

Department of Mechanical & Aerospace Engineering: PhD Studentship

Applications are invited for ONE full time EPSRC DTP funded PhD studentship for the project **“Study of Flow Boiling in Small and Micro-Channels”** for a period of three (3) years, starting 1 January 2020. You will receive an annual stipend of £17,285, which includes an inner London weighting allowance, plus payment of your full-time home or EU tuition fee.

You must be eligible for Home/EU tuition fees either through nationality, residency or other connection to the UK.

Project Details

The project is at the forefront of research in flow boiling in small and microchannels and involves advanced fundamental experimental research. Based at Brunel University London, you will be part of a team comprising academics and researchers at Imperial College London, the University of Nottingham and industrial partners. You will also work closely with the Post-Doctoral Research Fellow employed on the project.

Your research will start with the setting up of an experimental facility followed by a systematic study of flow boiling in single and multi-microchannels. The project will include an assessment of the effect of geometry (aspect ratio) and surface characteristics on flow boiling patterns, heat transfer mechanism(s) and heat transfer rates as well as pressure drop in single passages. Your research will then be extended to multichannel heat exchangers. Novel manufacturing methods, i.e. (i) additive manufacturing and (ii) embossing technology will be employed to manufacture the test sections and their performance will be compared under similar experimental conditions. Coated microchannels will also be studied. Experiments and numerical modelling performed by our partners could be used to agree and possibly extend the range of diameter and aspect ratio studied. You may also be involved in collating data on flow boiling from the project partners.

Please contact Professor Tassos Karayiannis at tassos.karayiannis@brunel.ac.uk or +44(0)1895 267132 for an informal discussion about the project.

Eligibility

You must have or expect to receive an undergraduate degree at 2:1 or above in an Engineering or Physical Sciences related discipline. A postgraduate masters degree may be an advantage. You are strongly encouraged to apply if you have a background in Mechanical and Chemical Engineering and you have taken relevant courses in thermo-fluids.

How to apply

Please email the documents listed below to cedps-pgr-office@brunel.ac.uk and tassos.karayiannis@brunel.ac.uk by **12:00 Noon on Monday 30 November 2020**

- Your up-to-date CV;
- A 300 to 500-word personal statement setting out why you are a suitable candidate, i.e.: your skills and experience;
- Your degree certificates and transcripts (translated into English, if appropriate);
- Evidence of English language skills to an overall score of IELTS 6.5 (**or equivalent**), if appropriate;
- Name and contact details for two referees, one of which must be an academic referee.

Interviews will take place in December 2020. Remember to quote the project title at the top of your personal statement.