



WHY IT MATTERS... CHEMICAL ENGINEERING



Loughborough
University

Peter Nagy

Research Student

Nowadays everybody sees that the world is changing. The usage of new energy and carbon sources are inevitable. The problem with this new source is that the whole economy is built on fossil sources. To achieve our goals the industry needs to transform. My project is strongly related to circular economy. It is very interesting to see what has been already done, but also what barriers still need to be overcome.



The components of fossil fuels like gasoline or kerosene are already present in crude oil and their production involves mostly separation processes. On the other hand renewable sources to produce bio alcohol or bio oil require many chemical steps and uses a huge amount of water. Until the water processing is solved these processes are not sustainable either. I am focusing on this last step to utilise this water and use it as a hydrogen resource which also plays an important role in future economics.

To achieve this I am working with different catalyst. These materials make reactions possible. Using a catalyst can help to save a lot of money and energy and make a process economically viable.

Post 16 Education	Higher Education
A Level: Chemistry, Mathematics, History, Hungarian and German. I studied in Hungary in my hometown Esztergom. In Hungary it is compulsory to do exams from at least 5 subjects which includes Hungarian, History, Mathematics and one foreign language.	Bachelor's degree: Chemical Engineering Master's degree: Process Engineering Both at Budapest University of Technology and Economics

Peter's advice: One of the biggest mistakes that people make is just dreaming and hanging in the air. Life is full of possibilities, but they won't fall into your arms. You have to look for them. To find these first you need to know what makes you happy and what motivates you to wake up in the morning. For me it is friends, music, chemistry (ofc) and my breakfast. I think when you are choosing a career it is extra important to know what is important to you. Maybe you want to earn a lot of money but perhaps a job with less income but more delight is more important to you. You are the one who is deciding it so you need to know what is good for you.



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Peter's experience as a student

At the beginning of the university, I could not wait to start this new life, but after a few months I realised this was totally different from what I expected.

During my studies I kept my old friends and I studied way more than I wanted to. It took me 2 years until I totally adapted to the system. Even though it took me much longer to get used/learn how to spend my days finally I did it.

So if something starts badly it doesn't mean that it is going to stay like that, you just need time to adapt.

My best memory from the university was when after my bachelor's degree I took a one-year break.

I applied to take part in volunteer program so I spent a year in Estonia as a teaching assistant in a village high school. It is one of my nicest memories as I met so many new people, tried out a different lifestyle and learned a very unique language. I know it is a cliché, but it changed the way I see the world. During that year I had a lot of fun but after a while I realised I really miss reading about chemistry and doing experiments so I looked into continuing my studies and applied for a master's degree in Chemical Engineering.

Career

Currently I am doing a PhD at Loughborough University. My project is focusing on catalyst development for hydrogen production from wastewater. It involves mainly experimental work, so I spend a lot of time in laboratories in a white coat and pouring liquids from one vial to another.

But I spend the same amount or even more with reading and learning about my project.

I came here after doing an internship at KTH in Stockholm. There I was doing experimental work and it gave me a good opportunity to experience how it feels doing research with all its up and downs.

Loughborough University offers several undergraduate degrees in Chemical Engineering and Chemistry

All Loughborough's undergraduate degrees offer the opportunity to include a work placement as part of the course.