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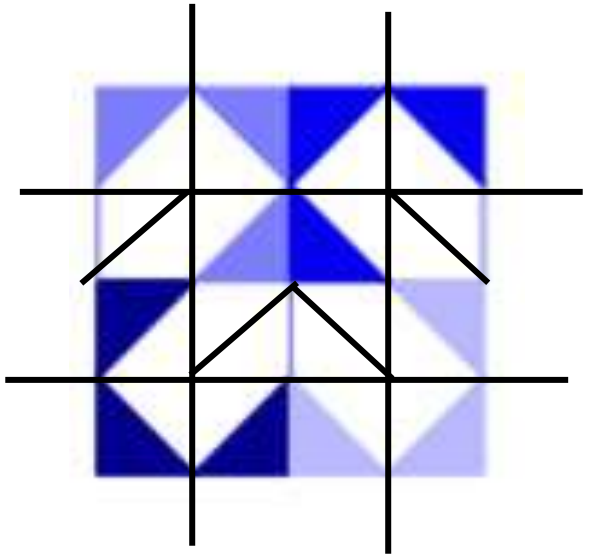
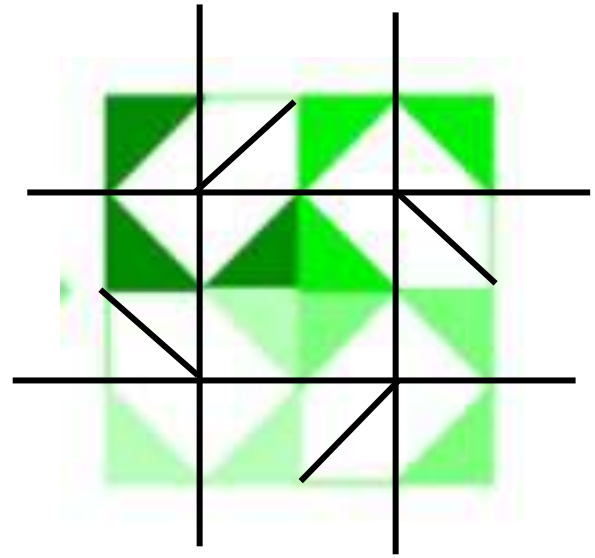
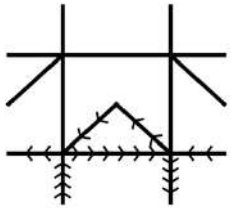
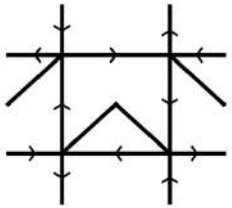
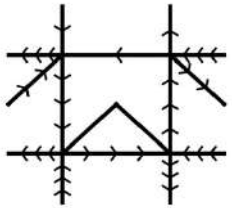
Exercise of yesterday

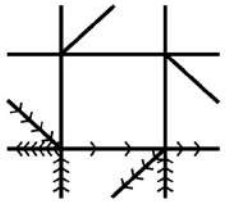


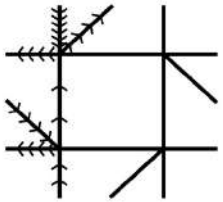


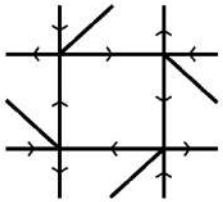


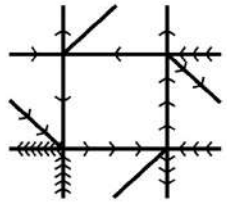












https://uva-hva.gitlab.host/published-projects/CourseMechanicalMetamaterials

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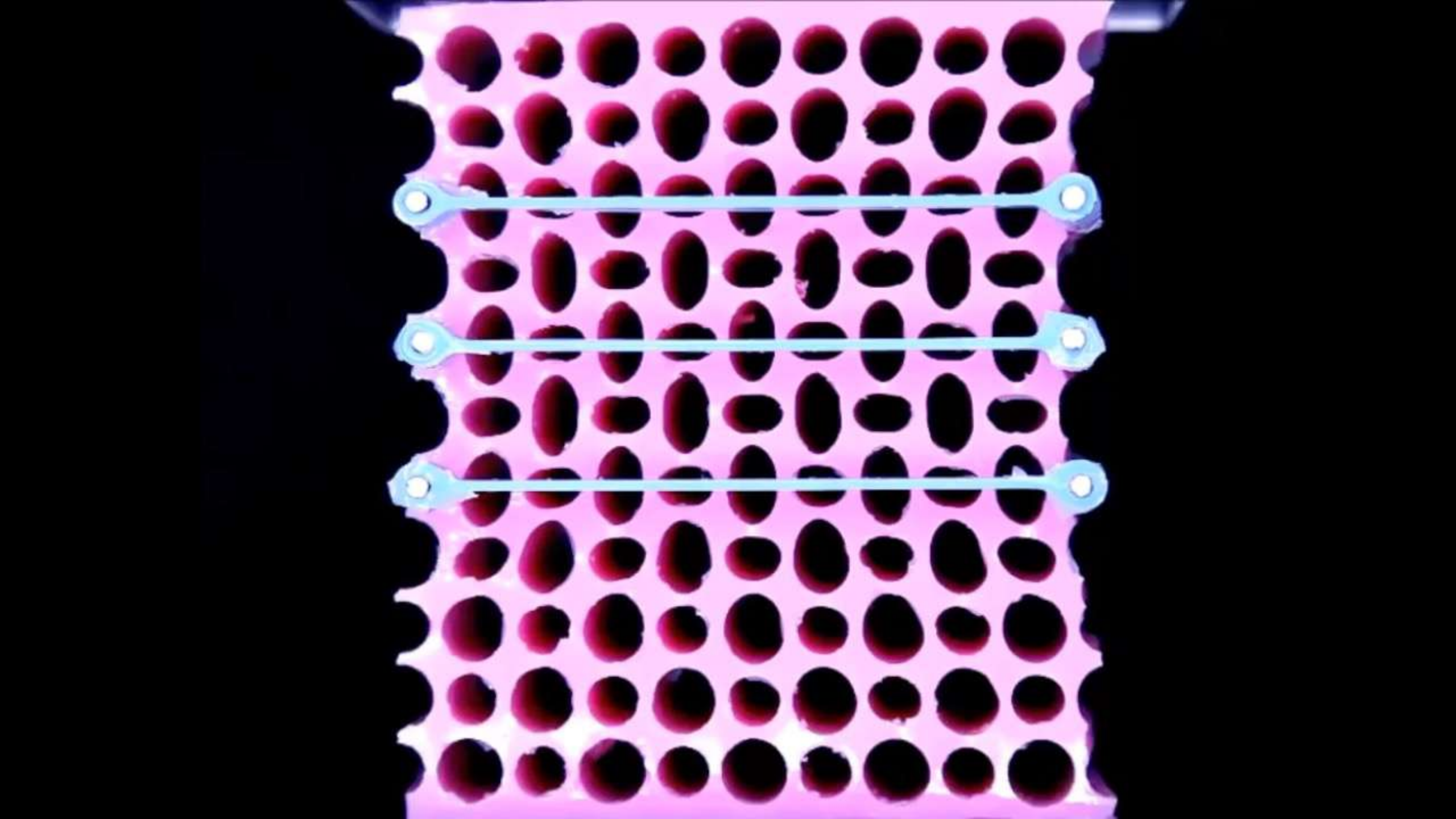
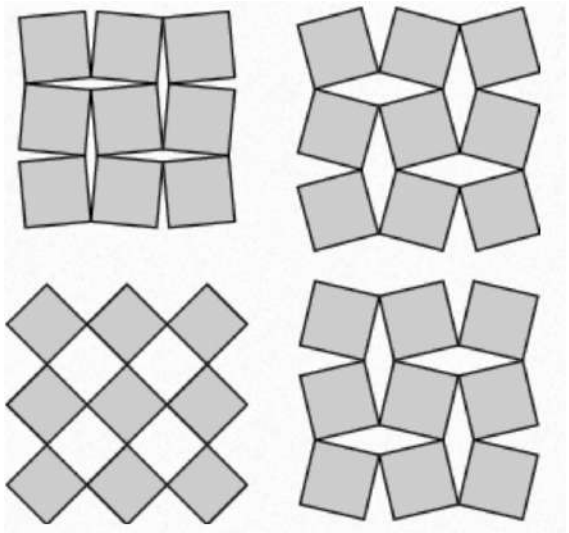
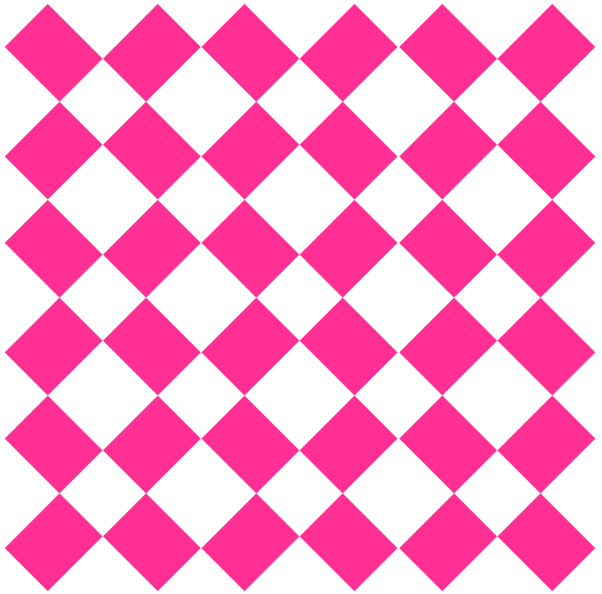


