



# Robert F. Curl

GRFP Recipient: 1954

*Undergraduate Institution:*  
B.A. 1954, Rice Institute (now  
known as Rice University)

*Graduate Institution:*  
Ph.D. 1957, University of  
California, Berkeley

*Graduate Field of Study:*  
Physical Chemistry

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*Current Position:*  
University Professor Emeritus,  
Pitzer-Schlumberger Professor  
of Natural Sciences Emeritus,  
Professor of Chemistry  
Emeritus, Rice University

## RESEARCH IMPACT //

Robert F. Curl's interests are in the field of physical chemistry where he focused his research on microwave spectrometry and tunable lasers to detect and elucidate the structure of stable free radicals--reactive molecules containing an unpaired electron. He also has developed the use of infrared laser spectroscopy for trace gas monitoring. Curl won the Nobel Prize in chemistry in 1996 with co-winners Harold Kroto and Richard Smalley for the discovery of carbon-cage compounds called fullerenes. The most famous version of fullerene is also known as the "bucky ball" named after Buckminster Fuller, the architect who designed the geodesic dome in the same shape. Fullerenes are the only molecules consisting entirely of carbon atoms. The discovery of the fullerenes was one of the stimuli leading to the present interest in nanoscale science and technology.

### AWARDS/ HONORS //

- Clayton Prize Institute of Mechanical Engineers (1957)
- Nobel Prize in Chemistry (1996)
- Johannes Marcus Marci Award in Spectroscopy (1998)

### POSITION PROFILE //

- 1958- present - Professor of chemistry, Rice University
- 1957-1958 Postdoctoral fellow, Harvard University

