



Berlin  
Mathematical  
School

## BMS Kovalevskaya Colloquium

Friday 11 November 2011 at 14:15

*Tea before the lecture begins at 13:00*

BMS Loft, Urania, An der Urania 17, 10787 Berlin

### Ingrid Daubechies

*(Duke University)*

#### Distinguishing the "hand" of the master?

Paintings by Goossen van der Weyden, an early 16th century Flemish painter, have long been known not all to be entirely of the hand of the master himself -- it was customary in his time that artists employed one or more apprentices in their workshops, who could be given the task to execute (less crucial) parts of some paintings.

As is often the case in 16th century paintings as well, many show underdrawings, which can be made visible by infrared reflectometry. In the case of Goossen van der Weyden, some of these underdrawings are much more structured than others, giving more technical guidance for the subsequent operation of painting; different underdrawing styles can occur within the same painting.

An interesting question, from the art historical point of view, is whether the painting style, as characterized by an analysis of the visible detail of the painted surface, can be classified "blindly" (i.e. without a priori knowledge of the underdrawing style) in accordance with the underdrawing classification. We studied this question, and found that this was indeed the case. This work was done in collaboration with Robert Calderbank, Sina Jafarpour, Maximiliaan Martens and Josephine Wolff.

Ingrid Daubechies is a Belgian physicist and mathematician. Between 2004 and 2011, she was the William R. Kenan Jr. Professor in the mathematics and applied mathematics departments at Princeton University. In January 2011 she moved to Duke University as a Professor in mathematics. Ingrid Daubechies is the first woman who became president of the International Mathematical Union (2011–2014). She is best known for her work with wavelets in image compression.