

How did Akira Yoshino create a lithium-ion battery?

With Goodenough's cathode as a basis, Akira Yoshino created the first commercially viable lithium-ion battery in 1985. Rather than using reactive lithium in the anode, he used petroleum coke, a carbon material that, like the cathode's cobalt oxide, can intercalate lithium ions.

When did Yoshino develop a rechargeable battery?

In 1983 Yoshino fabricated a prototype rechargeable battery using lithium cobalt oxide (LiCoO_2) (discovered in 1979 by Godshall et al. at Stanford University, and John Goodenough and Koichi Mizushima at Oxford University) as cathode and polyacetylene as anode.

Who won the Japan Prize for lithium-ion rechargeable batteries?

John Goodenough, Stanley Whittingham and Akira Yoshino receive the prize for their development of lithium-ion rechargeable batteries. Stanley Whittingham (left), John Goodenough and Akira Yoshino (right) did work in the 1970s and 1980s that led to the development of lithium-ion batteries. Credit: Binghamton University/UT Austin/The Japan Prize

How did Yoshino improve battery performance?

Yoshino also developed an aluminium foil as a collector to draw electricity from the cathode. This dramatically improved the battery's performance, conferring it with a high voltage and a high storage capacity. Yet, there was no overnight success.

How did Yoshino make a lithium anode?

To avoid using metallic lithium at the anode, Yoshino and his collaborators made an anode of petroleum coke, which is a carbon-rich byproduct of oil refining. Charging the coke with electrons draws lithium ions into the anode.

Did Akira Yoshino have a Frank chat with Japan's Emperor?

Asian Scientist (Jun. 1, 2018) - Not many people can boast of having sat down with Japan's emperor for a meal, but Dr. Akira Yoshino has had that distinct honor. "I had a frank chat with the Emperor," Yoshino said in an interview with Asian Scientist Magazine.

Yoshino Akira. Unknown affiliation. Verified email at akane.waseda.jp. Articles Cited by. Title. Sort. Sort by citations Sort by year Sort by title. Cited by. Cited by. ... The lithium-ion battery: Two breakthroughs in development and two reasons for the Nobel Prize. A Yoshino. Bulletin of the Chemical Society of Japan 95 (1), 195-197, 2022. 70:

In 1983, Professor Akira Yoshino filed a patent application for the lithium-ion battery as we know it today, taking the original concept and modifying it to be safe, efficient and reliable. He replaced ...

Yoshino Akira (1948-), sinh 30 tháng 1 năm 1948, là một nhà học người Nhật. Ông là thành viên của Tập đoàn Asahi Kasei và giám đốc của Đại học Meiji. Ông là người phát minh ra pin lithium-ion (LIB) thường được sử dụng trong điện thoại di động và máy tính xách tay. Ông đã được trao Giải Nobel Hóa học năm 2019 ...

Akira Yoshino Wins 2018 Japan Prize For Lithium Battery Breakthrough Dr. Akira Yoshino, President of the Lithium Ion Battery Technology and Evaluation Center at Asahi Kasei, has been awarded the 2018 Japan Prize for his invention of ...

Dr. Akira Yoshino is Honorary Fellow of Asahi Kasei Corporation. He began research on rechargeable batteries in 1981, and in 1983 fabricated a prototype rechargeable battery using lithium cobalt oxide as cathode and polyacetylene as anode. He switched to carbonaceous material for the anode and in 1985 fabricated and received the basic patent ...

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The revolutionary work of John Goodenough, M. Stanley Whittingham and Akira Yoshino has finally been awarded the Nobel Prize in Chemistry. Scientific discovery and engineering brilliance continue ...

Three scientists, John B. Goodenough, M. Stanley Whittingham and Akira Yoshino (from left), have won the Nobel Prize in chemistry for their work on lithium-ion batteries.

Laureates receive \$1.5 million (~US\$450,000) and a solid gold medal presented by the Emperor. Yoshino's claim to the prize? It's probably sitting in a device right next to you--the lithium ion battery. Building a better battery

The moment of truth: The lithium-ion battery is currently the predominant power source for mobile phones, laptop computers, and many other portable electronic devices, and is being used increasingly in electric ...

The battery explodes and the oil price falls. Unfortunately, the group that was to start producing the battery suffered some setbacks. As the new lithium battery was repeatedly charged, ...

The Editorial Department of the DNP Features section asked Akira Yoshino, president of the Consortium for Lithium Ion Battery Technology and Evaluation Center (LIBTEC) and winner of ...

Stanley Whittingham (left), John Goodenough and Akira Yoshino (right) did work in the 1970s and 1980s that led to the development of lithium-ion batteries.

LIBTEC President Akira Yoshino won the Nobel Prize in Chemistry in 2019 for developing the lithium ion battery. The lithium ion battery's role in solving environmental problems, as ...

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Akira Yoshino Nobel Prize in Chemistry 2019 Born: 30 January 1948, Suita, Japan Affiliation at the time of the award: Asahi Kasei Corporation, Tokyo, Japan; Meijo University, Nagoya, ...

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