

**Ministry of Education Pasifika Day**  
**Celebrations Friday 3 June 2016 12-2.00 pm**  
**Matauranga House, 33 Bowen Street, Wellington.**

**Keynote address by Pualele Penehuro Fatu Lefale (Pene)<sup>1</sup>**

Your Excellency, Hon. Tauveve O'love Jacobsen, Niue High Commissioner to New Zealand,  
Rev Nove Vaila'au, Fa'afeagaiga taulagi a le atunuu,  
Dr Graham Stoop & staff of the NZ Ministry of Education,  
Distinguished Guests, Students, Ladies and Gentlemen.

E muamua ona ou fa'atulou i le paia ua potopoto i le aso. Fa'afetai i le Atua ua tatou feiloa'i i manu, ae le o mala. O Samoa o le atunu'u ua uma ona tofi. O le a le o'o i ai so'u leo. Ae o le a faga sa'o le malama aua se tatou ai mo lenei aso.

Thank you for inviting me today. It is a great honor and privilege to be here – to be part of this wonderful aiga gathering.

Today, we are going to talk about **STEMers - Science, Technology, Engineering and Mathematics' Graduates**. What makes these humans spend so much of their lives seeking truth in the laboratories or in the field? Why do they choose careers in STEM? Where do their motivations come from? How do their careers fare with non-STEMers? When do they opt to end their pursuit of STEM knowledge?

**1) What makes STEMers spend so much of their lives seeking truth in the labs or in the field?**

A STEMer is a person engaging in a systematic activity to acquire knowledge that describes and predicts the natural (Anthropocene?) world. A STEMer may also be a person who uses a scientific method to acquire scientific knowledge. The person may be an expert in one or more areas of science, technology, engineering or mathematics. STEMers want to build, create, innovate, produce, and discover things. They want to have high status and win victories. STEMers want to conquer the world. They are creative and savor their own accomplishments. Their motto is "success."

**2) Why do STEMers choose a STEM career?**

**STEMers are passionate about the pursuit of truth, causality, and reason.** They seek to KNOW. They choose careers that engage their minds in striving for ultimate understanding. They want to use their knowledge to better the WORLD.

**3) Where do STEMers motivations come from?**

One Samoan STEMer's father was born and raised in Lalomanu and Utualii. He emigrated to New Zealand in 1950s on the boat – the Matua. It took them about a month to get to Auckland. He was one

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<sup>1</sup> Director, LeA International Consultants Ltd [www.ilea.co.nz](http://www.ilea.co.nz), Scientific and Policy Adviser on Climate Change, Tokelau Government. External Affiliate, Joint Centre for Disaster Research (JCDR), Massey University, Wellington.  
Correspondence Email address: [pene.lefale@outlook.com](mailto:pene.lefale@outlook.com)

of the first Samoans to settle in New Zealand. Life was good in New Zealand those days he used to tell his STEMer son when reminiscing in his old age later in life. New Zealand was in the top 10 of the OECD countries' economic ranking – thanks to preferential access to lucrative European markets via the UK. Jobs were abundance in his days.

Dad's first job was a builder of wooden crates to transport bananas from Pacific islands to New Zealand. The banana trade was soon abandoned (not profitable) in favor of manufacturing, agricultural and fisheries goods. He became a freezing worker from 1950 to 1972. He moved between Frankton (Hamilton) and Onehunga (Auckland).

Like many of the first Samoans that settled in NZ, caring for his family was his priority. He worked and provided for his parents and family back in Samoa. He paid for his sisters and brothers to move to NZ. He, together with his sisters and brothers, once settled, also sponsored relatives and people from his village to move to NZ in 1960s to 1980s. He moved back to Samoa in the mid-1970s to look after the family and care for his children. To him, this was a moral choice.

Like his father, this STEMer was born in Samoa. He grew up in a family that nurtures STEMers. In those days, having top academic grades at school would lead to automatic scholarship grants. This STEMer got his first scholarship when he was in Form 3 (Year 9) at Samoa College. And right throughout college (NZSC and NZUE years) he was on a fully funded scholarship. The same for his University years (NZ government scholarship and Ministry of Pacific Islands Affairs Louise Crawley Masters Scholarship Award) except for his PhD studies (which he self-funded as he was working full time) – which he did not complete due to personal reasons, something he still regrets to date. When he completed his under and post graduate studies, he realized if he wants to have a life long career in STEM, he needs to move out of Samoa as there were no STEM research programs there.

#### **4) How do STEMers careers compare to non-STEMers?**

His decision to move back to New Zealand led to career opportunities the world over. STEMers are global citizens. This STEMer's career focuses on understanding the chaotic nature of the atmosphere - specifically tropical meteorology (climate and weather). Weather and climate do not recognize political boundaries. So he works and collaborates with other STEMers internationally. This STEMer has visited all continents and worked in over 70 countries.

#### **5) When do STEMers opt to end their pursuit of STEM knowledge?**

One smart but directionless STEMer according to his biography<sup>2</sup> offers some insight into the life of a STEMer. In his commencement speech for the 114<sup>th</sup> graduating class at Stanford University on June 12, 2005, Steve Jobs said:

***“Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do. If you haven't found it yet, keep looking. Don't settle. As with all matters of the heart, you'll know when you find it.”***

This week is Samoan Language Week, so it's appropriate for me to end on a Samoan lesson. The proverb ***“E felelei manu ae ma'au i o latou ofaga”*** is translated as ***“Birds migrate to environments where they survive and thrive.”***

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<sup>2</sup> <http://www.biography.com/people/steve-jobs-9354805>

My own personal translation is “**Birds fly but return to their nests.**” I’m “virtually certain” (99–100% probability)<sup>3</sup> of it!

As a STEMmer, I had the opportunity to fly and thrive in all walks of life, in diverse cultures and different environments. But I realise my **fa’a Samoa/Pasifika/NZer values – cultural, different ways of knowing, learning and doing** - inform my STEM aspirations and successes.

Today marked my return to my nest. In this present time, New Zealand & Pacific Islands do not have enough STEMers among us.

The Government, past and present, or Ministry of Education (MoE) alone, are not the only culprits for this problem. Each one of us is the problem. And to fix it requires a ‘whole of society’ approach. We urgently need to find new NZ STEMers, especially new NZ Pasifika STEMers.

So let’s stop blaming each other and do something about it.

**Soifua ma la Manuia.**

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<sup>3</sup> See IPCC guideline on uncertainty at <https://www.ipcc.ch/pdf/supporting-material/uncertainty-guidance-note.pdf>