

Jeff Gore  
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## EDUCATION

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*University of California, Berkeley*

**Ph.D. in Physics**, GPA: 4.0/4.0

**Dec 2005**

Dissertation: "Single-molecule studies of DNA twist mechanics and gyrase mechanochemistry"

*Massachusetts Institute of Technology, Cambridge, MA*

**B.S. Physics, Mathematics, Economics, & Electrical Engineering**, GPA: 5.0/5.0

**1999**

Minor: Chemistry

Thesis: "Electronic control of a new apparatus for studying Bose-Einstein condensation"

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## AWARDS

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- Fannie and John Hertz Fellow **1999 – 2004**
- Orloff Award Winner (Academics)—Graduated at the top of the MIT physics department **1999**
- Phi Beta Kappa **1998**

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## TEACHING EXPERIENCE

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*University of California, Berkeley*

**Graduate Student Instructor** – "Honors Introductory Mechanics (H7A)."

**2004**

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## RESEARCH EXPERIENCE

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*Massachusetts Institute of Technology, Cambridge, MA*

**Postdoctoral Associate**

**2006 – present**

Currently studying genetic networks in yeast in the laboratory of Professor Alexander van Oudenaarden. I plan on exploring cellular strategies for surviving in uncertain and fluctuating environmental conditions.

*University of California, Berkeley*

**Graduate Student Researcher**

**2001 – 2005**

Studied DNA and DNA-based enzymes using magnetic and laser tweezers in the laboratory of Carlos Bustamante. Most of my experimental work focused on studies of DNA twist induced by thermal fluctuations, tension, or the activity of molecular motors such as DNA gyrase.

*University of California, Berkeley*

**Graduate Student Researcher**

**1999 – 2000**

Demonstrated that an electrolyte solution can efficiently gate a single-walled carbon nanotube transistor in the laboratory of Professor Paul McEuen.

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## MEMBERSHIPS

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- American Physical Society
- Biophysical Society

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PUBLICATIONS AND PAPERS

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- Dual modes of gyrase activity revealed by force and torque  
Nollmann, M., Stone, M.D., Bryant, Z., Gore, J., Crisona, N., Bustamante, C., and Cozzarelli, N.R.  
*manuscript in preparation*
  - The invariant torsional rigidity of DNA  
Bryant, Z., Gore, J., Cozzarelli, N.R., and Bustamante, C.  
*manuscript in preparation*
  - DNA overwinds when stretched  
Gore, J., Bryant, Z., Nollmann, M., Le, M.U., Cozzarelli, N.R., and Bustamante, C.  
*Nature* **442**, 836 – 839 (2006)
  - Mechanochemical analysis of DNA gyrase using rotor bead tracking  
Gore, J., Bryant, Z., Stone, M.D., Nollmann, M., Cozzarelli, N.R., and Bustamante, C.  
*Nature* **439**, 100 – 104 (2006)
  - Identification of oligonucleotide sequences that direct the movement of the *Escherichia coli* FtsK translocase  
Levy, O., Ptacin, J.L., Pease, P.J., Gore, J., Eisen, M.B., Bustamante, C., and Cozzarelli, N.R.  
*Proceedings of the National Academy of Sciences* **102**, 17618 – 17623 (2005)
  - Sequence-Directed Translocation by Purified FtsK  
Pease, P.J., Levy, O., Cost, G.J., Gore, J., Ptacin, J.L., Sherratt, D., Bustamante, C., and Cozzarelli, N.R.  
*Science* **307**, 586 – 590 (2005)  
News & Views: Hanging around at dif. Eggleston, A.G., *Nat. Struct. Mol. Bio* **12**, 216 (2005)
  - Bias and error in estimates of equilibrium free-energy differences from nonequilibrium measurements  
Gore, J., Ritort, F., and Bustamante, C.  
*Proceedings of the National Academy of Sciences* **100**, 12564 – 12569 (2003)  
Commentary: Fox, R.F. *Proc. Nat. Acad. Sci.* **100**, 12537 (2003)
  - Structural transitions and elasticity from torque measurements on DNA  
Bryant, Z., Stone, M.D., Gore, J., Smith, S., Cozzarelli, N.R., and Bustamante, C.  
*Nature* **424**, 338 – 341 (2003)
  - High Performance Electrolyte Gated Carbon Nanotube Transistors  
Rosenblatt, S., Yaish, Y., Park, J., Gore, J., Sazonova, V., and McEuen, P.  
*Nanoletters* **2**, 869 – 872 (2002)
  - Construction and implementation of quantum logic gates from two spin systems  
Price, M.D., Somaroo, S.S., Tseng, C.H., Gore, J.C., Fahmy, A.F., Havel, T.R., and Cory, D.G.  
*Journal of Magnetic Resonance* **140**, 371 – 378 (1999)
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