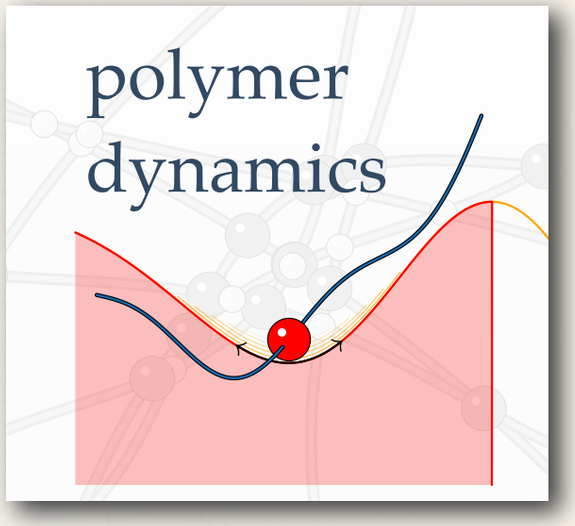
# Condensed Matter Theory (TKM)

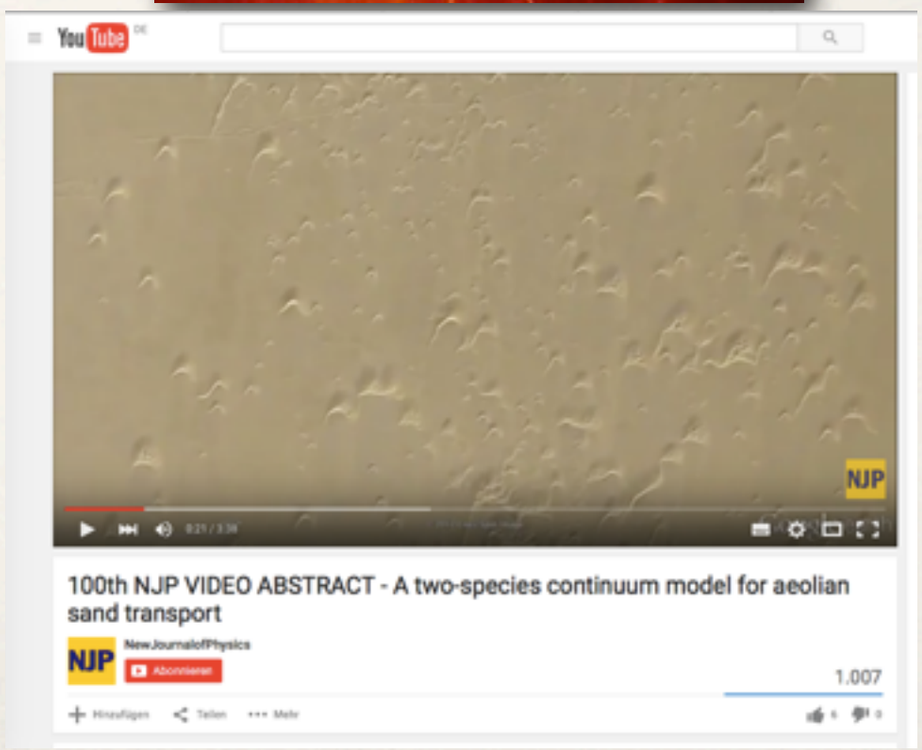
AG Kroy
AG Behn

Collaborations with AG Janke, AG Cichos, MPI MIS
& diverse external

# Soft Mesoscopics





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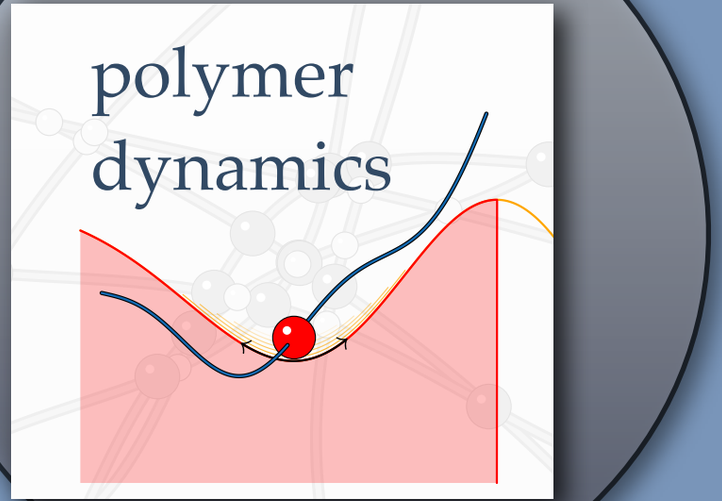
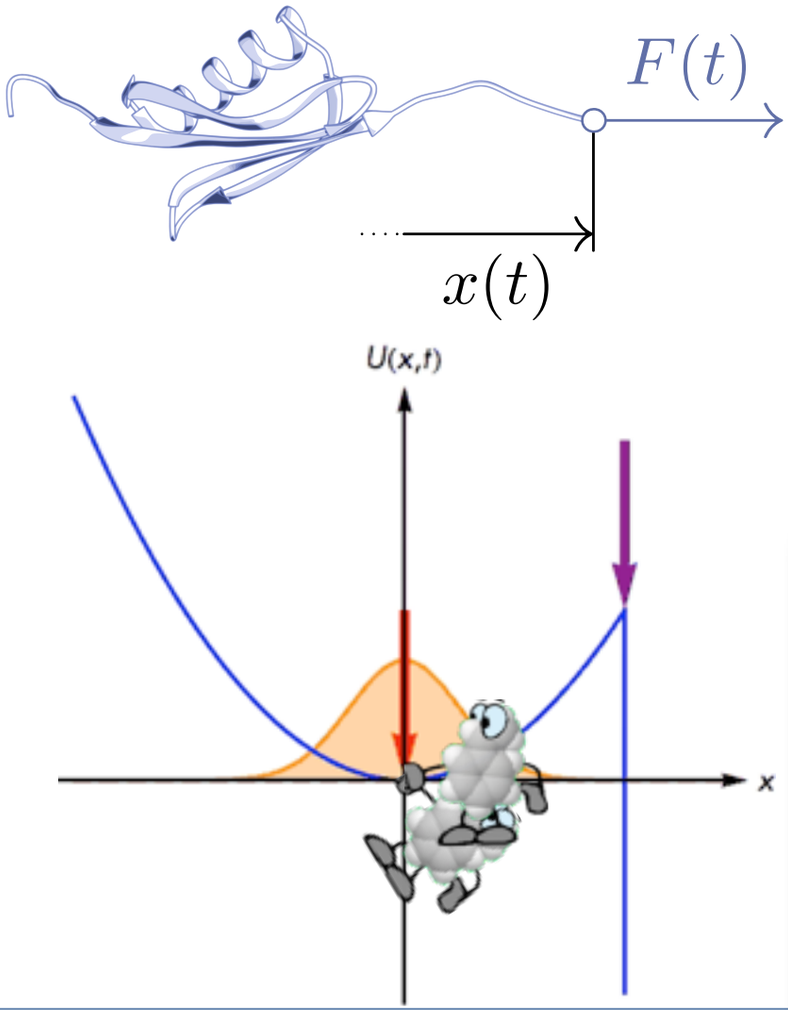





