

Strap:

Head: Getting to know you...Edo Johann Becker

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1. Please introduce yourself

I obtained a PhD in the field of spectroscopic studies of the polar arctic atmosphere whilst working at the Alfred-Wegener Institute for Polar and Marine Research in Potsdam, Germany.

Following this I spent two years at the Centre for Marine and Atmospheric Sciences in Sunderland investigating the formation of aerosols over boreal and coastal areas using particle counters and volatility analysers.

Leaving academia in 2000 I started to work for BP Chemicals in Hull for 17 years. This was in diverse areas such as technical product support, development of new catalysts using high-throughput technology and technical coordination of pilot plant programmes.

But I spent the bulk of my time on the deployment of cutting edge spectroscopic process analytical technology (PAT) for the analysis of liquid, gaseous and solid processes in petrochemical, biofuels and refinery streams.

During this time I also worked on the development of novel process analytical tools, like the use of non-invasive ultrasonic process analysers.

Since 2018 I worked as a technical consultant for the application of PAT in the manufacturing industry in Hamburg, Germany, closely cooperating with two innovative British companies in the field of PAT, SPECAC and Keit Spectrometers.

I often represent them at conferences and exhibitions in Germany through presentations and exhibition booths.

I also work part-time as the quality manager of the national German oil stockholding organisation, the EBV in Hamburg.

My responsibilities include the maintenance of the national crude oil equivalents inventory of crude oil and crude oil products. These are usually stored in caverns and tank farms across Europe.

In his role at the EBV, I organise the annual meeting of quality managers from various global stockholding organisations. During which all matters with regards to testing the degradation of crude oil products and new testing standards are discussed.

I am a member of the board of the German Standards Office (DIN) for the development of analytical standards for automotive fuels and heating oils. As well as a member of the research board for the German research association for crude oil and coal (DGMK) in the field of new heating oils.

I have published or co-authored on several papers and am named as the inventor on four patents in the area of chemical engineering and process analysis.

2. How and why did you get into the petro industry?

I studied chemistry at the technical university of Braunschweig and got exposure to industrial chemistry there.

After my post-doctorate, I wanted to get into industry to apply my knowledge in spectroscopy. Specifically in developing process analytical technologies at BP Chemicals.

The job was so interesting and widespread that I decided to stay in various roles within BP.

3. Where do you see the industry going in the next five/10 years?

Sustainability targets are forced on the industry in Europe. This makes them have to think about incorporating sustainable raw material streams into their manufacturing processes.

With this I think a higher degree of data gathering of raw material qualities is required to control the processes.

This means more sensors and analytical devices are required in Europe first.

4. What's your strangest story since entering the industry?

I was a chemist on a demonstration unit to produce acetic acid.

The unit was running for quite a while. But living in the East Riding of Yorkshire we had a very harsh winter in 2009/2010.

I could not use the car or the bike to get to work. But instead had to walk in to start my early morning shift on the plant...it was still running though!

5. What's your favourite professional experience?

Building a network of engineers and scientists across BP functions to run a PAT network.

We had participants from all over Europe and the US in these teleconferences. It enabled the exchange of the latest information about new analyser projects on the BP production units research facilities.

In these meetings we also invited external presenters from vendor companies and academia. This helped present recent developments and new product innovations.

I also successfully ran a centrally funded BP grant for a post-doctorate programme.

This led to applications in monitoring chemical processes using ultrasound.

The invention was eventually patented.

6. Why do you love working in petro sciences?

I love engineering and science in combination with PAT and how we can use this to optimise chemical processes and make this world a better place.

Without engineering and the application of science, including PAT, we will definitely fail at tackling the big challenges we face.

7. What are your professional hopes for the future?

That we still have chemical engineering and petrochemical plants in Europe in the next 10 years.

That's despite the bureaucracy and cost disadvantages in energy supply we must deal with in Europe.

8. What do you get up to away from your professional life?

I am now a keen runner, running the equivalent of a marathon each week and successfully took part in a half-marathon in September.

I used the additional time at home during the Covid pandemic and forced home-working to start a daily routine of getting fitter.

I hoped to get some positive experience out of that difficult time and it worked for me personally.