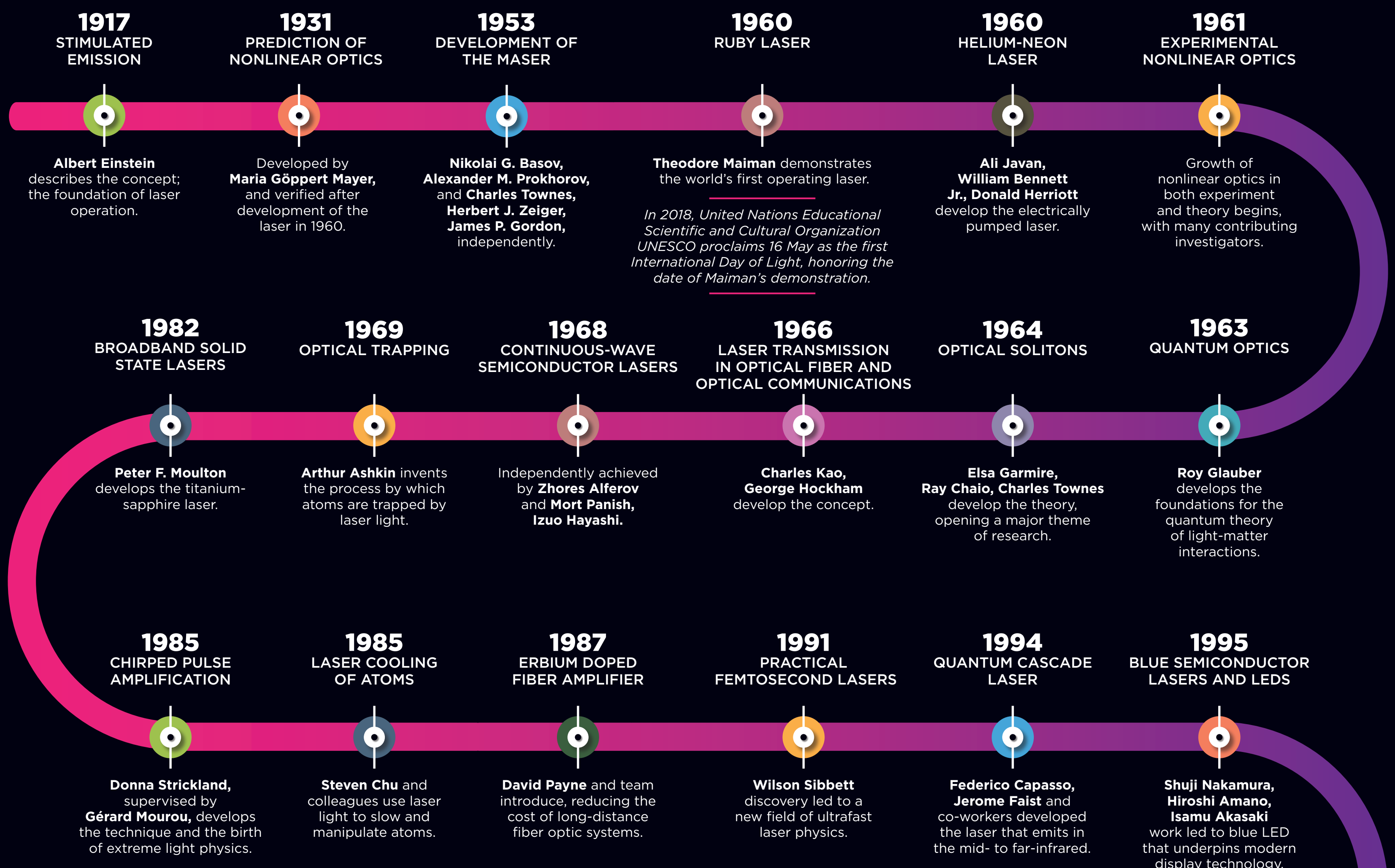


years of LASER INNOVATION

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

