Get to know the corrosion fighters

They have told us their story, how will yours be?

DR. RICHARD JAMES BARKER

Winner of the
Kurt Schwabe Prize

Give us a little presentation of yours. What did you study?
I am an Associate Professor within the Institute of Functional Surfaces at the University of Leeds, UK. I was awarded a PhD in 2013 in the field of corrosion science from the same University, which was sponsored by Shell UK Ltd.

What is your job title? What does it consist of?
I am an Associate Professor in Corrosion Science and Engineering. I lecture in Corrosion to MSc students and Fluid Mechanics to Mechanical Engineering undergraduates. However, most of my time is spent working with PhD corrosion and material science researchers across a spectrum of fields, encompassing oil and gas, renewable energy (geothermal, solar, wind) and carbon abatement systems.

How did you get here?
I studied for both my undergraduate and PhD degree at the University of Leeds. After completing my PhD, I was appointed as a Research and Teaching Fellow at Leeds. Since that initial appointment, I have progressed to the position of Associate Professor and work with colleagues in the Institute of Functional Surfaces to oversee the corrosion-related research activities within our group.

Who has helped? Was networking important?
The opportunities afforded to me and the position I am in now is predominantly a result of the excellent guidance, support and mentoring I have received from my PhD supervisor, Professor Anne Neville. As a researcher, establishing a network is of course important. I would also say that one of the most critical aspects for me is working effectively and having a strong interaction with colleagues within your institute. Having an environment in your institute where you enjoy going to work and collaborating with colleagues is essential.

What do you like most about your profession?... Is there something you don't like?
I really enjoy the multi-disciplinary nature of corrosion and the fact that on any given day I can be discussing concepts with mathematicians, experts in fluid mechanics, material scientists, metallurgists, electrochemists and chemists. I really enjoy working with and educating the next generation of material scientists and especially seeing them move on and progress with their careers.

What do you like most about your profession?... Is there something you don't like?
I really enjoy the multi-disciplinary nature of corrosion and the fact that on any given day I can be discussing concepts with mathematicians, experts in fluid mechanics, material scientists, metallurgists, electrochemists and chemists. I really enjoy working with and educating the next generation of material scientists and especially seeing them move on and progress with their careers.

Something curious that has happened to you within your career and that you remember with a smile?
Perhaps when I drove 200 miles to Reading for a meeting with an industry sponsor but forgot my black shoes and had to walk into the meeting wearing a suit with bright white trainers!

If you didn't dedicate yourself to this field, what would you have liked to be?
That's a difficult question. I would perhaps say medicine.

Do you think this field needs more visibility?
Absolutely – particularly in the UK, there is a huge shortage of Corrosion Engineers and there are very few academic institutions who produce graduates with the necessary skills to easily transition into corrosion integrity roles.

What do you think about the incorporation of new Technologies for corrosion detection? Are they necessary or could we live without them?
One of my research interests is the development of in-situ techniques and unique lab-based systems that provide a deeper insight into corrosion mechanisms… so I believe new technologies are essential. They help us to understand, and hence, mitigate its effect more effectively.

How do you think a good corrosion professional should be?
Curiosity, creativity and communication

What is the single most valuable attribute of a researcher in your lab?
Willingness to learn

What do you mainly check in the CVs you receive?
Why they want to apply for this specific position, what motivates them, demonstration of a willingness to learn and ability to adapt to new areas… and strong communication skills.

What is lacking in these applicants' CVs?
Generally in the UK, direct relevance of their background scientific knowledge to the position. Most PhD applicants are from Mechanical Engineers with a broad background which is not specific to corrosion or material science.

Could you say what it is and how you see the future of engineers/corrosion scientists? Any advice?
The next generation of corrosion engineers will have to contend with a multitude of new corrosion challenges as we transition and embrace a breadth of new energy technologies, which all need to operate in the most efficient and sustainable manner possible. We have been experiencing this transition in out Institute over the past 5-6 years and re-orienting our research activities accordingly – there are huge material degradation challenges in wind, solar, carbon capture and storage, geothermal and tidal to name a few. I would say it is an exciting and interesting time to become a corrosion scientist.

Corrosionist… is it born or made?
I think it can be both, no?

TO END… COULD YOU TELL US…

- **A color**: Blue
- **A number:** 7
- **A song**: I'm a huge Oasis, so anything by them
- **A hobby**: Walking the dog
- **A city**: Vancouver