



1 Advertisement

Post Title: Thermodynamic and Fluid Mechanics Specialist (KTP Associate)

School/department: School of Engineering and Informatics / Department of Engineering

Hours: full time hours considered up to a maximum of 1.0 FTE

Requests for flexible working options will be considered (subject to business need). The successful candidate will be required to work at Polestar Cooling in Bognor Regis.

Location: Dulas Ltd, based at Polestar Cooling Ltd, Bognor Regis, United Kingdom.

Contract: Fixed term for 24 months

Reference: 20379

Salary: starting at £36,333 to £43,155 per annum, pro rata if part time

Placed on: 05 April 2023

Closing date: 03 May 2023 Applications must be received by midnight of the closing date.

Expected interview date: to be confirmed

Expected start date: ASAP

With interest in vaccines and vaccine distribution never greater, the University of Sussex and Dulas Ltd are looking to recruit a highly motivated and skilled graduate within the area of thermodynamic and fluid mechanics.

In this two year project, you will embed innovative thermodynamic analysis and modelling capabilities in the engineering team at Dulas Ltd, the UK's only manufacturer of World Health Organisation (WHO) accredited vaccine storage equipment.

Working with experts from the university and drawing on expertise from within the company, you will lead on the development and delivery of:

- A solution for excess humidity in solar powered vaccine refrigerators, an industry wide challenge essential to maintaining Dulas Ltd's core market and mission to "address humanitarian need".
- Sustainable, cost effective phase change materials for inbuilt energy storage, facilitating expansion of Dulas Ltd's product range and honoring its commitment to reduce the environmental impact of its products and services.
- A digital model informed by both previous phases providing a long-term legacy for this KTP, delivering a powerful tool to accelerate product development by reducing physical prototyping, improving product efficiency and sustainability

This 24-month project is funded through a Knowledge Transfer Partnership (KTP) award, a UK Government scheme intended to promote beneficial relationships between universities and industry. As a KTP Associate you will receive:

- extensive practical and formal training
- gain marketable skills

- broaden knowledge and expertise within an industrially relevant project
- be supported by both industrial and academic mentors.

The KTP associate will benefit from a tax free Personal Development Budget of £4,000. Academic publications will be produced and there is the likelihood of a permanent position at Dulas Ltd at the end of the contract.

Please contact Esra Sorguven at e.sorguven@sussex.ac.uk for informal enquiries.

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

“Please note that this position may be subject to [ATAS clearance](#) if you require visa sponsorship.”

For full details and how to apply see our [vacancies page](#)

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

Please note: The University requires that work undertaken for the University is performed from the UK.

2. The School / Division

Please find further information regarding the school/division at <https://www.sussex.ac.uk/ei/>

3. Job Description

Job Description for the post of: **Thermodynamic and fluid mechanics Specialist (KTP Associate)**

Department:	Department of Engineering
Section/Unit/School:	School of Engineering and Informatics
Location:	Polestar Cooling Ltd, Unit 6-7 Beeding Close, Bognor Regis, West Sussex, PO22 9TS
Grade:	7
Responsible to:	Professor of Thermodynamics and Fluid Mechanics (Engineering and Design)
Responsible for:	n/a

Job Description

Dulas Ltd and the University of Sussex are looking to recruit a highly motivated and skilled graduate within the area of thermodynamic and fluid mechanics to lead and deliver a project to develop a low humidity solar powered vaccine refrigerator using environmentally friendly phase change technology with a digital model to accelerate product development.

Dulas Ltd have pioneered innovative uses of solar, hydro and wind power for the humanitarian sector. One of the products they are most of proud is our World Health Organisation accredited solar powered vaccine refrigerator which is manufactured in the UK, at their factory in Bognor Regis. Through various global programmes and partnerships, including GAVI (the Vaccine Alliance) and UNICEF, they have supported vital immunisation efforts across the world for decades. Their products enable governments to deliver vaccines to their people, providing a high-impact, British-made, sustainable solution to some of the hardest to reach communities in the world.

With interest in vaccines and vaccine distribution never greater, this position forms part of the Knowledge Transfer Partnership (KTP) programme co-funded by a grant through Innovate UK. It is essential that the post holder understands that a KTP works across the business and the university, and the vital role you will play if you successfully secure this position. KTPs offer a wide range of benefits including access to a £4,000 Personal Development budget to upskill during the project. Find out more about [KTPs](#).