Czajkowski et al. Nat. Comm. 2022

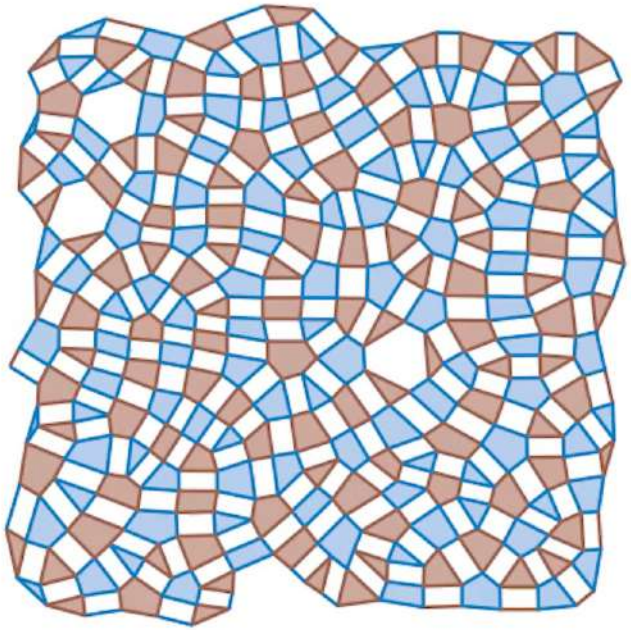
Mechanisms



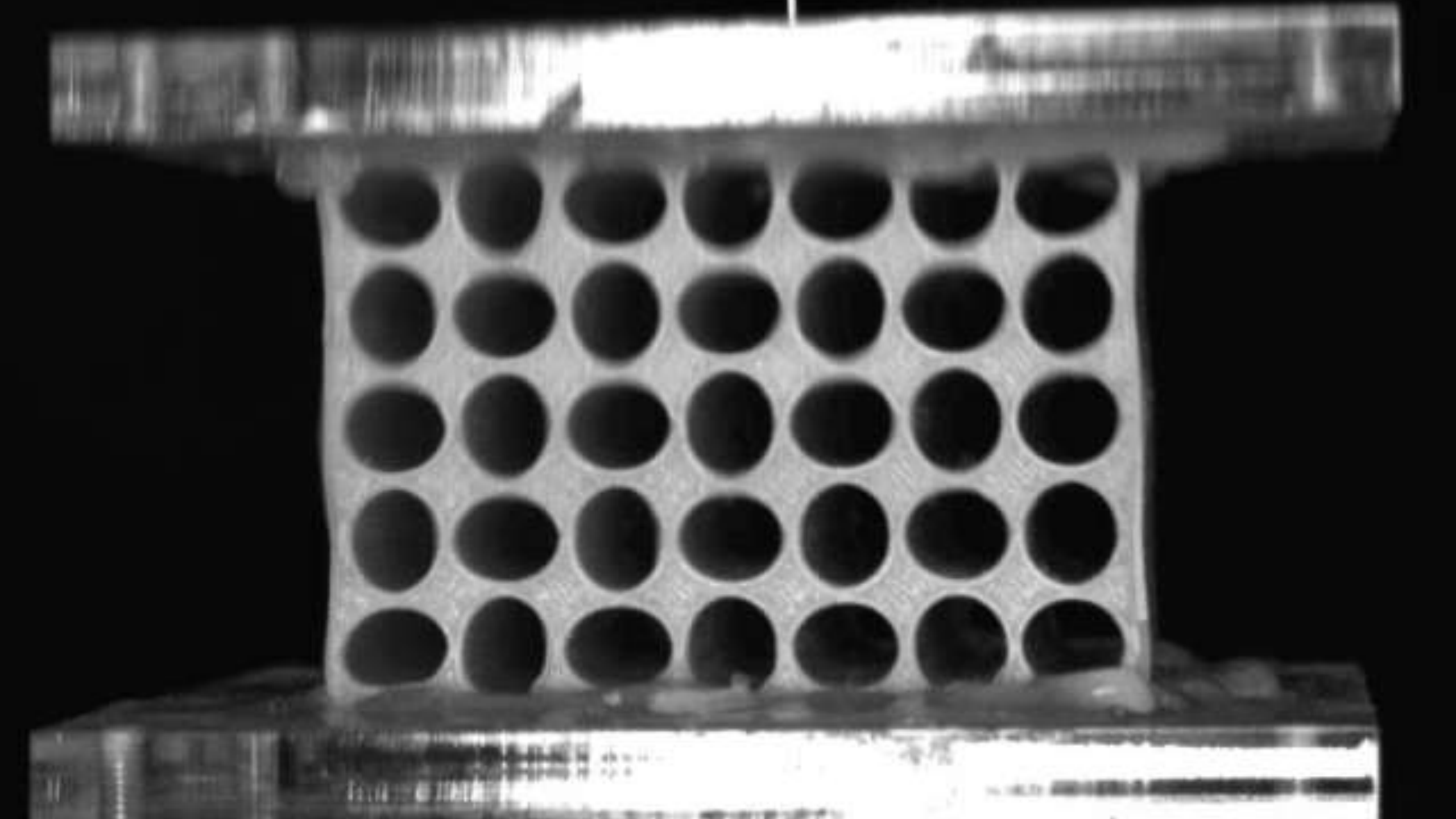
Grima and Evans Mat. Sc. 2000



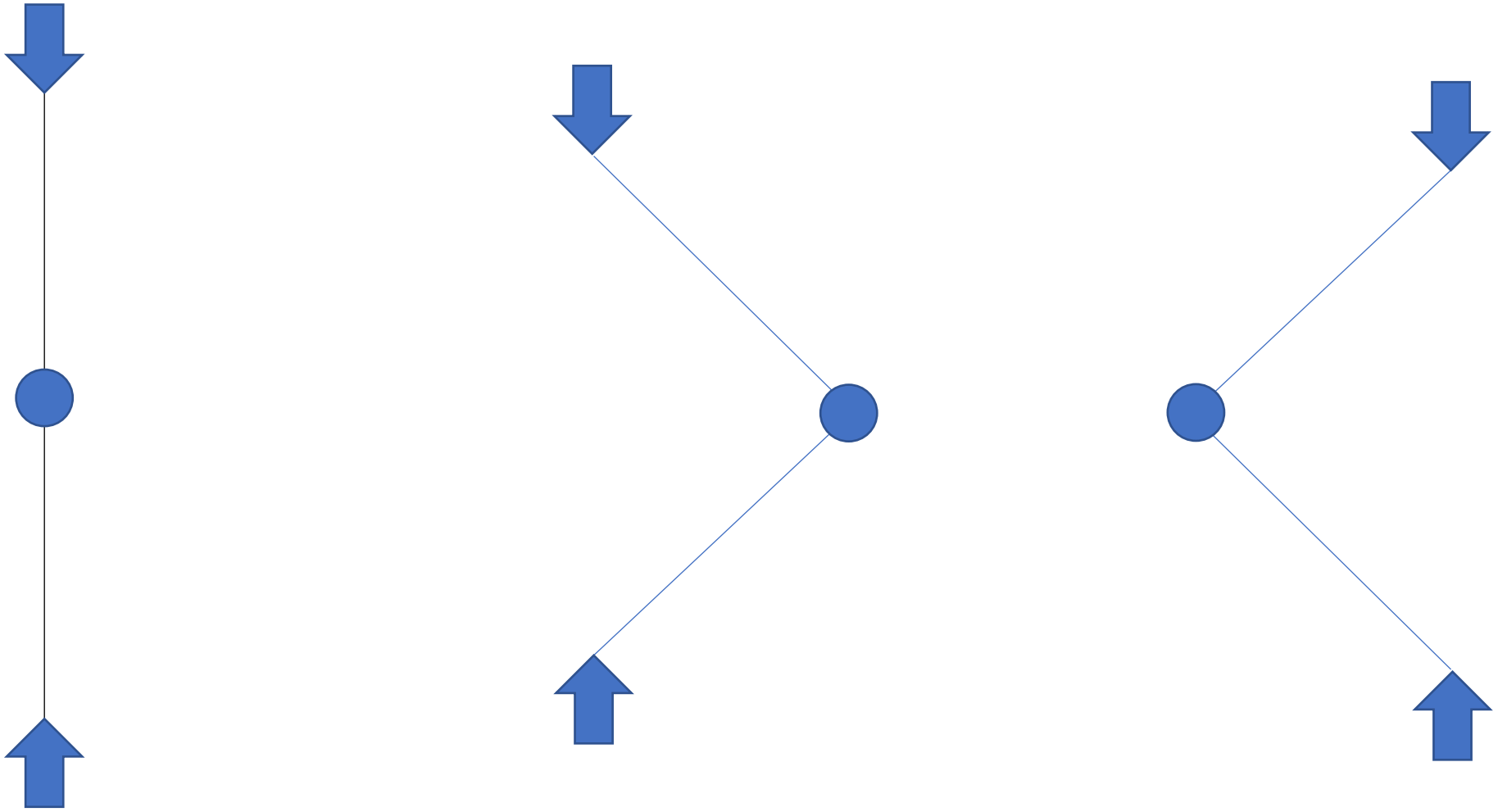
Florijn et al. PRL 2014



Acuna et al. Comms. Phys. 2022



Dressed mechanisms



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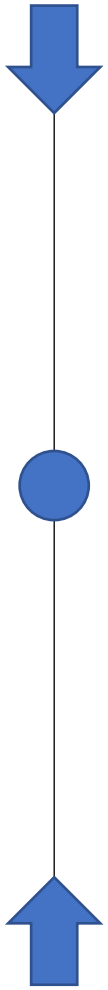
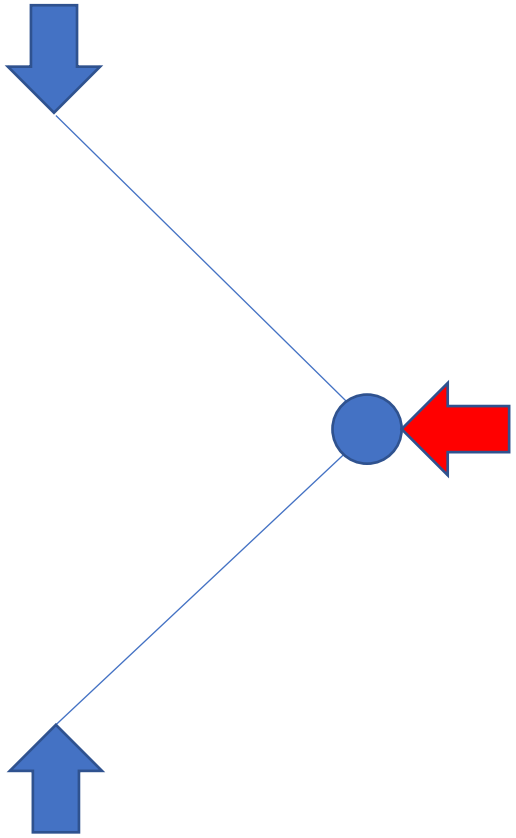
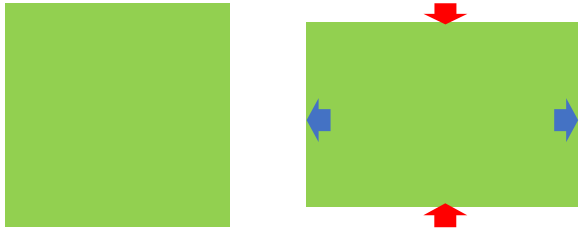
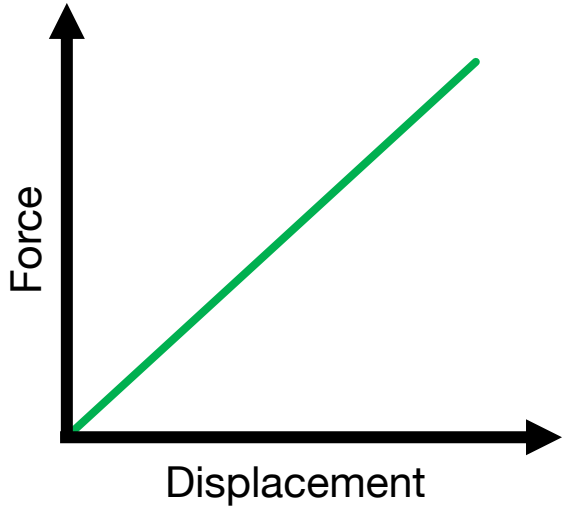




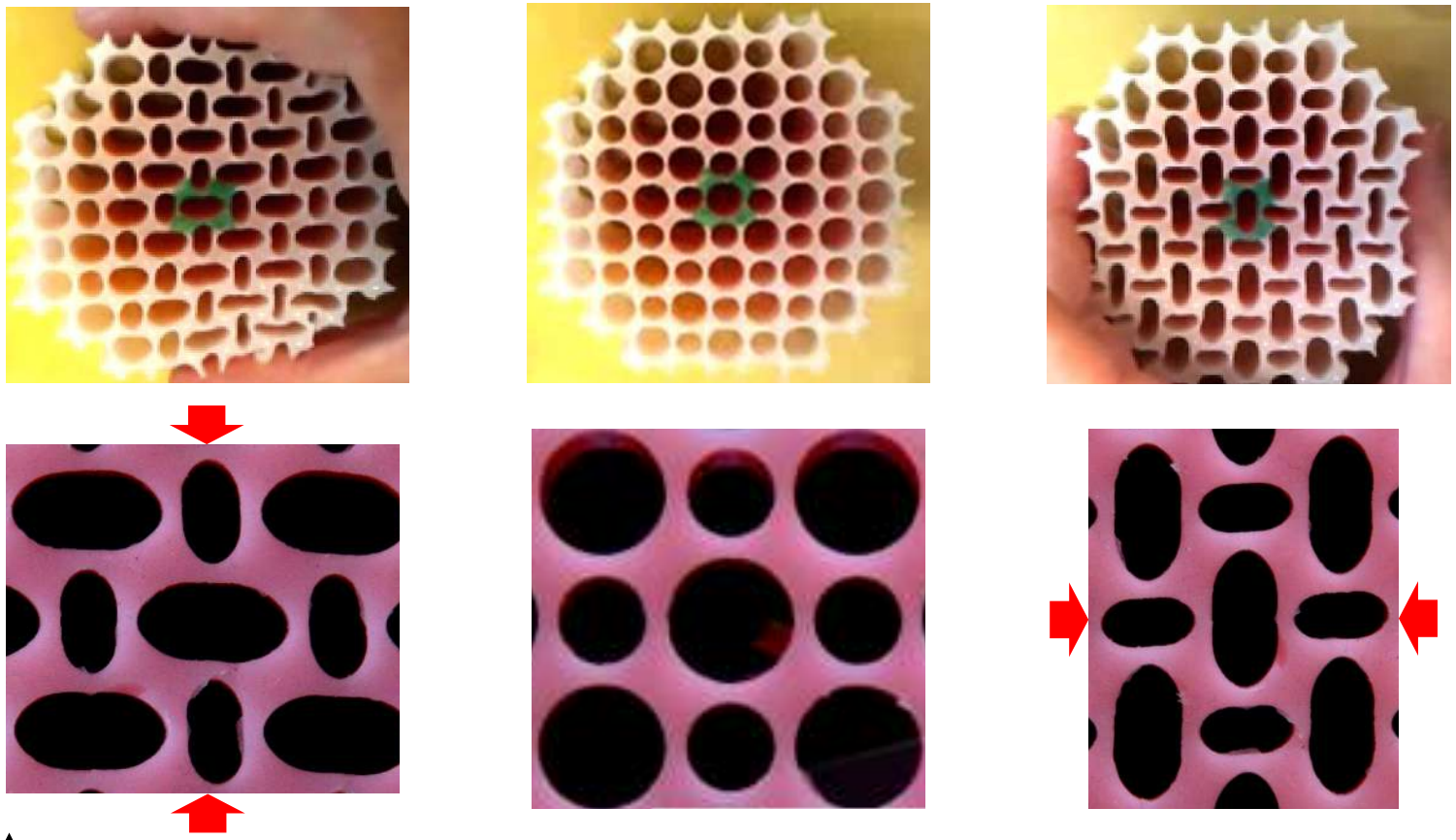
Programmability

Linear Elasticity





Asymmetry -> Control Nonlinear Response



Programmability

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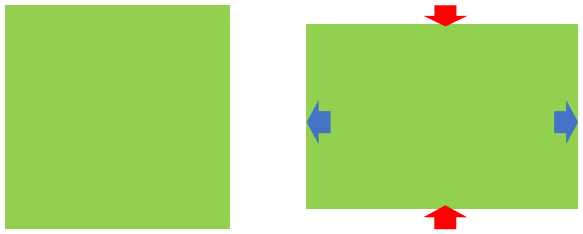

