



# Research Group "Materials Informatics"

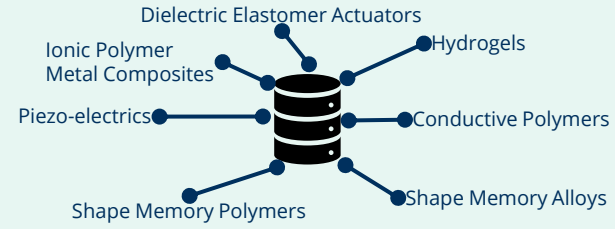
(i) Machine Learning approaches for optimized active/intelligent materials<sup>[7]</sup>

Dipl.-Ing. Yawen Wang  
Team member since 07/2021





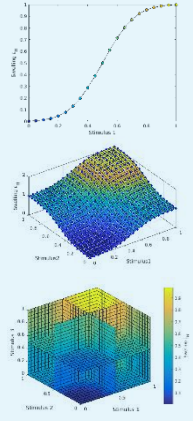
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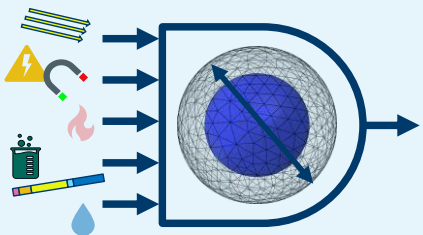
[1] Ehrenhofer et al., *SNB* 232 (2016), 499-505  
 [2] Ehrenhofer et al., *SNB* 255 (2018), 1343 – 1353  
 [3] Ehrenhofer et al., *Adv. Eng. Mat.* 22 (2020), 2000004  
 [4] Ehrenhofer et al., *Micromachines* 11(6) (2020), 541  
 [5] Ehrenhofer et al., *Proc. SPIE* 11375 (2020), 47 – 58  
 [6] Ehrenhofer et al., *Proc. SPIE* 11587 (2021), 115870I  
 [7] Wang, et al., *Proc. Appl. Math. Mech.* (2023), e202200278  
 [8] Ehrenhofer, A., *MAMS*, 30(5) (2023), 945-960  
 [9] Ehrenhofer, A. et al., *AdvEngMat*, 25(16) (2023), 2201935  
 [10] Ehrenhofer, A., *Zenodo* (2023).



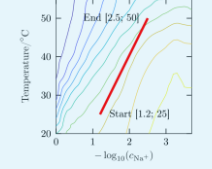
Multisensitivity<sup>[2, 3]</sup>



Intrinsic logic<sup>[2, 6]</sup>

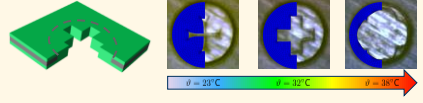


Trajectory method<sup>[3]</sup>

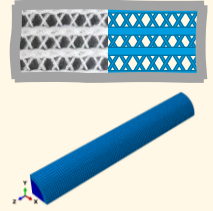


(ii) Modelling of information transfer between physical fields

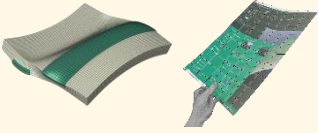
Active membranes for microfluidic cell sorting<sup>[1]</sup>



Active meshes<sup>[5]</sup>



Shell-forming structures for flexible displays<sup>[4]</sup>



Surface softness tuning & adjustable cushioning<sup>[9]</sup>



(iii) Design of Soft-Hard Active-Passive Embedded Structures (SHAPES<sup>[8]</sup>)

Normalization Tool<sup>[10]</sup>