Competences (Research) Center:
Interfaces - Tribocorrosion and Electrochemical Systems (CC-ITES).

Offer name:	**Controlled growth of nanoporous oxide thin films on titanium and titanium alloys with biomedical applications (implants). Assessment of corrosion resistance and degradation in biological fluids**
Description	Formation and growth of nanoporous oxide thin films on titanium and titanium alloys for biomedical applications (implants) with different thicknesses and porosities, by electrochemical methods, rigorously controlling the parameters involved in the process and the quality of the resulting films. Titanium oxide films have several nanometer thicknesses and can be obtained from nanometric or micrometric pore size. In Fig. 1 it is shown the increase of the corrosion resistance in biological fluids of the nanoporous oxide formed on the surface of the titanium alloy as compared to the untreated alloy is observed. The higher the polarization resistance, the slower the corrosion rate is. Fig. 2 shows the morphology of the nanoporous oxide film formed on the Ti-6Al-4V alloy, while in Fig. 3 is presented the morphology of TiO_2-ZrO_2 mixed film formed on titanium alloy Ti-10Zr.

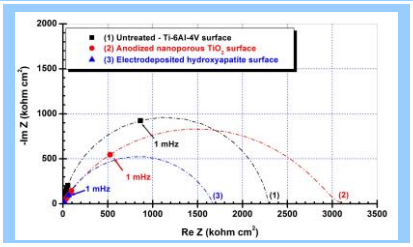

Fig. 1

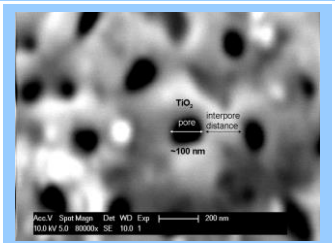

Fig. 2

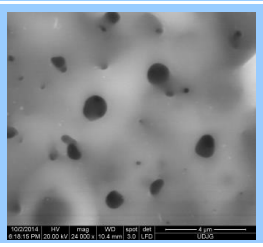

Fig. 3

Resposible	**Prof. Univ. Dr. (Ph.D.) Chem. Lidia BENEA.** **Competences (Research) Center: Interfaces - Tribocorrosion and Electrochemical Systems (CC-ITES).** **Dunărea de Jos University of Galati.**
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