Curriculum Vitae

Personal information

Name:	Aaron Brunk
Date of birth:	December 08, 1992
Place of birth:	Worms, Germany
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Education

2022 – **post-doctoral study**

Johannes Gutenberg University in Mainz
withing the group of M. Lukáčová-Medviďová

2017 – 2022 **doctoral study**

Johannes Gutenberg University in Mainz
withing the group of M. Lukáčová-Medviďová

2015 – 2017 **Master of Science Mathematics**

Johannes Gutenberg University in Mainz
Institute of Mathematics

2012 – 2015 **Bachelor of Science Mathematics**

Johannes Gutenberg University in Mainz
Institute of Mathematics

Work experience

11/2017 – 2022 **teaching assistant**

Johannes Gutenberg University in Mainz

Publications

Existence and weak-strong uniqueness for global weak solutions for the viscoelastic phase separation model in three space dimensions
submitted to Discrete Contin. Dyn. Syst. (2022)

Ph.D thesis **Viscoelastic phase separation: Well-posedness and numerical analysis**
`https://openscience.ub.uni-mainz.de/handle/20.500.12030/6777`

with M. Lukáčová-Medviďová
Relative energy and weak-strong uniqueness of the two-phase viscoelastic phase separation model
submitted to Appl. Math. Mech. (2021)

with M. Lukáčová-Medviďová
Global existence of weak solutions to viscoelastic phase separation: Part II Degenerate Case
in Nonlinearity 35 3459 (2022)

with M. Lukáčová-Medviďová
Global existence of weak solutions to viscoelastic phase separation: Part I Regular Case
in Nonlinearity 35 3417 (2022)

with H. Egger, O. Habrich, M. Lukáčová-Medviďová

Relative energy estimates for the Cahn-Hilliard equation with concentration dependent mobility
submitted to M2AN (2021)

with Y. Lu, M. Lukáčová-Medviďová
Existence, regularity and weak-strong uniqueness for three-dimensional Peterlin viscoelastic model
in Commun. Math. Sci. 20(1) 201-230(2022)

with B. Dünweg, H. Egger, O. Habrich, M. Lukáčová-Medviďová, D. Spiller
Systematic derivation of hydrodynamic equations for viscoelastic phase separation
in J. Phys.: Condens. Matter 33 364001. (2021)

with B. Dünweg, H. Egger, O. Habrich, M. Lukáčová-Medviďová, D. Spiller
Analysis of a viscoelastic phase separation model
in J. Phys.: Condens. Matter 33 234002 (2021)

with N. Sfakianakis, D. Peurichard, C. Schmeiser
Modelling cell-cell collision and adhesion with the filament based lamellipodium model
in Biomath 7(2):1811097 (2018)

with N. Sfakianakis
Stability, Convergence, and Sensitivity Analysis of the FBLM and the Corresponding FEM
in Bull. Math. Biol. 80(1-2):1.39 (2018)

with N. Kolbe, N. Sfakianakis
Chemotaxis and Haptotaxis on Cellular Level
in HYP16: Theory, Numerics and Applications of Hyperbolic Problems I (2018)