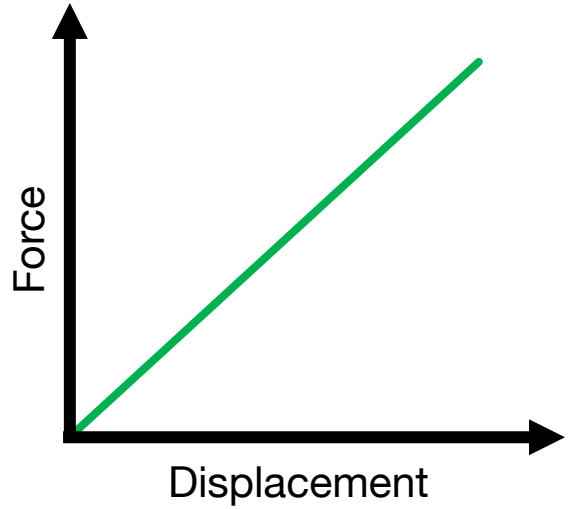

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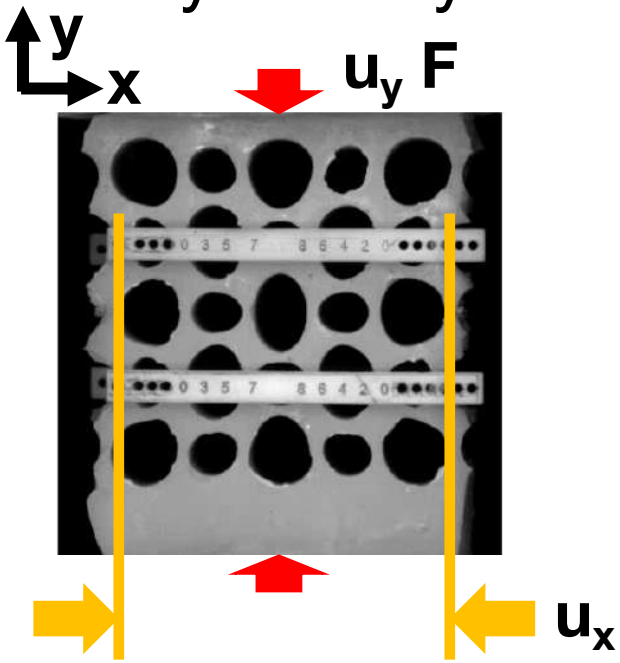

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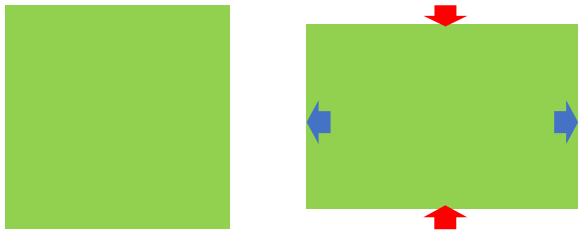

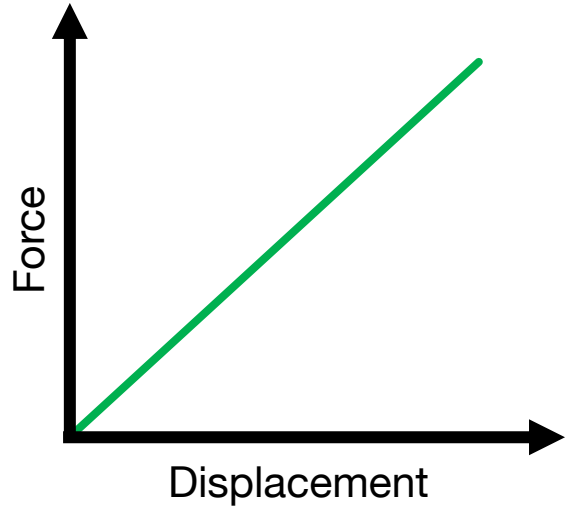

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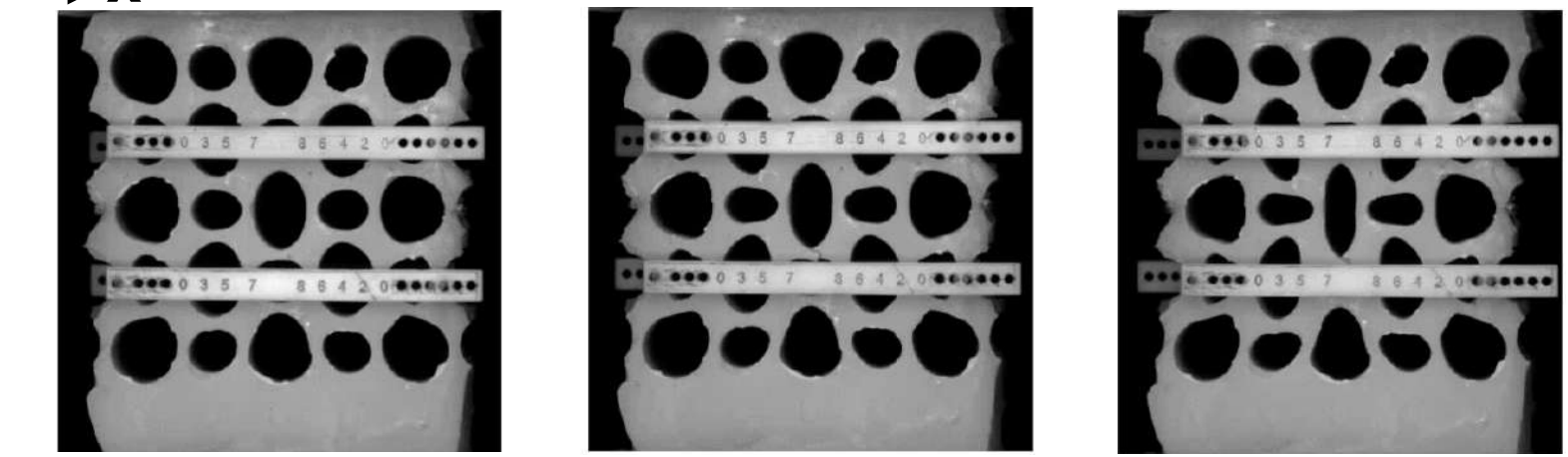
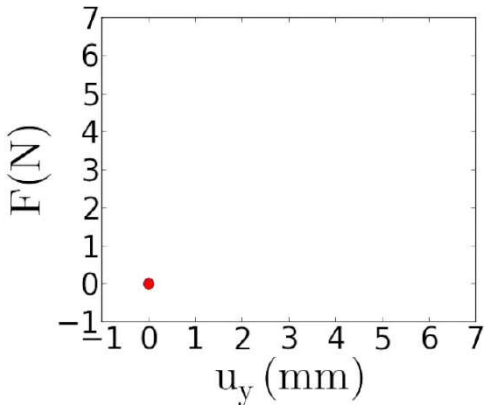
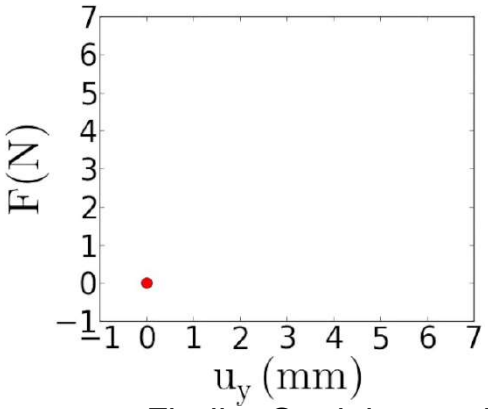
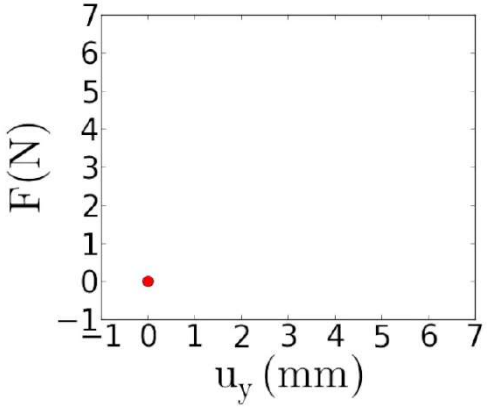