# How a chemical bond breaks





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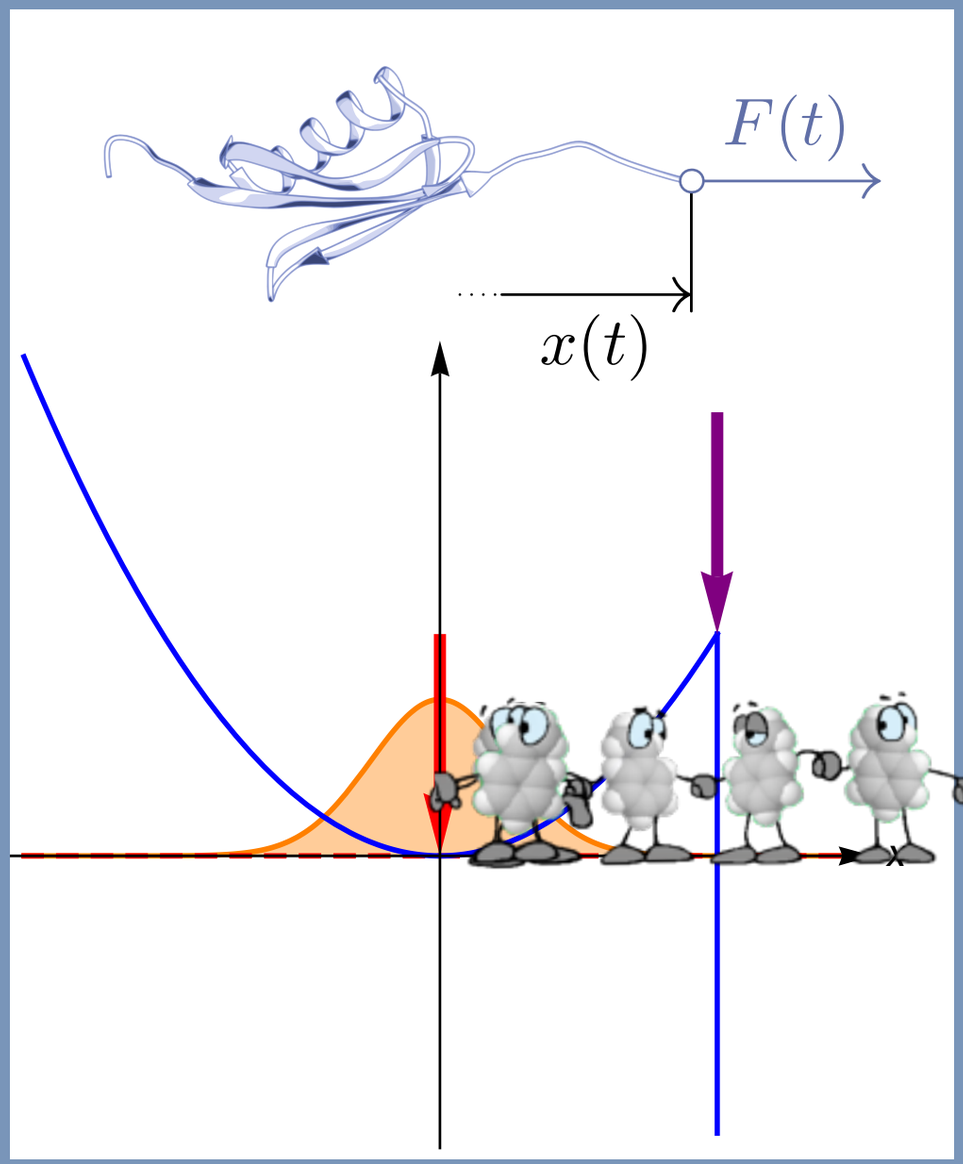
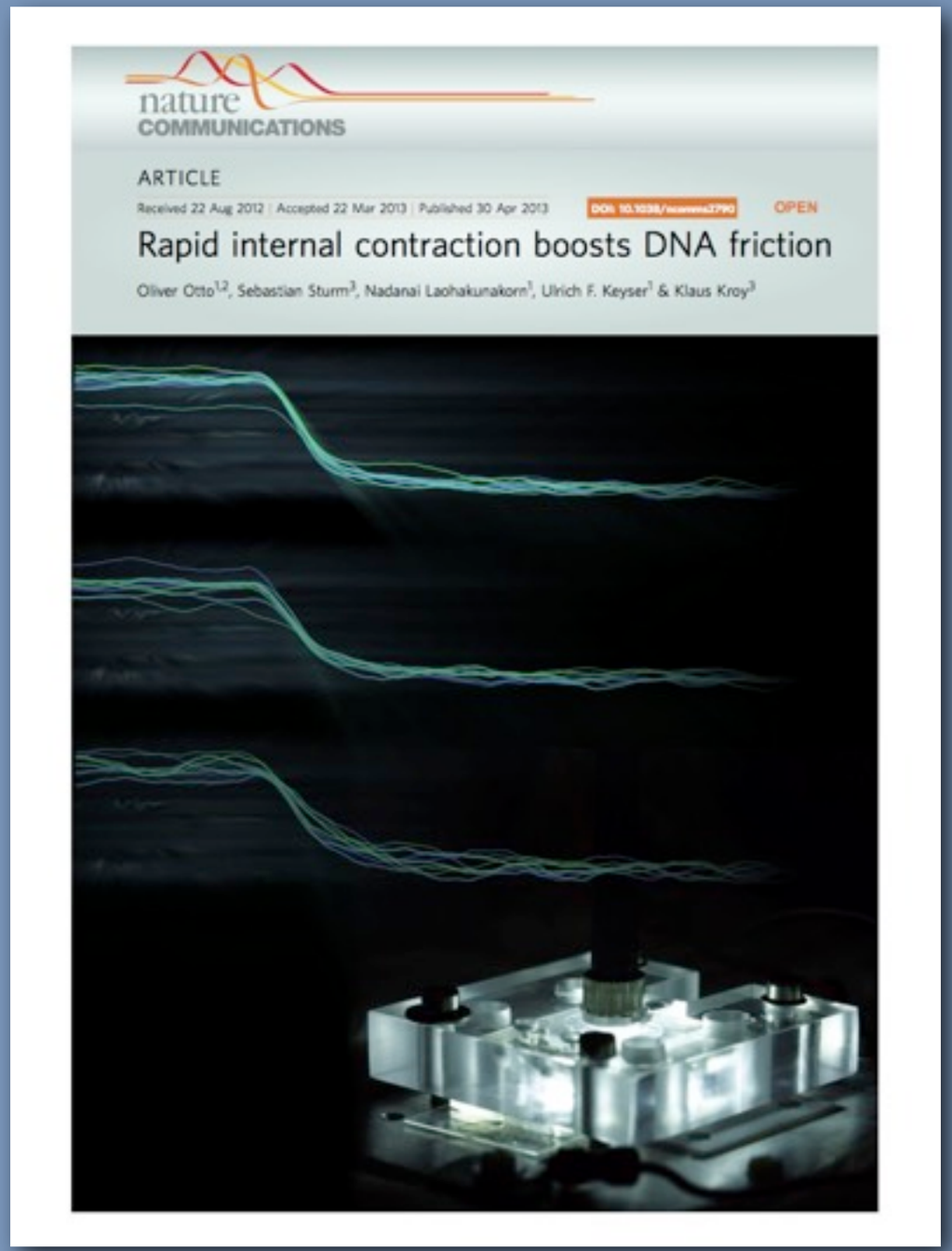
DOI: 10.1038/ncomms5463
OPEN
Theory of rapid force spectroscopy
Jakob T. Bullerjahn[1], Sebastian Sturm[1] & Klaus Kroy[1]

