



First Female Physics Nobel in 55 YEARS

“Have you ever played with Lego? Well...how about a laser?” - Donna Theo Strickland, FRS CC

To Donna Strickland this is one of the most important questions to ask her new physics students. Lego has always been a favourite toy of Strickland’s growing up and she believes that building things with the bricks made her who she is today. Strickland is still building and designing things, however she has since traded the small plastic bricks for much larger and more expensive optical physics equipment like lasers.

In 2018 Donna, along with her doctoral adviser Gérard Mourou, received one quarter of the Nobel prize each. Meanwhile Arthur Ashkin’s received half of the prize for his unrelated work on ‘Optical tweezers’. Strickland had unknowingly just become the first female Nobel Prize winner in 55 years, joining a very short list of only 2 other women. So you would be justified in wondering what exactly got her here in the first place? The answer is CPA or Chirped Pulse Amplification if you’re trying to sound smart.

CPA is so impressive because it allows us to stretch out a pulse of light before squishing it back together, ultimately making the energy of the pulse reach an intensity that wasn’t previously possible. What Strickland and Mourou have achieved is nothing short of incredible, they have managed to not only harness the fastest thing in our known universe but also allowed us to see what more it is capable of. The potential was always there, they just showed us how to see it. It’s no wonder then that Strickland has described herself as a “laser jock”, to keep up with something traveling at 300 million meters per second and still stay on your toes long enough to break new ground is nothing short of an athletic feat.

Although Donna Strickland was the first female physics Nobel in 55 years, since then one more woman Andrea M. Ghez has won a Nobel Prize for her discovery of something supermassive and compact at the center of our galaxy. With these women’s names forever carved in our understanding of modern physics, perhaps there are many more Lego builders out there who will remember their names.. and show us what comes next.

