



# DISTINGUISHED VISITOR LECTURE SERIES

## About the speaker:

Bo Berndtsson is a professor of mathematics at the Chalmers University of Technology. His main scientific interests are in multidimensional complex analysis, and its applications to other parts of mathematics, like geometry and convexity. He was awarded the **Göran Gustafsson Prize** in 1995 and was elected member of the Royal Swedish Academy of Sciences in 2003.

**Bo Berndtsson**

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## Lelong numbers for singular metrics on vector bundles

### Lecture 1: 2 — 2.50 pm

Singular hermitean metrics on vector bundles can be defined in analogy with singular metrics on line bundles. In general, such metrics do not have a well defined curvature tensor (in the sense of currents with measure coefficients), but one can nevertheless define what it means for them to be positively or negatively curved. We introduce a notion of Lelong numbers for such metrics that are negatively curved, and study it in a very special situation. We also give applications to the strong openness problem (now a theorem of Guan-Zhou) and the Ohsawa-Takegoshi extension theorem for singular varieties.

## Curvature of higher direct image bundles

(joint work with Mihai Paun and Xu Wang)

### Lecture 2: 3.20 — 4.10 pm

The (0:th) direct image of the relative canonical bundle twisted with a positive line bundle has positive curvature. We discuss generalizations of this result to higher direct images. This generalizes previous work of Siu, Schumacher and To-Yeung.

**IMS Auditorium**  
**9 May 2017 (Tuesday)**

**FREE ADMISSION**