# How a polymer breaks a bond

Sebastian Sturm



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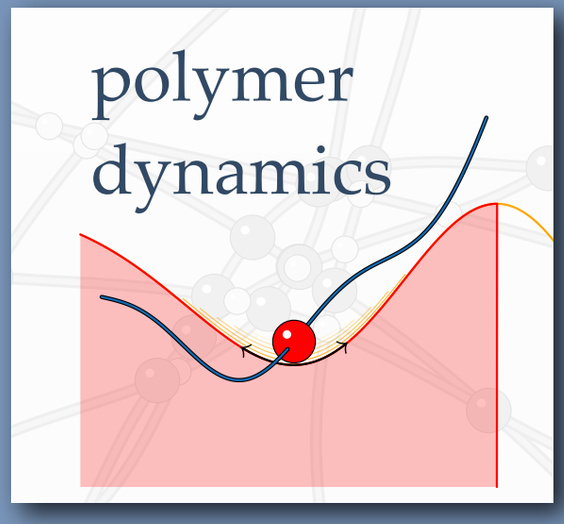
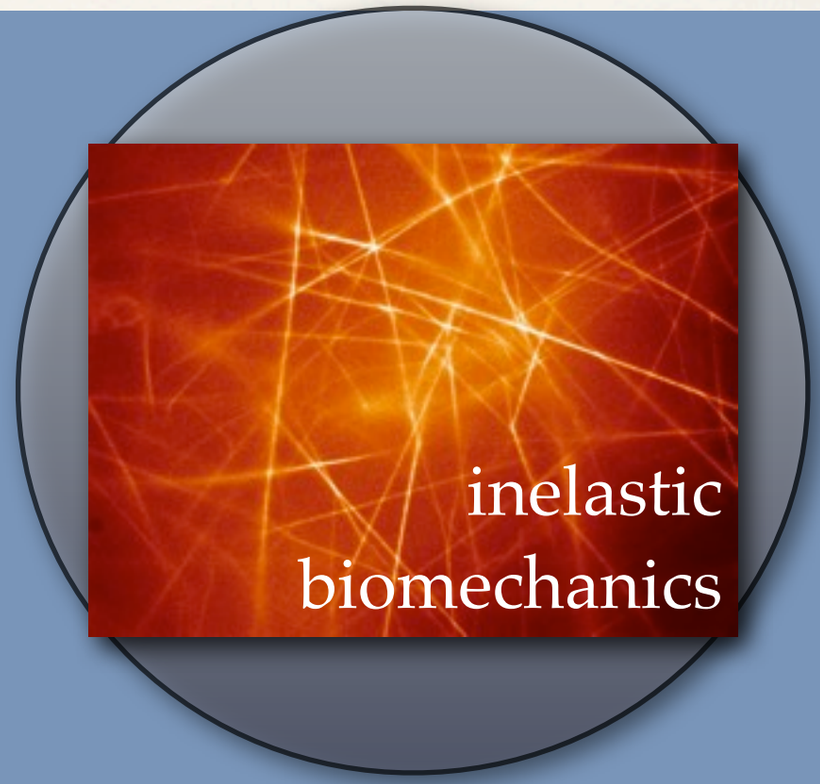
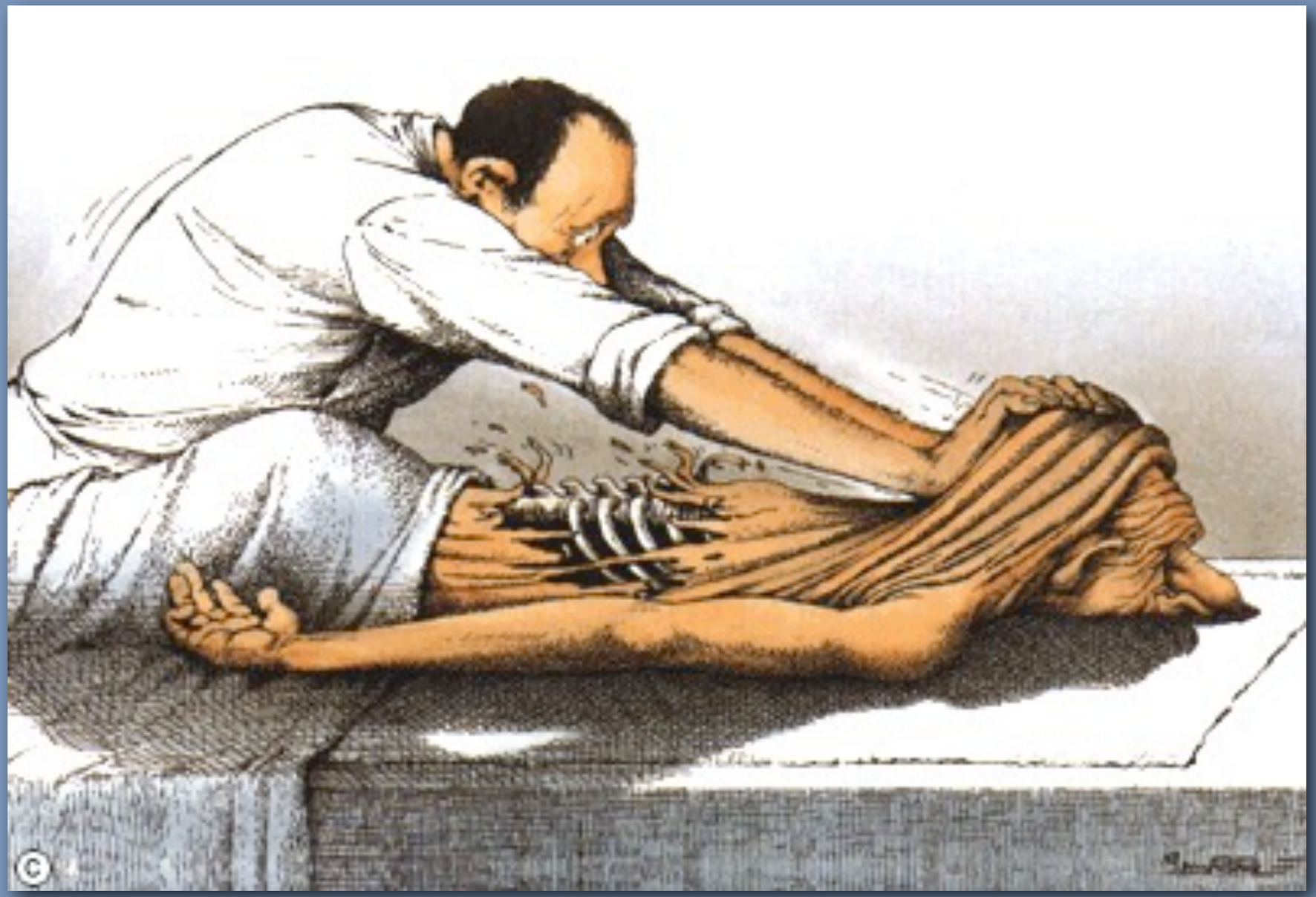


