Member Spotlight

A monthly highlight featuring an ASEG member. All past member spotlights can be found in our newsletter archive.

We welcome **Farhad Khoshbakht** under the spotlight in this issue as he shares his enlightening story!

Farhad is a geophysicist by profession and a Data Specialist by trade.

I am a geophysicist specializing in downhole geophysics and petrophysics, with a career spanning over 15 years in the oil and gas industry. Six years ago, I made a significant transition into the mining sector—moving from the porosity and permeability domain to the mineralization and oxidation space. This shift was not just a technical challenge but also a career-defining learning curve, as I transitioned from working in a 150,000-person multinational corporation to a 50-person local geophysical company.

Currently, I work as a Geoscientific data Specialist and Geophysicist in a gold company, contributing to exploration and resource definition projects. My role allows me to bridge geophysical data with geological insights, supporting strategic decision-making in mineral exploration.

Outside of work, I enjoy exploring new technologies, traveling, and experiencing different cultures.

1. ***Tell us who you are and what you do.***

   I hold a BSc in Geology and a MSc in Exploration Geophysics from the University of Tehran. As a mid-career geoscientist, I have navigated through both the oil & gas and mining industries, gaining valuable insights into subsurface exploration and resource evaluation.

   Exposure to the data world has opened a new era of learning for me—understanding how to maximize the value of data and how emerging technologies are transforming the way geoscientists work. While I appreciate advancements in machine learning, I still lean

toward traditional regression models when dealing with large training datasets—though I know this perspective sparks debate.

My work sits at the intersection of geoscience and data, where I strive to bridge conventional methodologies with modern analytical tools to enhance exploration and resource development.

2. ***For how long have you been a geophysicist?***

I have been a geophysicist for around 20 years, on and off, navigating between geophysics, structural geology, geomechanics, and petrophysics. This multidisciplinary approach has given me a broad perspective on subsurface exploration and resource evaluation.

Throughout my career, I have been involved in both greenfield and brownfield exploration projects across the Middle East and Australia. Working in diverse geological settings has allowed me to develop a deep understanding of the challenges and opportunities in resource exploration, from initial discovery to resource definition.

3. ***What do you like most about being a geophysicist?***

What I enjoy most about being a geophysicist is that geophysical models or interpretations are grounded in real measurements. Geophysics isn't just theoretical—it's backed by hard data, and that's what makes it both reliable and fascinating. The beauty of this field is that experience truly matters. The more knowledge and data you gather over time, the better your interpretations become, and the less uncertainty you face.

4. ***If you weren't a geophysicist, what would you be?***

If I weren't a geophysicist, perhaps I would have pursued a career as a mechanical engineer or a technician. The hands-on, technical aspects of the field, combined with the analytical thinking required, align well with my interests.

5. ***What made you decide to be a geophysicist?***

What made me decide to become a geophysicist was the multidisciplinary nature of the field. Geophysics appealed to me because it combines elements of physics, mathematics, geology, and engineering to solve complex, real-world problems.

6. ***What reaction do you mostly get when you tell someone that you are a geophysicist?***

When I tell someone I'm a geophysicist, the most common reaction is that people immediately think it has to do with physics. I often end up explaining how we apply physics, mathematics, and geology to understand things like mineral resources.

7. ***When asked what you do – what do you do?***

When people ask what I do, I like to compare geophysics to medical diagnostics. Just like doctors use acoustic echoes to image the heart or electrical signals to record brain activity, geophysicists use similar physical methods to 'see' inside the Earth. We can't open it up, so we rely on interpreting waves and signals to understand what's beneath the surface — kind of like giving the planet a check-up

8. ***What aspect of geophysics do you enjoy most?***

What I enjoy most about geophysics is the ability to control what you see, how you see it, and what properties you're looking for beneath the Earth's surface. Unlike other fields, geophysics allows you to customize the data collection process—whether it's focusing on specific geological features, setting the resolution of the images, or targeting particular subsurface properties like mineralization or fault lines.

This level of control makes geophysics incredibly powerful and versatile, enabling us to extract detailed, actionable insights from data. It's like having a tool that lets you explore and "visualize" the Earth in a way that's otherwise impossible, all while applying a scientific approach to interpret what lies beneath.

9. **Who is your most respected geophysicist?**

My most respected geophysicist is Oberto Serra. I owe almost all of my knowledge in downhole geophysics to him. Not only me, but many in the field have learned from his work. His books on downhole geophysics have become foundational texts, and much of the current literature in the field has adopted concepts from Serra's groundbreaking work. His contributions have shaped the way we approach subsurface exploration, and I deeply admire his ability to bridge complex scientific concepts with practical applications.

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

One thing you wouldn't know about me is that, despite being a geophysicist by profession, I actually like structural geology more than geophysics! There's something about studying the forces that shape rock formations and understanding the history of tectonic movements that fascinates me. While geophysics has been my career path, structural geology has always been a passion, and I find myself drawn to the intricate details of geological structures.

11. **What is Your funniest or worst field memory?**

My worst field memory happened about two decades ago during a field trip. We got completely lost in the middle of nowhere—no phone, no GPS, just a single geology map to guide us. The terrain was unfamiliar, and the map wasn't exactly detailed. It felt like a scene from a survival movie as we wandered, trying to figure out where we were and how to get back. It was stressful, but it taught me a lot about preparation, resourcefulness, and staying calm under pressure. Luckily, we found our way back, after several hours of wandering aimlessly.

12. **Where was your best sunrise/sunset location?**

The best sunset I've ever seen was on the beaches of the Persian Gulf — the colors, the calm water, and the way the sky just melted into the sea. It was unforgettable

Sunset in the Persian Gulf (photo from Getty Images)

13. Tell us about a challenge you overcame, and how did you do so?

A real challenge I faced was switching from geophysics to the data world. While my knowledge of geoscience helped me understand the nature of data and how different data sets relate, I had to start from scratch when it came to the technology. Learning new tools, programming languages, and data analysis techniques from the basics was overwhelming at first. But it pushed me to grow and adapt quickly, and now I see how valuable those foundational skills are in any field.

14. Do you have any volunteering experience?

Yes, I've volunteered as a First Aid Officer at my company, ensuring the safety of my colleagues. I've also assisted master's students with their research, helping them navigate their projects and providing guidance along the way.

15. What's one thing you wish someone had told you when you were at university?

One thing I wish someone had told me in university is not to take life too seriously. Perfectionism can be a huge trap — I spent a lot of time stressing over every little detail, trying to make everything 'perfect.'

16. What is your best interview tip?

Honestly, my best interview tip is just to be real. People can tell when you're trying too hard to sound perfect.

17. What are you reading at the moment?

At the moment, I just finished Burmese Days *by George Orwell. I'm about to start* Shooting an Elephant *next.*

18. What do you do in your spare time?

In my spare time, I usually dive into something completely unrelated to my profession, like exploring how computer hardware works or reviewing the evolution of different technologies. I also enjoy reading about different cultures and the unique characteristics of various nations. Engaging with topics outside of my daily work helps me disconnect, gain new perspectives, and give my brain the space to relax and recharge.

19. What's your most treasured textbook?

My most treasured textbook is the Well Logging Handbook by Oberto Serra. It's an invaluable resource that has greatly influenced my understanding of formation evaluation and subsurface data interpretation. The depth and clarity with which Serra explains complex logging principles made it a go-to reference throughout my career. It's not just a handbook — it's a cornerstone in my professional library.