

INGRID DAUBECHIES, PHD

BELGIAN-AMERICAN PHYSICIST AND MATHEMATICIAN



Early Life

Daubechies was born in 1954 in Houthalen, Belgium. She became fascinated with physics and mathematics at an early age. Her father was a mining engineer who encouraged her sense of curiosity and supported her pursuit of the sciences.

Education

Daubechies completed both her Bachelor's degree in physics and her PhD in theoretical physics at the Free University of Brussels, where she stayed post-doctorate to conduct research until 1987. She has since taught at Rutgers University, Princeton University, and Duke University (present).

Contributions

Daubechies is most recognized for her work in wavelets, which transformed data compression technology and allowed for the development of practical tools in diverse fields, including medical imaging, wireless communications, space observation, and even art restoration. She has published over 130 peer-reviewed articles and her 1992 book *Ten Lectures on Wavelets* is considered a foundational text in wavelet theory. Daubechies was the first female full professor at Princeton University (1994), the first female recipient of the National Academy of Sciences Award in Mathematics (2000), and the first female elected president of the International Math Union (2011).



Overcoming Barriers

Throughout her career, Daubechies had few female role models and often faced harassment from male colleagues. During faculty meetings, her ideas were rarely taken seriously unless they were regurgitated by and accredited to a male faculty member. Inspired by her own experiences and the ongoing barriers for women in science, Daubechies has worked to increase women's access to opportunities through her presidency at the International Math Union and her role as a director at the Enhancing Diversity in Graduate Education (EDGE) program.