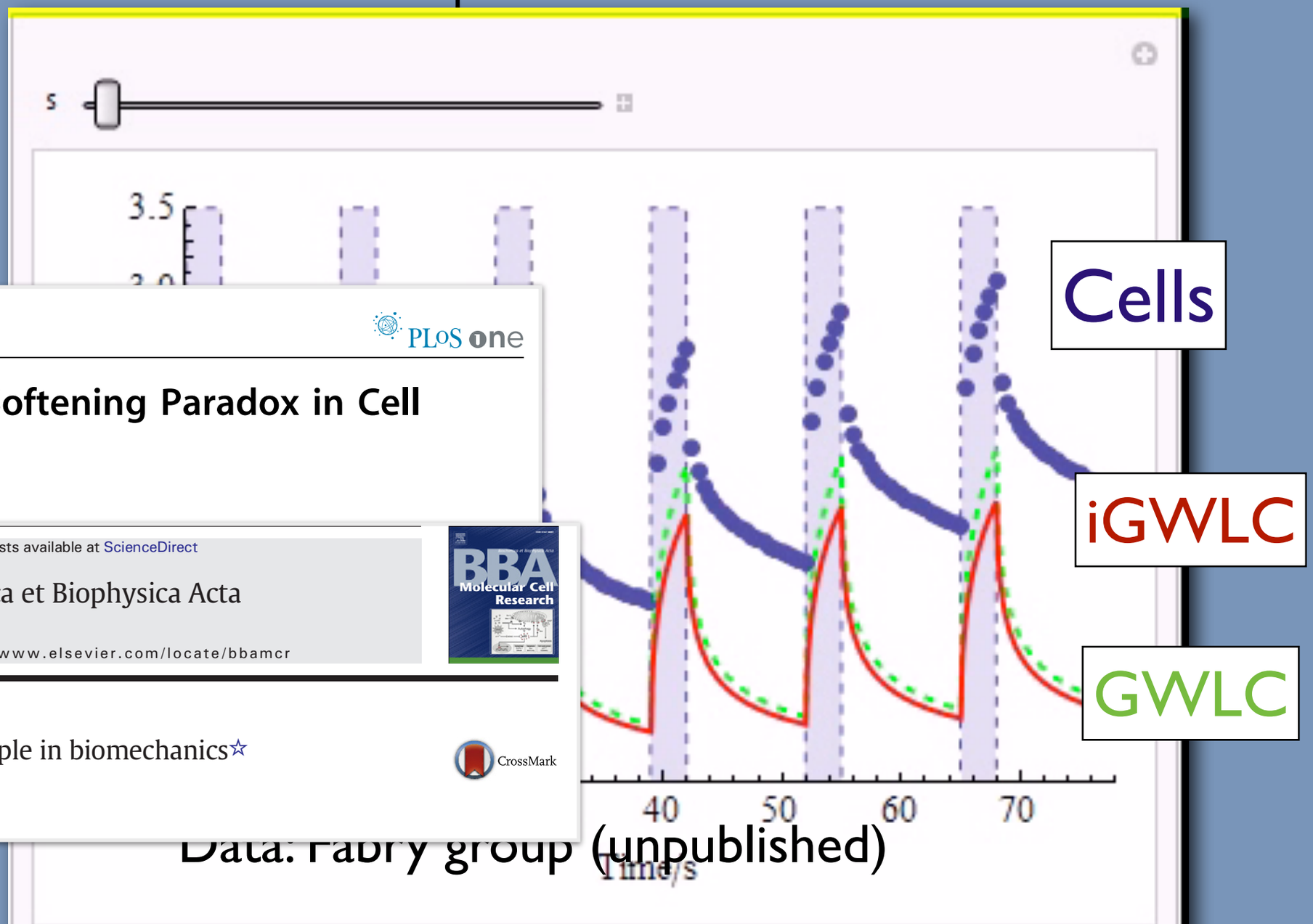





# Inelastic Biomechanics



# Inelastic Biomechanics




Data: Fabry group (unpublished)

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PLoS one

## Resolving the Stiffening-Softening Paradox in Cell Mechanics

**Lars Wolff[1], Pablo Fernández[2], Klaus Kroy[1]***

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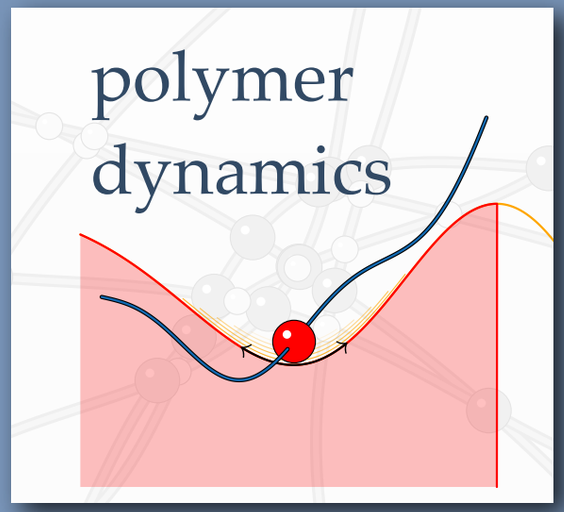
Review

