

Publication List

PhD Thesis

1. On the Nonsmooth Analysis of Doubly Nonlinear Evolution Inclusions of First and Second Order with Applications. *Doctoral Thesis, Technische Universität Berlin*. **2021**.
<https://doi.org/10.14279/depositonce-12327>.

Peer-Reviewed Journals

2. **Bacho, A.** Emmrich, E., Mielke, A. An existence result and evolutionary Γ -convergence for perturbed gradient systems. *Journal of Evolution Equations.*, 19(2), 479–522, **2019**.
<https://doi.org/10.1007/s00028-019-00484-x>.
3. **Bacho, A.** Abstract Nonlinear Evolution Inclusions of Second Order with Applications in Visco-Elasto-Plasticity. *Journal of Differential Equations*, 363, 126–169, **2023**.
<https://doi.org/10.1016/j.jde.2023.03.008>.
4. **Bacho, A.** A generalization of the Moreau-Yosida regularization. *Journal of Mathematical Analysis and Applications.*, 524(2), Paper No. 127139, 15, **2023**.
<https://doi.org/10.1016/j.jmaa.2023.127139>.
5. **Bacho, A.**, Boche, H., Kutyniok, G. Complexity Blowup for Solutions to the Laplace and the Diffusion Equation. *Foundations of Computational Mathematics* (**Accepted**). **2022**
<https://arxiv.org/abs/2212.00693>.
6. **Bacho, A.** Well-Posedness of a Fully Nonlinear Evolution Inclusion of Second Order. *Journal of Elliptic and Parabolic Equations* (**Accepted**). **2022**
<https://arxiv.org/abs/2201.05235>.
7. **Bacho, A.** Nonsmooth Analysis of Doubly Nonlinear Evolution Inclusions of Second Order with Non-Convex Energy Functional. *Advances in Nonlinear Analysis* (**Under Review**). **2022**
<https://arxiv.org/abs/1910.10128>.
8. Scholl, P., **Bacho, A.**, Boche, H., Kutyniok, G. Well-definedness of Physical Law Learning: The Uniqueness Problem. *Journal of Mathematical Physics* (**Under Review**). **2022**
<https://arxiv.org/abs/2210.08342>.
9. **Bacho, A.**, Boche, H., Kutyniok, G. Reliable AI: Does the Next Generation Require Quantum Computing? *Quantum Machine Intelligence* (**Under Review**). **2023**
<https://arxiv.org/abs/2307.01301>.
(Under Review)
10. Scholl, P., Iskandar, M., Wolf, S., Lee, J., **Bacho, A.**, Dietrich, A., Albu-Schäffer, A., Kutyniok, G. Learning-based adaption of robotic friction models. *Robotics and Computer-Integrated Manufacturing* (**Under Review**). **2023**
<https://arxiv.org/abs/2310.16688>

Conference Contributions

11. Scholl, P., **Bacho, A.**, Boche, H., Kutyniok, G. The Uniqueness Problem of Physical Law Learning. *2023 IEEE International Conference on Acoustics, Speech and Signal Processing*. **2023**
<https://ieeexplore.ieee.org/document/10095017>

12. Maskey, S., Paolino, R., **Bacho, A.**, Kutyniok, G. A Fractional Graph Laplacian Approach to Oversmoothing. *NeurIPS 2023*. **2023**
<https://openreview.net/forum?id=kS7ED7eE74>
13. Andrade Loarca, H., Hege, J., **Bacho, A.**, Kutyniok, G. PoissonNet: Resolution-Agnostic 3D Shape Reconstruction using Fourier Neural Operators. **2023**
<https://arxiv.org/abs/2308.01766v1>

Most Important Publications

1. **Bacho, A.**, Boche, H., Kutyniok, G. Complexity Blowup for Solutions to the Laplace and the Diffusion Equation. *Foundations of Computational Mathematics* (**Accepted**). **2022**
<https://arxiv.org/abs/2212.00693>.
- Scholl, P., **Bacho, A.**, Boche, H., Kutyniok, G. Well-definedness of Physical Law Learning: The Uniqueness Problem. *Journal of Mathematical Physics*. **2022**
<https://doi.org/10.48550/arXiv.2210.08342>. (**Under Review**)
- Maskey, S., Paolino, R., **Bacho, A.**, Kutyniok, G. A Fractional Graph Laplacian Approach to Oversmoothing. *NeurIPS 2023*. **2023**.
- **Bacho, A.** Abstract Nonlinear Evolution Inclusions of Second Order with Applications in Visco-Elasto-Plasticity. *Journal of Differential Equations*, 363, 126–169, **2023**.
- Andrade Loarca, H., **Bacho, A.**, Hege, J. Kutyniok, G. PoissonNet: Resolution-Agnostic 3D Shape Reconstruction using Fourier Neural Operators. **2023**
<https://arxiv.org/abs/2308.01766v1>