plan etaires*, and Roberto TABACCO, a second-year PhD student in the team *Plasticit e*, presented their research topics to us.

Scientific meeting of L eo Carin

This meeting took place on 18/09/2025.

L eo first gave a presentation on his thesis topic: *attenuation and deformation of metal alloys in the Earth's core*. Following this, L eo organised a tour of the D4 *Haute Pression* platform. Through this visit, L eo highlighted the importance of his equipment in his research and gave us the opportunity to better understand what happens in the Earth's core.

We would like to thank L eo for his time and the group of PhD students/engineers who accompanied him during the meeting.



Scientific meeting of Roberto Tabacco

This meeting took place on 07/10/2025.

Roberto presented molecular dynamics and his work on *core shell* nanoparticles. Roberto detailed the basis of his calculations with the position, velocity and force of the particles at a given moment t . By setting the initial conditions, Roberto incremented his code to find out at time t , but also at time $t + dt$, which allows us to deduce the physical state of the nanoparticles during the simulation.

Roberto illustrated his work by coding a small game that he will present at the science fair. He asks the audience to enter the initial conditions, setting the velocity, position, mass, and interaction link of the particles. Roberto launches the simulation so that we can observe the evolution of these nanoparticles.

We would like to thank Roberto for his time and the group of PhD students/interns who accompanied him during the meeting.





