Her Royal Highness Princess Maha Chakri Sirindhorn,
as the Representative of His Majesty the King,
Presides Over the Presentation Ceremony of the Prince Mahidol Award for the year 2024
at the Chakri Throne Hall
and Hosts Dinner in Honour of the Prince Mahidol Award Laureates 2024
at the Boromarajasathitmaholarn Hall
on Thursday, 30 January B.E. 2568 (A.D. 2025)

On Thursday, 30 January 2025 at 16.30 hours, Her Royal Highness Princess Maha Chakri Sirindhorn, as the Representative of His Majesty the King, presided over the 2024 Prince Mahidol Award Presentation Ceremony at the Chakri Throne Hall, Grand Palace. From a total of 73 nominations from 29 countries worldwide, two were selected to receive the Prince Mahidol Award 2024. In the Field of Medicine, the Award was presented to Professor Dr.Tony Hunter United Kingdom / the United States of America, and in the Field of Public Health to Professor Dr.Jonathan P. Shepherd from United Kingdom.

Prince Mahidol Award Laureate 2024 in the Field of Medicine
Professor Dr.Tony Hunter.
Professor of Biology, Salk Institute for Biological Studies
Adjunct Professor, University of California, San Diego, California, USA
United Kingdom / the United States of America.

Professor Dr.Anthony Rex Hunter, known as **Professor Dr.Tony Hunter**, completed his bachelor's, master's, and PhD degrees in protein synthesis research at the University of Cambridge, United Kingdom. He later became a researcher at the Salk Institute for Biological Studies in the United States of America in 1975 and has remained there to this day. His significant contributions in the field have earned him successive promotions, leading to his current position as Professor at the Salk Institute and Senior Researcher (Renato Dulbecco Chair) at the Salk Institute for Biological Studies, USA.

Professor Dr.Tony Hunter's significant research achievement was the first discovery of tyrosine kinase enzymes and the phosphorylation process. Phosphorylation is the addition of a phosphate group to the amino acid tyrosine in proteins. This process is a fundamental mechanism of cellular signaling that regulates cell growth and function. Abnormal activation of tyrosine kinase enzymes, for example, by viruses or cancer-causing agents, can transmit signaling across the cell membrane, leading to excessive phosphorylation of proteins within the cell. This mechanism plays a crucial role in transforming normal cells into cancerous cells.

Understanding this mechanism led to the development of targeted cancer therapies by inhibiting the activity of tyrosine kinase enzymes.This breakthrough has resulted in the creation of numerous highly effective drugs, with no fewer than 86 tyrosine kinase inhibitors available, such as Imatinib (GleevecTM), used to treat leukemia. The application of the understanding has significantly benefitted the health and well-being of the public and has greatly contributed to the advancement of cancer treatment and research worldwide.

Prince Mahidol Award Laureate 2024 in the Field of Public Health

Professor Dr.Jonathan P. Shepherd.

Emeritus Professor of Oral and Maxillofacial Surgery

Director of the Institute for Crime, Security and Justice Innovation

Cardiff University, United Kingdom.

Professor Dr.Jonathan P. Shepherd graduated with a Bachelor of Dental Surgery from King's College, University of London, a Master's degree in specialist training in Oral Surgery from the University of Oxford, and a Doctorate from the University of Bristol, United Kingdom. He served as Director of Cardiff University's Violence Research Group for 22 years.

Professor Dr.Shepherd's significant achievement was development and implementation of the "Cardiff Model for Violence Prevention"

Due to injuries from various violent incidents, which constitute a significant public issue in the country, there have been substantial losses in terms of injuries, lives, and emotional, psychological impacts, as well as economic consequences. Research findings by Professor Dr.Shepherd have shown that severe crime problems lead to a high number of patients seeking treatment in hospital emergency departments. However, most of these incidents, up to 75%, are unreported, leaving law enforcement and authorities unaware of them. Consequently, a data linkage was established between hospitals and the police to analyze frequent incident locations, times, as well as the scale and types of violence. This led to the creation of the Cardiff Model, which can be effectively used for planning violence prevention. The number of patients needing emergency department services significantly decreased by 42%, helping to reduce healthcare costs related to injuries considerably.

