# JACK KEIL WOLF LECTURE
## IN INFORMATION THEORY AND APPLICATIONS

**claude shannon**
1916-2016

## REUNITED
## OCTOBER 10, 2016

**10am: Refreshments**
**11am: Lecture**

**Qualcomm Institute/
Calit2 Auditorium
Atkinson Hall**

*Photo: Duke Photography*

## Ingrid Daubechies
**James B. Duke Professor of Mathematics and Electrical and Computer Engineering, Duke University**

## ABSTRACT

For the first time in more than 100 years, the eight known panels—and one re-created missing panel of a 14th-century Italian altarpiece depicting Jesus's crucifixion and scenes in the life of St. John the Evangelist can been seen and appreciated as one magnificent work of art. The contrast between the vivid colors and the burnished gilded background of the new panel and the faded, aged colors and the matte and craqued old gilding was the impetus to a virtual rejuvenation of the old panels and a virtual ageing of the newly painted one, adding a completely different dimension to the exhibit which opened on September 10, 2016 in the North Carolina Museum of Art.
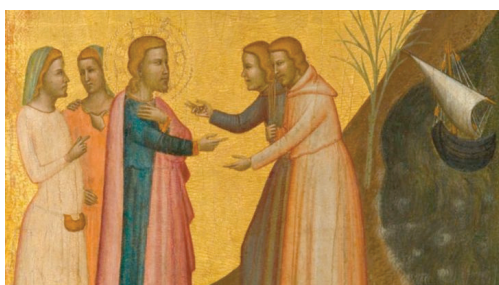
Attributed to Francescuccio Ghissi, *Acteus and Eugenius Implore St. John the Evangelist to Restore Their Wealth*, circa 1370–80, tempera and gold leaf on panel, 13 3/4 x 15 in., Gift of the Samuel H. Kress Foundation

## BIOGRAPHY

Ingrid earned her Ph.D. in theoretical physics from Vrije Universiteit Brussel. In addition to seminal advances in time-frequency analysis, she is best known for her breakthroughs in wavelet research and contributions to digital signal processing. Some of the wavelet bases and other computational techniques she developed were incorporated into the JPEG2000 standard for image compression.

Ingrid's career has seen many impressive firsts: the first female full professor of mathematics at Princeton; the first woman to receive the National Academy of Sciences Award in Mathematics in 2000; the first woman president of the International Mathematical Union in 2010; and she is very likely the first and only mathematician to have been granted the title of Baroness by Belgium's King Albert II.

Ingrid continues to break new ground in mathematics research, focusing on signal analysis and inverse problems, with applications ranging from fMRI and geophysics to paleontology and fine art painting.

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