Accountabilities

1. To lead on and deliver successful project outcomes in collaboration with the University of Sussex and Dulas Ltd throughout the whole product lifecycle
2. To provide regular reports and presentations to Dulas Ltd and University of Sussex management team members updating them on project progress
3. To evaluate and review technologies used and recommend changes to the project plan, as necessary, determined by research findings

Responsibilities

1. Project management

- 1.1. To lead and deliver agreed project outcomes
- 1.2. To provide regular project updates and recommendations to senior company and university members of Knowledge Transfer Partnership at regular monthly meetings
- 1.3. To provide written reports on project progress and technology developments

2. Research and development

- 2.1. To lead on the development of the products throughout the whole product lifecycle engaging with marketing, comms and manufacturing teams as and when necessary
- 2.2. Develop research objectives and proposals with senior Dulas Ltd and university colleagues
- 2.3. Conduct research individually and in collaboration with others
- 2.4. Analyse and interpret research findings and draw conclusions on the outcomes
- 2.5. Participate in internal networks and relevant external networks in order to share learning with peers and project board members
- 2.6. Continually update your own knowledge and understanding in the field and engage in continuous professional development opportunities offered by Dulas Ltd, through activities offered by University of Sussex Thermo-Fluid Mechanics Research Centre and through the KTP programme

3. Collaborative working with KTP partners

- 3.1. Attend and deliver presentations on project progress at regular KTP meetings
- 3.2. Liaise regularly with senior management team members across multiple sites and will be expected to attend conferences to network with businesses to update knowledge and skills
- 3.3. Understand how the KTP process works to support Business and University partners and outputs

Decision Making and Problem Solving

The role holder will be project lead, managing your own workload and ensuring outputs are delivered on time. This will require:

- Using your creative thinking and decision making skills to explore all possible technical solutions and determine changes to those used, adjusting, developing and reporting on the project plan accordingly.
- Directing problem-solving activities and your own learning with the support of in-company and university supervisors.
- Recommending and agreeing project changes with the Local Management Committee (LMC) members according to research findings.
- Advising company employees on any changes or impacts to manufacturing processes that may be required as a result of developing the new products during the project

Major Deliverables

- To deliver project outputs as determined by the agreed KTP project plan
- To report on project progress and recommend changes in response to research findings
- To bring products to market in liaison with Dulas Ltd sales and marketing team and with the support of company and university supervisors

In order to do this, you will

- Engage with the KTP process to support and deliver outcomes for both the university and business partner
- Work collaboratively with all KTP partners, particularly the university and teams across Dulas Ltd, to achieve successful project outcomes.
- Act as a proactive conduit for knowledge exchange sharing learning and research findings by:
 - Providing expert support to colleagues within the company;
 - Sharing knowledge and learning with academics and students at research group meetings
 - Participating in agreed networks
 - Supporting a better understanding of the technologies amongst appropriate networks
- Liaise with a range of different stakeholders at different levels of seniority and with different degrees of technical knowledge. This will include:
 - Leading on the presentation of project updates to the company director and senior academics on a regular basis at Local Management Committee meetings;
 - Translating research findings and product capabilities to non-technical company employees in the sales and marketing team as part of the product handover and launch
 - Contributing to required KTP reporting requirements

4. Person Specification

ESSENTIAL CRITERIA

1. Degree level or comparable experience in a physical science or engineering discipline
2. A solid understanding of fluid dynamics, heat transfer and thermodynamics
3. Practical and theoretical familiarity with refrigeration, mechanical, thermal, electrical and electronic engineering
4. Ability to appreciate colleagues' points of view, ask for help and offer help to others where appropriate

5. Ability to express and explain technical ideas verbally and in written format at a technical level appropriate to the audience including providing reports and delivering effective presentations
6. Ability to work individually on own initiative and as part of a team
7. Proven project management experience
8. MS Office, especially Excel and PowerPoint
9. Familiarity with CAD software
10. Programming ability in Python and/or C++
11. Basic understanding of computational modelling software such as Matlab or Modelica
12. Good listening skills

DESIRABLE CRITERIA

1. PhD in engineering or physical sciences
2. Experience in flow simulations and/or thermal simulations
3. Awareness of general developments in sustainable energy related technology
4. Practical and theoretical familiarity with refrigeration, mechanical and thermal design
5. Experience and appreciation of social and physical conditions in developing countries
6. Experience of cooperative working environments