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## PASSIONATE ABOUT BEING THE WORLD'S FIRST

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**DR LIM XINHONG**  
Principal Investigator,  
Institute of Medical Biology

**A**s a Principal Investigator at A\*STAR's Institute of Medical Biology (IMB), Dr Lim Xinhong's work takes him deep into the realm of molecular biology, where he endeavours to save the world one skin ailment at a time.

"In our lab, we seek to understand and alleviate common skin problems like hair loss and acne," said Xinhong, whose ground-breaking research on skin stem cells saw him garnering the prestigious Young Scientist Award last year. By analysing how skin stem cells behaviours may be imbalanced in such cases, he and his team work closely with academic and industry partners for new ways to control them.

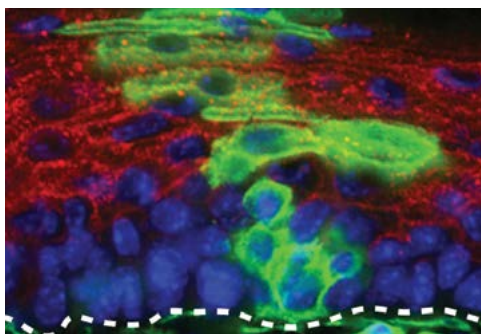


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“We’re making good progress developing novel models that are biologically accurate for acne and sebum production, that could be used to identify better skincare products!” he explains. “As far as we know, we’re one of the first in the world to develop some of these models and that is very exciting for me personally.”

While being very passionate about his work, Xinhong recognises the importance of anchoring research to reality. His journey in science and his path at A\*STAR has taken him outside the lab and given him the experience to take on different roles as inventor, entrepreneur and investor.

It all began when he accepted an A\*STAR National Science Scholarship, which led him to his Bachelor of Science and later to the Stanford University School of Medicine for his PhD. There, he had



A stem cell producing keratinised daughter cells (in green) that fill up the epidermis, the outermost layer of skin. The blue portions represent the nucleus of the cells. Lim Xinhong’s lab has developed methods to visualise these stem cells (bottom of image, in green) and the signals that control them with unprecedented resolution, and has used mathematical modelling to understand how they behave in a population to maintain tissue.

the opportunity to enrol in the Stanford Graduate School of Business’s Program in Innovation and Entrepreneurship, now known as Ignite. He pitched an idea for an app company, formed a team around it and built the business over several months, even pitching to Silicon Valley’s venture capitalists.

Apart from this, he interned with A\*STAR’s commercialisation arm, ETPL, where he gained new insights into moving discoveries from the lab to the market, from patenting to intellectual property (IP) strategy.

The knowledge gleaned from his experiences continues to shape his research efforts today. “My experiences have taught me to think of my work beyond the science, into how the work might be translated to the clinic and market. I understand what might be most attractive to the market, and can strengthen our products to draw investors.”

With a potentially viable skincare line well in the works, Xinhong is hopeful that his research efforts will translate and sell well in the real world with A\*STAR’s support. “A\*STAR is supportive of venture formation, and there are many people we can turn to in the organisation for help with the process.”

He adds, “All in all, I feel like I have a realistic sense of what it takes to build a business. This knowledge and experience will help me a lot in my subsequent entrepreneurial endeavours.”



## SKIN AND HAIR CARE APPLICATIONS OF MOLECULAR BIOLOGY



Molecular biology deals with macromolecules such as proteins and nucleic acids that are essential to life.



This branch of biology investigates how cells develop, operate, communicate with other tissues and organs throughout the body, and control their activities.



Xinhong uses techniques developed in this field to innovate fresh methods for skin and hair care applications.

Scan here to learn more about Xinhong’s work.

