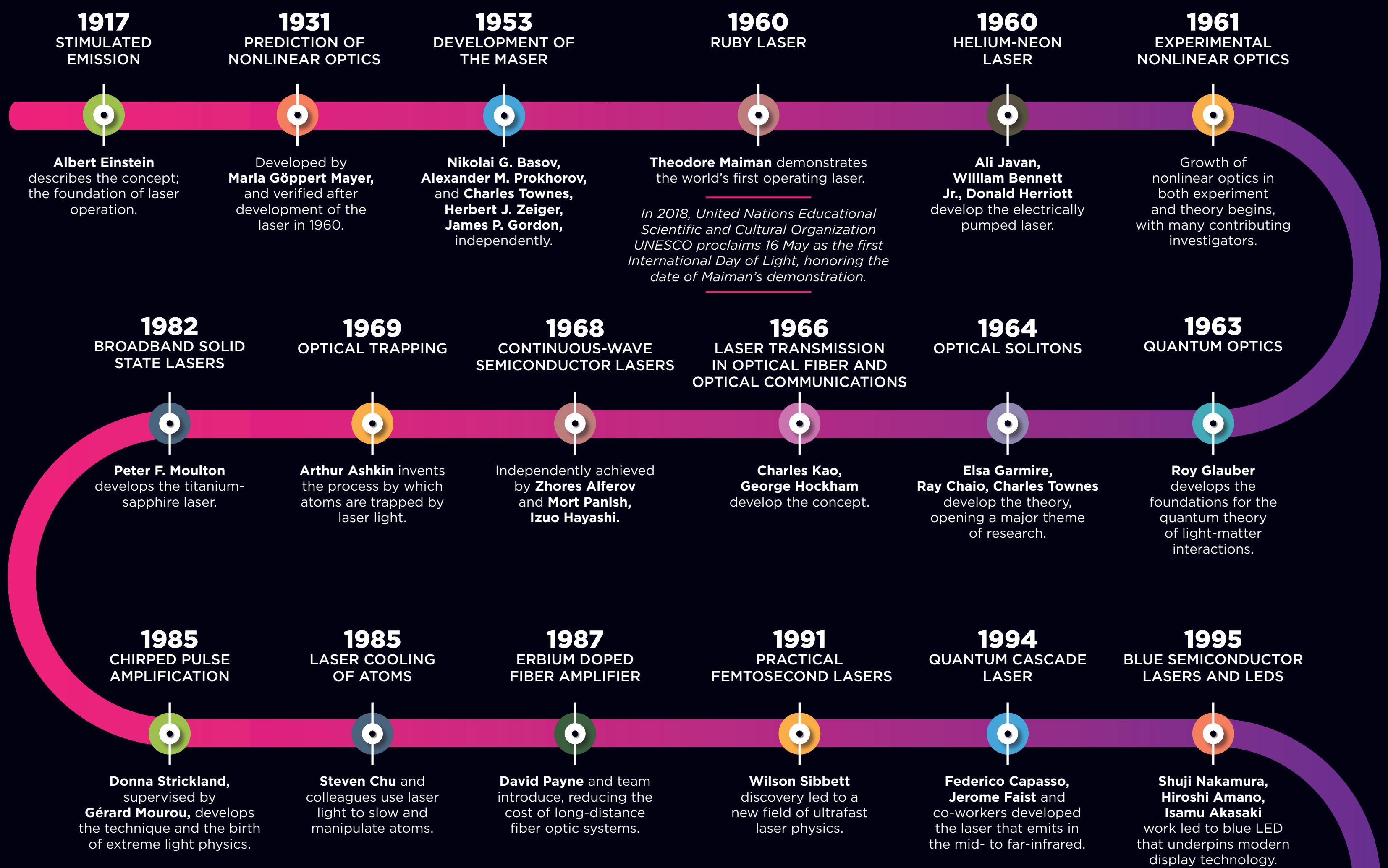




CELEBRATING THE HISTORY OF THE LASER

The year 2020 marks 60 years since the construction and operation of the first laser. SPIE pays tribute to the many scientists and engineers who have changed lives with the development of this technology.



Nobel Prizes for laser related discoveries

1953: PHYSICS
Nikolai G. Basov, Alexander M. Prokhorov, Charles Townes
The maser

1963: PHYSICS
Maria Göppert Mayer
The prediction of nonlinear optics

1981: PHYSICS
Nicolaas Bloembergen, Arthur L. Schawlow
Experimental nonlinear optics

1997: PHYSICS
Steven Chu, Claude N. Cohen-Tannoudji, William D. Phillips
Laser cooling of atoms

1999: CHEMISTRY
Ahmed Zewail
Femtosecond spectroscopy

2000: PHYSICS
Zhores Alferov, Jack Kilby, Herbert Kroemer
Continuous-wave semiconductor lasers

2005: PHYSICS
Roy J. Glauber
Quantum optics

2005: PHYSICS
Theodor W. Hänsch, John L. Hall
Laser-based optical frequency comb

2009: PHYSICS
George Smith, Willard Boyle, Charles K. Kao
Laser transmission in optical fiber and optical communications

2014: PHYSICS
Shuji Nakamura, Hiroshi Amano, Isamu Akasaki
Blue LED

2014: CHEMISTRY
Eric Betzig, William Moerner, Stefan Hell
Super-resolved fluorescence microscopy

2017: PHYSICS
Rainer Weiss, Kip Thorne, Barry C. Barish
LIGO detector and observation of gravitational waves

2018: PHYSICS
Arthur Ashkin
Optical trapping

2018: PHYSICS
Gérard Mourou, Donna Strickland
Chirped pulse amplification

2015
LASERS DETECT GRAVITATION WAVES

Rainer Weiss, Kip Thorne, Barry C. Barish's work opened up an entirely new window of understanding into the universe.

2001
ATTOSECOND LASER PULSES

Major contributions have been made by many scientists including Paul Corkum, Margaret Murnane, Ursula Keller, Ferenc Krausz

2000
SUPER-RESOLUTION MICROSCOPY

Stefan Hell, Eric Betzig, William Moerner's work in optical microscopy extended visualization to the nanoscale.

1999
LASER-BASED OPTICAL FREQUENCY COMB

The development by Ted Hänsch, John Hall revolutionized frequency metrology.

SPIE.

spie.org/laser60