

Saminda Nirmal Fonseka

Senior Engineer/ Seismic Instruments at IRIS PASSCAL



What is your current occupation?

Title: Senior Engineer/ Seismic Instruments

Employer: New Mexico Tech

Department: IRIS PASSCAL

Responsibilities:

Support PASSCAL engineering projects and staff in the lab and the field. Data logger acceptance testing and development of test procedure documentation; develop and apply methods for testing seismic instrumentation and ancillary scientific equipment; development of specialized equipment and procedures to support data logger Acceptance/ Qualification testing, produce reports and maintain documentation and web content related to testing of scientific equipment; supporting PASSCAL staff and management with expertise and guidance with respect to electrical engineering and electronics, field support of seismic experiments.

What is your educational background?

Master of Science in Electrical Engineering, New Mexico State University, Las Cruces, NM, USA

Bachelor of Science (Honors) in Physics, University of Colombo, Sri Lanka

Advanced Diploma in Embedded Control System, Arthur C. Clarke Institute for Modern technologies, Sri Lanka

Advanced Diploma in Practical Electronics, Arthur C. Clarke Institute for Modern technologies, Sri Lanka

Cisco Networking Academy courses of CCNA, CISCO Networking Academy at Sri Lanka Institute of Information Technology (SLIIT)

Participated as an observer in “IRIS’s Seismology Skill Building Workshop for undergraduates”

A key message for students is that the geoscience workforce is dynamic, and boundaries between sectors and occupations are fluid. How has this been true in your career?

I agree with the statement. For me, I started as a Physicist and ended up becoming an Electrical Engineer. When I joined the IRIS PASSCAL Instrument Center, it was all about sensors and data loggers. My Physics background allowed me to understand seismic waves, how do they generate, and how to convert them into electrical signals. My Electrical Engineering background helped me to understand the transfer functions and how signals are being recorded. Also, how to test the data loggers' performances. However, I was missing something that didn't allow me to work effectively with geophysicists. Thankfully, "IRIS's Seismology Skill Building Workshop for undergraduates" was able to fill that gap and allowed me to efficiently help geophysicists. So, my advice is that if you are an electrical engineer or non-geophysicist, then learn the terminologies geophysicists use and vice versa because it will help with effective communication. Suddenly, you will realize that there are no more barriers between different academic fields.

Where do you see your sector moving in future years? How would you advise students to prepare to be competitive job applicants and successful employees?

This is the Space exploration era, and seismic instruments are an essential part of this. Also, we are in a stage where technology is moving so fast that new seismic sensors and data loggers are immerging once every three years or so. So, the testing and maintaining of instruments are coming to an end. Thus, it is essential to learn how to improve the current technologies and develop new techniques. That is where big money is! We are in an era where innovation is starving, so think outside the box and don't be afraid to take a risk and do big things.

What is the role of networking in your sector? Do you have advice for a student who is just beginning to build their network? What is the best way for students to get their foot in the door?

The best way is to go to conferences and meet people. For example, AGU is an excellent place to start building the community.

What does a “typical” day of work look like for you?

On a typical day at the office, I am probably busy writing a test report or running a test. Also, I would probably be discussing with other engineers on how to improve the tests we perform and add new test methods.

What is the best part of your job?

The best part of the job is that I get to help science and the government indirectly. Also, get to work with these amazing people who bring different talents to the table.

Do you have any other comments or advice for students looking to enter your sector of the geoscience workforce?

Always stay curious and spend 1 hour every day to google new technologies. You are the next person who is going to reshape the company and the future! So, take your job seriously and help the new generation to grow!

Connect:

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