



THE UNIVERSITY *of* EDINBURGH

School of Engineering

IMP Seminar

13th March 2023

G.32, Murchison House

Surface polishing of metal additive manufacturing parts

Prof Dr Jorge A. Ramos-Grez



13:00-14:00

Abstract:

The presentation will begin with a brief account of perhaps known Chile's historical relationship with Scotland, through the figure of Lord Cochrane; to continue then with Chile's geographical competitive advantages: mining, agriculture, silviculture, and aquaculture, among others. It will follow with a short description of PUC, some statistics, and its five campuses. The capacities of the Laboratory for Technological Laser Applications in Industry (LATIL) located at the San Joaquín campus will be shown, as well as several of its recent research projects and papers: machine learning assisted multi-objective optimization of laser powder bed fusion additive manufacturing 316L steel, shape memory and pseudo elasticity behaviour of copper-aluminium-nickel-iron alloy and laser 3D printing using polar coordinates motion. Finally, details will be given regarding the current relationship between UoE and PUC through the Dual PhD program specifically in relation to the surface polishing of metal additive manufacturing parts, particularly laser polishing, and plasma-figuring.

Biography:

Prof Ramos-Grez is a professor at the Faculty of Engineering in the Department of Mechanical and Metallurgical Engineering, Pontificia Universidad Católica de Chile. He is the founder of LATIL (Laboratory for Technological Laser Applications in Industry). His research interests include laser applications in manufacturing: cutting, welding, heat treatments, coatings, and synthesis of shape memory alloys; as well as semi-classical modelling of materials behaviour and multiphysics-multi flow numerical simulation in manufacturing processes.