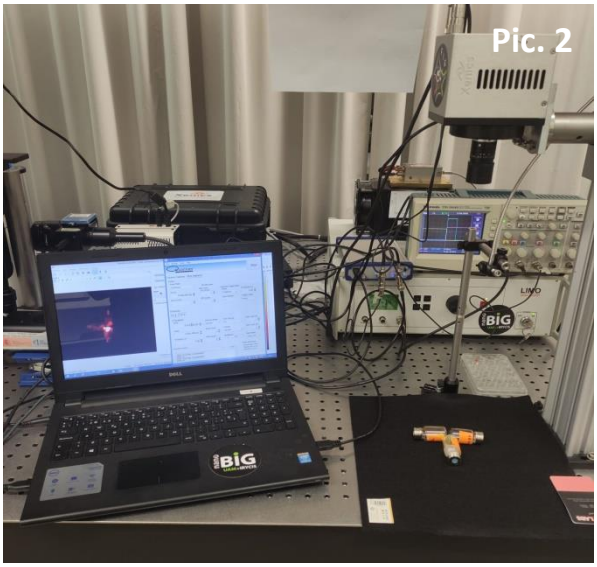
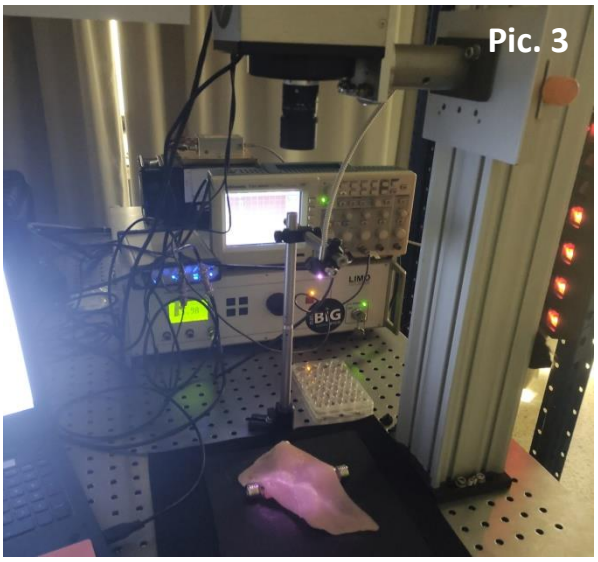
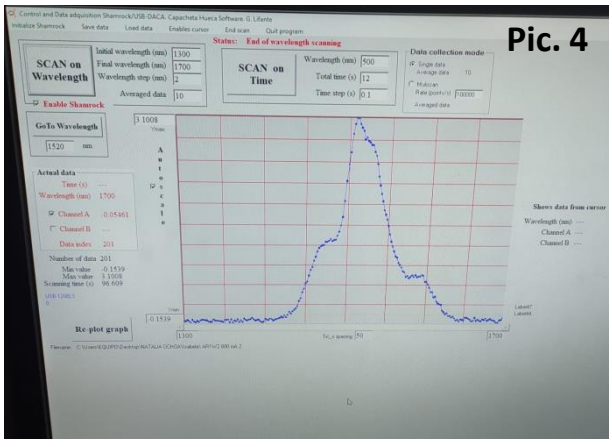
Izabela Kamińska @ Autonomous University of Madrid (UAM), Faculty of Sciences, Department of Materials Physics, The Nanomaterials for Bioimaging Group (nanoBIG)


Pic. 1


Pic. 2


Pic. 3

From April 6 to 12, 2025, I participated in the Erasmus+ Staff mobility for the training program at the Autonomous University of Madrid (UAM), Faculty of Sciences, Department of Materials Physics (Picture 1). Under the supervision of Dr. Dirk Ortgies from The Nanomaterials for Bioimaging Group (nanoBIG), I practiced measurements of the luminescence decay times of upconverting materials (in powder form) using an infrared camera (Xenics) (Picture 2) and a 980 nm pulsed laser. I also learned about infrared penetration through tissues – in our case it was a 5 mm slice of chicken breast placed on vials with powder (Picture 3). All samples for the training were prepared at the Institute of Physics of the Polish Academy of Sciences. They were Bi_2O_3 nanoflakes and Gd_2O_3 nanoparticles doped with rare earth ions, made with the use of homogeneous precipitation synthesis. The final stage of my mobility was the training in measurements of the emission of Er^{3+} transitions ($^4I_{13/2} \rightarrow {}^4I_{15/2}$, 1550 nm) (Picture 4) in nanoflakes and nanoparticles synthesized at IFPAN, using a 980 nm laser with different laser power.



Pic. 4