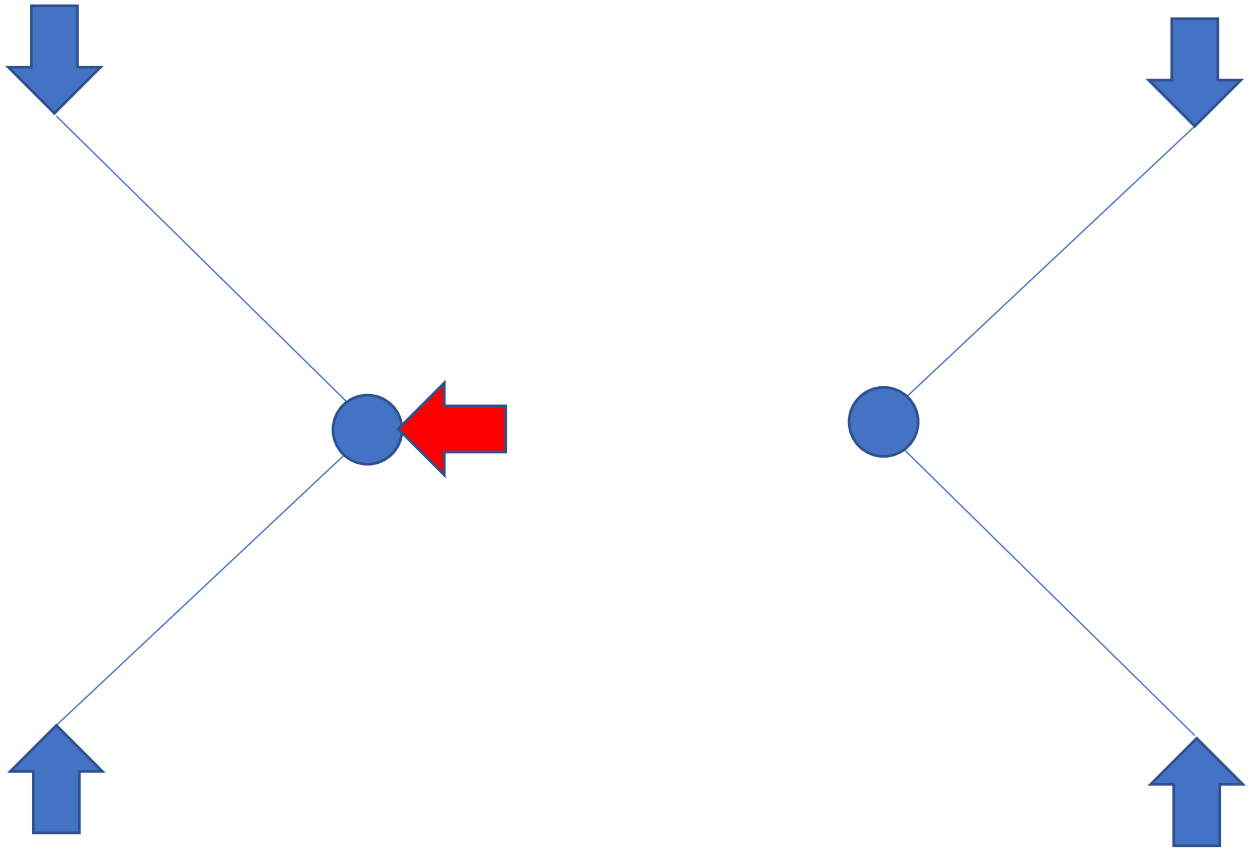






Florijn, Coulais, van Hecke (2014) **Phys. Rev. Lett.**
(2016) **Soft Matter**

Dressed mechanisms



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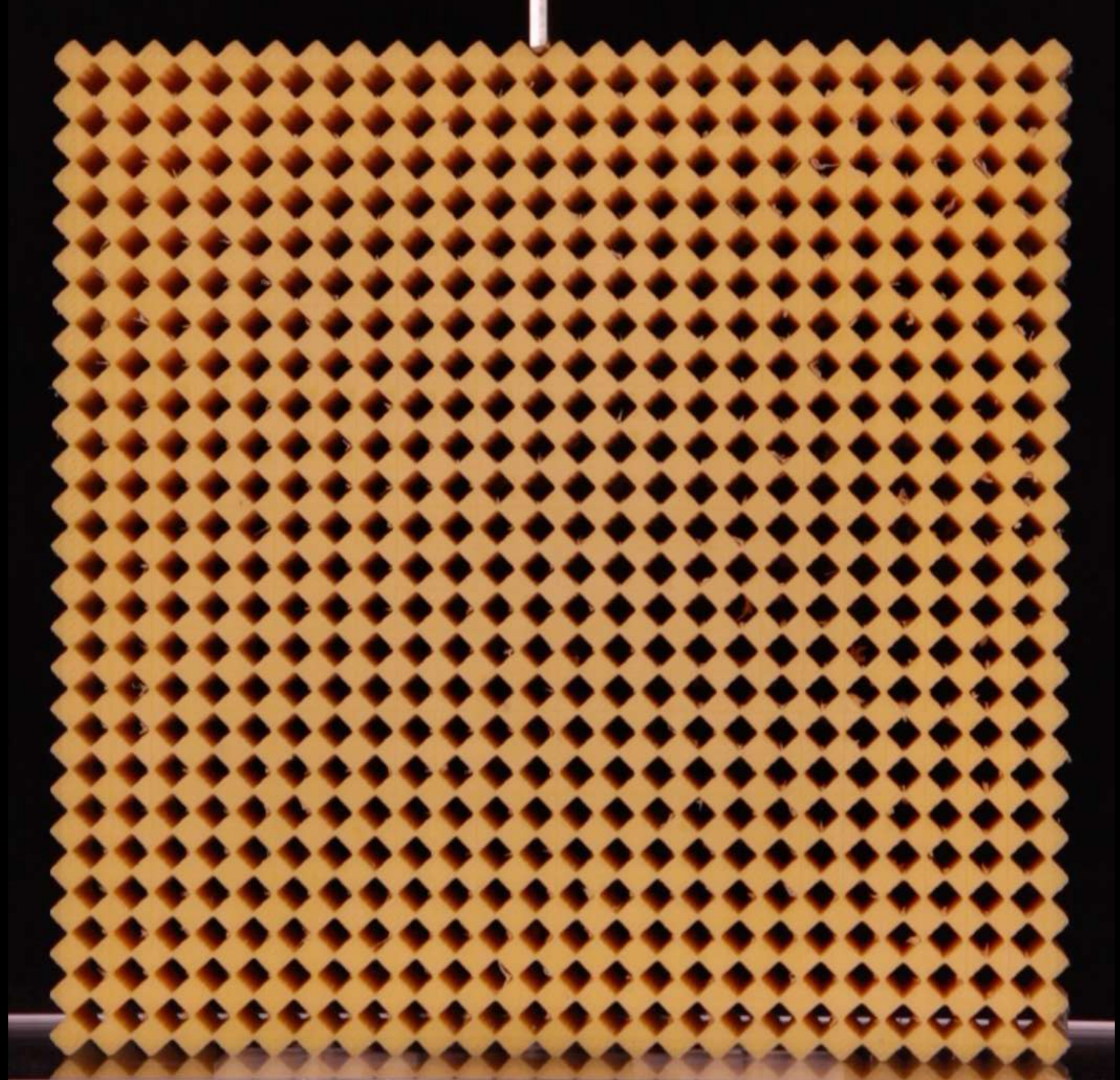

Coulais, Kettenis and van Hecke
Nat Phys 2018

Deformations: Conformal maps

$$E = \int \mathrm{d}^2\mathbf{r}\,\frac{1}{2}\left[\frac{\ell^2}{a^2}M(\alpha) + a^2\tilde{M}(\alpha)|\nabla\alpha|^2\right]$$

Czajkowski et al. Nat. Comm. 2022

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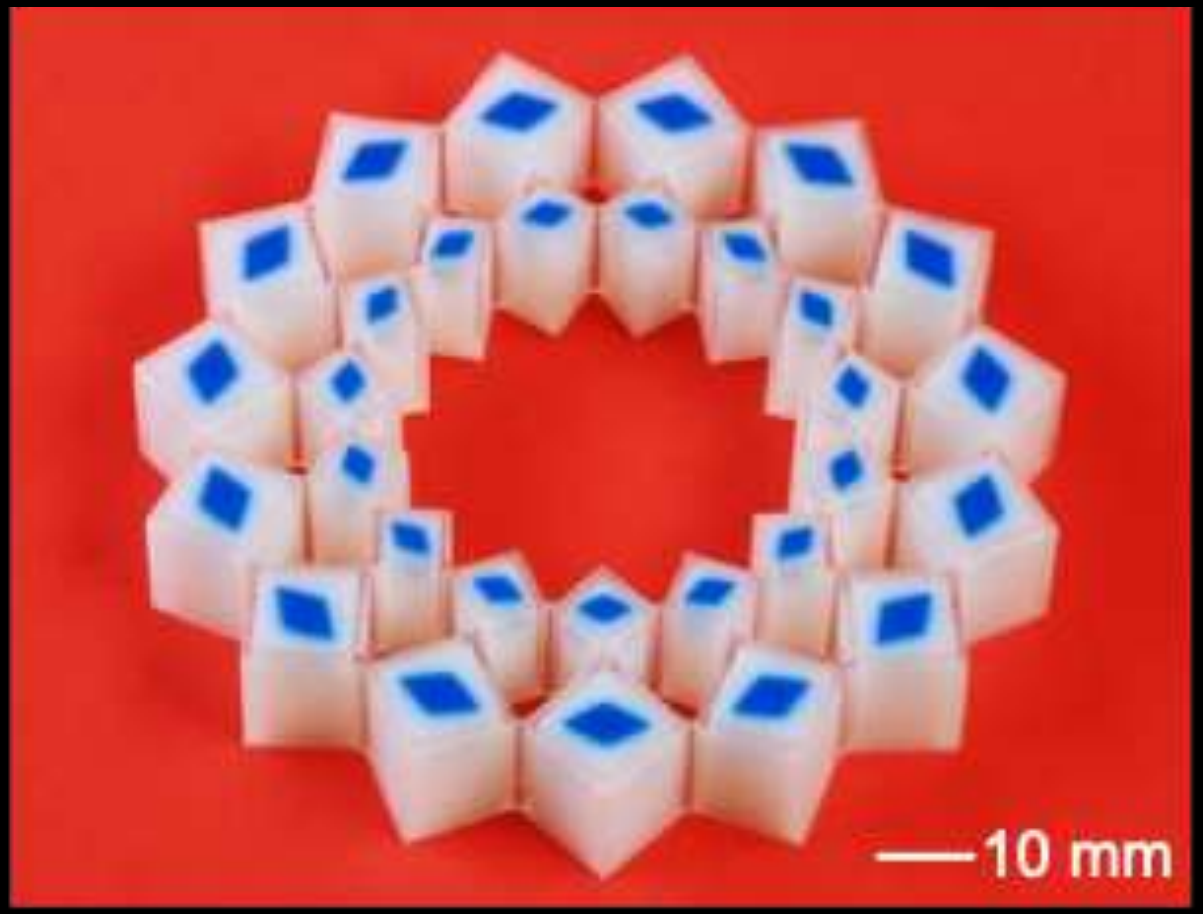
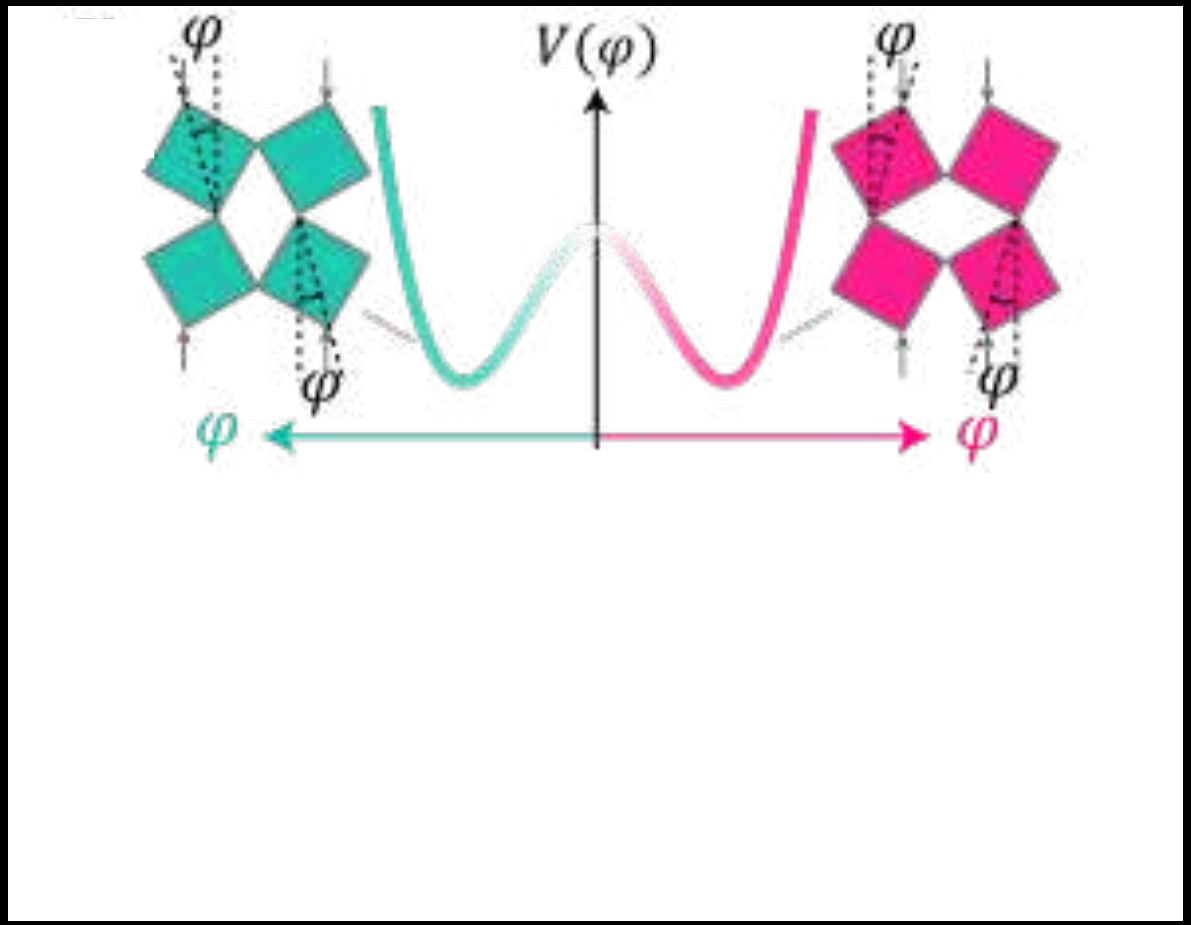
Buckling of frustrated metamaterials





Guo, Guzman, Carpentier, Bartolo, Coulais arXiv:2111.13933

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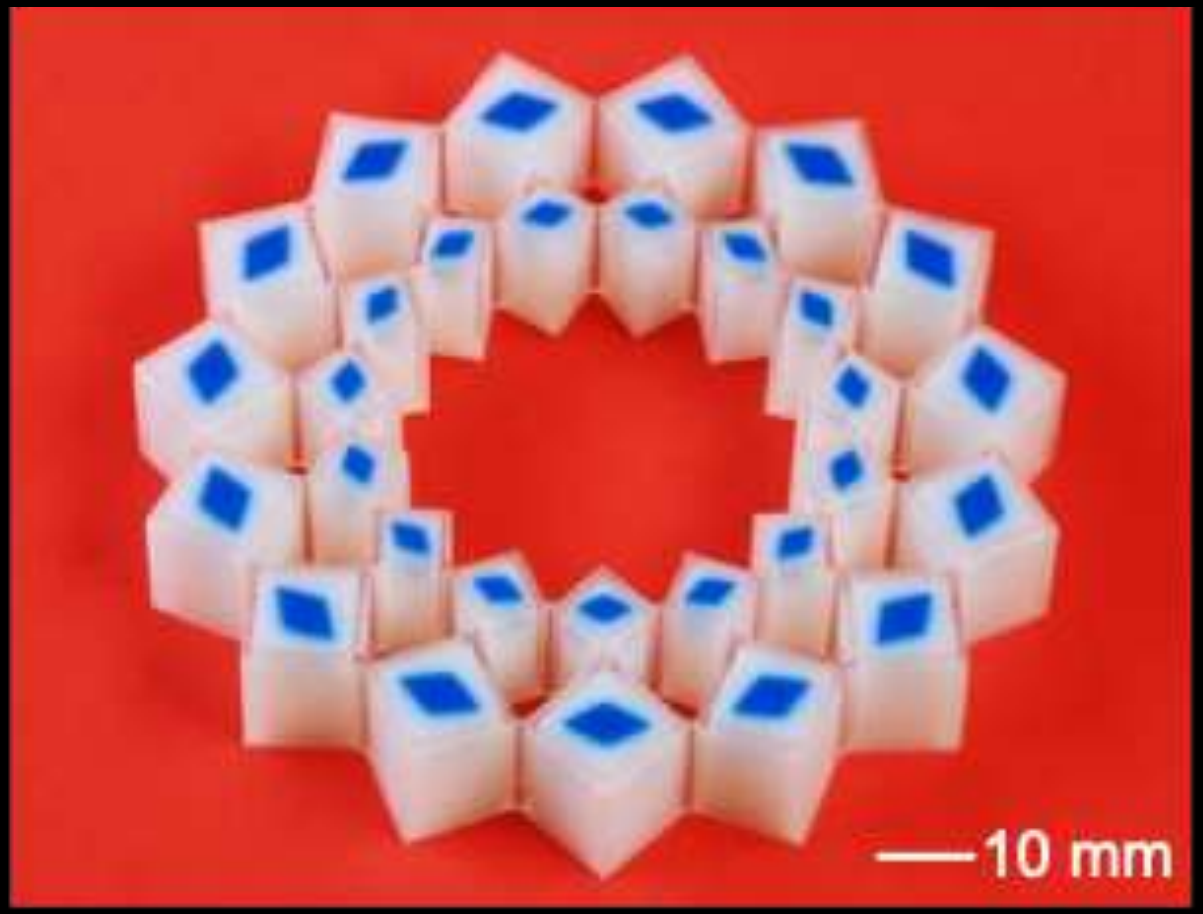

