This time, we will have the fabulous **Natasha Hendrick** from Santosas as the member spotlight. Let's listen to some stories and ideas from her!

Before the general questions, Natasha shares her idea about the women's role in geophysics or geoscience with her experience.

The mining and oil & gas industries are still male-dominated industries. While I now routinely see gender balance in geoscience and engineer graduate intakes, by the time you look at team leader levels within an organisation, men are dominant. So, on one hand, things have changed for the better over the past 20 years in that more girls are being attracted to study and enter careers in earth science. But on the other hand, company cultures and workplace practices, together with widespread affinity bias (where people tend to better support and promote others like themselves) are preventing gender equality in our industries.

As to the role of women in earth sciences … they are an incredible untapped resource when we consider the type of leadership we need in today's volatile, uncertain and ambiguous world. Traditional male leadership characteristics (centred around agency and heroic work, with confident, ambitious and assertive behaviour being highly valued) have defined work styles through the industrial revolution and information era. This type of leadership works when things like optimisation, efficiency, predictable order, and knowledge of the destination defines the priorities of a leader. Today, however, leaders don't know the final destination or even how to get there - the world is too uncertain; priorities and technology are changing too quickly. Leaders must rely on collaborative, cooperative and more human-centric leadership approaches to align their teams on the "why" and build psychological safety for high-performance and continuous innovation. Generally speaking, it tends to be women who can naturally and effectively deliver this style of leadership. We need to normalise these more female approaches to leadership in our industries so that our businesses and the communities in which we work can benefit from women's full participation in earth science careers.

Let's the go to the general questions:
1. For how long have you been a geophysicist?

I graduated with my Bachelor of Applied Science (Geophysics) Honours degree from the University of Queensland in 1993. I've studied or worked as a geophysicist ever since!

2. What do you like most about being a geophysicist?

I love geophysics because of the integration of disciplines - maths, physics, geology and computing. There are always new things to discover at the edge of disciplines and plenty of opportunities for creative problem solving - it is the most interesting place to work.

I've also thoroughly enjoyed the adventures geophysics has taken me on - from working in the Central Queensland coal fields, to building a new life in WA, to spending extended periods of time in Europe and the USA,

and working around Asia … geophysics has helped me see so much of the world and introduced me to plenty of amazing people.

3. If you weren't a geophysicist what would you be?

I'm not just a geophysicist - I'm also a leadership facilitator, board advisor and non-executive director for a range of national and global organisations in the community, education and tech industries. I've built myself a parallel career through volunteer work that keeps me travelling the world even when my geophysics work doesn't. Most importantly, my volunteer career has provided me with roles and projects that have helped me develop skills I would never have gained through my paid work.

Most recently I've co-founded b.bold Group - a global organisation focused on supporting women in STEMM industries to develop and practice their leadership, rise as change makers, and lead the way to solving humanity's most pressing challenges. When I stop working as a geophysicist, I'll be working full time for b.bold!

4. What is your best interview tip?

I have interviewed a lot of people in my career, and regular feedback I give to new graduates is don't come into an interview having learned answers by heart and pretending to be someone that isn't authentically you. Instead, relax, listen to the question, reflect, and take your time to give a considered thought. An interview is as much about demonstrating what you said about yourself in your CV as it is about demonstrating you know how to engage with others and showcasing how you think.

5. What's one thing that we wouldn't know about you?

I can usually answer this question by telling people I'm a singer. I spent 15years on stage in Brisbane in musical variety shows and performing in musical theatre. But anyone who attended the 2011 IPA conference saw me belt out "Dancing Queen" at karaoke! :-) So, perhaps instead I can say, I'm an artist - I draw with charcoal and pastels.

6. What are you reading at the moment?

I've got a few books on the go at the moment - I like to have a choice of what to pick up depending on my mood!

Atomic Habits by James Clear is a fantastic read if you want to learn tricks for making small changes that will build habits that can transform your life. "You do not rise to the level of your goals. You fall to the level of your systems."

I'm also reading *Women and Leadership* by Julia Gillard and Ngozi Okonjo-Iweala. This book shares the experiences and advice from some of the world's most amazing female political leaders. They call out the biases that make navigating politics so difficult for women all around the world, and share lessons for upcoming leaders.

And I'm working my way through Michael Bungay Stainer's book *How to Begin* which talks you through the process of defining your thrilling,

important, daunting goal in life, and helping you take action to be a force for positive change in the world.

7. What made you decide to be a geophysicist?

My pathway to geophysics was serendipitous (as has been my pathway through much of my career). I actually started out in university enrolled in a mechanical engineering degree. But, I didn't last long as one of only 5 women in a class of 500. I found geophysics by speed-reading the university handbook, desperately trying to figure out a "Plan B". I came across this degree that involved maths, physics and the outdoors .. three of my favourite things! So geophysics it was … and I haven't looked back since!

8. What is a challenge that you see in geoscience today, and how do you see the community overcoming it?

I think one of the biggest hurdles the field of earth sciences has to overcome today is the public perception that earth science is an 'anti-green' career that does not contribute to a sustainable future for the planet. The reality is that geology and geophysics are absolutely essential for humans to live in an interconnected and sustainable way in the world. However, geoscience (and more broadly earth science) is

often tainted by association with mining and oil & gas industries that have a (real or perceived) reputation for environmental destruction. There is a huge amount of work for these industries to demonstrate their commitment to helping achieve the Sustainable Development Goals; public activism has helped accelerate this in recent years. But the earth science community also needs to demonstrate the broader value of geology and geophysics to the human race before we no longer have a critical mass of knowledge in these fields. We cannot expect to thrive on a planet if we don't understand the processes that shape it or the essential ingredients for life (like water, soil, air, vegetation) it provides us.

9. What's your most treasured textbook?

I started my geophysics career as a digital signal processor. I loved deconvolution, FFTs and match filtering! And my all-time prized textbook is Robinson and Treitel's "Geophysical Signal Analysis". I also still have a copy of the Robinson and Treitel Reader - a collection of their most famous published papers.

10. Do you think AI will take over your job or will the human element remain vital to exploration successes?

The delivery of any new product or business follows the 'business S curve'. At the beginning of this curve, output is low while the problem being addressed is explored and solutions are tested. This translation of an original idea to a workable solution leverages tacit knowledge, heuristic thinking, personal experience and intuition. This first phase is all about "exploration".

The value of any product will then rapidly escalate as the new solution is executed and introduced to the market. Now the company is investing in mass production, exploiting efficiencies, reducing risk and promoting their product. This second phase is all about "exploitation".

When the world was slower, and products, services and business models lasted longer, much of the company's effort lived in the "exploitation" phase. Today, the rate of change has accelerated, and the

S-curves for any given business or technology are shorter and closer together. This means that we have to get a whole lot more comfortable working in the “exploration” phase of product and technology cycles.

The good news is that humans uniquely excel in the “exploration” phase; and machine-learning / AI / algorithmic thinking excels in the “exploitation” phase. Technology won’t be able to completely replace humans, we just need to recognise that the skills that matter most and what we work on will shift to compliment technological advancements. Digital transformation is a human transformation.