## Inelastic mechanics: A unifying principle in biomechanics☆

Matti Gralka [1], Klaus Kroy *

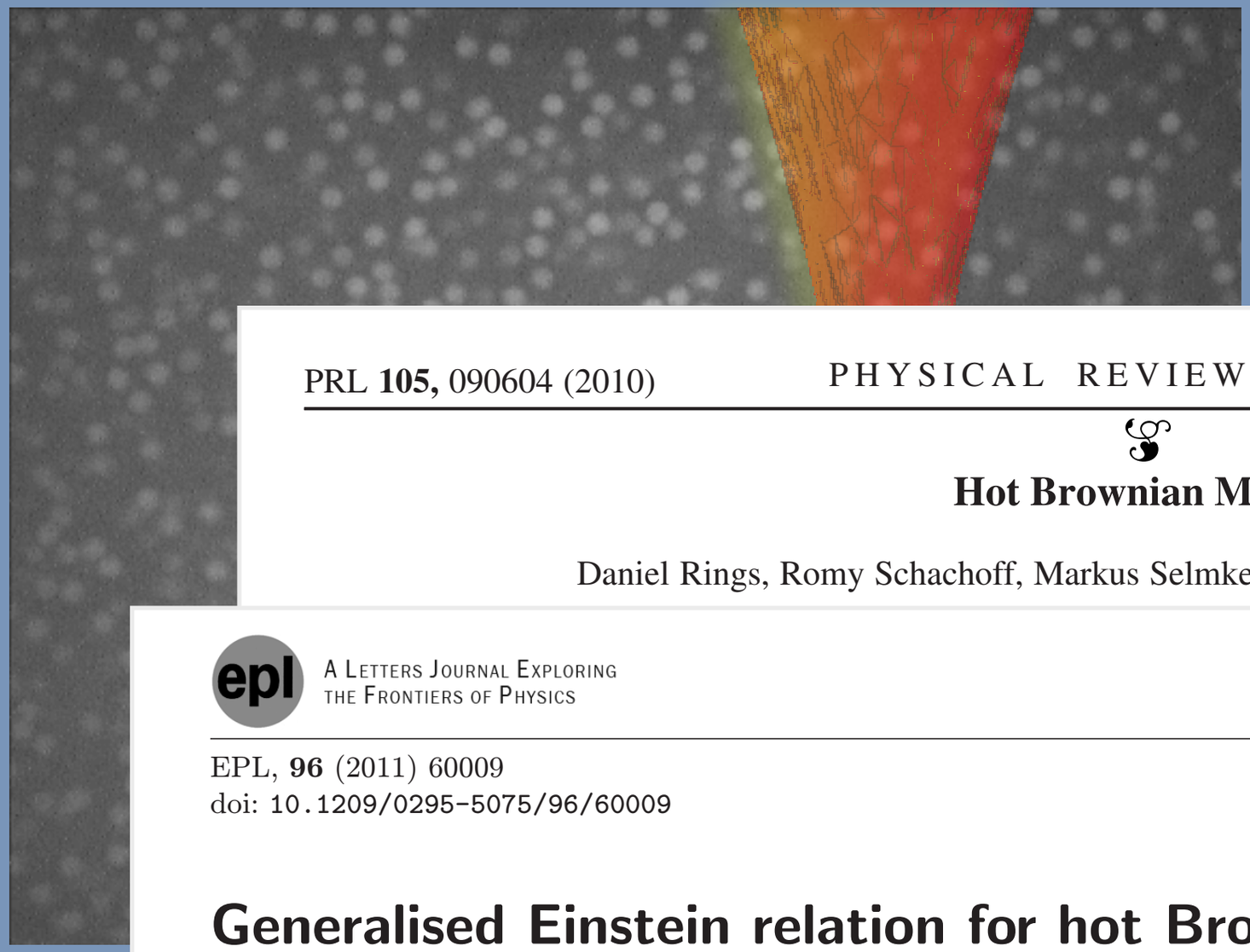
CrossMark

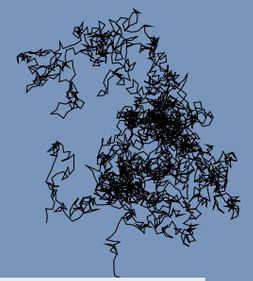
# Soft Mesoscopics






# Hot Brownian Motion





PRL **105,** 090604 (2010) PHYSICAL REVIEW LETTERS week ending 27 AUGUST 2010

## Hot Brownian Motion

Daniel Rings, Romy Schachoff, Markus Selmke, Frank Cichos, and Klaus Kroy*

