

# TWENTY CHEMICAL ENGINEERS IN OTHER PURSUITS

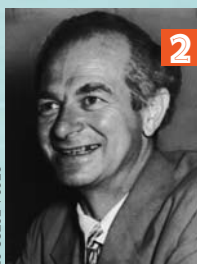
Versatility, thy name is engineer. Chemical engineering professionals leave their indispensable mark in practically every area of industry, commerce and community life. But many people who initially pursue the chemical engineering discipline find themselves in fields outside engineering — sometimes way outside.

This month, CEP and AIChE's Centennial Celebration Committee recognize a few of the people who started out on the chemical engineering track, but who left their own indelible marks in other fields — from science to business to entertainment.

## NOBEL LAUREATES



**1 LARS ONSAGER (1903–1976)**  
*Physical chemist and Nobel Laureate*  
Studied chemical engineering at Norwegian Institute of Technology, graduated 1925. Established the fundamental bases of irreversible thermodynamics, "Reciprocal relations in irreversible processes" (1929). Awarded Nobel Prize in Chemistry (1968). Purview included order-disorder transitions and super fluids.



**2 LINUS PAULING (1901–1994)**  
*Scientist, educator, activist and two-time Nobel Laureate*  
BS in chemical engineering, Oregon Agricultural College (now Oregon State) (1922). Foremost 20th century chemist. Awarded Nobel Prize in Chemistry (1954) for research into chemical bonds. Awarded Nobel Peace Prize (1962) for advocacy against nuclear weapon proliferation.

**3 EUGENE WIGNER (1902–1995)**  
*Nobel Laureate*  
Chemical engineering graduate of Technical University of Berlin (1925). Introduced symmetry theory to quantum physics and chemistry. Awarded Nobel Prize in Physics (1963).



**4 FRANK CAPRA (1897–1991)**  
*Academy Award-winning movie director*  
BS in chemical engineering, Throop Institute (Now Caltech) (1918). Directed more than 50 films, including "It Happened One Night" (1934); "Mr. Smith Goes to Washington" (1939); "Know Your Enemy — Japan" (1943); "It's a Wonderful Life" (1946); "Pocketful of Miracles" (1961).

**5 WILLIAM DENNY**  
Fictional Texas chemical engineer in the novel, "Ship of Fools" by Katherine Anne Porter. Character portrayed in the film version by Lee Marvin.

**6 VIRGIL HILTS**  
Fictional, cool-mannered American POW pilot and student of chemical engineering in the movie "The Great Escape" (1963). Portrayed by Steve McQueen.



**7 ERIC HODGINS (1899–1971)**  
*Author*  
Best known for the novel, "Mr. Blandings Builds his Dream House" (1946), made into a popular movie starring Cary Grant (1948).



**8 DOLPH LUNDGREN**  
*Movie actor*  
Born 1957. MS in chemical engineering, Univ. of Sydney, Australia (1982). Received Fulbright Scholarship to MIT in 1983, but pursued acting instead. Played boxer Ivan Drago in "Rocky IV."



**9 MICHAEL RUFFIN**  
*Pro basketball player*  
Born 1977. BS in chemical engineering, Univ. of Tulsa (1999). Milwaukee Bucks forward-center, and one of top "Good Guys" in sports (Sporting News, 2006). Now in his eighth NBA season. Academic All-America — First Team.

Courtesy of the Library of Congress, LC-USZ62-76925

Credit: Carr Lindstrom

Credit: Gary Dineen/NBAE/Getty Images

## BUSINESS

### 10 HERBERT D. (TED) DOAN (1923–2006)

*Businessman and philanthropist*  
BS in chemical engineering, Cornell Univ. (1949). Chairman of The Herbert H. and Grace A. Dow Foundation; Dow Chemical President (1962–1971). Grandson of Dow founder Herbert Henry Dow, and the last Dow family member to serve as CEO of Dow Chemical.

### 11 ROBERT C. GOIZUETA (1931–1997)

*CEO of The Coca-Cola Company*  
BS in chemical engineering, Yale Univ. (1953). Chairman, director and CEO of Coca-Cola from 1980–1997. Credited with modernizing company.

### 12 WILLIAM KOCH

*Businessman and philanthropist*  
Born 1940. BS (1962), MS (1963) and DSc (1969) in chemical engineering, MIT. Founder and president of The Oxbow Group. 1992 America's Cup winner. Collector of art.

### 13 JAMES J. PADILLA

*Automobile industry executive*  
Born 1946. BS and MS in chemical engineering, Univ. of Detroit, Mercy. Former Ford Motor Company President and Chief Operating Officer. Director of engineering and manufacturing for Jaguar cars.

## GOVERNMENT, POLITICS

### 14 SAMUEL W. BODMAN

*Financier and U.S. Secretary of Energy*  
Born 1938. BS in chemical engineering, Cornell Univ. (1961); ScD in chemical engineering, MIT (1965). 11th U.S. Secretary of Energy (2005 – present); Deputy Secretary Department of Commerce; Associate professor and former director of MIT's School of Engineering Practice.

### 15 VILMA ESPIN (1930–2007)

*Revolutionary leader and Cuba's unofficial "First Lady"*  
One of the first Cuban woman chemical engineers; MIT post-graduate work (1955). Married to Cuban President Raúl Castro. President of the Federation of Cuban Women since its founding in 1960. Unofficial first lady of former Cuban president Fidel Castro, who was divorced during his tenure.

## SCIENCE & TECHNOLOGY

### 16 BEATRICE ALICE HICKS (1919-1979)

*Inventor and cofounder of Society of Women Engineers (SWE)*  
BS in chemical engineering, Newark College of Engineering (now NJIT) (1939). Helped build SWE from a 60-member organization to one with more than 17,000 members today. First female engineer at Western Electric. Developed RF communications oscillator.

### 17 CARL V. S. PATTERSON

Conceived generation of visuals using rare earth fluorescence; invented the X-ray screen (fluoroscope) and oversaw manufacture; patent applicable to color TV.

### 18 HENRY T. SAMPSON

*Inventor*  
Born 1934. BS in chemical engineering, Purdue Univ. (1956). Co-invented "gamma-electric cell" (1971) to detect underground nuclear radiation; technology applied to cell phones in 1983.

### 19 EDWARD TELLER (1908–2003)

*"Father of the H-bomb"*  
BS in chemical engineering, Univ. of Karlsruhe, Germany. Best known for work on Manhattan Project and his role in developing the hydrogen bomb. Contributions included Brunauer-Emmet-Teller (BET) adsorption isotherm and Gamow-Teller subatomic particle behavior classification. Outspoken advocate for nuclear testing programs and increasing nuclear arsenals.

### 20 JOHN VON NEUMANN (1903–1957)

*Mathematician and physicist*  
Diploma in chemical engineering, Federal Institute of Technology, Zurich (1925). Pioneer in game theory, nuclear deterrence, and modern computing.

For more stories about the  
"chemical engineers of the century,"  
visit the AIChE Web's  
Centennial Celebration site:  
[www.aiche.org/100/](http://www.aiche.org/100/).

Courtesy of the Coca-Cola Company

Credit: Kim Sargent

Courtesy of Ford Motor Company

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Patterson Operating Fluoroscope  
(Circa 1918)