

CASE STUDY

My great experience at EBRI's laboratories at Aston University, UK



Gözde Duman from Turkey visited the European Bioenergy Research Institute (EBRI) at Aston University, UK as part of the BRISK initiative which is funded by the European Commission's Seventh Framework Programme (Capacities).

Through BRISK, she received a grant for her travel and living costs. The costs of her accessing EBRI's laboratories was also funded by BRISK.

Below you can find a summary from Gözde regarding her visit.

I am a doctoral candidate in the Department of Organic Chemistry at Ege University in Turkey. Unlike the other research team in my department, our fields of research are largely based on thermochemical biomass conversion. I am currently working on slow pyrolysis, fixed bed catalytic pyrolysis of waste biomass and gasification processes with a special focus on upgrading and reforming of bio-oil.

In my opinion, a research visit to a different laboratory provides a crucial opportunity to gain new perspectives for my future scientific research and to network with other researchers in my field. When I first heard about the BRISK project via BRISK partner TUBITAK (the Scientific and Technological Research Council of Turkey), I thought that a visit to Aston University's European Bioenergy Research Institute (EBRI) in the UK would be a good opportunity to make a contribution to my PhD study.

The application procedure was very simple. After I had contacted the host organization (EBRI) and discussed my prospective study, I completed the form concerning the purpose of my visit. My application was approved within three months.

During my two week visit to EBRI, two individual studies were conducted with the great help of my supervisors, Dr Daniel Nowakowski and Dr Scott Banks. We carried out fast pyrolysis experiments in a fluidized bed reactor (capacity of 300 g/hour) with Dr. Banks, who also introduced the other rigs (1kg/ h and 7 kg/h rigs) to me.

Although I could not complete all of the experiments I planned because of unexpected problems concerning the catalyst I used, Dr Banks kindly suggested to run more experiments after I

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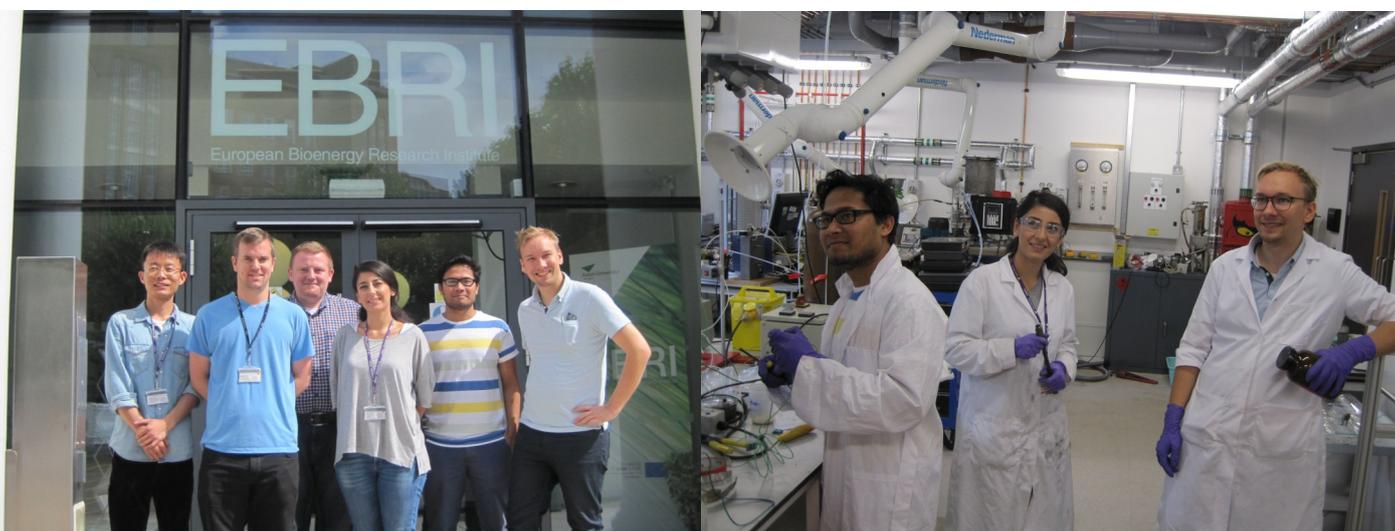


Figure 1: (Left) Wenfei Cai (Shanghai Jiao Tong University), Scott Banks (Aston University), Daniel Nowakowski (Aston University), Gözde Duman (Ege University), plus BRISK visitors Abdul Hye and Pelle Mellin (both from KTH University). (Right) Inside one of EBRI's industrial laboratories.

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left the UK to finish the intended study. Dr Nowakowski helped me a lot and is still working on the analysis of biomass samples and products.

We conducted another study together on the Pyrolysis Gas Chromatography Mass Spectrometer (Py-GC/MS), the results of which are significant for my thesis, particularly in terms of knowledge of analytical pyrolysis. We are currently evaluating our results for publication.

It was lovely to meet and cooperate with other BRISK visitors in the same laboratory. We worked together and helped each other when needed; taking advantage of us all being graduate students from different specialist areas in the common research field. We also got the opportunity to tour the Pyroformer™ plant which provides power and heat to the building, as well as to some other parts of the Aston University campus.

“The application procedure was very simple.”

Visiting EBRI through the BRISK project was a great experience for my academic development and has provided me with the opportunity for future cooperation with researchers who specialise in biomass energy.

Acknowledgements

I would like to thank all EBRI staff; particularly Dr Daniel Nowakowski, Dr Scott Banks and Professor Tony Bridgwater for their assistance, valuable comments on my experiments and taking care of me during my visit to Aston University.

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Figure 2: (Top) Running an experiment in one of EBRI's laboratories. (Bottom) Assessing biomass samples.

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