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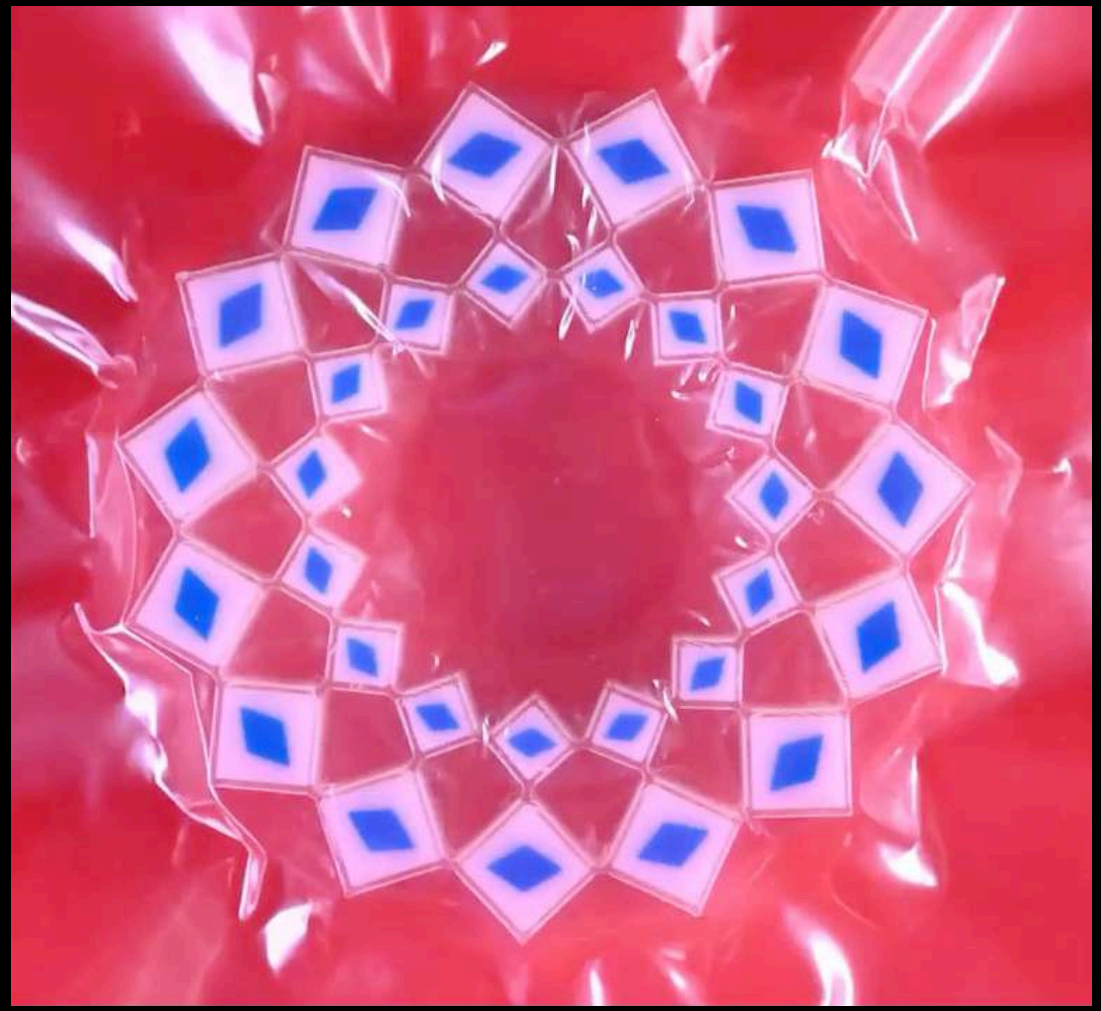

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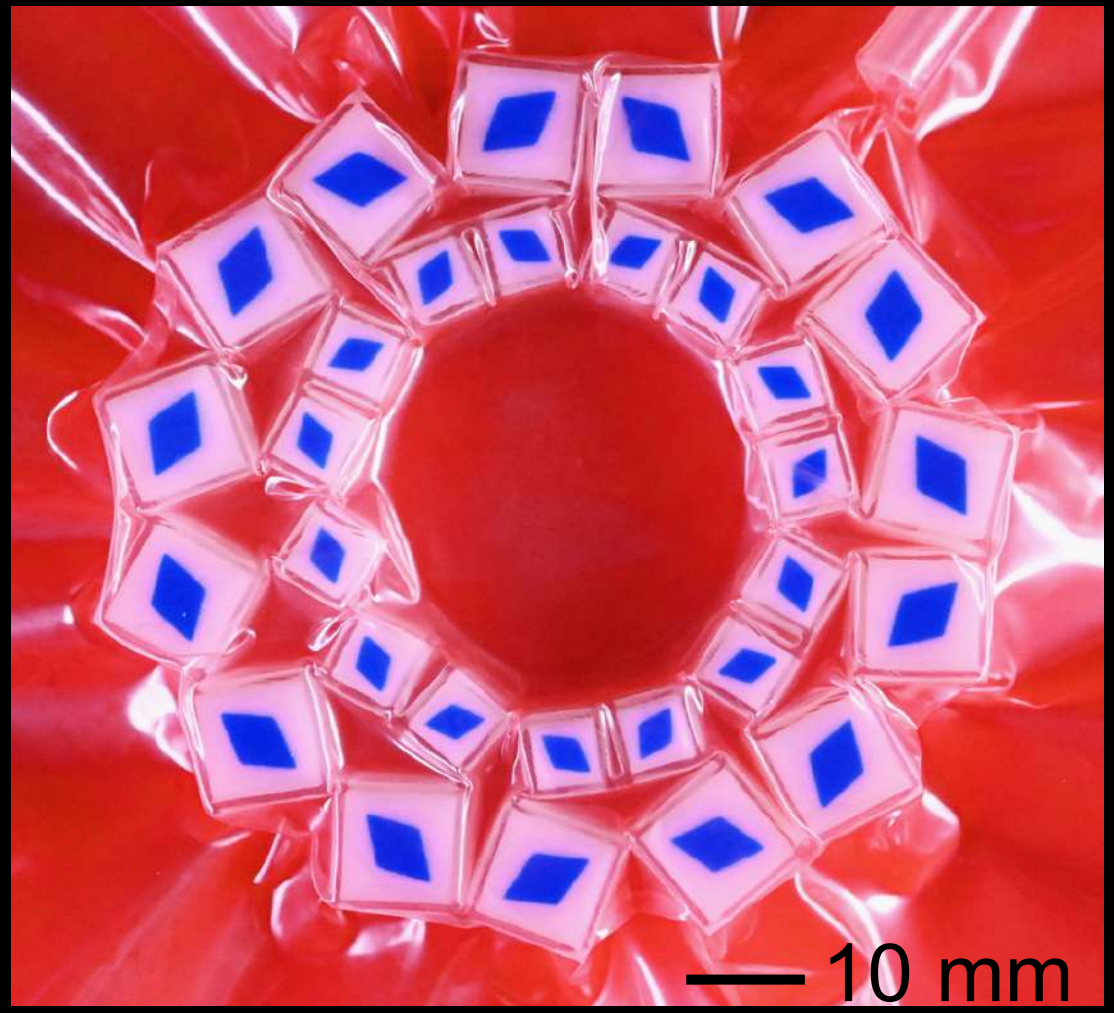

