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DOCTORS NAMED TOP SCIENTISTS OF THE YEAR

WANNAPA KHAOPA
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Two doctors from Mahidol University's Faculty of Medicine Siriraj Hospital were yesterday named Thailand's outstanding scientists this year for their study of disease pathogenesis – knowledge that will help doctors and researchers work out how diseases develop, so they can tackle them more effectively.

The winners are: Prof Dr Prasert Auewarakul, professor of virology at the Department of Microbiology, and Dr Visith Thongboonkerd, head of Medical Proteomics Unit of the university's R&D department.

Apart from the two doctors, the Foundation for the Promotion of Science and Technology, under the patronage of His Majesty, also awarded six young scientists. The young scientists are: Kruawun Jankaew from Chulalongkorn University; Chanakan Prom-u-thai, Chiang Mai University; Banjong Boonchom, King Mongkut's Institute of Technology Lat Krabang; Verawat Champreda from the National Centre for Genetic Engineering and Biotechnology; Sa-Ad Riyajan, Prince of Songkhla University; and Uracha Ruktanonchai, from National Nanotechnology Centre.

Prasert had won the Young Scientist Award in 2000, while Visith won the same in 2006. The virology professor has been studying deadly viruses for more than 20 years. He was studying the Human Immuno-deficiency Virus (HIV) before moving on to study avian flu when it broke out in 2004. He also conducted research on the 2009 type-A (H1N1) virus.

His research, focusing on the viral pathogenesis of bird flu in humans, found that the type II alveolar epithelial cells were the main viral target cell contributing to the severity of H5N1 infections. The flu replicated deep in the lungs, causing pneumonia, which could lead to respiratory failure and death.


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PROF Dr Prasert Auewarakul, left, and Dr Visith Thongboonkerd, who won this year's prestigious Outstanding Scientist Awards.

Prasert was part of the team that diagnosed the first bird-flu patient in Thailand and he also reported the first case of human-to-human transmission.

As for the type-A (H1N1) virus causing swine flu, his research discovered that the influenza is resistant to an innate antiviral mechanism in the lungs and this might lead to better therapeutic strategies.

"I'm proud that I've been able to use my knowledge to help protect Thai people. I've worked with the Public Health Ministry's Epidemiology Bureau to handle influenza," Prasert said.

Visith, meanwhile, is an expert in systematic analysis of proteins – studying their identity, quantity and function or "proteomics". He is one of the very first scientific investigators who analysed urinary proteins and as a nephrologist, he focuses on applying proteomins to the investigation of kidney diseases. His team has been conducting a set of proteomic projects to address the pathogenic mechanism of kidney-stone formation.

He has also applied proteomics to other kidney diseases, various types of glomerular diseases, diabetic nephropathy, chronic kidney disease among others. Moreover, he has collaborated with Thai and foreign scientists to conduct proteomic studies of many other diseases in Thailand, diabetes mellitus, dengue virus infection, leptospirosis, thalassemia and others.

He has also been invited to draft standards and guidelines for urinary proteome analysis for international organisations.

"My studies may lead to a reduction of the money the state spends on patients when we can identify new therapeutic targets and discover the drugs and vaccine," Visith said.

HRH Princess Maha Chakri Sirindhorn will be presenting each outstanding scientist with a shield and a Bt400,000 cash prize, while young scientists will each be given a Bt100,000 cash prize and a trophy at Bitec on Monday.

■ Six young scientists land top national award 15A