

Speech from 2008 PY Prize SERC winner: Dr Jonathan Loh

Good evening Mr Philip Yeo, Chairman Lim, Professor Brenner, Professor Liu and honourable EDs and scientists, VIPs, ladies and gentleman.

I am deeply honoured to be part of tonight's event, and wish to express my heartfelt thanks and appreciation to A*STAR for awarding me the Philip Yeo's prize for excellence in scientific research. Hey, but wait a minute, "scientific excellence"? Well, it wasn't like that all along.

Let me just come clean on my background in academics and science. As a young boy, I was very curious. I gave myself without the permission of my parents, a wide berth in trying out new ideas. I was once experimenting on how to simulate volcanic eruption, so I did it with fireworks and lava-like boiling liquid that I almost end up with the consequence of burning down the HDB flat. I was also an amateur archaeologist who asked the scientific question of whether I can find dinosaur remains by digging the floor of my HDB flat. In the end, I found myself being looked upon as a very hellish character in the family.

I came from a humble academic background. I attended both my primary and secondary educations at the neighbourhood schools (Pandan Primary School and Bukit View Secondary School, bet you have not heard of it). I graduated from my secondary school technically failing my 'O' level (Because I demonstrated a lack of good control for my languages). I later went on to read Biotechnology at Singapore Polytechnics which at that time was considered a choice for 'not so good' graders. So, I do not fit the classic definition of a scholar; in fact I may even be considered one with mild learning disorder.

The good things were, I was never a victim of high expectations and I did not have to bear the burden of an overachiever.

However, these neighbourhood schools are cradles of my latter interest in taking up a career in scientific research. During my primary school, the most wonderful thing that could have happened to me was that I joined the Science club as a research member. We would meticulously plan and completed the projects which range in topics from astrology to geography to entomology. When I was in secondary school, we were put in charge of maintaining the botany garden in the school which introduced me to the world of biodiversity. Top the school in Sci 4 Chem. At the Singapore Polytechnics, I got engaged in the active laboratory research for the first time, answering scientific questions; I was very intrigued with handling DNA and purifying proteins, which was the reason why I took up as my final year project to generate recombinant porcine growth hormone for a very noble aim of eradicating the world from hunger.

A couple of other major events when I was in Singapore Polytechnic shaped my interest in Biomedical Sciences. The successful cloning of dolly in 1997 and the isolation of human embryonic cells (ES) cell line in 1998 turned me on to the potential of applying stem cells in saving life.

When I was at Genome Institute of Singapore, we saw the potential of using high-throughput genomic technology in unraveling the mystery of stem cells which I have undertook as my PhD project. It was a proud moment when we announced the first transcriptional network of two ES cell master regulators. This knowledge will be critical for the ultimate aim of using stem cell in therapeutic transplantation.

Then 2 years ago Yamanaka's team showed that they could use transcription factors to reverse somatic cell fate into stem cells that further fanned my interest in wanting to make patient specific stem cells for regenerative medicine. Currently, I am working with Prof George Daley at Children's Hospital Boston in trying to find out how a tissue cell type can be reprogrammed and changed to a stem cell, and how can we make use of these cells for transplantation into patients with diseases such as heart failure and Alzheimer.

At the start of the century, the scientific map in Singapore was forever redrawn with A*STAR at the centre. I came from a family that lives in a HDB flat. So, when I read Mr Philip Yeo speech in the Pioneer of Singapore dialogue, and when he said that A*STAR is committed to equality of opportunity, and they gave more scholarship to people living in HDB flat. Then, I realized that I almost could have jeopardized my chance of an A*STAR scholarship if I had burnt down my HDB flat from my experiment.

As a scientist, we are always navigating the unknown and we get to be the key witnesses to discoveries in the lab. Our work could also benefit the society to which we belong and which we have the responsibility to solve its problem. Beside we could achieve immortality by sharing our knowledge with next generations and beyond. So, I am thankful for many initiatives from A*Star in building up the Biomedical sciences in Singapore, and along the way uplifting many students including me, who are inspired to have a career in Science.

Lastly, I am thankful to the Genome Institute of Singapore for their unfettered support, I thank my mentor Huck Hui for his guidance and more for his patience, and I thank Prof

Liu for his excellent leadership at the GIS without of which we would not have completed so many projects successfully.