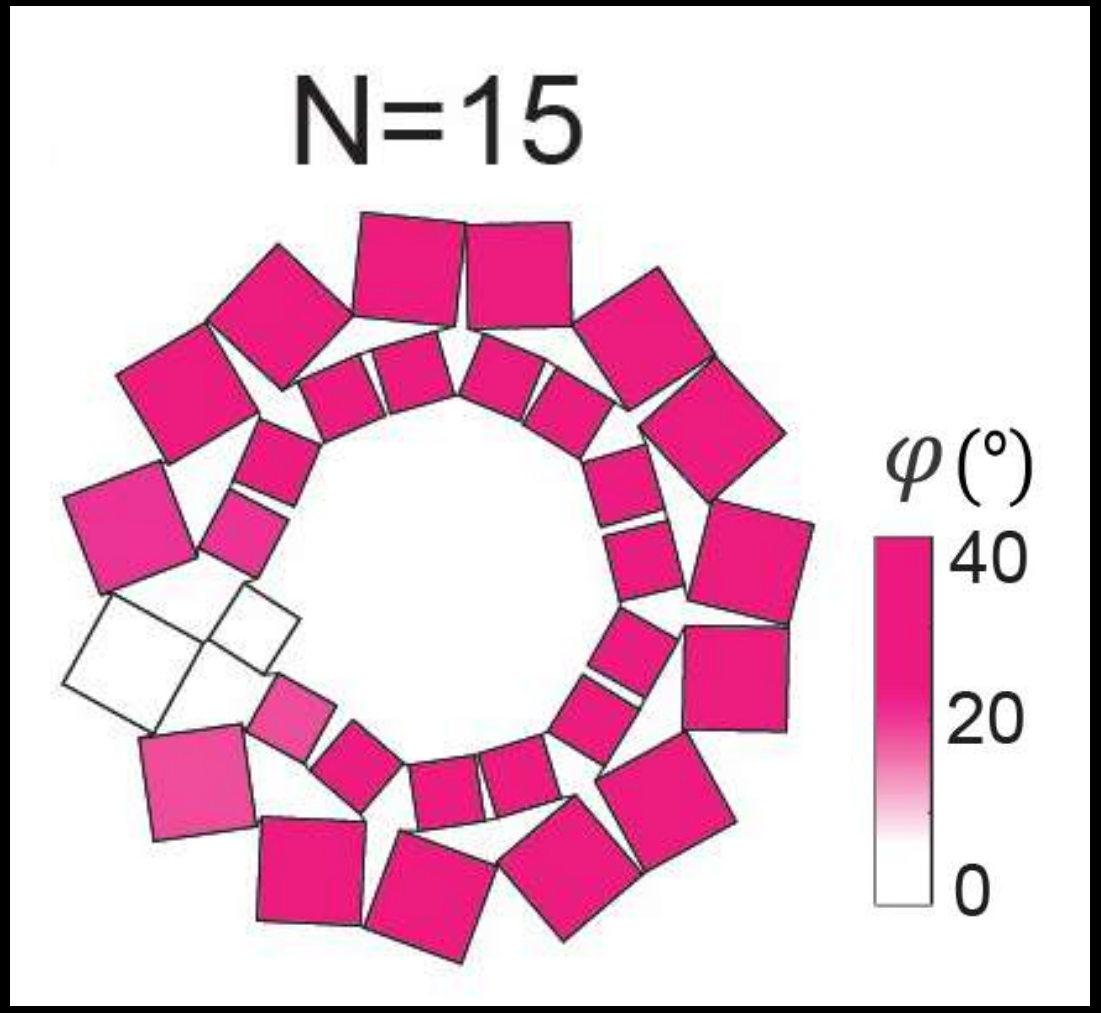

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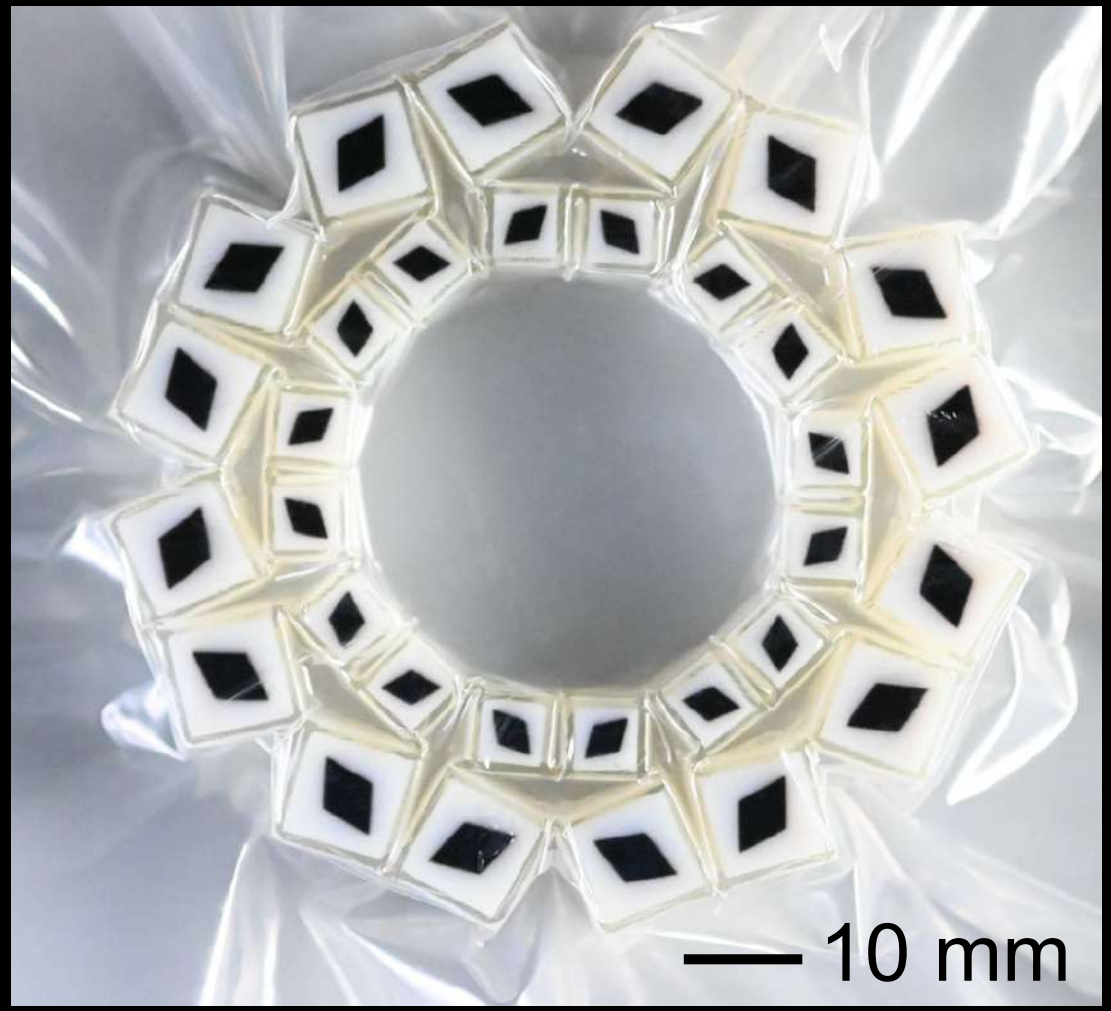

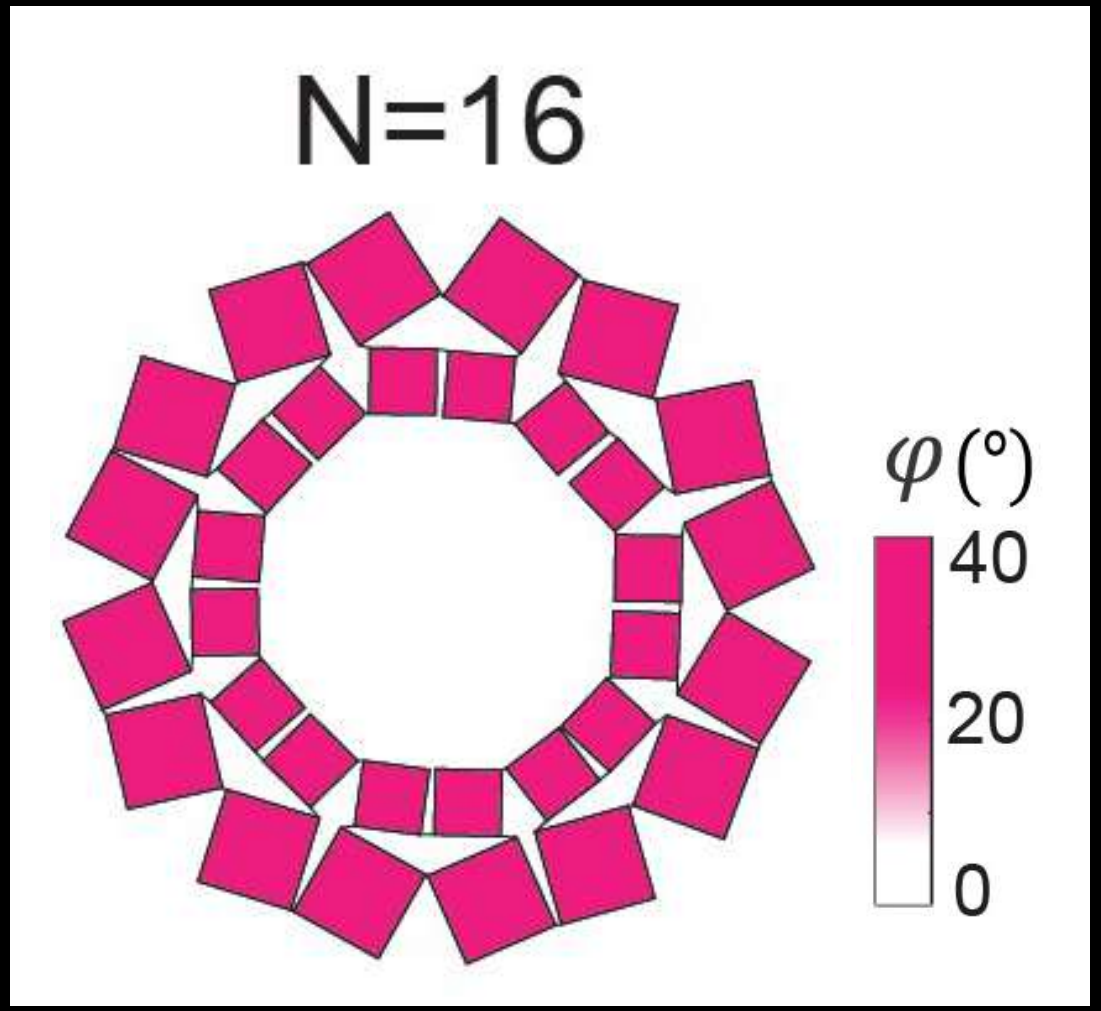

Guo, Guzman, Carpentier, Bartolo, Coulais arXiv:2111.13933

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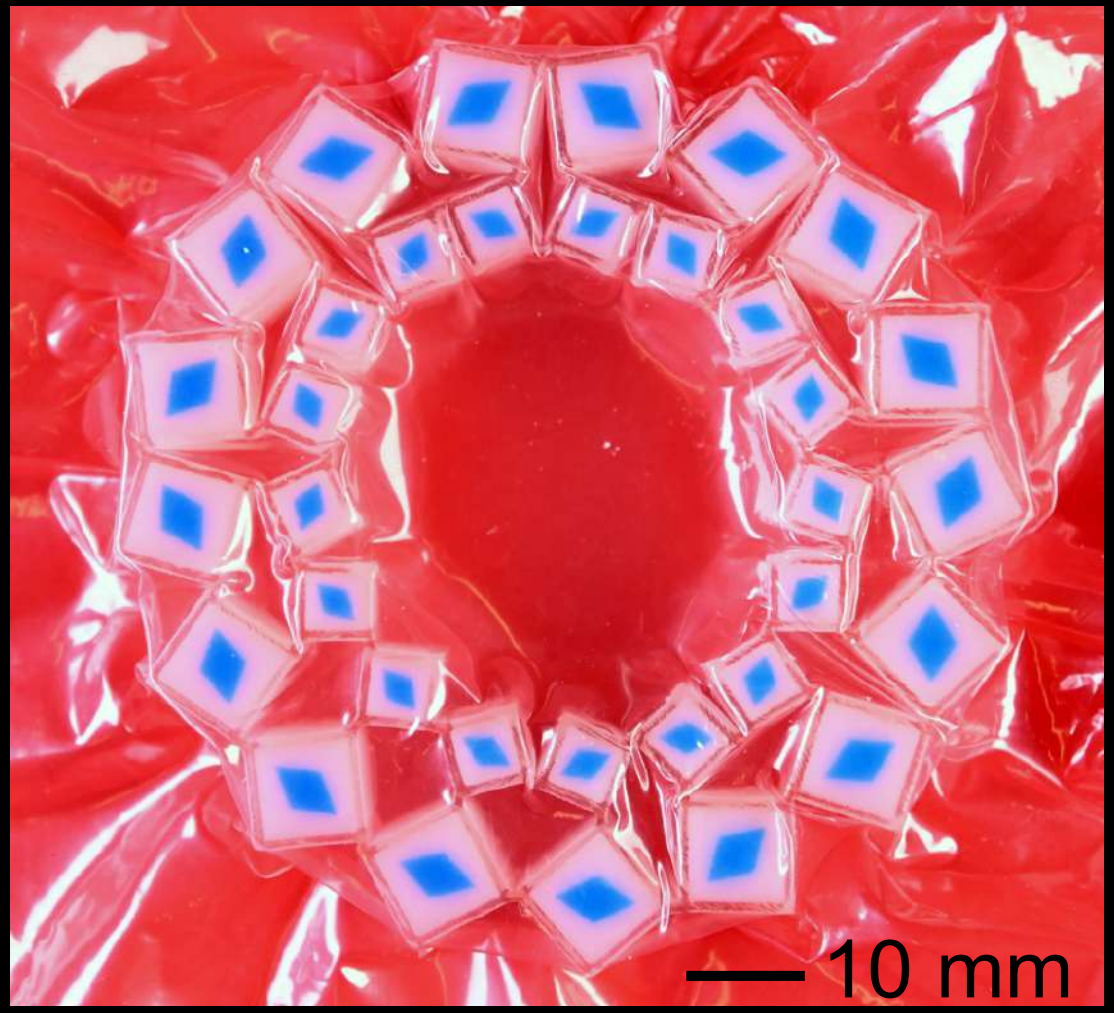

