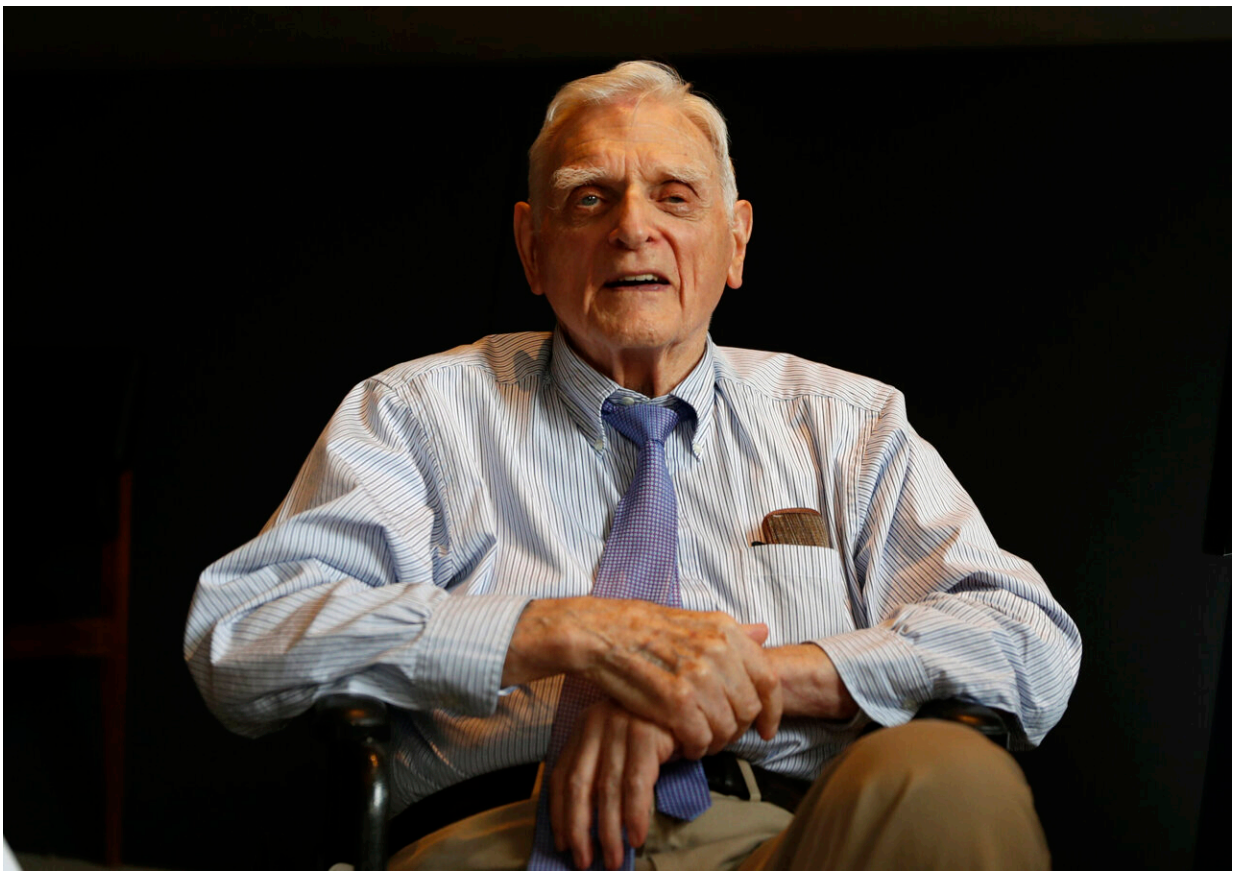
John Goodenough, a Nobel Prize-winning co-creator of the revolutionary lithium battery, dies at 100

June 26 2023, by Jim Vertuno



Nobel chemistry winner John B. Goodenough poses for the media at the Royal Society in London, Wednesday, Oct. 9, 2019. Goodenough, who shared the 2019 Nobel Prize in chemistry for his work helping develop the lithium-ion battery, transforming technology with rechargeable power for devices ranging from cellphones, computers, and pacemakers to electric cars, died Sunday, June 25,

2023,, the University of Texas announced Monday, June 26. He was 100. Goodenough was a faculty member at Texas for nearly 40 years. Credit: AP Photo/Alastair Grant, File

John Goodenough, who shared the 2019 Nobel Prize in chemistry for his work developing the lithium-ion battery that transformed technology with rechargeable power for devices ranging from cellphones, computers, and pacemakers to electric cars, has died at 100, the University of Texas announced Monday.

Goodenough died Sunday at an assisted living facility in Austin, the university announced. No cause of death was given. Goodenough was a faculty member at Texas for nearly 40 years.

