

## Science

Top achievers: Piyasan Prasertthdam, Somchai Wongwises

Thai engineering experts show the way in reducing the cost of producing power

■ Pongpen Sutharoj  
The Nation

TWO ENGINEERING researchers have become the country's outstanding scientists for this year, the Foundation for the Promotion of Science and Technology, under the Patronage of His Majesty the King, announced yesterday.

The two are Piyasan Prasertthdam, head of the Chemical Engineering Department at Chulalongkorn University, and Somchai Wongwises, professor of Mechanical Engineering at King Mongkut's University of Technology Thonburi (KMUTT).

Although the two outstanding scientists have conducted research in different fields, their work shared the same purpose: to develop scientific knowledge for energy saving.

Piyasan's research is aimed at better energy utilisation in petrochemicals, one of the country's key industries.

For more than two decades he has studied catalysts (important materials that accelerate reactions) especially in oil refining and the petrochemical industry.

He said his research was focused in two directions. The first was the study of catalyst deactivation and how to prevent deactivation. The second

# Saving Energy

was the development of new catalysts that were more active and efficient than existing commercial ones.

His research has led to new ways of prolonging the activity of catalysts, which could be used as a foundation for catalyst design in the future.

Piyasan had also discovered a new methodology for materials and energy utilisation, which he said would help the nation develop energy-related strategies for sustainable living.

"From my research, I would suggest two key points of energy utilisation that should be avoided: the use of pure materials produced from physical separation processes as fuel, and



Piyasan



Somchai

the use of electricity for heat," he said.

He hoped that this knowledge would be used in the further development of energy

usage and energy utilisation plans for the country.

Like Piyasan, Somchai's goal was to help the country save energy.

Because Thailand is a tropical country, it uses a lot of air conditioners and refrigerators. His work was to develop higher performance heat exchangers to increase the efficiency of these appliances and, importantly, reduce power consumption.

He said his work included the development of condensers and evaporators to enable better heat exchange between

refrigerants and air. He was also looking to develop the expansion device known as an air compressor, which is used in refrigerators and air conditioning.

In addition, Somchai studied the flow characteristics of alternative refrigerants such as hydrocarbons and "nano-fluid" which could be used in the future. He was also studying alternatives to enhance the development of heat exchangers.

Apart from the two outstanding scientists, the Foundation also honoured five other researchers among the new generation of scientists for this year.

The awards are given annually to young scientists aged under 35.

The five were Joongjai Panpranot, a researcher at the Chemical Engineering Department of Chulalongkorn University; Dr Shanop Shuangshoti, a neuropathologist from Chulalongkorn Hospital; Puangratana Pairor, a lecturer and researcher at Suranaree University of Technology; Dr Visith Thongboonkerd from Siriraj Hospital; and Apinpus Rujiwatra, a researcher in the Chemistry Department at Chiang Mai University.

The Foundation said the research work conducted by both the outstanding scientists and the new generation of scientists would provide key knowledge for the country's technological development.