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## Enhancing transport by shaping barriers (beating activation energies)

*Wednesday, 29 September 2021 12:00 (30 minutes)*

Brownian escape is key to a wealth of physico-chemical processes, including polymer folding and information storage. The frequency of thermally activated energy barrier crossings is assumed to generally decrease exponentially with increasing barrier height. Here, we show theoretically and experimentally that higher, fine-tuned barrier profiles result in significantly enhanced escape rates, in breach of the intuition relying on the above scaling law, and address the corresponding conditions for maximum speed-up.

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