epl A Letters Journal Exploring the Frontiers of Physics

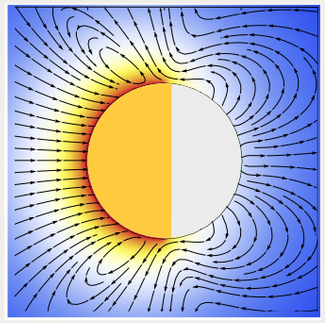
December 2011

EPL, **96** (2011) 60009
doi: 10.1209/0295-5075/96/60009

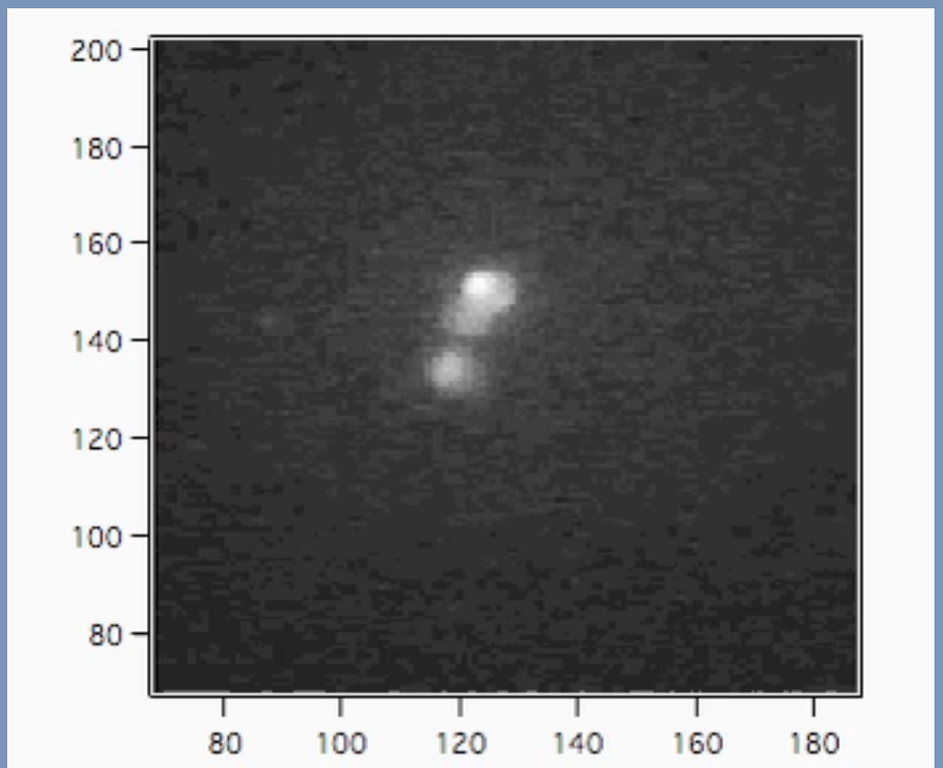
www.epljournal.org

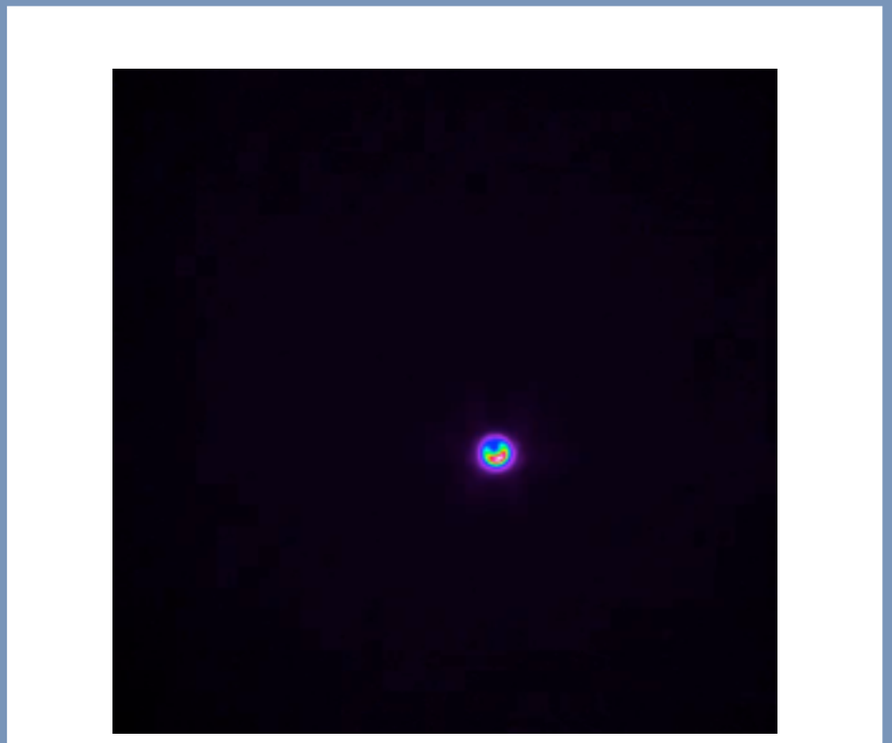
## Generalised Einstein relation for hot Brownian motion

