

Engineering Studentships - Gaining Real Life Experience Whilst Studying

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Abstract

Hands-on experience in applied engineering disciplines is imperative as it provides an opportunity to work with new people, on new projects and potentially in new places. Global Heat Transfer, part of the Global Group of Companies located in Staffordshire in the UK, is a specialist engineering company working in the heat transfer sector providing engineering services and heat transfer fluids to the manufacturing sector. Global Heat Transfer has worked with the CESI Engineering School in Paris, France for the last 3 summers and trained four students in the area of heat transfer. This article outlines the experiences of the latest students and discusses some of the advantages that a company gains from visiting students.

Background

This summer Global Heat Transfer had the pleasure to welcome two new students from the CESI's Engineering School in Paris to work on R&D projects to improve the safety of manufacturing and processing plants. Global Heat Transfer is part of the Global Group of Companies based in Staffordshire in the UK (Figure 1) and supplies heat transfer fluids and engineering services to large manufacturer plants such as those run by Moy Park, Graham and Brown, Pentagon Chemicals, Anochrome Group and Abergavenny Fine Foods Company.

David Faure and Rosbain Bissemio are French engineering students studying at the CESI Engineering School as well as working for the French National Railway Company (SNCF). During the summer of 2015, David and Rosbain worked for Global Heat Transfer (please see www.globalheattransfer.co.uk) to gain real-life and hands-on experience in the heat transfer sector.

David and Rosbain approached Global Heat Transfer after one of their friends, Julien Premel, had enjoyed a 12 weeks placement in 2014. David and Rosbain were looking to gain experience of working in the UK and to grow their knowledge of the heat transfer sector. At the same time this was seen as an opportunity to improve their conversational English skills and to experience British culture, both professionally and socially. When asked about his internship, Rosbain said "My internship has been an interesting time of discovering a new work environment and a new work culture for my open minded. During this time I worked specially in research and development with Global heat transfer engineers, as part of my internship I've been enrolled in all Global Heat Transfer departments as sales and technical department."



Figure 1: The location of the Global Group of Companies in the UK.

During their time at Global Heat Transfer, David and Rosbain have been involved in a number of projects that include the identification of new customers in France, translation of company literature into French language, supporting engineers in the field and researching the safety of heat transfer fluids and systems. In his own words, David said "I had several missions during this internship: working of an 8 years samples database to analyse how the oil was deteriorating year after year, and analyse the effectiveness of a Light Ends Removal Kit (LERK; Figure 2); writing a paper about oil on concentrated solar power systems; help growing business in France. I also worked with the sample technicians, the technical business manager and the R&D support parts." This work builds on previous collaborations with students from the CESI Engineering School in Paris that researched the non-fouling nature of food grade heat transfer fluids [1] used in the food processing sector and how to effectively manage potential fire hazards at manufacturing plants [2]. The work conducted by David and Rosbain has now been



Figure 2: A picture of a light-ends removal kit installed to help improve the safety of a manufacturing plant.

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published in Heat Transfer Engineering [3]. The case study is entitled 'The long-term effectiveness of a light-ends removal kit (LERK) in the management of heat transfer fluid plant safety: a case study to show its effectiveness 5 years after installation' and reports the ongoing results from a site where a LERK has been installed and continues to be effective in the removal of light-ends (i.e., short-chain hydrocarbons formed when a HTF thermally degrades over time).

David and Rosbain made Stoke-on-Trent their home during their time in the UK. Stoke-on-Trent is a city in North Staffordshire in England and has a population of roughly half-a-million people. Stoke-on-Trent is the English home of pottery and commonly referred to as 'the Potteries.' Famous sports stars from Stoke-on-Trent include the footballer Stanley Matthews, the darts player Phil Taylor and goalkeeper Gordon Banks, who was part of England's World Cup winning side in 1966.

Global Heat Transfer was a good place to do an internship as both David and Rosbain were "...really interested in working in a small company (less than 30 employees versus in excess of 250,000 at SNCF)."

A key advantage of small companies is clearly the opportunity to work across the whole business, which can be harder to achieve in larger organisations.

Does a Studentship Benefit a Company?

Studentships offer a number of benefits, some that are easy to measure and others that are more qualitative. Indeed, at the very least, a student is an additional and relatively inexpensive resource to assist with everyday activities. In this case, however, the collaboration strengthens the relationship between the CESI engineering school in Paris and Global Heat Transfer as well as helps to grow the presence of Globaltherm® (please see www.globaltherm.org), a range of heat transfer fluids, in France. David and Rosbain also translated company materials into French language so these could be shared with potential customers. The other advantage to the business has been the ability to publish research in peer-reviewed journals [1-6] over the last 3 years which helps to showcase the scientific capabilities of the organisation and the competency of the business in the area of heat transfer.

More Information about Global Heat Transfer

Global Heat Transfer offers a number of services that includes the sampling and analysis of heat transfer fluids to monitor the rate of thermal degradation and extent of foreign contaminants such as water. Other services include heat transfer fluid maintenance; heat transfer system design; and, heat transfer system installation.

Please visit Global Heat Transfer's website (see www.globalheattransfer.co.uk) if you would like to find out more or if you would like to apply for studentships in 2016.

More information about David Faure and Rosbain Bissemo



David Faure is a French student who is in sandwich course. He is both at the CESI's engineering school located at Nanterre in Paris, France and works for the SNCF at Oullins in Lyon, France. He has been in internship since 2007, always working in train maintenance. From June to August 2015, David worked as an intern at Global Heat Transfer in the UK and researched the effectiveness of light-ends removal kits in heat transfer systems.



Rosbain Bissemo is currently enrolled as an apprentice engineer in train maintenance methods at the SNCF Technicentre, Midi-Pyrenees in Toulouse, South West France. Rosbain Bissemo graduated from Amiens Mechanical Engineering College and is an engineering student at CESI Engineering School in Paris. Between June and August 2015, Rosbain worked as an intern at Global Heat Transfer in the UK and researched the safety of heat transfer fluid systems.

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