

This year's Nobel Prize in Physics winners not only made exceptional strides in their field, but also break down barriers and records.

Donna Strickland, a Canadian physicist, has been awarded the 2018 Nobel Prize in Physics, along with French physicist, Gérard Mourou, for their work on generating high-intensity, ultra-short optical pulses.

The two also share the award with American, Arthur Ashkin, for his almost science fiction sounding research and development of optical tweezers, that can grab particles, atoms, and molecules with their laser beam fingers. Viruses, bacteria, and other living cells can be held too, and examined and manipulated without being damaged. Ashkin's discovery has created entirely new opportunities for observing and controlling the machinery of life. And at 96, Ashkin has become the oldest Nobel Laureate.

Strickland and Mourou's development of very short and intense laser pulses, known as Chirped Pulse Amplification (CPA), have made it possible to cut or drill holes in materials and living matter incredible precision. This innovative technology has led to corrective eye operations for millions of people as well as laser therapy targeting cancer.

The Royal Swedish Academy claims that both inventions have "revolutionized laser physics".

What is truly amazing though, is that Donna Strickland is the first woman in 55 years, and only the third in history, to become a Nobel Laureate in physics. She now takes a place in history with Marie Curie, who won it twice, and Maria Goeppert-Mayer for discoveries concerning nuclear shell structure in 1963.

Marie Curie was the first woman ever to win a Nobel Prize in 1903. She was recognized for her co-discovery of radiation.

Strickland believes that the achievements of women scientists deserve recognition. “We need to celebrate women physicists because we’re out there. I’m honored to be one of those women” Strickland said at a press conference following the announcement in Stockholm.

Strickland however, has stressed that she has “always been treated as an equal”, and that “two men also won it with me, and they deserve this prize as much if not more than me”.

“As far as sharing [the award] with Gerard, of course he was my supervisor and mentor and he has taken CPA to great heights, so he definitely deserves this award. And I’m so happy Art Ashkin also won,” Strickland told the press.

The American Institute of Physics (AIP) offered their congratulations through a statement earlier today saying, “The countless applications made possible by their work, like laser eye surgery, high-power pettawat lasers, and the ability to trap and study individual viruses and bacteria, only promise to increase going forward.”

“It is also a personal delight to see Dr. Strickland break the 55-year hiatus since a woman has been awarded the Nobel Prize in Physics, making this year’s award all the more historic.”

Alfred B. Nobel was a Swedish chemist and engineer, who is known for the invention of dynamite, established the Nobel Prizes in his will, which would be awarded annually without regard to nationality, in Peace, Literature, Physics, Chemistry, Physiology/Medicine, and Economic Science. Learn more about the history and past Nobel Laureate [here](#).

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Summary



Article Name

Nobel Prize in Physics 2018—First Woman Winner in 55 Years

Description

The Nobel Prize winners for physics in 2018 were awarded to three physicists, including the

first woman in 55 years for revolutionary work in laser physics.