

University of Mississippi Women in Physics

UMMWIP

“Obviously we need to celebrate women physicists because we are out there...” -Donna Strickland

Weekly meetings

October 19 - Social night

October 26 - Meeting

Upcoming events

October TBA - Chat with Gabriela Gonzalez

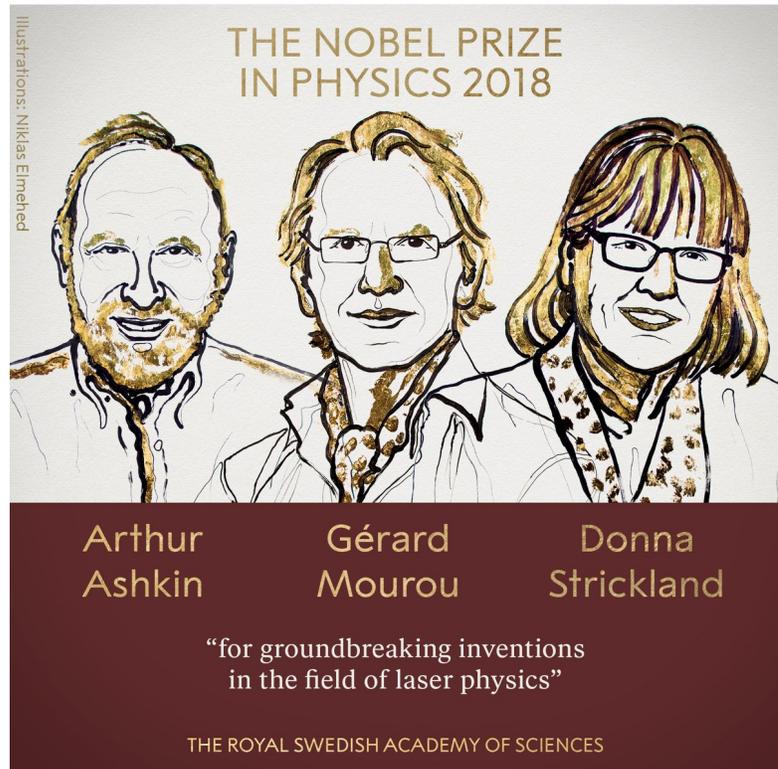
October 25 - Women in STEM Fall Dinner

November 1 - Nobel Prize in Physics celebration

November 6 - Biophysics colloquium by Andrea Welsh, founder of WiP at Georgia Tech

November TBA - Mental Health Workshop

November TBA - STEM Demos at Oxford Boys and Girls Club



2018 Nobel Prize Winners

by Dripta Bhattacharjee

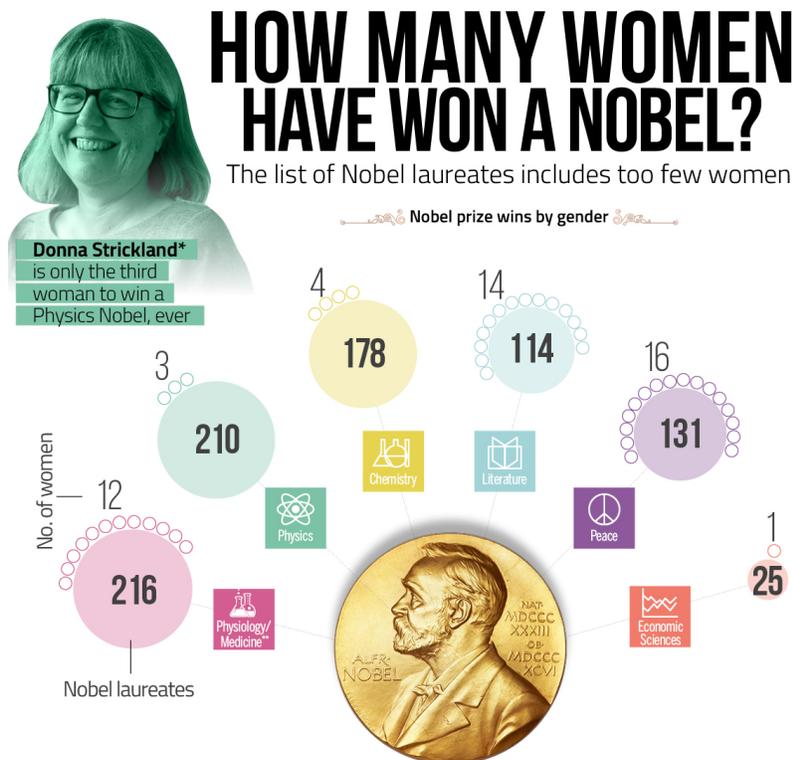
The Royal Swedish Academy of Sciences has decided to award the 2018 Nobel Prize in Physics “for groundbreaking inventions in the field of laser physics” with one half to Arthur Ashkin, Bell Laboratories, USA “for the optical tweezers and their application to biological systems” and the other half jointly to Donna Strickland, University of Waterloo, Canada and Gérard Mourou, École Polytechnique, Palaiseau, France-University of Michigan, Ann Arbor, USA “for their method of generating high-intensity, ultra-short optical pulses.”

