Imperial College London

Phd Studentship in Design of multi-functional metamaterials enabled by 3D Printing

Department/Faculty: Department of Materials**,** Faculty of Engineering
Duration: 36 months

Supervisor: Dr Minh-Son Pham
Start Date: 1st October 2019

We are inviting motivated candidates for an EPSRC-funded PhD studentship in the exciting fields of meta-materials, metals science and 3D printing. The qualified candidate will join a dynamic research team with a research focus on material design, 3D printing and microstructure in the department of Materials at Imperial College London.

We recently presented a groundbreaking research that leads to a new generation of meta-materials mimicking crystal microstructure found in high performance metallic alloys (refer to Damage-tolerant architected materials inspired by crystal microstructure, Nature 2019; 565:305). The design of these new meta-materials is realised by additive manufacturing via 3D printing, offering an innovative way to fuse the metals science and 3D printing to design advanced materials with desired properties. This Phd studentship will explore many more exciting opportunities offered by this approach. The qualified candidate will use various computer software to mimic microstructure found in nature to design new meta-materials that are not only mechanical robust, but also smart. S/he will use advanced 3D printing and material characterisation techniques to fabricate and study the behaviour of designed materials. S/he needs to team up with other students and effectively collaborate with our key academic and industrial partners in UK and USA.

The studentship is for UK home (or EU with UK residency proof) students only. The candidates should have (or be expecting to obtain) a first degree (1st class or upper second class) in materials, mechanical engineering or a relevant subject. Applicants should have knowledge in one or more of: 3D printing, microstructure of crystals and functional materials. Good teamwork and communication skills are essential. This three-year studentship will provide full 'home rate' fees plus the standard maintenance stipend to UK and EU students who meet the residency criteria (currently a stipend of £16,553).

How to apply: 7th May 2019

The prospectus, entry requirements and application form (under 'how to apply') are available at: http://www.imperial.ac.uk/pgprospectus

For further details of the posts, please contact Dr Minh-Son (Son) Pham at son.pham@imperial.ac.uk, phone: +44 20 7594 9529. Applicants should send a CV and covering letter and will be required to complete an electronic application form.

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Closing date: one month from placement

Imperial Managers lead by example.

Committed to equality and valuing diversity. We are also an Athena SWAN Silver Award winner, a Stonewall Diversity Champion, a Two Ticks Employer, and are working in partnership with GIRES to promote respect for trans people