The Cardiff Model was developed between 1997 and 2001, and first implemented in Cardiff, the capital city of Wales, and later in London. It proved highly effective in reducing the impact of violent incidents, leading to its adoption throughout United Kingdom and later in multiple other countries, including Australia, the Netherlands, South Africa, Colombia, Jamaica, Canada and the United States. The World Health Organization has used it for violence prevention among children, and the U.S. Centers for Disease Control and Prevention (CDC) has also applied it.

The Cardiff Model is now recognized as a vital public health tool and innovation for reducing community violence. It has significantly helped decrease loss of life and property, enhanced the quality of life in various communities, and gained acceptance across continents, benefiting the health of hundreds of millions worldwide.

On Friday, 31 January, 2025, H.R.H. Princess Maha Chakri Sirindhorn will chair the opening session of Prince Mahidol Award Conference at Centara Grand & Bangkok Convention Centre at CentralWorld.

In the past 32 years, the Prince Mahidol Award has been conferred to 96 individuals, groups of individuals and institutions. Among the Laureates, 4 were Thai nationals. In 1996, the Prize in Medicine was awarded to both Professor Dr.Prasong Tuchinda for studying the effects of Dengue virus to children with disabilities with dengue hemorrhagic fever, and Dr.Suchitra Nimmannitya for identifying the severity classification of dengue hemorrhagic fever. In addition, the 2009 Award in Public Health was conferred to Dr.Wiwat Rojanapithayakorn for his project to promote the use of condom to prevent the spread of HIVs, and Mr.Mechai Viravaidya for his communication campaign to disseminate the use of condoms, and 6 subsequently received the Nobel Prize:

(1) **Professor Barry J. Marshall** from Australia received the Prince Mahidol Award in the field of Public Health in 2001 and the Nobel Prize in the field of Medicine in 2005 for the discovery of the new bacterium identified as Helicobacter pylori that caused severe gastritis and its sensitivity to particular antibacterial drugs;

(2) **Professor Harald Zur Hausen** from Germany received the Prince Mahidol Award in the field of Medicine in 2005 and the Nobel Prize in the field of Medicine in 2008 for the discovery of the human papilloma virus HPV16 and HPV18 from the cancer tissue and elucidated how the viruses turn normal cells into cancer cells;

(3) **Professor Dr.Satoshi Omura** from Japan received the Prince Mahidol Award in the field of Medicine in 1997 and the Nobel Prize in the field of Medicine in 2015 for the discovery and development of various pharmaceuticals originally occurring in microorganisms. His research group isolated a strain of Streptomyces Avermitilis that produce the anti-parasitical compound avermectin which contributed to the development of the drug ivermectin that is currently used against river blindness, lymphatic filariasis, and other parasitic infections;

(4) **Professor Tu You You**, a member of the China Cooperative Research Group on Qinghaosu and its Derivatives as Antimalarials from China, received the Prince Mahidol Award in the field of Medicine in 2003 in an organisational category and the Nobel Prize in the field of Medicine in 2015 for the discovery of Qinghaosu as a new drug for treatment of the P.falciparum malaria;

(5) **Sir Gregory Paul Winter** from the United Kingdom received the Prince Mahidol Award in the field of Medicine in 2016 and the Nobel Prize in the field of Chemistry in 2018 for his pioneership in the field of antibody engineering and modification technology. He invented techniques to humanise antibodies for therapeutic uses, which later led to the creation of cutting-edge therapeutic drugs;

(6) **Professor Dr.Katalin Karikó** from Hungary/the United States of America and **Professor Drew Weissman** from the United States of America received the Prince Mahidol Award in the field of Medicine in 2021 and the Nobel Prize in the field of Medicine in 2023 for their timely research on the development of COVID-19 mRNA vaccine in response to the pandemic, making it possible to reduce the infection rate and severe illness. Their studies also serve as an important tool to contain the spread of the virus around the world, proving to be beneficial to public health and the lives of millions of patients around the world.

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