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Summary

According to my knowledge as an Energy Engineer, I'm impassioned to contribute to the development of sustainable human life on Earth.

Experience

Technical Support Specialist

BKM – BUDAPESTI KÖZMŰVEK Nonprofit Zrt.

May 2021 - Jun 2022 (1 year 2 months)

Master Thesis Project

Instituto Superior Técnico

Feb 2019 - Oct 2020 (1 year 9 months)

The research-oriented thesis project took place at the laboratory of the Department of Energy and Chemistry at Instituto Superior Técnico.

The subject of the project was to investigate the catalytic abilities of four different imidazolium-based ionic liquids once on the hydrogen evolution reaction (HER), and secondly on the oxygen evolution reaction (OER) in alkaline media to finde potential electrolyte additives to alkaline electrolysis enhancing.

Summer Intern

Politecnico di Torino

Jul 2018 - Aug 2018 (2 months)

The University was co-operating with ACEA Pinerolese Industriale which is a public-sector company whose certain services are solid urban waste collection Differentiated collection and Treatment, enhancement and disposal of waste. ACEA is managing: - wastewater treatment (WWT), compost production, biogas production from the anaerobic digestion (AD) of the organic part of Municipal Solid Waste (MSW), and biogas collection. The biogas is received from a nearby landfill, from the WWTP, and from the AD of MSW.

At that time the biogas was combusted in CHP engines, and they were covering their own electricity needs, and selling the rest of it, and also providing district heating to a commercial area in Pinerolo.

In the recent year - because Italy reached its goals in renewable electricity production - the incentives for renewable electricity are decreased. On the other hand, incentives are increased for renewable fuel production - such as bio-methane - to reach renewable fuel production goals and to increase the green gas share in the natural gas grid. Therefore - as a first step - ACEA installed a biogas upgrading system.

Thus, my task was to determine the optimal split between the biogas sent to the CHP engines, and the biogas sent to upgrading process in the perspective of economics.

In addition, on the site – in the framework of an EU project named PROGEO - a methanation demo reactor will be installed, in order to analyse the potential of Power to Gas (P2G) technology. P2G process can transform electricity to synthetic natural gas using the removed CO2 from the biogas. and the additional task was to analyse the system with P2G assuming that the CHP engines run the electrolyzer.

https://www.aceapinerolese.it/ambiente/il-biometano-dai-rifiuti-organici/
http://www.denerg.polito.it/en/

Self Employed

Kéki Szilveszter Self Employed
Mar 2017 - Jun 2017 (4 months)
I started to work as self-employed and registered my private Enterprise at Hungary.

One of my projects was to manage the 3D cinema at the Budapest Zoo & Botanical Garden.

Another project was playing the role of a peasant (gyöngyösi kapás paraszt) from the 19th century at the Skanzen / HUNGARIAN OPEN AIR MUSEUM. Where during the weekends within the framework of the so-called "living-history" actors were helping the visitors to see into the daily life of the 19th-century people.

https://www.youtube.com/watch?v=KfKKsoeuhvc

Because I get accepted to the EIT InnoEnergy Master program Energy transition (previously called Clean and Alternative Fossil fuels Energy), I terminated my private Enterprise.

Bachelor thesis about landfill leach treatment

Budapest University of Technology and Economics
Feb 2016 - Jan 2017 (1 year)
The project took place at the Budapest University of Technology and Economics at the Department of Building Services and Process Engineering.

In my bachelor thesis, I described:
-the landfill leach production mechanism
-the EU regulations to prevent landfill leach leaking
-the Hungarian regulations for treated wastewater releasing
-the recyclable resource from landfill leach

After I proposed several processes to treat landfill leach.

And I produced a landfill leach treating system with a process flow diagram, and with the proper selection of the equipment.

Because of the lack of real data related to the leach composition and quantity I took data from the literature. The quantity was described as 50 m3/day with the agreement of my supervisor.

Mechanical Design Engineer

Europlan Mérnökiroda Kft.

Feb 2016 - Aug 2016 (7 months)

One of my tasks at the company was preparing production plan drawings. The subject of the drawings was tanks and reactor vessels for partners came from chemical and pharmacy industry.

Also, I had an on-site task, where we were constructing the 3D models of the cooling pipe systems connected to the ethanol above-ground storage tanks, where the size of the tanks was driven from 500 to 50000 m3.

http://www.europlan.hu/

Summer Intern

Sanofi

Jun 2015 - Jul 2015 (2 months)

Sanofi has a pharmaceutical factory at Budapest, where they experienced the loss of the cooling media on the plant side due to the fact that several production methods need cooling and heating periods in the same jacketed reaction vessel.

Our task with one of my intern colleague was to identify and measure the length of pipelines which are involved in the cooling and heating processes and estimate the cooling media loss to verify that the loss is related to the cooling and heating media change in the jacket.

