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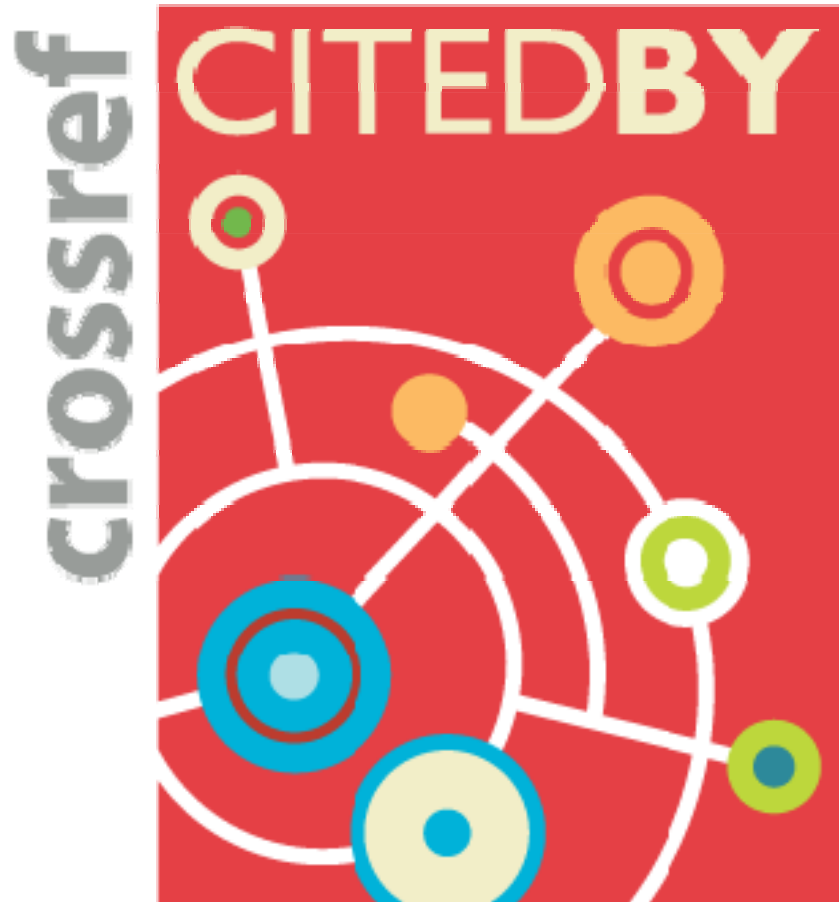
Ed Pentz

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## Single molecule force spectroscopy by AFM indicates helical structure of poly(ethylene-glycol) in water

F Oesterhelt *et al* 1999 *New J. Phys.* **1** 6 doi: [10.1088/1367-2630/1/1/006](https://doi.org/10.1088/1367-2630/1/1/006) [Help](#)

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[F Oesterhelt](#), [M Rief](#) and [H E Gaub](#)

Ludwig-Maximilians-Universität München, Lehrstuhl für Angewandte Physik, Amalienstraße 54, 80799 München, Germany

E-mail: [Filipp.Oesterhelt@physik.uni-muenchen.de](mailto:Filipp.Oesterhelt@physik.uni-muenchen.de)

**Abstract.** We elongated individual poly(ethylene-glycol) (PEG) molecules tethered at one end to an AFM cantilever. We observed the resistive force as a function of elongation in different solvents. In all cases the molecular response was found to be fully reversible and thus in thermodynamic equilibrium. In hexadecane the stretched PEG acts like an ideal entropy spring and can be well described as a freely jointed chain. In water we observed marked deviations in the transition region from entropic to enthalpic elasticity, indicating the deformation of a supra-structure within the polymer. An analysis based on elastically coupled *Markovian* two-level systems agrees well with recent *ab initio* calculations predicting that PEG in water forms a non-planar supra-structure which is stabilized by water bridges. We obtained a binding free energy of  $3.0 \pm 0.3 kT$ .

Received 10 November 1998

Published 24 March 1999

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### Mechanical regulation of cell adhesion

Julia Schmitz and Kay-Eberhard Gottschalk 2008 *Soft Matter* **4** 1373

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by Felix Bohne in [science-meets-society](#)

Autor: fee

Biology  
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Behavioral Biology

September 3, 2008  
06:06 AM  
8 views

Was macht manche Männer zu häuslichen Monogamer-Vater-Typen und andere zu umtriebischen Polygamisten? Diese Frage ist nicht leicht zu beantworten, da mit Sicherheit die Gesamtheit der Umwelteinflüsse und Erziehungsvorbilder zu einer entsprechenden Entwicklung beitragen. Doch auch in der Natur gibt es sowohl Beispiele für die eine wie auch die andere Ausprägung. So binden sich manche [...]... [Read more »](#)

H. Walum, L. Westberg, S. Henningsson, J. M. Neiderhiser, D. Reiss, W. Igl, J. M. Ganiban, E. L. Spotts, N. L. Pedersen, E. Eriksson... (2008) [Genetic variation in the vasopressin receptor 1a gene \(AVPR1A\) associates with pair-bonding behavior in humans.](#) Proceedings of the National Academy of Sciences. DOI: [10.1073/pnas.0803081105](#)



### Balls electroporation?

by 96well in [Reportergene](#)

Biology  
Molecular Biology

September 3, 2008  
06:00 AM  
6 views

In my humble opinion, to study functional genomics in vivo, the best would be to place your reporter gene into humanized animals (i.e. making transgenic reporter-humanized mice). Pronuclear DNA micro-injection in the oocyte is the most frequently used technique for generating transgenic mice; unfortunately, pronuclear transfer is expensive, labor-intensive, time-consuming and require coordination of many experimental steps, so personally I feel an urgent need to alternate, cost-effective and mo..... [Read more »](#)

Suveera Dhup, Subeer S Majumdar. (2008) [Transgenesis via permanent integration of genes in repopulating spermatogonial cells in vivo.](#) Nature Methods, 5(7), 601-603. DOI: [10.1038/NMETH.1225](#)

Chang KT, Takahashi M. (1999) [Productio of Transgenic Rats and Mice by the Testis-Mediated Gene Transfer.](#) Journal of Reproduction and Development, 45(1), 29-36.

Maione B, Lavitrano M, Spafafora C, Kiessling AA. (1998) [Sperm-Mediated Gene Transfer in Mice.](#) Molecular Reproduction and Development, 406-409.

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# Building on Success

- Logical for CrossRef to have expanded role in helping to define and run new infrastructural services for scholarly and professional publishing

It's not good enough to sit on the fence and watch, you have to participate. The hardest challenge is to get competing forces to recognise what they compete on and to start to collaborate on the rest in order to make a new offer that is different because of the collaboration. One of the best examples in publishing was the Crossref initiative and organisation.

Martyn Daniels, Brave New World Blog, Booksellers Association, UK and Ireland  
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