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Xiaodong Wang Wins \$1 Million Shaw Prize

Xiaodong Wang, a Howard Hughes Medical Institute investigator at the University of Texas Southwestern Medical Center, who discovered mechanisms responsible for cell death, has been awarded the \$1 million Shaw Prize in Life Science and Medicine.

Wang will receive the international award from the Hong Kong-based Shaw Prize Foundation “for his discovery of the biochemical basis of programmed cell death, a vital process that balances cell birth and defends against cancer,” according to the award citation.

The Shaw Prize is an international award which honors individuals for distinguished breakthroughs in academic and scientific research or applications, who have made outstanding contributions in culture and the arts, or who in other domains have achieved excellence. The award is dedicated to furthering societal progress, enhancing quality of life, and enriching humanity's spiritual civilization. The 2006 prizes will be presented to recipients in September at a ceremony in Hong Kong.

Wang's research has helped piece together the molecular puzzle of how cells commit suicide. His studies may eventually lead to new treatments for cancer, neurological disorders, and other diseases. Indeed, the malfunction of cell-death genes is a hallmark of many diseases. Cancer and autoimmune diseases can sometimes occur when cells fail to commit suicide. Conversely, neurological disorders and paralysis due to disease or trauma can cause too many cells to die.

Wang's studies have unveiled key biochemical steps in the process of apoptosis in mammalian cells. He has shown that mitochondria play a surprising role in the death process by releasing the mitochondrial proteins cytochrome *c*, Smac, and endonuclease G. Cytochrome *c* and Smac activate a cascade of signals that ultimately trigger cell death; endonuclease G causes

DNA damage by cleaving chromatin DNA, an event that also leads to apoptosis.

The Shaw Prizes were established under the auspices of Sir Run Run Shaw, a Hong Kong film producer and chairman of Television Broadcasts Limited (TVB), the largest Chinese program producer in the world. The Shaw Prize is accompanied by a medal displaying a portrait of Sir Run Run Shaw and the imprint of a Chinese phrase that translates as “Grasp the law of nature and make use of it.”