

## EVENT

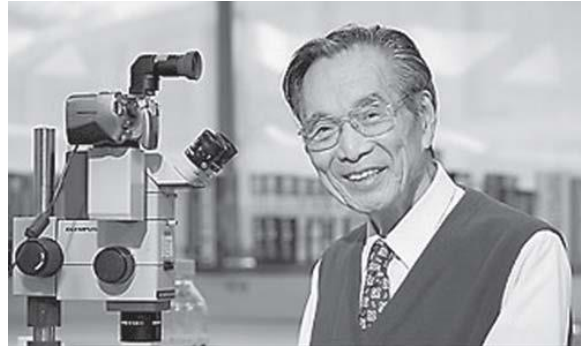
# Top Engineering Prize Honors Father of Biomechanics

The Fritz J. and Dolores H. Russ Prize, one of the top three engineering prizes in the world.

ATHENS, Ohio (Jan. 5, 2007) – Ohio University and the National Academy of Engineering announce that Yuan-Cheng “Bert” Fung of La Jolla, Calif., has won the 2007 *Fritz J. and Dolores H. Russ* Prize – one of the top three engineering prizes in the world. Fung, whose research contributed to the development of artificial skin, is being honored for his work with tissue engineering.

Fung’s work has accelerated healing for millions of victims of burns and other tissue trauma, and has improved safety for millions of automobile passengers and combat soldiers. The National Academy of Engineering will present the \$500,000 cash award at a gala dinner in Washington, D.C., on Feb. 20.

Comparable to the Nobel Prize, the biennial award recognizes engineering achievement that significantly improves the human condition. The late Fritz Russ, creator of the prize with his wife, Dolores, was a 1942 electrical engineering graduate of Ohio University. The Russes established the prize in 1999 with a multimillion-dollar endowment to Ohio University to honor the engineering profession and to attract more individuals to the field. Previous recipients include inventors of the first human heart pacemakers, kidney dialysis, and biosensors that enable open heart surgery and diabetes patients to self-monitor glucose levels.



*Bioengineer Yuan-Cheng “Bert” Fung, whose work contributed to the development of artificial skin, has been awarded the 2007 Russ Prize for his work with tissue engineering.*

Fung, who received his engineering degrees in China in the early 1940s, called the award a great honor. “I was very surprised and very proud that such a great prize would come my way,” Fung said.

Known as the father of biomechanics, Fung spent the first 20 years of his career making significant contributions in aeronautics and helped define the field of aeroelasticity. In the 1960s, he began applying his knowledge of force, motion, flow, stress and strength from aeronautics to better understand how the body works, and in 1966 established one of the first bioengineering programs in the country at the University of California, San Diego (UCSD), where he is now a professor emeritus of bioengineering.

Fung’s research is the basis for the entire field of automotive safety design – all automobile crash tests today rely on his fundamental studies about tissue response. “Since the widespread application of quantitative biomechanics into motor vehicle restraint systems design in the early 1980s, we have experienced about a 30 percent reduction in motor vehicle fatalities,” said Robert C. Lange, executive director of structure and safety integration for General Motors.

Fung also contributed directly to the development of artificial skin, used to treat burns and other severe tissue injuries such as diabetic patient foot ulcers, and engineered blood vessels. His insight has enabled our nation's military forces to develop safer nonlethal weapons and personal body armor. His tissue-stress principles have improved the management of ankle injuries for millions. In addition, the principles of biomechanics that he developed have improved the effectiveness and longevity of prosthetic devices.

The 1945 immigrant from China hopes his work will encourage interest in biomechanics. "The field is a puzzle that is challenging and fascinating and full of room," Fung said. "My work is just turning the first page (of biomechanics); the book is yet to be written."

"Fritz and Dolores Russ, quite simply, have demonstrated a most remarkable devotion and loyalty to Ohio University. Their financial support has been singular, culminating in the endowment of one of the top three engineering prizes in the world," said Ohio University President Roderick McDavis. "But beyond their financial generosity, the Russes have given of themselves to the university, remaining steadfast in their involvement and offering generously of their counsel."

Their support and commitment to the discipline helped construct modern facilities and programs at Ohio University, Wright State University, and Cedarville University. In 1994, the Ohio University's College of Engineering was renamed and dedicated to Fritz J. and Dolores H. Russ.

"Fritz dedicated a lifetime to engineering. Both he and Dolores have had a profound influence on the profession at national and state levels, not to mention at Ohio University," said Dennis Irwin, dean of the Russ College of Engineering and Technology. "To this day, Dolores continues to demonstrate remarkable commitment to the College," Irwin said.

During a distinguished engineering career, Fritz Russ helped lead breakthroughs in television technology, atomic weapons testing systems, engine controls, aircraft weaponry, space flight and medical technology.

He began his career at the Naval Research Laboratory in Washington, D.C., and later worked at Wright-Patterson Air Force Base in Dayton, Ohio. In 1955, Fritz and Dolores Russ opened Systems Research Laboratory in Dayton. The company became one of the largest independent engineering and high-tech research firms of its kind and had grown to 1,000 employees when it was merged with Arvin Industries in 1987.

More information on the Russ Prize is available at [www.ohio.edu/russprize](http://www.ohio.edu/russprize).

Educating well-rounded professionals with both technical and team-project skills, the Russ College offers undergraduate and graduate degrees across the traditional engineering spectrum and in technology disciplines such as aviation, computer science, and industrial technology. Strategic research areas include bioengineering, energy and the environment, and smart civil infrastructure. Named for alumnus Fritz Russ and his wife Dolores, the Russ College is home of the Russ Prize, one of the top three engineering prizes in the world. For more information, visit [www.ohio.edu/engineering](http://www.ohio.edu/engineering).

The National Academy of Engineering (NAE) is an independent, nonprofit institution. Its members consist of the nation's premier engineers, who are elected by their peers for seminal contributions to engineering. The academy provides leadership and guidance to government on the application of engineering resources to social, economic, and security problems. Established in 1964, NAE operates under the congressional charter granted to the National Academy of Sciences in 1863.

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*A previous CAF article about Professor Fung and his career is in CAF July 2004, pp. 13-15.*