

Dr. Dominic Breit  
Mathematical Institute  
LMU Munich  
Theresienstraße 39  
80333 Munich – Germany

# List of publications

## Theses

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- 1) “Regularitätsuntersuchungen für das Ramberg/Osgood–Modell in drei Dimensionen.“ **Diploma thesis**, Saarland University, Department of Mathematics. (2007; M. Fuchs, M. Bildhauer)
- 2) “Schätzung zeitstetiger Modelle in der Finanzmarktökonomie mittels EMM und GMM.“ **Diploma thesis**, Saarland University, Department of Economics. (2008; R. Friedmann, S. Klößner)
- 3) “Regularitätssätze für Variationsprobleme mit anisotropen Wachstumsbedingungen.“ **PhD thesis**, Saarland University, Department of Mathematics. (2009; M. Fuchs, M. Bildhauer, N. Ural’tseva)
- 4) “Existence theory for generalized Newtonian fluids.“ **Habilitation thesis**, LMU Munich, Mathematical Institute. (2013; L. Diening, J. Frehse, J. Malèk, E. Süli)

## Articles in refereed journals

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- 1) “The partial regularity for minimizers of splitting type variational integrals under general growth conditions I. The autonomous case.“ **J. Math. Sciences** 166, No. 3, 239–258. (2010)
- 2) “The partial regularity for minimizers of splitting type variational integrals under general growth conditions II. The nonautonomous case.“ **J. Math. Sciences** 166, No. 3, 259–281.(2010)
- 3) “A note on splitting-type variational problems with subquadratic growth.“ **Archiv d. Math.** 94, 467–476. (2010)
- 4) Joint work with M. Fuchs: “The nonlinear Stokes problem with general potentials having superquadratic growth.“ **J. Math. Fluid Mech.** 13, 371–385. (2011)
- 5) “Splitting-type variational problems with  $x$ -dependent exponents.“ **Ann. Acad. Sci. Fenn. Math.** 36, 279–289. (2011)

- 6) Joint work with B. De Maria, A. Passarelli di Napoli: “Regularity for nonautonomous functionals with almost linear growth.” **Manus. Math.** 136, 83–114. (2011)
- 7) Joint work with B. Stroffolini, A. Verde: “A general regularity theorem for functionals with  $\varphi$ -growth.” **J. Math. Anal. Appl.** 383, 226–233. (2011)
- 8) “New regularity theorems for non-autonomous variational integrals with  $(p, q)$ -growth.” **Calc. Var.** 44, 101–129. (2012)
- 9) “Regularity theory for superquadratic energy functionals related to nonlinear Hencky materials in three dimensions.” **J. Appl. Anal.** 18, 1–31. (2012)
- 10) “Analysis of generalized Navier-Stokes equations for stationary shear thickening flows.” **Nonlinear Analysis TMA** 75, 5549–5560. (2012)
- 11) Joint work with L. Diening and M. Fuchs: “Solenoidal Lipschitz truncation and applications in fluid mechanics.” **J. Diff. Eq.** 253, 1910–1942. (2012)
- 12) Joint work with O. D. Schirra: “Korn-type inequalities in Orlicz-Sobolev spaces involving the trace-free part of the symmetric gradient and applications to regularity theory.” **ZAA** 31, 335–356. (2012)
- 13) Joint work with L. Diening: “Sharp conditions for Korn inequalities in Orlicz spaces.” **J. Math. Fluid Mech.** 14, 565–573. (2012)
- 14) Joint work with A. Verde: “Quasiconvex variational integrals in Orlicz-Sobolev spaces.” **Ann. Mat. Pura Appl.** 192, 255–271. (2013)

### Articles accepted for publication in refereed journals

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- 15) “Smoothness properties of solutions of the nonlinear Stokes problem with non-autonomous potentials.” To appear in **Comment. Math. Univ. Carolin** (Preprint 246, Saarland University)
- 16) Joint work with L. Diening and S. Schwarzacher: “Solenoidal Lipschitz truncation for parabolic PDE’s.” To appear in **M<sup>3</sup>AS**, DOI: 10.1142/S0218202513500437

### Articles submitted for publication

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- 17) Joint work with L. Diening and S. Schwarzacher: “Finite element methods for the  $p(\cdot)$ -Laplacian.”
- 18) “On systems of parabolic stochastic PDEs: the non-linear Laplacian.”
- 19) “Existence theory for stochastic power law fluids.”
- 20) Joint work with A. Cianchi: “Negative Orlicz-Sobolev norms and strongly nonlinear systems in fluid mechanics.”

