

## HANNO GOTTSCHALK: SCIENTIFIC PUBLICATIONS<sup>1</sup>

### JOURNAL ARTICLES

1. Gradient Based Biobjective Shape Optimization to Improve Reliability and Cost of Ceramic Components, (with Onur T. Doganay, Camilla Hahn, Kathrin Klamroth, Johanna Schultes and Michael Stiglmayr), *Engineering Optimization* (2019, online first), arXiv:1905.07566
2. Probabilistic modeling of slip system-based shear stresses and fatigue behavior of coarse-grained Ni- base superalloy considering local grain anisotropy and grain orientation (with B. Engel, L. Mäde, P. Lion, N. Moch and T. Beck), 2019, *Metals* 9 (2019) Art. Nr. 813 (28p).
3. Numerical shape optimization to decrease failure probability of ceramic structures (with M. Bolten, C. Hahn and M. Saadi) to appear in *Computing and Visualization in Science* 2019, online first, arXiv:1705.05776
4. Shape gradients for the failure probability of a mechanical component under cyclical loading (with M. Saadi) *Computational Mechanics*, 64(4), 895-915 (2019)
5. Option Pricing in markets with unknown stochastic dynamics, (with E. Nizami and M. Schubert ), *Wavelets and Fractals - Advanced Analysis* 4 (2018), 27–51.
6. Calibration of Lévy processes using optimal control of Kolmogorov equations with periodic boundary conditions, (with M. Annunziato), *Mathematical Modelling and Analysis* 23 (3) (2018), 390-413.
7. Combined notch and size effect modeling in a local probabilistic approach for LCF (with T. Beck, L. Mäde and S. Schmitz), *Computational Materials Science* 142 (2018) 377-388.
8. Optimal reliability for components under thermomechanical cyclic loading, (with L. Bitner) *Control & Cybernetics* 45 (2016) 2–35.
9. Assesment of models for pedestrian dynamics with functional principal component analysis, (with M. .Chraibi, T. Ensslen, M. Saadi and A. Seyfried), *Physica A* 451 (2016) 475-489.
10. Quantum fields obtained from convoluted generalized white noise never have positive metric, (with S. Albeverio), *Letters in Math. Phys.* 106 (2016), 575 – 581.
11. Minimal failure probability for ceramic design via shape control (with M. Bolten and S. Schmitz), *J. Optim. Theory Appl.* 166 (2015), 983-1001.

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<sup>1</sup>Most articles are available at [http://arxiv.org/a/gottschalk\\_h.1.atom](http://arxiv.org/a/gottschalk_h.1.atom)

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13. Optimal reliability in design for fatigue life I: Existence of optimal shapes, (with S. Schmitz), *Siam Journal of Control and Optimization* 52 Vol. 5, (2014), 2727–2752.
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15. A probabilistic model for LCF, (with T. Beck, R. Krause, G. Rollmann, S. Schmitz and T. Seibel), *Computational Materials Science*, 79 (2013), 584-590.
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  37. Detecting out of distribution objects in semantic segmentation (with D. Brüggemann, S. Bracke, R. Chan and M. Rottmann), accepted for publication in Proc. ESREL 2020.
  38. MetaFusion: Controlled False-Negative Reduction of Minority Classes in Semantic Segmentation (with R. Chan, M. Rottmann, P. Schlicht and F. Hüger), accepted Proc. Int Joint Conf. Neural Networks (IJCNN - WCCI) 2020, arXiv:1912.07420.
  39. Prediction Error Meta Classification in Semantic Segmentation: Detection via Aggregated Dispersion Measures of Softmax Probabilities, (with Matthias Rottmann, Pascal Colling, Thomas-Paul Hack, Fabian Hüger and Peter Schlicht), accepted Proc. Int Joint Conf. Neural Networks (IJCNN - WCCI) 2020, arXiv:1811.00648
  40. Detection of False Positive and False Negative Samples in Semantic Segmentation (with M. Rottmann, K. Maag, R. Chan, P. Schlicht and F. Hüger), invited contribution to DATE-ASD WS 2020, arXiv:1912.03673.
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