Arthur Ashkin invented optical tweezers that grab particles, atoms, viruses and other living cells with their laser beam fingers. This new tool allowed Ashkin to realize an old dream of science fiction – using the radiation pressure of light to move physical objects.

G erard Mourou and Donna Strickland paved the way towards the shortest and most intense laser pulses ever created by mankind. Their revolutionary article was published in 1985 and was the foundation of Strickland’s doctoral thesis. Using an ingenious approach, they succeeded in creating ultrashort high-intensity laser pulses without destroying the amplifying material.

Strickland and Mourou’s newly invented technique, called chirped pulse amplification, CPA, soon became standard for subsequent high-intensity lasers. Its uses include the millions of corrective eye surgeries that are conducted every year using the sharpest of laser beams.

Apart from celebrating the revolutionary inventions, this year we have another good reason to celebrate. After 55 long years, the Nobel Prize has been awarded to a female scientist. Donna Strickland is the third female scientist to be awarded this honour in the history of Nobel Physics awards which spans over 117 years. Marie Curie and Maria Goeppert Mayer were the only two other female scientists who were awarded the Nobel Prize. It is encouraging to see that after such a long time the contributions of women in physics has been recognized.





“

That brain of mine is something more than merely mortal, as time will show.

Ada Lovelace

Ada Lovelace

by **Dripta Bhattacharjee**

A gifted mathematician, Ada Lovelace is considered to be the first computer programmer. Around the age of 17, Ada met Charles Babbage (also known as the father of computers). They developed a friendship, and Babbage served as a mentor to Ada.

Babbage, a mathematician and inventor, put forth the idea of an analytical engine designed to execute complex mathematical calculations. Ada was later asked to translate an article on Babbage's analytical engine that had only been written for a Swiss journal. She not only translated the original French text into English, but also added her own thoughts and ideas on the machine. Her notes ended up being three times longer than the original article. In her notes, Ada described how codes could be created for the device to handle letters and symbols along with numbers. She also theorized a method for the engine to repeat a series of instructions, a process known as looping, that computer programs use today.

Unfortunately, Ada's article attracted little attention when she was alive. She died on November 27, 1852 from uterine cancer.

Ada Lovelace's contributions to the field of computer science were not discovered until the 1950s - almost a century after she died. Since then, Ada has received many posthumous honors for her work. The second Tuesday of every October marks Ada Lovelace Day, a day founded in 2009 by technologist Suw Charman-Anderson to celebrate the achievements of women in STEM (science, technology, engineering and mathematics) careers, and it was created in memory of Ada Lovelace, the first computer programmer.

Hispanic Heritage Month

by **Lorena Magaña Zertuche**

Hispanic Heritage Month takes place every year from September 15 to October 15 to celebrate the enrichment that Hispanic and Latino cultures bring to the United States. September 15 was chosen as the beginning of the celebratory month since it marks the independence of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua, and on September 16, Mexico, Chile, and Belize celebrate their independence. Although, the United States has a long history of Hispanic and Latin American immigration, it was only until 1988 that Hispanic Heritage Month became official.

To celebrate this month, WiP has reached out to former LSC spokesperson, Gabriela Gonzalez, for a short Skype session where WiP members can ask her questions ranging from what sparked her interest in physics to her career path and more. Stay tuned for an announcement on this event!

On the CERN Workshop

by **Lorena Magaña Zertuche**

On September 26-28, 2018, CERN held a workshop on high energy theory and gender “with the aim to further the development and implementation of action plans to support women and other minorities in physics.” On the last day of the workshop, Alessandro Strumia from the University of Pisa gave a presentation where he claimed that physics was ‘invented and built by men.’ However, this was not the only offensive comment. His presentation was full of highly offensive remarks, cartoons, and erroneous graphs. In one of his slides, he states that men have a higher rate of citations than women and even then women candidates are hired instead of male candidates. He goes further and discusses a personal experience where he says that a position he was more qualified for was given to a woman instead of him. From this, he draws that physics ‘was becoming sexist against men’ and not women.

After this incident, CERN released a statement stating that the views of Strumia are not shared by the collaboration and that the data presented by Strumia was fundamentally unsound. Additionally, they go one step further and disprove some of the statements he made in the presentation.

Alessandro Strumia has been suspended from any activity at CERN. Both CERN and the University of Pisa are investigating this event. Nevertheless, Strumia stands by what he said.

Read more at: <https://www.bbc.com/news/world-europe-45703700>

CERN statement: <https://www.particlesforjustice.org>

Strumia’s presentation slides: https://drive.google.com/file/d/1c_NyUhOZ8erdqU2AGZJZtNfFeA9IKefj/view