D. Chakraborty[1,2], M. V. Gnann[3], D. Rings[1(a)], J. Glaser[1], F. Otto[3], F. Cichos[2] and K. Kroy[1(b)]



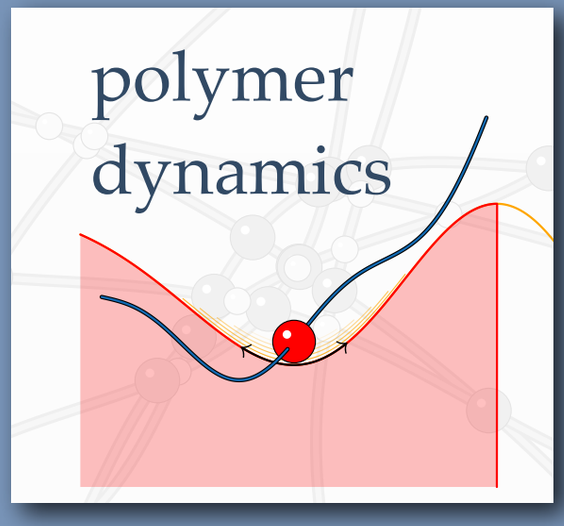
# Hot Nano-Swimmers



Cichos group, EXP I, SPP 1726

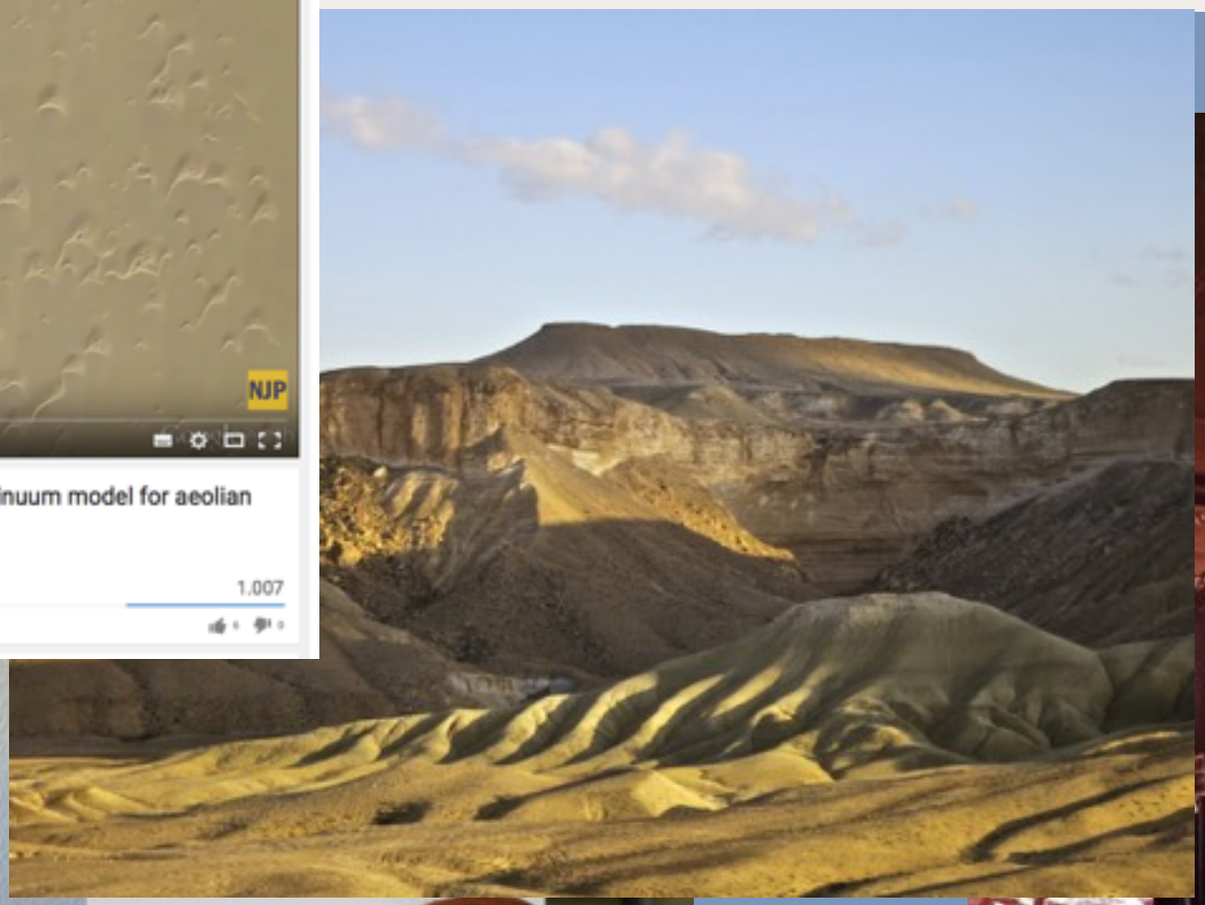