Because the case was much more complicated as we were expected, we proposed other issues which can cause the loss and proposed new measuring points to be able to locate the cooling media loss more precisely.

https://www.sanofi.hu/hu/magunkrol/a-sanofi-magyarorszagon/elerhetoseg
https://www.sanofi.com/en/directory/

Education

Green Fox Academy

Java backend developer, Information Technology

Jul 2022 - Dec 2022

Basic java studies at the beginning, then we learn making web applications with Spring Boot including DB communication (MySQL).

Instituto Superior Técnico

Master of Science in Energy Engineering and Management

2018 - 2020

The 2nd year of CFAFE was held at Lisbon at the Instituto Superior Técnico. The subject of the year was Renewable Energies.

Main courses:

-Energy Storage
-Hydropower
-Solar Photovoltaics
-Decision Support Models

EIT InnoEnergy

Master of Science - MS, Clean Fossils and Alternative Fuels Energy (Currently called Energy Transition)

2017 - 2020

European Institute of Innovation and Technology with co-operation of InnoEnergy are organizing the Clean Fossils and Alternative Fuels Energy (CFAFE, currently called energy Transition) which is a Dual Degree Masters program which provides knowledge about the most recent conventional fossil fuel-driven energy systems with the addition of entrepreneurship curricula and project management certifications. These parts with several industrial on-site visits are held in the first year at the Silesian University of Technology in Poland.

The detailed education about renewable energies takes place in Instituto Superior Tecnico in Lisbon during the second year. This two year gives an excellent chance for students to taste international mobility by inspiring students to participating in other organisation of InnoEnergy and/or EIT such as CommUnity or EIT Alumni.

https://eit.europa.eu/
http://www.innoenergy.com/education/master-school/our-master-programmes/msc-energy-transition/

Católica Lisbon School of Business and Economics

Entrepreneur In a Week: From Dawn to Pitch, Intensive Entrepreneurship Training

2018 - 2018

CATÓLICA-LISBON is among the top 1% of Business Schools worldwide, holding the coveted Triple Crown status and accredited by the three most prestigious management education accreditation agencies:

Association to Advance Collegiate Schools of Business (AACSB)
European Foundation for Management Development (EFMD)
Association for MBA's (AMBA)

During the intensive program, students were helped to prepare their business model in the framework of several workshops related to
-Recognizing and shaping opportunities
-Business Model Canvas
-Customer Development

Then in the final, every group pitched their business idea in front of a group of investors at ENTER Altice Labs in Lisbon.

The Silesian University of Technology

Master of Engineering in Power Engineering (Major in Energy)

2017 - 2018

The 1st year of CFAFE was held at The Silesian University of Technology in Poland.

Main subjects:

-Project management
-Optimization of combustion processes
-Heat cycles modelling in EES and EBSILON professional
-Waste management
-Business plan

Budapest University of Technology and Economics

Energy Engineer, Mechanical Engineering with Chemical Engineering specialization

2012 - 2017

The BME Energy Engineer program gives a wide knowledge about the production, delivering and utilization of heat and electric energy. The main interest of the program:
-Energy Management
-Thermodynamics (Heat transfer, Heat Cycles)
-Electrical Energy (High voltage networks, Electrical machinery, Electrical Power Systems)
-Nuclear Energy (Nuclear and Neutron Physics, basic of Atomenergetics)
-Hydrodynamics (Fluid dynamics, Fluid machinery)
-Power plants

Main courses of the specialisation:
-Process Control and Instrumentation
-Control Engineering
-Processes and Equipment of Chemical Industry
-Technologies and Equipment of Food Industry
-Equipment Design
-Processes and Equipment in Environmental Protection
-Mass transfer

Licenses & Certifications

Problem Solving/8D - Progress Project

Business presentation and public speeches training - Chairman of the Board Compen Sp. z.o.o

PRINCE2® Foundation Certification Training - AXELOS Global Best Practice

GR633086315SK

PRINCE2® Foundation Accredited Course in Project Management - Inprogress

PRINCE2® Practitioner Accredited Course in Project Management - Inprogress

SUT & IST - Innoenergy
66039174

Skills

Docker • MySQL • Java Database Connectivity (JDBC) • Java • Hibernate • Spring Boot • Flyway • REST APIs • Representational State Transfer (REST) • Renewable Energy

Honors & Awards

Special Award at Students' Scientific Conference 2016 - BME, Department of Department of Building Services and Process Engineering
Nov 2016
I won the jury special prize at the Students' Scientific Conference for my project: "Review on anaerobic membrane bio-reactors (AnMBR)". In which I described several AnMBRs types, their challenging problems related to membrane clogging and microbiological inhibition and their potential utilisation in the wastewater treatment industry.

https://tdk.bme.hu/GPK/GETEP1/Anaerob-membran-bioreaktork

Best Business Proposal - InnoEnergy
Nov 2017