

# PIMS DISTINGUISHED LECTURES at SFU



**Robert Calderbank & Ingrid Daubechies**  
Princeton University

**Tuesday July 18, 2006**

**IMAGES Theatre, Simon Fraser University**

**2:00 PM Robert Calderbank:**  
*Heisenberg-Weyl Groups and their  
Application to Sequence Design*



*Robert Calderbank*

Robert Calderbank is currently a professor in the Department of Electrical Engineering at Princeton University. Prof. Calderbank's inventions have transformed communications practice in voice-band modems, and advanced read channels for magnetic recording and wireless systems. He and Peter Shor created the framework for fault-tolerant quantum computing. He was awarded the IEEE Information Theory Prize Paper Award in 1995 for his work on the  $Z_4$ -linearity of Kerdock and Preparata codes, and again in 1999 for the invention of space-time codes. Prof. Calderbank received the IEEE Millennium Medal in 2000, and was elected to the National Academy of Engineering in 2005. Prior to joining Princeton, Prof. Calderbank was a Vice President for research at AT&T, where he had worked for over 20 years. He was appointed an AT&T Fellow in 2000.

**3:00 PM Ingrid Daubechies:**  
*Introduction to Wavelets*



*Ingrid Daubechies*

Ingrid Daubechies is currently the William R. Kenan Jr. Professor with the Mathematics Department and the Program in Applied and Computational Mathematics at Princeton University. The work of Prof. Daubechies has been fundamental in the development of the mathematics of time-frequency analysis, in particular the theory of wavelets. She has received numerous awards including the Gold medal from the Flemish Royal Academy of Arts and Sciences (Belgium), the National Academy of Sciences (USA) Medal in Mathematics, and the IEEE Information Theory Society Golden Jubilee Award for Technological Innovation. She is also the recipient of both the Ruth Lyttle Satter and Steele Prizes from the American Mathematical Society, the latter for her exposition *Ten Lectures on Wavelets*. She was elected to the National Academy of Sciences in 1998.

Followed, at **4:30 PM** in the **IRMACS Theatre**, by a  
**SPECIAL INFORMAL EVENT:** *A question and answer  
session where undergraduate and graduate students can  
meet with the speakers.*

Reception to follow in the IRMACS  
Lounge