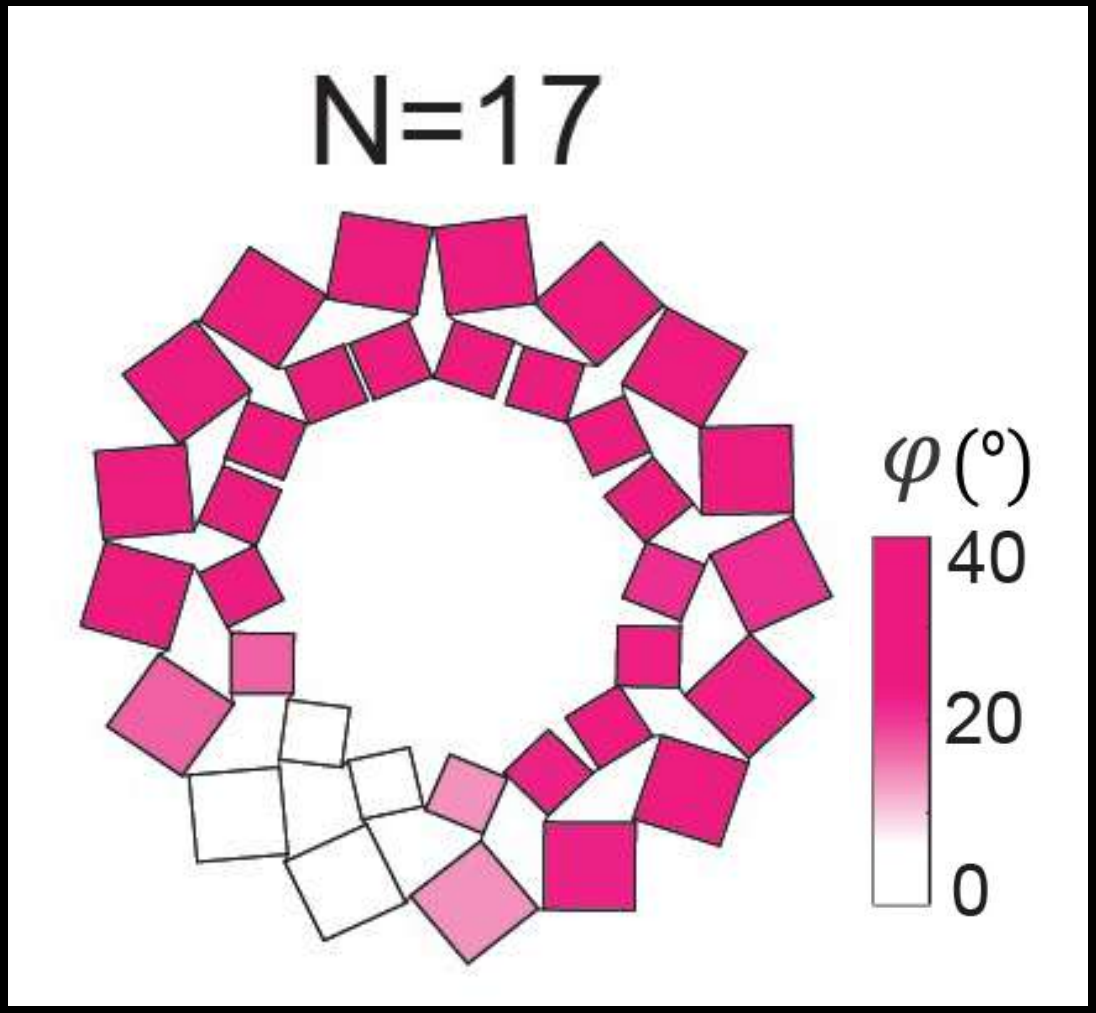

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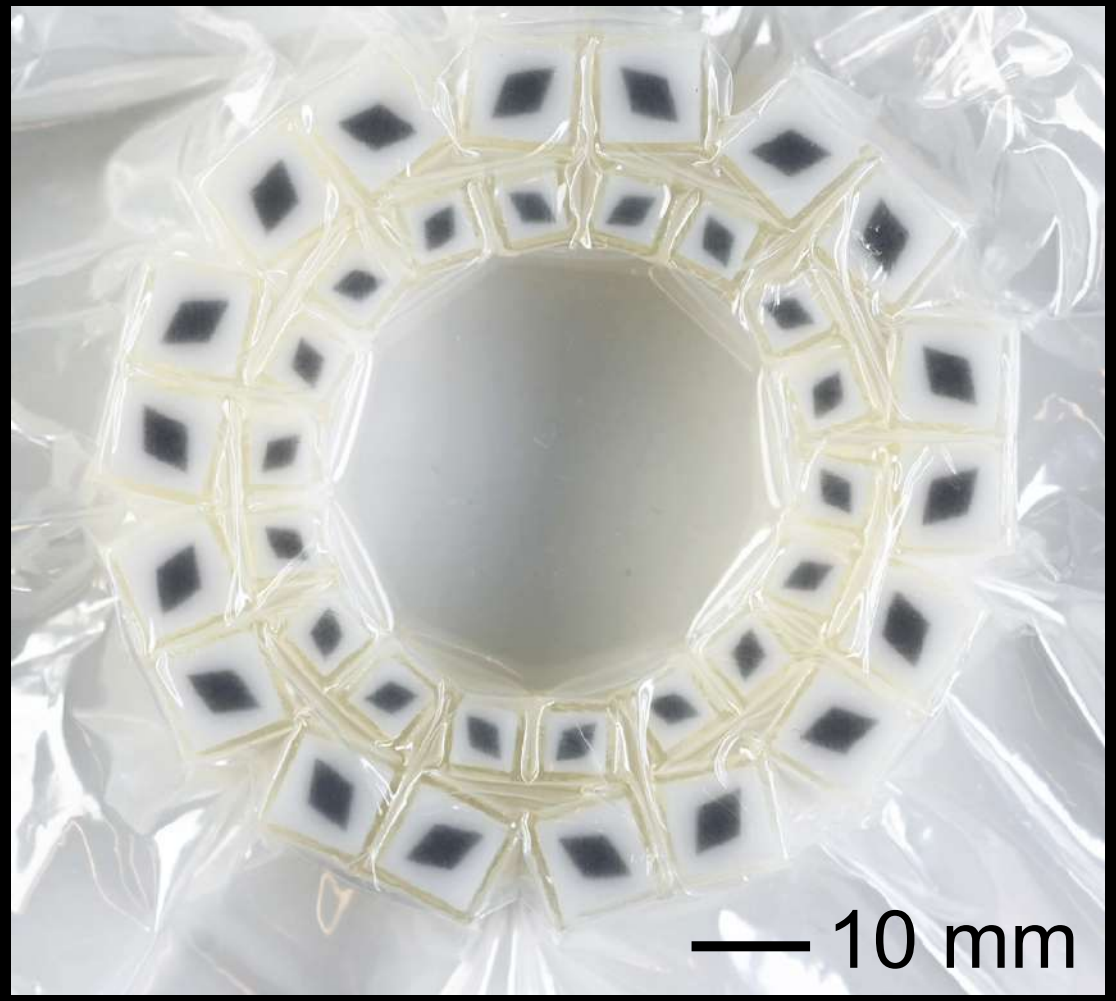
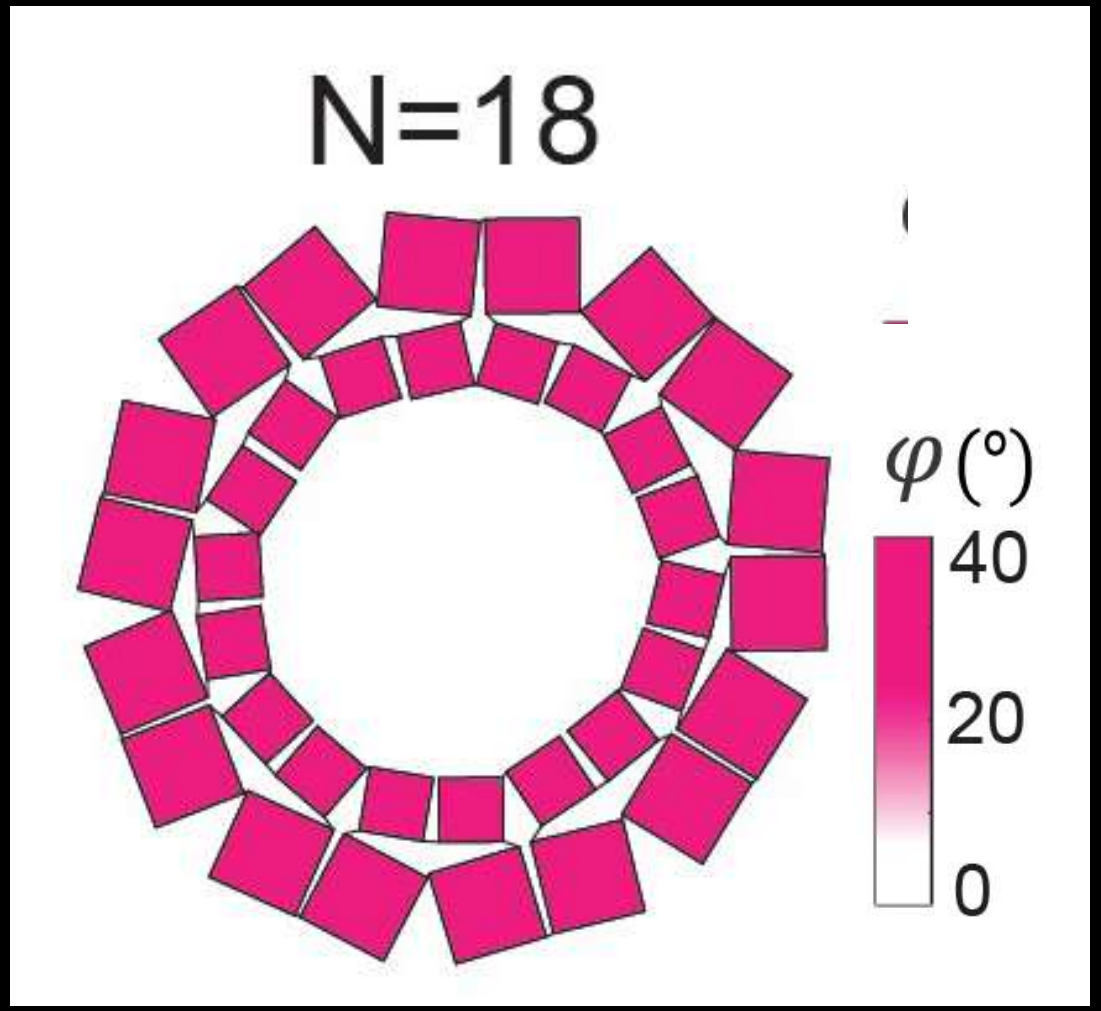
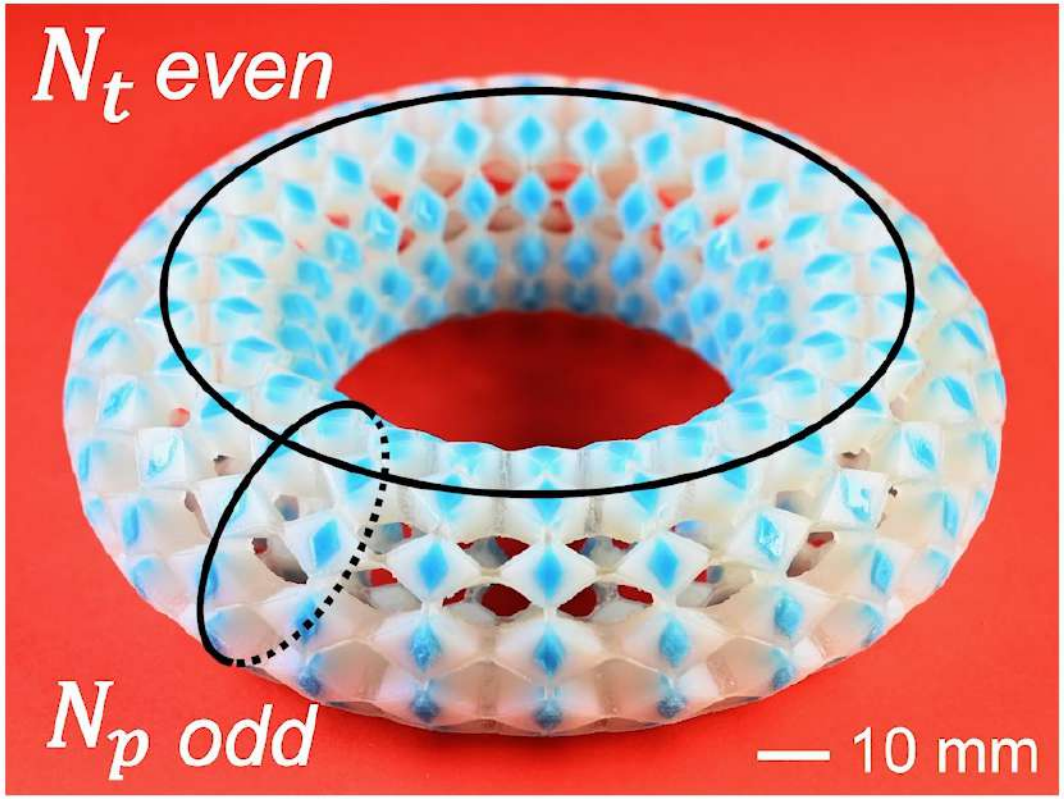




