

## Awards highlight value of basic research

*Research is a key foundation for the country's development. To encourage local development, the Outstanding Scientist Award was created to honour Thai scientists who contribute their research to the scientific community. Here is the first part of a five-part series on the country's outstanding scientists.*

### Outstanding Scientist Award

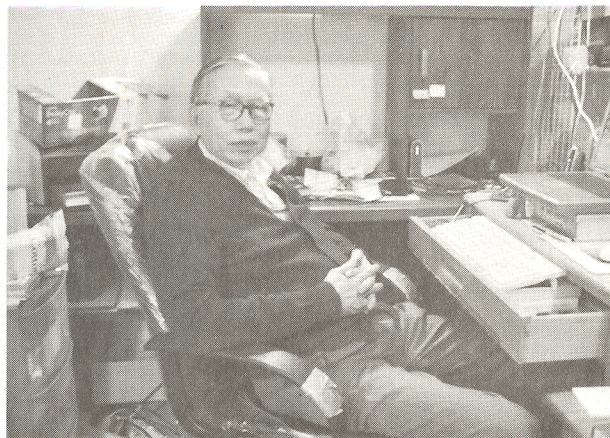
Basic research is the cornerstone of advancement in science and technology. Yet in Thailand the research situation in fundamental areas such as physics, chemistry, biology and related fields is in crisis while the fields of applied science, such as medicine and engineering, dominate the professional ambitions of the younger generation. This lack of interest in the basic fields of science amongst our up-and-coming students is of the greatest concern.

To promote and support research in the fundamental sciences, the Outstanding Scientist Award has been created to recognise and honour Thai scientists with outstanding achievements in scientific research. With support from the Foundation for the Promotion of Science and Technology under the Patronage of His Majesty the King, the award will, it is hoped, also provide young Thai scientists with an incentive to produce high-quality research and to give the younger generation and the scientific com-

munity a role model to look up to.

Renowned scientists, science administrators from universities and companies with research and development divisions, previous awardees and the award selection committee will nominate qualified scientists. The selection committee will examine the nominee's work in detail and consult experts in the nominee's research field. To judge scientific merit, research accomplishments from the past five years will be considered in terms of the quality of the work, initiative, new discovery in the field and potential for further development. The quality of the work will be judged based on journal impact factor, gross and net publication credit. The personal contribution of the awardee, the continuity of the research and the extent to which the work was conducted domestically will also be considered in the evaluation of scientific merit.

The Outstanding Scientist Award will spark the interest of potential future scientists and encourage them to study and conduct research in the core sciences. This award will help to bolster the scientific research community and thereby provide a solid foundation for the development of applied science and technology. A society that recognises individuals for the quality of their work and their character is a society worth working for, and it is this principle that the Outstanding Scientist Award strives to uphold.



**First Outstanding Scientist (1982): Professor Dr Virulh Sa-yakanit**

Professor Dr Virulh Sa-yakanit was the first Outstanding Scientist Awardee. He was educated at Chulalongkorn with a BSc with first-class honours in physics in 1964 and a PhD in theoretical physics in Gothenburg in Sweden in 1970. He also served as the Dean of Faculty of Science at Chulalongkorn University from 1987-1991. He was the first recipient of Outstanding Scientist Award from the Foundation for the Promotion of Science and Technology under the Patronage of His Majesty the King in 1982.

Prof Virulh has been interested for the last 30 years in the field of Feynman Path Integrals method

applied to problems in condensed-matter physics. His work was originally motivated by Feynman's approach to quantum mechanics with the application to quantum electrodynamics and solid-state physics.

The Feynman path integrals, the third form of quantum mechanics, had been very successfully applied to several problems such as electrons motion in random systems, high-temperature superconductivity, polymers in random media, biological physics, dilute Bose gas in harmonic trap, econophysics, etc.

The principal current interest of Prof Virulh is to develop a theo-

ry of the mobility of electrons in a two-dimensional disordered system with strong electric and magnetic fields using the Feynman path integrals approach. This research may provide some insight into the physics of the Gunn Effect and Quantum Hall Effect.

Prof Virulh initiated several important projects in Thailand, such as setting up the semiconductor physics research laboratory at Chulalongkorn University in 1980, coordinating several universities in Thailand on high-temperature superconductivity, the Synchrotron radiation project in Thailand, and biological physics.

Recently Prof Virulh collaborated with the Institute of Atmospheric Physics of the Chinese Academy of Science on weather forecasting using data from the Chinese geostationary satellite FY2C. This project was funded by the Department of Technical and Economic Cooperation and the National Research Council of Thailand. The aim is to develop models for forecasting and prediction of heavy rainfall using the neural network and dynamic models.

Digital real-time data from the satellite receiver FY2C set up at the Faculty of Science at Chulalongkorn University can be used to predict and warn of tsunamis using the principle of the tsunami shadow.

### Advertorial

### List of Outstanding Scientist Awardees



- 1982: *Professor Dr Virulh Sa-yakanit*, Physics
- 1983: *Professor Dr Prawase Wasi*, Genetics
- 1984: *Professor Dr Puttipong Varavudhi*, Biology  
*Professor Dr Yongyuth Yuthavong*, Biochemistry
- 1985: *Associate Professor Dr Sakol Panyim*, Biochemistry
- 1986: *Associate Professor Dr Yodhathai Thebtaranonth*, Chemistry
- 1987: *Professor Dr Suthat Yoksan*, Theoretical Physics
- 1988: *Professor Dr Stitaya Sirisinha*, Microbiology
- 1989: *Professor Dr Thavorn Vajrabhaya*, Botany
- 1990: *Associate Professor Sodsri Thaithong*, Biology (Zoology)  
*Professor Dr Visuth Baimai*, Biology (Genetics)
- 1991: *Professor Dr Pairash Thajchayapong*, Computer Science
- 1992: *Professor Dr Amaret Bhumiratana*, Biotechnology
- 1993: *Professor Dr Natth Bhamarapravati*, Medical Science
- 1994: *Professor Dr Visith Sitprija*, Medical Science  
*Professor Dr Aree Valyasevi*, Medical Science
- 1995: *Professor Dr Prasert Sobhon*, Cell Biology
- 1996: *Professor Dr Wanlop Surakampontorn*, Mathematical Physics
- 1997: *Associate Professor Dr Prapon Vilairat*, Biochemistry  
*Professor Dr Yong Poovorawan*, Medical Science
- 1998: *Associate Professor Dr Apichart Suksamrarn*, Organic Chemistry  
*Assistant Professor Dr Skorn Mongkolsuk*, Biotechnology
- 1999: *Professor Dr Wanpen Chaicumpa*, Immunology
- 2000: *Professor Dr Chongrak Polprasert*, Environmental Engineering  
*Professor Dr Somchart Soponronnarit*, Energy Technology
- 2001: *Associate Professor Dr Kate Grudpa*, Analytical Chemistry
- 2002: *Professor Dr MR Jisnusun Svasti*, Biochemistry  
*Professor Dr Suthat Fucharoen*, Medical Science
- 2003: *Associate Professor Dr Jumras Limtrakul*, Chemistry  
*Associate Professor Dr Supot Hannongbua*, Chemistry
- 2004: *Professor Dr Thiravat Hemachudha*, Medical Science
- 2005: *Professor Dr Rajata Rajatanavin*, Medical Science  
*Professor Dr Boonsong Ongphiphadhanakul*, Medical Science