

Passion for Corrosion



Michelle Lau
Grad. IEM

Michelle Lau is the Committee Member of Women Engineers Section. She is an NACE International certified Cathodic Protection Specialist and the General Manager of Mach3 Engineering Sdn Bhd. She graduated in Materials Engineering from Monash University, Australia and, for the past 19 years, pursued a career in the field of cathodic protection.

“You are a what engineer?” asked an acquaintance one day, over coffee.

“A corrosion engineer,” I answered somewhat dismissively.

“You deal with rust?” my new friend probed further.

“Yes! See those ugly looking brown flakes falling off this fence here?” I said, pointing to Exhibit A. “I deal with that.”

While not many people can actually grasp the idea of what a corrosion engineer does, it has by far, been the most challenging, yet fulfilling part of my life and my career. My family and close friends have come to understand the demands of my job and how it has never failed to put a smile on my face.

We are that rare breed of people who live and breathe to combat a naturally occurring process called corrosion or basically, metal degradation. Rust is bad. Rust is ugly and it makes us cringe and hyperventilate to a certain extent and, yes, we know why and how your metal grille doors are rusty.

We value our possessions, which may range from offshore structures such as oil rigs, marine vessels and submarine pipelines to underground onshore structures such as cross-country oil and gas pipelines and water distribution pipes. Then there are hazardous petrochemical and power plants, aerospace lightweight alloys and composites and medical implants. Yes,

the world is a playground for rust but we, the corrosion engineers, are here to prevent it.

So we can imagine a corrosion engineer having to travel to the remotest parts of the world – not exactly a five-star holiday nor a Trip Advisor reviewed site. We travel far and wide to solve corrosion issues. On a positive note, we amass a different level of travel experience altogether as part and parcel of the job. Every site we visit is a new challenge, and that is what drives us or at least, me.

Each year, corrosion engineers from around the world will gather in the US and spend a week to discuss methods to combat corrosion, from new technologies and new methodologies to exotic materials. Each problem has an individual signature attached, so two seemingly similar problems may be resolved in totally different ways. This is what makes our work scope so interesting.

From the beginning of my career to now being as an entrepreneur in the corrosion business for more than 14 years, I have come a long way but I have never lost my passion for what I do. Together with others in the same field, I strive to advocate for corrosion awareness, corrosion mitigation and corrosion management across all industry sectors, not just locally, but worldwide. It's our cup of tea and we are proud of it.

While the world of corrosion engineering may be dominated by men, a growing number



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Data Logger in the cabin of PVD installation rig.

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of women are taking up the challenge. While some had chosen to be a corrosion engineer out of interest, a few others chanced upon the industry by accident. But whatever the case, these women below have one thing in common: Passion for the industry.

Dr Azzura Ismail, who is attached to Universiti Tun Hussein Onn, enjoys her role in working to solve material corrosion issues from offshore oil exploration to the medical world. At the same time, she hopes to serve the people around her with her passionate research towards a greener environment and reducing the cost of corrosion maintenance.



Corrosion is not just about what is occurring on the surface, but at the interface of materials.

As a young graduate, **Sherine Wong** stumbled upon corrosion engineering by accident. It was a job she accepted without hesitation. She said: "It is a challenging yet rewarding profession as it requires the knowledge of a chemical engineer, a chemist and a materials engineer to understand

the entire process system, the chemistry behind the corrosion reaction and the metallurgy or properties of various steels".

Another young graduate, **Kamila bte Abdul Hamid**, has been in the corrosion industry for the past three years and has accumulated hands-on experience on more than 30 projects so far. As a female in a male-dominated world, she



found it very challenging and said it required thinking out of the box. She said a corrosion engineer required one to be multi-disciplined and a multi-tasker all the time.

Nurul Asni Mohamed, who has been in the industry for 17 years, started her career as Maintenance Engineer with PETRONAS.



Today, she is Principal Engineer (Corrosion) with PETRONAS Group Technical Solutions, which sees her role elevated to policy making for PETRONAS in the capacity of subject matter expert.

Elizah Samat, has worked 12 years with Shell Projects & Technology Group as Senior Materials & Corrosion Engineer. The Klang-born engineer is married with three children and, despite her demanding career and schedule, enjoys cooking and travelling with the family.