Guo, Guzman, Carpentier, Bartolo, Coulais arXiv:2111.13933

Even-odd metatorus



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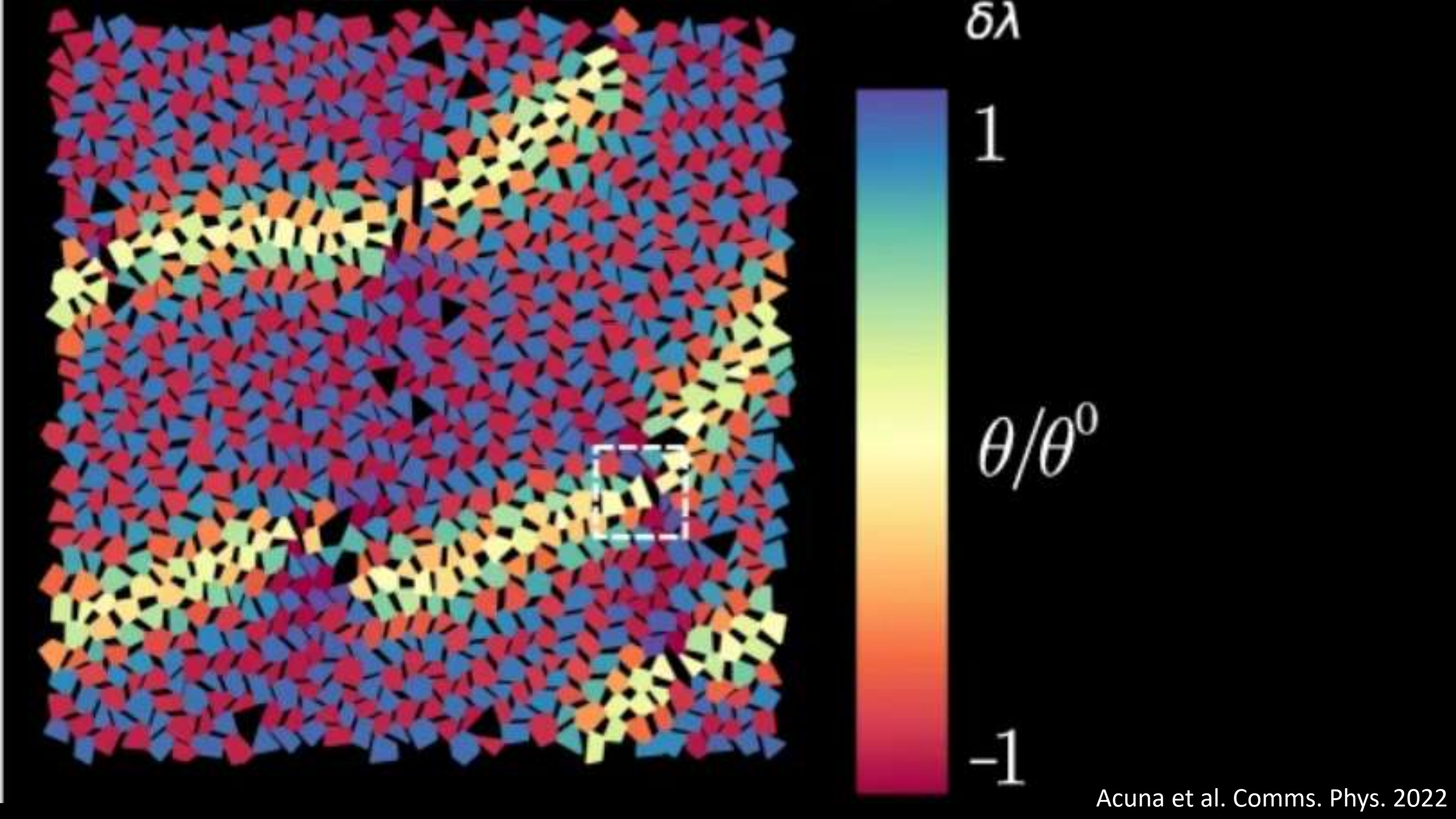
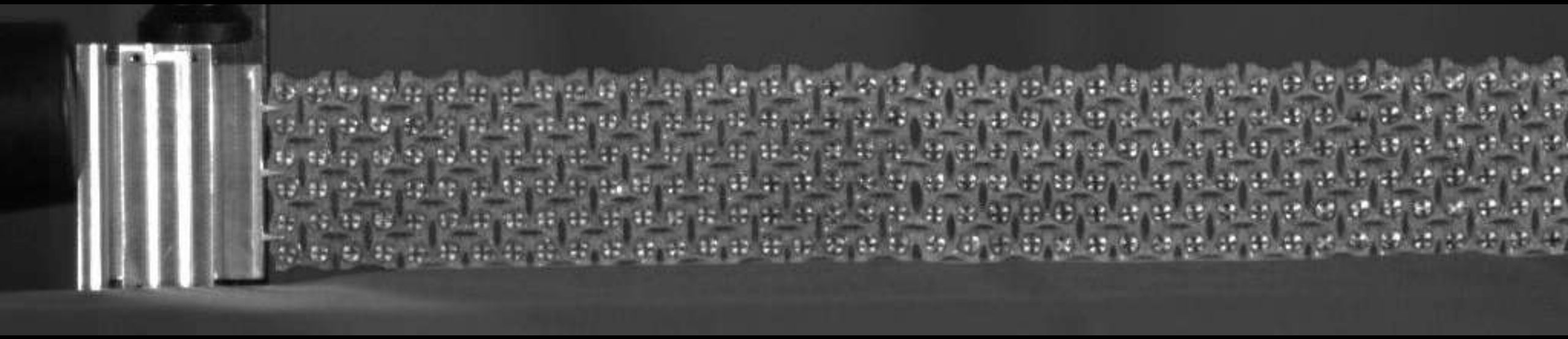
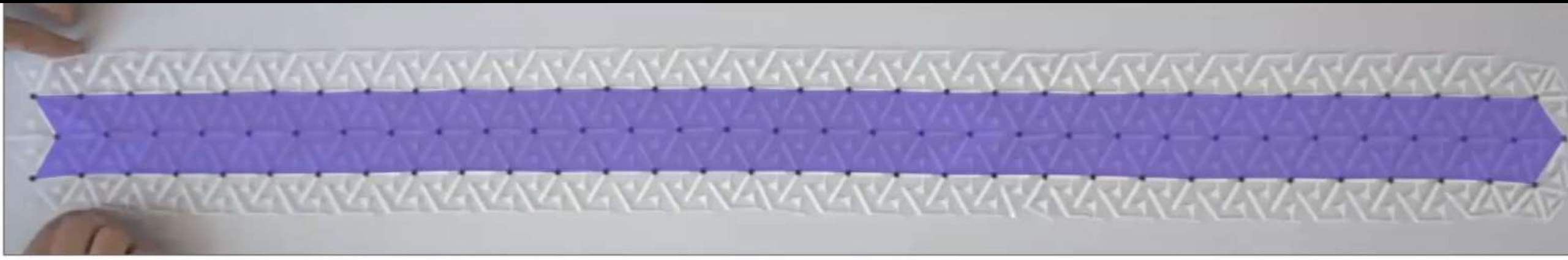


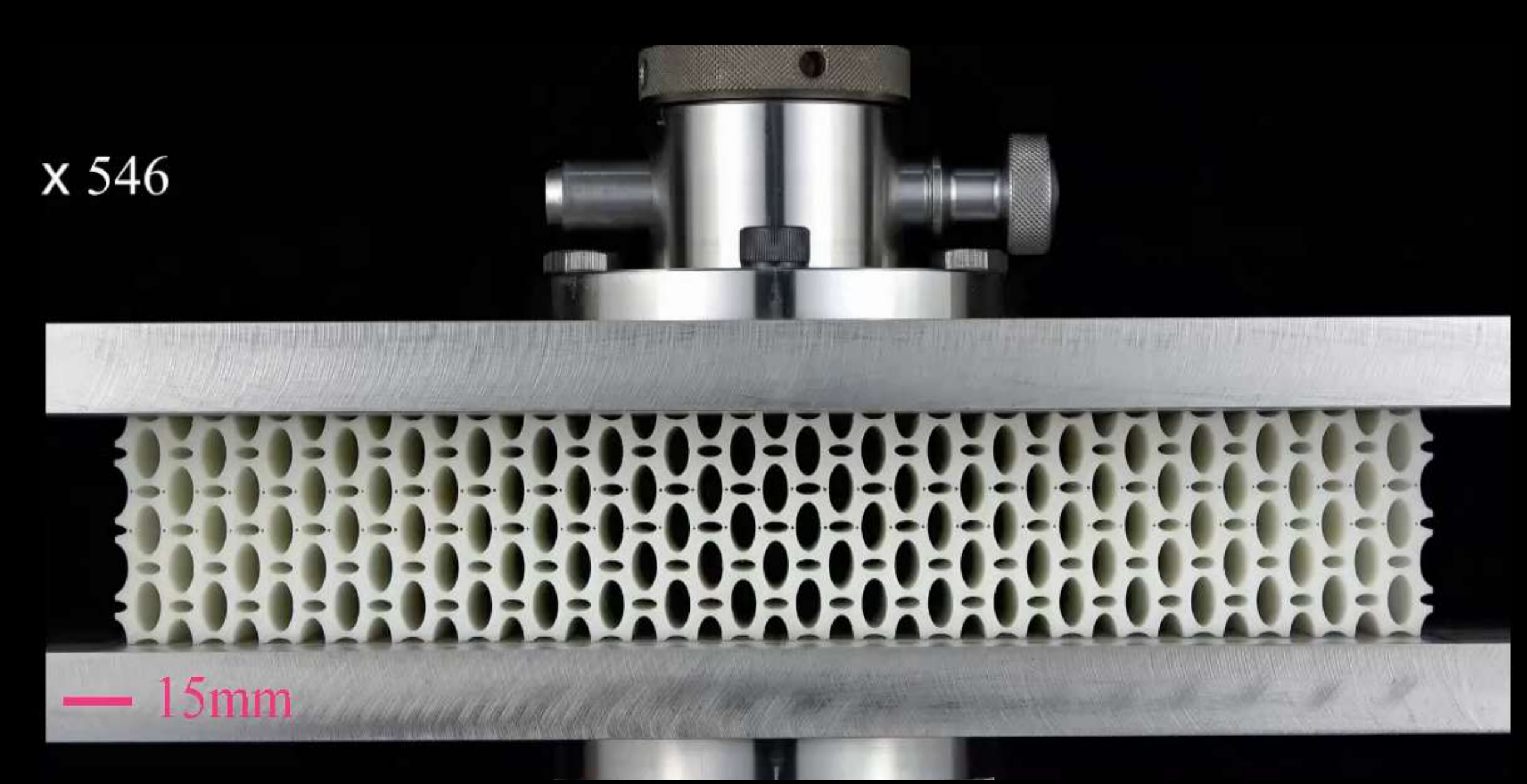
Acuna et al. Comms. Phys. 2022



Raney et al. (2017) ***PRL***



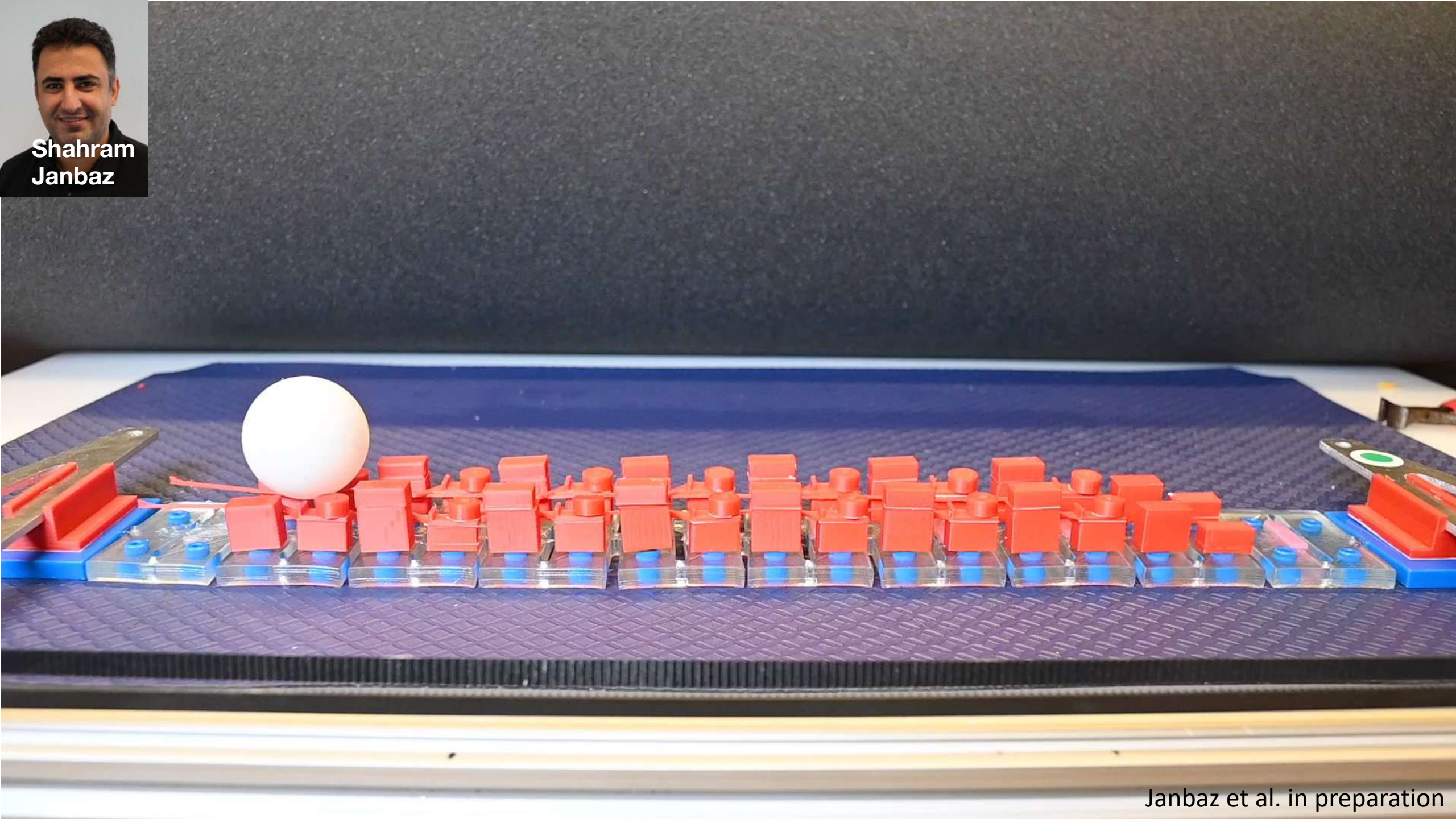
Jin et al. (2020) ***PNAS***



Zhang et al. Nat. Comm. 2019

Janbaz et al. in preparation

Janbaz et al. in preparation



Janbaz et al. in preparation

Veenstra, Guo, et al (in prep)