## Talks

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- 1) “Regularitätsuntersuchungen für das Ramberg/Osgood–Modell in drei Dimensionen.“ Conference talk, Studierenden-Konferenz der DMV-Tagung, **Erlangen–Germany**. (09/2008)
- 2) “New regularity theorems for anisotropic variational integrals.“ Seminar talk, invited by J. Frehse, **Bonn–Germany**. (09/2009)
- 3) “Anisotropic variational problems in fluid mechanics and nonlinear elasticity.“ Seminar talk, invited by N. Fusco, **Naples–Italy**. (03/2010)
- 4) “New regularity theorems for nonautonomous anisotropic variational integrals.“ Conference talk, 6th Singular days on Asymptotic Methods for PDEs, **Berlin–Germany**. (04/2010)
- 5) “Anisotropic variational problems in fluid mechanics and nonlinear elasticity.“ Conference talk, The 8th AIMS Conference on Dynamical Systems, Differential Equations and Applications, **Dresden–Germany**. (05/2010)
- 6) “The nonlinear Stokes problem with general potentials.“ Seminar talk, invited by J. Frehse, **Bonn–Germany**. (06/2010)
- 7) “Korn-type inequalities in Orlicz spaces.“ Seminar talk, invited by L. Diening, **Munich–Germany**. (11/2010)
- 8) “Sharp conditions for Korn inequalities in Orlicz spaces.“ Conference talk, British Applied Mathematics Colloquium, **Birmingham–UK**. (04/2011)
- 9) “On stationary motions of Prandtl-Eyring fluids in 2D.“ Seminar talk, invited by G. Seregin, **Oxford–UK**. (05/2011)
- 10) “On stationary motions of Prandtl-Eyring fluids in 2D.“ Conference talk, IMA Conference on Nonlinearity and Coherent Structures, **Reading–UK**. (07/2011)
- 11) “Evolutionary PDE’s in perfectly plastic fluid theory.“ Conference talk, Equadiff 2011, **Loughborough–UK**. (08/2011)
- 12) “The motion of generalized Newtonian fluids.“ Colloquium talk, invited by E. Wahlén, **Lund–Sweden**. (02/2012)
- 13) “Evolutionary PDE’s in perfectly plastic fluid theory.“ Seminar talk, invited by E. Wahlén, **Lund–Sweden**. (03/2012)
- 14) “Solenoidal Lipschitz truncation and applications in fluid mechanics.“ Seminar talk, invited by M. Pokorný, **Prague–Czech Republic**. (05/2012)
- 15) “Solenoidal Lipschitz truncation for parabolic PDE’s.“ Seminar talk, invited by J. Kristensen, **Oxford–UK**. (06/2012)

- 16) “Solenoidal Lipschitz truncation for parabolic PDE’s.”  
Seminar talk, invited by J. Frehse, **Bonn–Germany**. (06/2012)
- 17) “Mathematical problems in fluid mechanics.”  
Seminar talk, invited by A. Cianchi, **Florence–Italy**. (11/2012)
- 18) “Regularity theory for Non-Newtonian fluids with general potentials.”  
Seminar talk, invited by L. Berselli, **Pisa–Italy**. (11/2012)
- 19) “Boundary regularity for Non-Newtonian fluids.”  
Seminar talk, invited by A. Verde, **Naples–Italy**. (03/2013)
- 20) “Solenoidal Lipschitz truncation and applications in fluid mechanics.”  
Seminar talk, invited by G. Mingione, **Parma–Italy**. (03/2013)
- 21) “Regularity theory for Non-Newtonian fluids with general potentials.”  
Seminar talk, invited by A. Cianchi, **Florence–Italy**. (05/2013)
- 22) “Existence and stability for nonlinear water waves in fluid interfaces.”  
Conference talk, 17th Int. Conference on Waves and Stability in Continuous Media,  
**Levico Terme–Italy**. (06/2013)
- 23) “Solenoidal Lipschitz truncation.”  
Conference talk, CIME-EMS Summer School in applied mathematics: Vector-valued  
Partial Differential Equations and Applications, **Cetraro–Italy**. (07.2013)