Like many of my peers, the world of corrosion engineering has opened many doors of opportunity for me. It is a niche industry that gives one the opportunity to be part of the solution in whatever discipline of engineering you may have come from. It is by finding this niche that I have experienced a more fulfilling career, widened my network and made lifelong friends across the globe. ■

IEM DIARY OF EVENTS

Title: Talk on "Difficult to treat water and waste water, how tubular membranes can be the solution"

5 April 2016

Organised by : Environmental Engineering Technical Division
Time : 5.30 p.m. – 7.30 p.m.
CPD/PDP : 2

Title: Talk on "Wills, Estate Planning & Value Protection"

6 April 2016

Organised by : Senior Special Interest Group
Time : 5.30 p.m. – 7.30 p.m.
CPD/PDP : 0

Title: Technical Visit to Malaysia Automotive Institute

7 April 2016

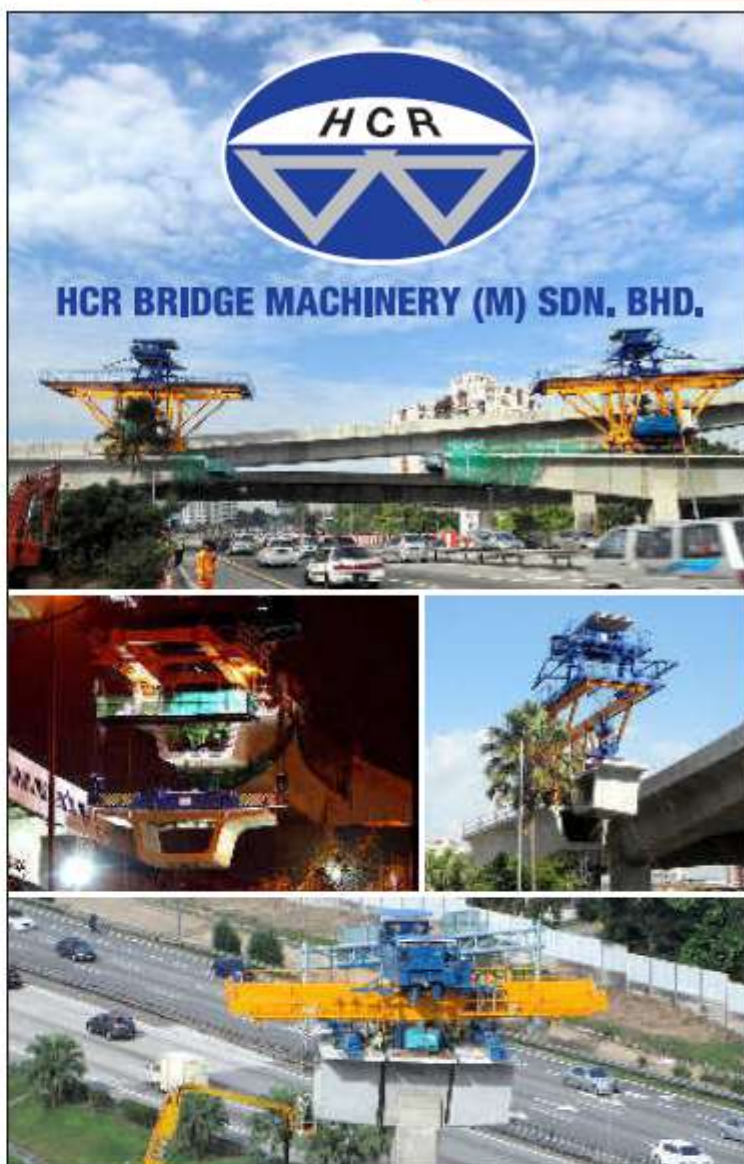
Organised by : Public Sector Engineers Special Interest Group
Time : 9.30 a.m. – 12.30 p.m.
CPD/PDP : 3

Title: Talk on "Typical Changes Leading to Cost Overruns, Delays and Claims in Infrastructure, Oil and Gas Projects"

7 April 2016

Organised by : Oil, Gas and Mining Engineering Technical Division
Time : 5.30 p.m. – 7.30 p.m.
CPD/PDP : 2

Kindly note that the scheduled events below are subject to change. Please visit the IEM website at www.myiem.org.my for more information on the upcoming events.



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