Mathematisches Kolloquium

**Donnerstag, 16. Mai 2024
um 17:00 Uhr in G201**

Prof. Dr. René Pinnau

(RPTU Kaiserslautern-Landau)

Free Boundary Problems in Applications & Optimal Control

Abstract:

We present free boundary problems in different areas of application, e.g., automotive industry, filter production or film casting. The high nonlinearity of these problems is challenging from the analytical and numerical point of view. In particular, if the free boundary problem is a constraint in an optimal control problem. Here, we will study the production of the fibre material as well as the control of filtration processes. We use the adjoint variables to get the derivative information which is needed for the respective numerical solution. This will yield a nice interplay of analytical techniques and numerical approaches. Finally, we discuss and analyze possible numerical relaxations and approximations, which allow for simpler numerical implementations.

Ab 16:15 Uhr wird es im Common Center (F441) Kaffee und Tee geben.

Alle interessierten Personen sind herzlich eingeladen!