Development of a Plasma Electrolytic Oxidation set-up

The Plasma Lab (Open University) is looking for candidates for a Santander Scholarship in order to develop a new Plasma Electrolytic Oxidation cell. Recent research suggests that the use of high frequency power supply could increase the energy efficiency of the process, though modifying drastically the plasma behaviour.

The successful candidate will be in charge to design and build a PEO cell with high frequency (more than 2kHz) power supply. Then, basic plasma diagnostics (electric measurement, optical emission spectroscopy) and coating characterisation (SEM) will be undertaken.

This work is a part of a collaboration between the Open University and the University of Cambridge, Institut Jean Lamour and Universidad Complutense de Madrid.

Candidates should be from a Santander University* and send their CV and cover letter to Dr. Alexandre Nominé (alexandre.nomine@open.ac.uk) by **5/02**. Selected candidates will be then contacted for an interview. The final candidate will be proposed for a Santander Scholarship (5000£)

Mandatory skils

- BSc or MSc degree in Material Science, Industrial Engineering, Chemistry Physics, Applied Physics or equivalent
- Ability to conduct experimental work
- Ability to present results in the form of short reports and presentation
- Intermediate or advanced English level

Desired skills

Any of the following skills could be a plus:

- Material characterisation (SEM, TEM, AFM)
- Experience in electrolytic processes
- Plasma diagnostics (Optical Emission Spectroscopy, high speed imaging)
- Electromagnetic simulations (*e.g.* Opera, COMSOL or equivalent)
- Data processing (OriginPro, Matlab etc…)
- Plasma surface interaction, Plasma assisted surface treatment, Coatings
- Redaction of scientific communications (peer-reviewed article, conference oral or poster presentations)
- Spanish, French or Russian

**See list of Santander Universities:*

http://www.santander.com/csgs/Satellite?appID=santander.wc.CFWCSancomQP01&c=GSInformacion&canal=CSCORP&cid=1278679137354&empr=CFWCSancomQP01&leng=en_GB&pagename=CFWCSancomQP01%2FGSInformacion%2FCFQP01_GSInformacionDetalleSimple_PT08