

CONNECTING THE DOTS MAPPING A FUTURE

Promoting public sector R&D in physical sciences and engineering is what SERC does. Its research institutes, centres and facilities make up a dynamic hub where exciting breakthroughs take place. However, advancement in R&D is only part of the story. What Zhenzhi and her team are keen on is the larger social and economic impact of SERC's efforts.

It is often said that the future belongs to those who believe in the beauty of their dreams.

Chng Zhenzhi would certainly agree with that. "I picked Stem Cell Biology as my PhD field of study because I believed that stem cell research is the way forward for understanding human embryo development, cell replacement therapy, and drug development," she discloses.

Zhenzhi is a visionary of sorts. She is adept at connecting the dots, getting a better overview and seeing the potential of decisions and developments. This trait is crucial in her work at A*STAR's Science and Engineering Research Council (SERC), where she is part of the Strategic Planning team. "As a strategic planner, I strongly believe that innovation is key for Singapore to progress and remain competitive."

Going Beyond Science And Technology

An avid globetrotter who has traversed the planet from Belize to Hungary, she is all too aware of the realities that Singapore faces. "Science and technology development in Singapore is an imperative," explains Zhenzhi, "We have no land, natural resources and cannot depend on labour-intensive industries. To stay competitive, we have to invest in developing talent and building scientific capabilities."

Deliberation and strategising, identifying the technology needs of Singapore in response to global trends and in the next few decades, ensuring a robust structure of grants and initiatives – these are just some of the duties taken on by Zhenzhi and her team.

"We do take into consideration the character and complementary strengths of each research institute while formulating policies," elaborates Zhenzhi. "Our work sets a framework for SERC's research institutes and their collective capabilities to deliver on A*STAR's goal to create an innovation economy."

Finding The Sweet Spot

When asked if emphasising industry-relevant applied research compromises research for basic knowledge, the former researcher says, "Research is not always linear, neither can you draw a line between basic research and applied research."

She offers a lesson from developmental biology to illustrate this. "For example, understanding the



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Dr. Chng Zhenzhi

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molecular mechanisms of embryo development is considered acquiring knowledge of a fundamental biological phenomenon, i.e. basic research. However, this also gives us clues on the reasons behind congenital diseases, allowing us to develop new technologies for treatment, which are applications resulting from basic research,” Zhenzhi adds. “The sweet spot is where a research project is both intellectually challenging for the researcher and delivers socio-economic impact for Singapore.”

Science and technology has unlimited potential to create a larger social good, but without deep research capabilities, the potential will remain unlocked.

The Larger Social Good

To Zhenzhi, contributing to a larger social good is fulfilling. She makes it a point to volunteer despite her busy work schedule. “My most memorable volunteering experience was teaching dance to teenage girls at a children’s home,” recalls Zhenzhi, whose many interests include dancing and rowing. “Over time, they transformed their disinterest into enthusiasm, and it helped them build self-confidence.”

When it comes to work, the same belief holds true. Says the strategic planner, “Knowing what I do is meaningful and contributes to the bigger picture of creating an

innovation economy – that gives me job satisfaction.”

Zhenzhi makes it a point to stick to her personal motto of “Think bold, work hard” in both work and life. Her vision and efforts are helping to turn A*STAR into a dynamic agency. She shares with enthusiasm, “We have built a broad spectrum of capabilities across the physical and biological sciences at A*STAR, and much of the research has gained traction with the industry.”

