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(G*) Coiling and Buckling Instabilities in Moving Chains of Droplets

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We produce a chain of microscopic monodisperse droplets in an aqueous bath, which rises due to the buoyancy of the droplets. There is an attractive interaction between the droplets and if the droplets are produced quickly, such that one droplet is produced and contacts the next, they adhere. Producing many droplets in this fashion allows us to create a chain of sticky droplets. Tuning the rate of droplet production results in coiling and buckling instabilities in the rising chain as it moves through the aqueous bath and eventually hits a static interface.

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