Falling Walls Lab Thailand 2019 Dr Udom Sae-Ueng Thailand's National Centre for Genetic Engineering and Biotechnology (BIOTEC) 'Break the Wall of Pathogenic Bacteria'





You delivered the winning performance at the Falling Walls Lab Thailand? What is your innovative idea?

Our innovative idea actually stems from a plant disease called bacterial wilt disease that has affected many economical crops around the world such as potato, tomato, chili, and tobacco. This disease is caused by bacteria. Recently we found a virus that is capable of killing these specific

bacteria. While the word "virus" may sound alarming since it usually reminds us of infectious disease like influenza or Ebola, these viruses are safe to human and only target the bad bacteria. These viruses are extracted from natural soil, so they are safe to the environment. We then further improved their strength so that they are even more effective when used in eliminating bacteria.

Why should people pay attention to your research project?

The main reason is that this research is not about us as researchers. It is in fact about all of us – humans, animals, plants, and environment. Chemical usage in agriculture has gone through the roof worldwide. All the chemical contamination ultimately comes back to us. Our research is simply one of the forces to hopefully drive the sustainable approaches for the agriculture.

You will be representing Thailand in the global Falling Walls Lab Finale in Berlin this November? How are you preparing for the event?

Actually, I haven't prepared much. Don't get me wrong. I am very excited and grateful to represent Thailand in an international stage full of innovative ideas. I will do my best in sharing our research story here in Thailand. This is not just for myself but also for all the members that have been involved in this research.

You are also the winner of the EURAXESS Prize 2019 to visit a research lab anywhere in the EU. What are your plans?

There are many labs and research centers that I really want to visit. If I could, I would visit all of them. As a biophysicist, the labs that truly focus on the interdisciplinary fields of biology and physicist are my focus. Also, I am always fascinated by advanced cutting-edge physical instruments and techniques that facilitate us in deeply investigating the complex biological systems. So, that will be another criterion for me.

Where do you see yourself in 10 years in terms of your research idea and your career?

We will do our best to expand our research so that hopefully in 10 years, we will see the knowledge and intellectual properties turned into actual products. Hopefully, what we have done will trigger other researchers, innovators, and policy makers to keep moving toward the sustainable bio-based society. For myself, I know that I will still be a researcher by that time since that has been my passion. However, I aim to involve more in the research policy aspect, which should allow me to understand the impact of research and innovation in a larger scale with my hope to contribute more to Thailand and the world.

Thanks so much and good luck in Berlin!