FORCE SEMINAR

Nanostructured metal alloys produced by high-pressure torsion with multifunctional applications in biomedical engineering and energy

FRIDAY SEPT 6
Zoom: bit.ly/FORCEseminar

12 PM MST/AZ
12 pm Pacific, 3 pm Eastern

High-Pressure Torsion (HPT) is a powerful method to synthesize and refine the grain structure of metallic materials to bulk ultrafine-grained (UFG) and nano-grained (NG) structures with interesting mechanical, chemical and physical properties. Among the characteristics of such microstructures are a high density of lattice defects and out-of-equilibrium phase transformations. This combination of microstructural features can provide not only very good mechanical properties, but also enhanced multifunctional properties.

Our research group has been working primarily with the HPT method on the development of alloys for biomedical field and for energy storage and transmission.Some of our work has been in the development of titanium and magnesium-based alloys for implant applications, aluminum alloys for metal-air battery anodes and electrical conductors, and high entropy alloys for hydrogen storage. In this presentation some of the most recent results from our collaborations will be presented.

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Dr. Sesín is a mechanical engineer with a PhD in Physics and Chemistry of Materials from Kyushu University, Fukuoka, Japan. He he has taught courses in numerical methods, metallurgy, materials characterization, electron microscopy, thermal analysis, and X-ray diffraction and conducts research related to the application of nanotechnology in biomaterials.

SEMINAR SCHEDULE *Fridays at 12 pm MST/AZ*

October 4
Kelsey Prissel Department of Earth, Atmospheric, and Planetary Sciences, Purdue University

November 8
Steeve Gréaux Geodynamics Research Center, Ehime University

December 6
Felix Marxer Institute of Earth System Sciences, Leibniz University Hannover