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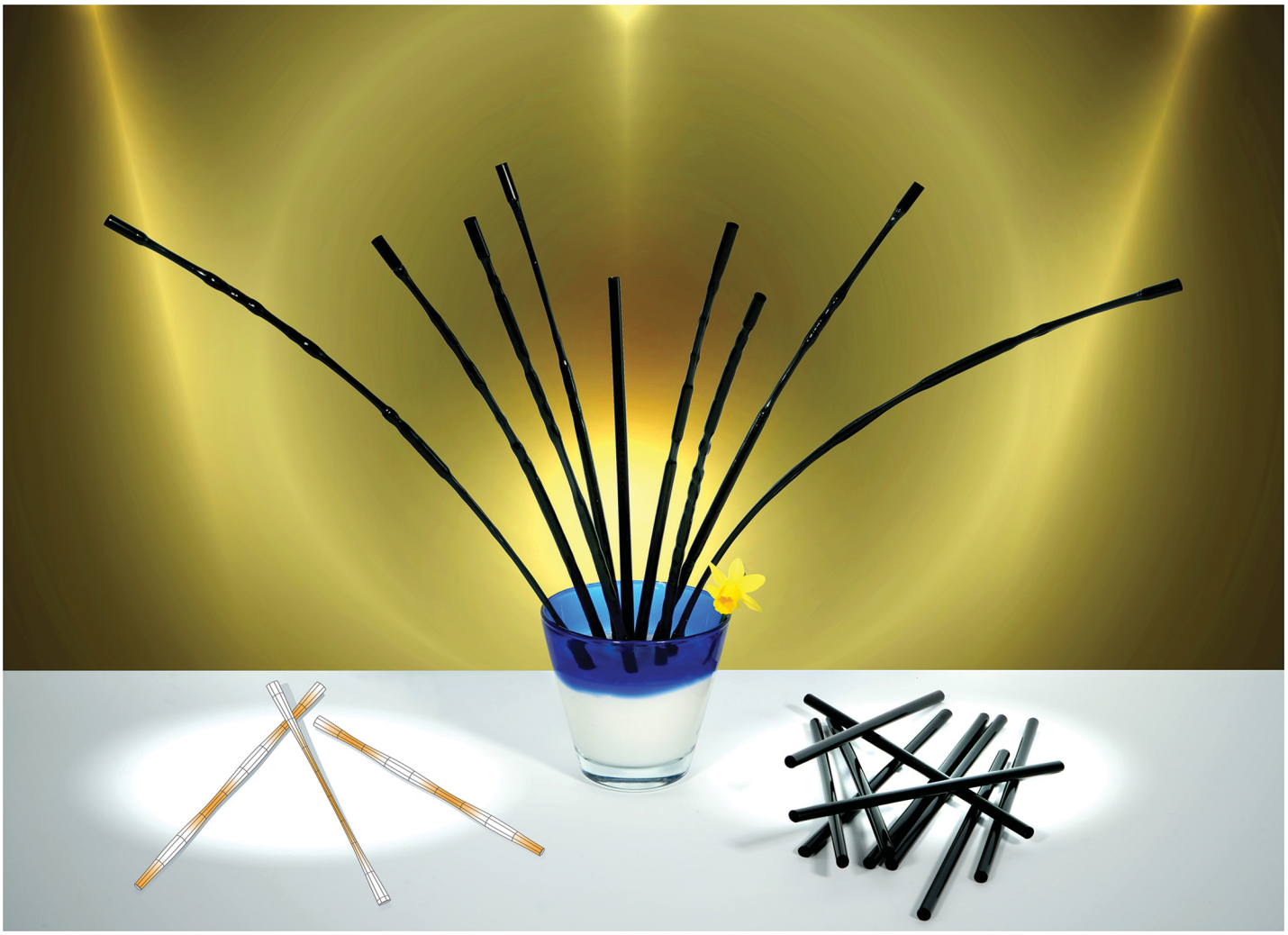

Showcasing research from Professor Davide Bigoni's "Instabilities lab", University of Trento, Via Mesiano 77 – 38123 Trento, Italy.

Necking of thin-walled cylinders *via* bifurcation of incompressible nonlinear elastic solids

Thin-walled tubes, made up of soft polypropylene, before and after tensile tests show multiple necking and formation of higher-order modes. These experimental findings were explained in terms of bifurcation for J_2-deformation theory of plasticity material. The theoretical framework leads to a series of new results, among which it is demonstrated that the classic Considère formula represents the limit of very thin tubes.

Photos of experiments were taken by Mr. M. Scandella and R. Springhetti, who also composed the image, under the supervision of D. Bigoni.

As featured in:

See Davide Bigoni *et al.*, *Soft Matter*, 2024, **20**, 5703.

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