Oberseminar Numerik

Dr. Niklas Kolbe (RWTH Aachen)

14.06.22
14:15 Uhr
Hilbertraum (05-426)
Staudingerweg 9, 55128 Mainz

## „An adaptive Lagrangian method for convection-diffusion equations"

Abstract:

Spatial models of cell migration have become an important tool in the study of bio-medical problems. They often lead to simultaneous concentrated and diffusive regions that are challenging to resolve numerically in an efficient way.
We present a new scheme for convection-diffusion equations, which is well suited for these models and based on the Lagrange-Galerkin method on a piece-wise constant finite volume discretization over a moving mesh. We demonstrate the efficiency of the scheme in 1D and 2D applications and show stability conditions as well as error estimates.

*Joint work with Hirofumi Notsu from Kanazawa University

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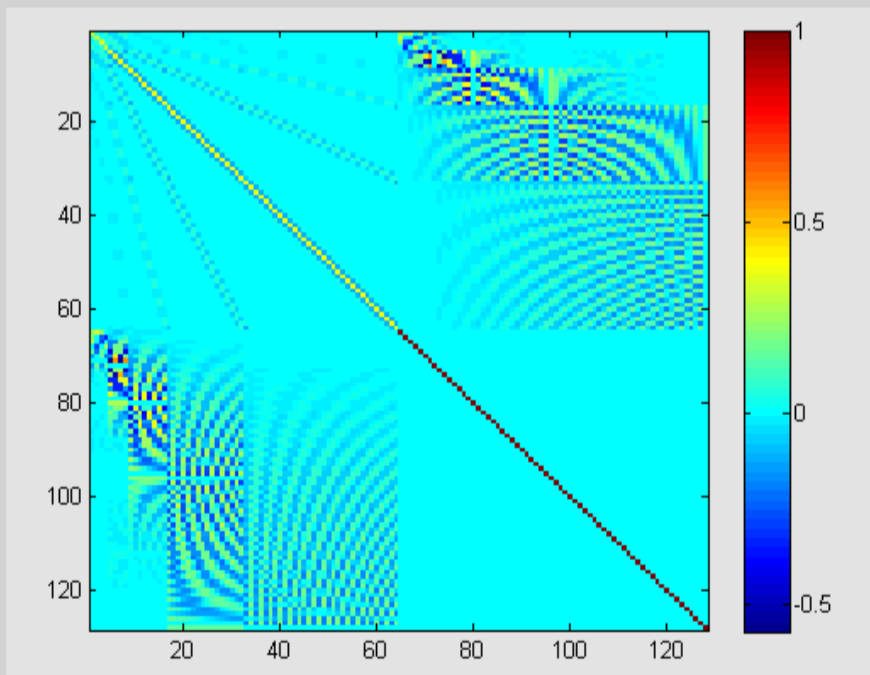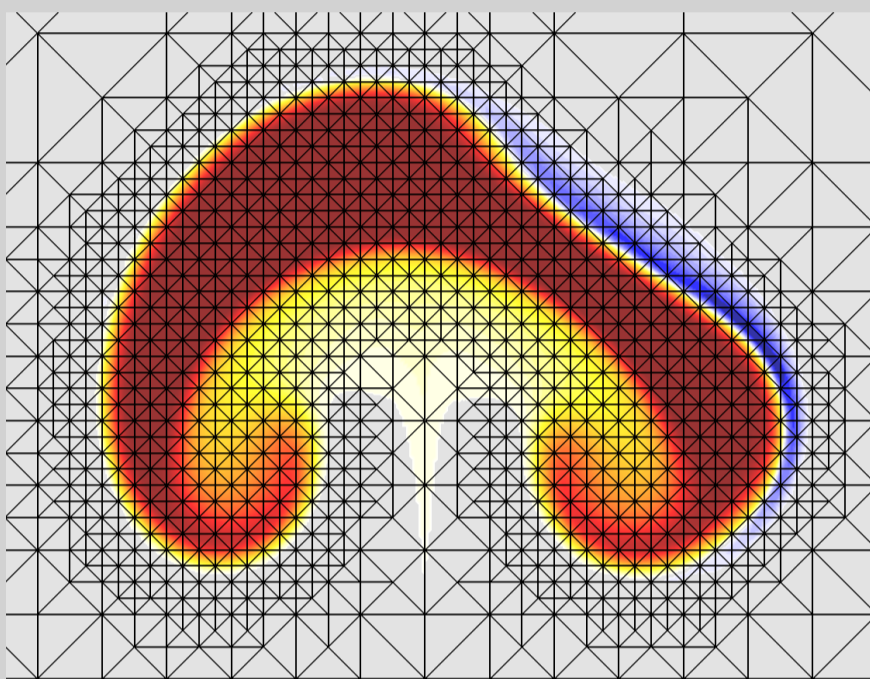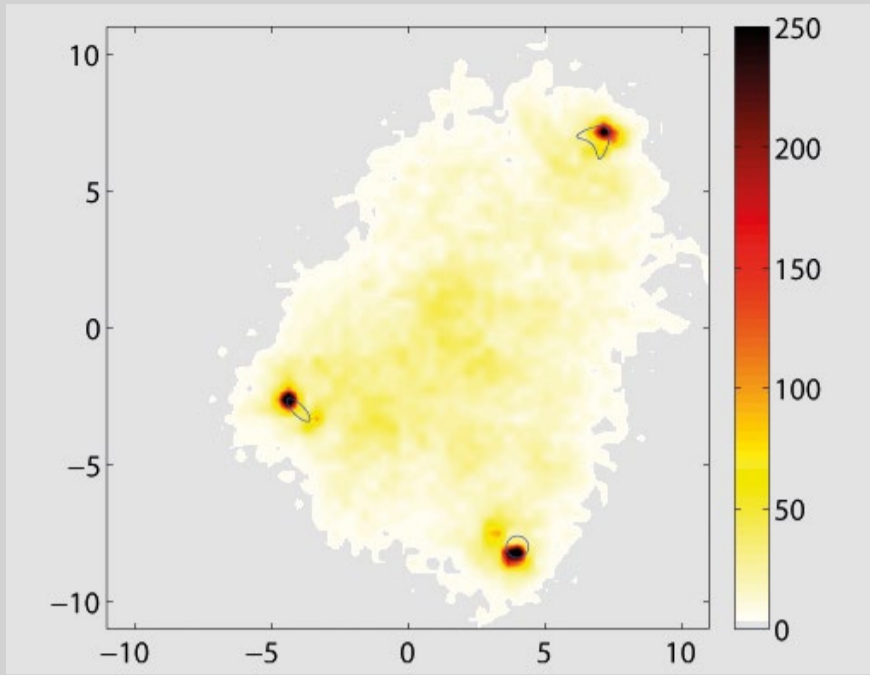
AG Numerik
Institut für Mathematik
Staudingerweg 9
55128 Mainz

Sekretariat:
burkertb@mathematik.uni-mainz.de

JOHANNES GUTENBERG UNIVERSITÄT MAINZ

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