# Soft Mesoscopics

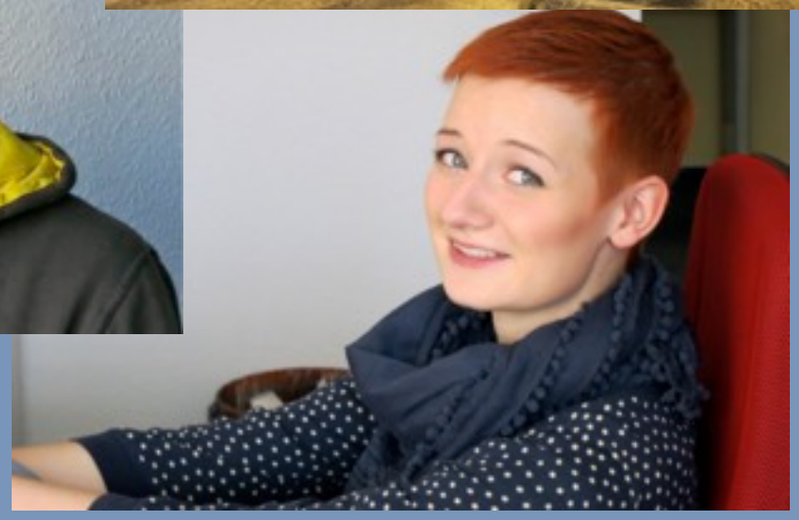





# Windblown Sand

# Wind-Blown Sand



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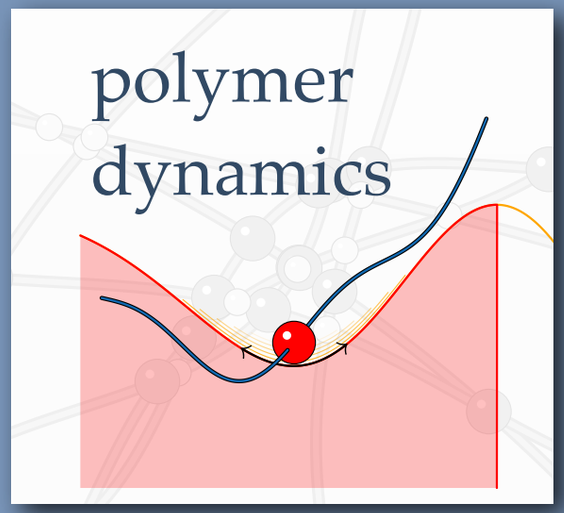



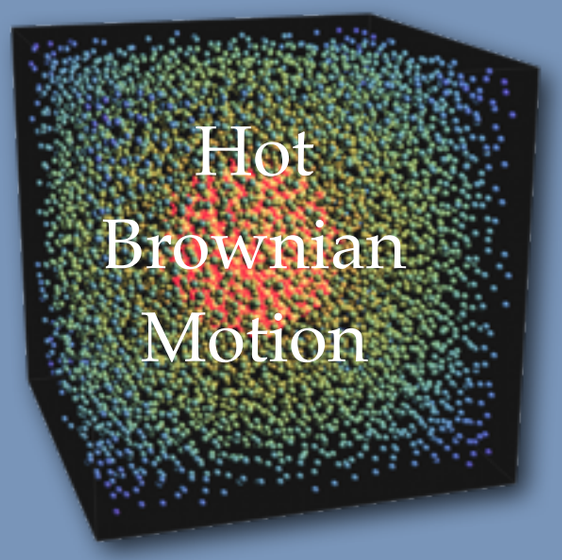


# Inelastic Mechanics