Einladung zum

Würzburger Mathematischen Kolloquium

Julius-Maximilians-Universität Würzburg • Fakultät für Mathematik und Informatik

Prof. Dr. Harald Garcke

Universität Regensburg

The Mathematics of Snow Crystal Growth

Mittwoch, den 7. Mai 2014 • 16:15 Uhr

Raum SE 40, Mathematik Ost, Emil-Fischer-Str. 40, Campus Hubland-Nord

Inhaltsangabe

The beauty and variety of snow crystals continues to fascinate layman and scientists alike. In my talk I will first give a short review of the history of snow crystal research starting with the pioneering work of Johannes Kepler. Then a mathematical model for snow crystal growth, leading to a free boundary problem for a parabolic partial differential equation, is derived. I will briefly discuss how this free boundary problem can be formulated as a gradient flow and how this viewpoint leads to existence of weak solutions. Finally, I will introduce a new numerical method for snow crystal growth which allows it for the first time to compute many snow crystal forms that appear in nature with the help of a model which is based on basic physical laws.

Zu diesem Vortrag laden wir Sie herzlich ein.
Im Anschluss an die Vorträge Kaffee und Tee im Foyer vor dem SE 40.

Die Dozentinnen und Dozenten der Mathematik