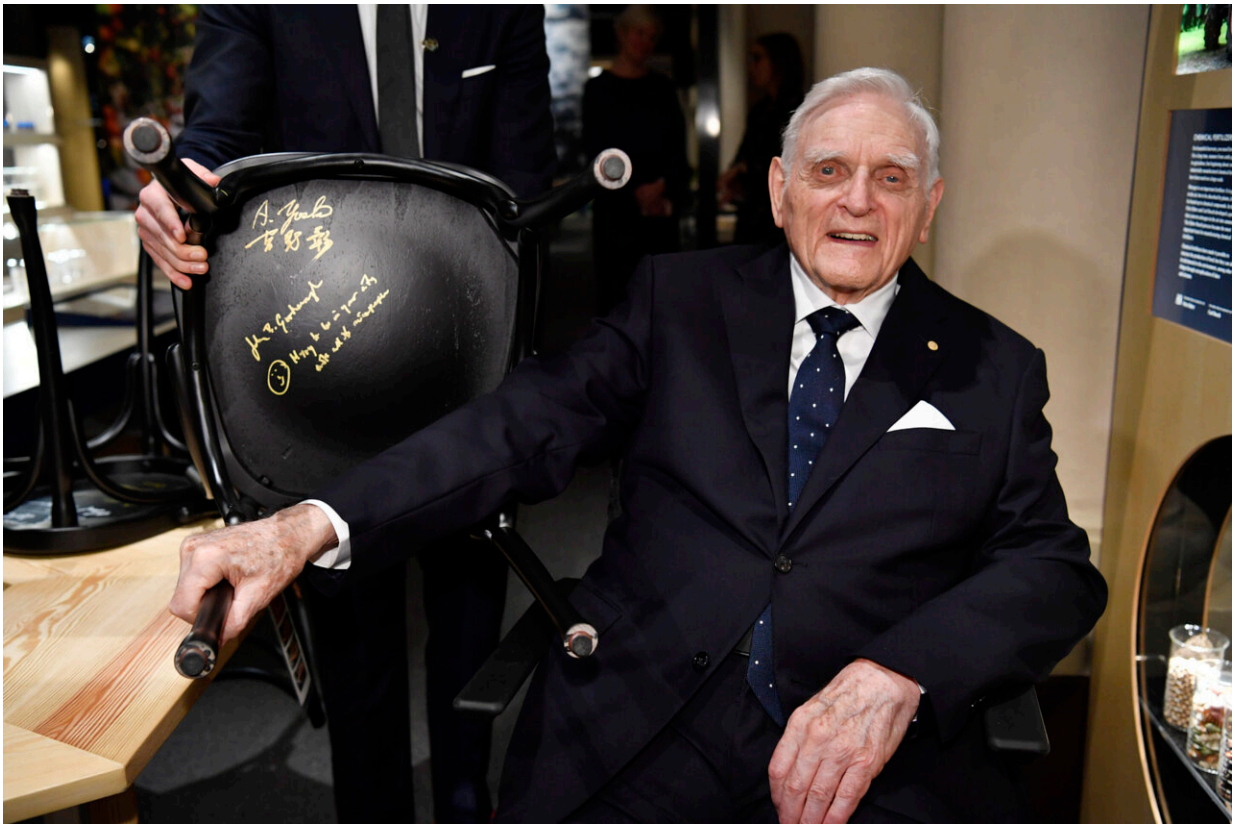
Goodenough was the oldest person to receive a Nobel Prize when he shared the award with British-born American scientist M. Stanley Whittingham and Japan's Akira Yoshino.

"Live to 97 and you can do anything," Goodenough said when the Nobel was awarded, adding he was grateful he wasn't forced to retire at 65.

And while his name may not ring a bell to most, Goodenough's research helped unlock a revolution in technology now taken for granted in today's world of portable phones, tablets and just about anything else with a plug-in port for a recharge.

Lithium-ion batteries were the first truly portable and rechargeable batteries, and they took more than a decade to develop. Whittingham said in 2019 that he had no inkling that his work decades ago would have such a profound impact on the world.

"We thought it would be nice and help in a few things," Goodenough said, "but never dreamed it would revolutionize electronics and everything else."



2019 Nobel Laureate in chemistry John B. Goodenough looks on after signing a chair as part of the traditional Nobel Chair Signing ceremony at the Nobel Museum in Stockholm, Sweden, Friday Dec. 6, 2019. Goodenough, who shared the 2019 Nobel Prize in chemistry for his work helping develop the lithium-ion battery, transforming technology with rechargeable power for devices ranging from cellphones, computers, and pacemakers to electric cars, died Sunday, June 25, 2023,, the University of Texas announced Monday, June 26. He was 100. Goodenough was a faculty member at Texas for nearly 40 years. Credit: Henrik Montgomery/TT via AP, File

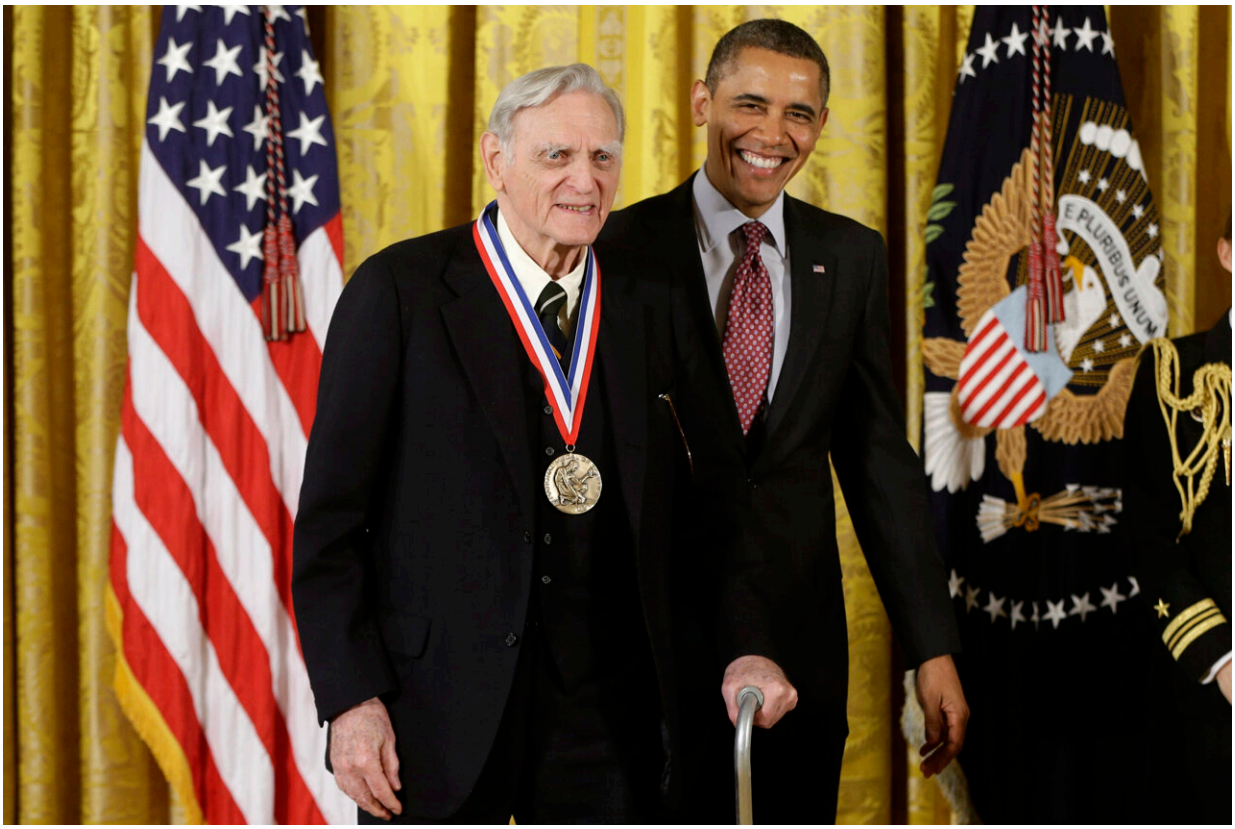
Goodenough, Whittingham and Yoshino each had unique breakthroughs that laid the foundation for developing a commercial rechargeable battery and the three shared the $900,000 Nobel Prize.

Whittingham's work in the 1970s harnessed the tendency of lithium—the lightest metal—to give away its electrons to make a battery capable of generating just over two volts.

By 1980, Goodenough had built on Whittingham's work and doubled the battery's capacity to four volts by using cobalt oxide in the cathode, one of the two electrodes that make up the ends of a battery.

That battery remained too explosive for general commercial use. Yoshino's work in the 1980s eliminated the volatile pure lithium from the battery and instead opted for lithium ions that are safer. The first lightweight, safe, durable and rechargeable commercial batteries entered the market in 1991.

Born in Jena, Germany in 1922, Goodenough grew up in the United States and earned a Ph.D. in chemistry from the University of Chicago. He began his career at the Massachusetts Institute of Technology, where his research laid the groundwork for development of random-access memory for the digital computer.



In this Feb. 1, 2013 file photo, President Barack Obama awards the National Medal of Science to Dr. John Goodenough, of the University of Texas, during a ceremony in the East Room of the White House in Washington. Goodenough, who shared the 2019 Nobel Prize in chemistry for his work helping develop the lithium-ion battery, transforming technology with rechargeable power for devices ranging from cellphones, computers, and pacemakers to electric cars, died Sunday, June 25, 2023,, the University of Texas announced Monday, June 26. He was 100. Goodenough was a faculty member at Texas for nearly 40 years. Credit: AP Photo/Charles Dharapak, File

Goodenough was head of the Inorganic Chemistry Laboratory at the University of Oxford in England when he made his lithium-ion discovery. He joined the Texas faculty in 1986, and was still teaching and researching battery materials and solid-state science and engineering

problems when he won the Nobel Prize.

Goodenough and his wife Irene were married 70 years until her death in 2016.

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