

Michael Guy Poirier

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EDUCATION

University of Illinois at Chicago, Chicago, IL, 1997-2001: PhD in Physics.

Thesis: Micromechanical-Biochemical Studies of Mitotic Chromosome Structure.

Advisor: Prof. John F. Marko.

University of Illinois at Chicago, Chicago, IL, 1995-1997: MS in Physics.

Truman State University, Kirksville, MO, 1991-1995: BS in Physics (formerly Northeast Missouri State University).

EMPLOYMENT

Postdoctoral Research Fellow, 2004 - Current, Northwestern University, Dept. of Biochemistry, Molecular Biology and Cell Biology. Advisor: Prof. Jon Widom.

Postdoctoral Research Fellow, 2002 - 2003, Laboratoire de Dynamique des Fluides Complexes, Université Louis Pasteur. Advisor: Dr. Didier Chatenay.

Research Assistant, 1997 - 2001, University of Illinois at Chicago, Dept. of Physics

Teaching Assistant, 1995 - 1997, University of Illinois at Chicago, Dept. of Physics

Research Intern; Summer 1994, The College of William and Mary, Applied Science Department, Advisor: Prof. Dennis Manos.

HONORS and AWARDS

Northwestern University Nominee for the Burroughs Wellcome Fund Career Award, 2004.

Ruth L. Kirschstein National Research Service Award, Individual Fellowship, National Institutes of Health, USA, Aug. 1, 2004 – Jul. 31, 2006.

Postdoctoral Funding from Le Centre National de Recherche Scientifique, France, Apr. 1, 2003 - Dec. 31, 2003.

Postdoctoral Funding from Le Ministère de la Recherche, France, Jan. 1, 2002 – Mar. 31, 2003.

Dr. Robert Peavler Memorial Endowed Physics Scholarship, 1994 – 1995.

Northeast Missouri State University President's Honorary and Combined Scholarship, 1991–1995.

SOCIETY MEMBERSHIPS

American Physical Society student member, 2000-2002.

American Society of Cell Biology student member, 2000-2002.

PRESENTATIONS

Invited Presentation: Department of Physics, Indiana University, April 6, 2004. “Two Examples of Mesoscopic Properties within Biological Systems.”

Invited Presentation: International Symposium on Chromosome Research at the Nano-Era. Osaka University, Dec. 7, 2003. “Combining Elasticity and Biochemistry to Study Mitotic Chromosome Structure.”

Invited Presentation: Laboratoire de Physique des Solides, Université Paris-Sud. Oct. 24, 2003. "Two Examples of Mesoscopic Properties within Biological Systems."

Invited Presentation: Department of Physics, University of Illinois, Urbana-Champaign. Sept. 22, 2003. "Two Examples of Mesoscopic Properties within Biological Systems."

Poster Presentation: American Society for Cell Biology Annual Meeting, Dec. 8-12, 2001. "Study of Mitotic Chromosomes Using Micromechanical and Microdigestion Experiments."

Poster Presentation: American Society for Cell Biology Annual Meeting, Dec. 13-17, 2000. "Biophysical Characterization of Structure and Elasticity of Mitotic Chromosomes."

Poster Presentation: FASEB summer research conference 2000, Yeast Chromosome Structure, Aug. 19-24, 2000. "Elasticity Measurements Reveal Differences between In Vivo and In Vitro Assembled Chromosomes."

Oral Presentation: American Physical Society March Meeting, March 20-24, 2000. "Microelasticity of Single Mitotic Chromosomes."

Poster Presentation: Biophysical Society Annual Meeting, Feb. 13-17, 1999. "Elasticity of Metaphase Chromosomes."

PAPERS

Rick, C., Poirier, M.G. and Chatenay, D. (2004) Determining gene expression distributions for *E. coli* populations with microfluidics. (In preparation)

Poirier, M.G. and Marko, J.F. (2003) Micromechanical studies of mitotic chromosomes (Review). *Curr Top Dev Biol.* 55:75-141.

Poirier, M.G. and Marko, J.F. (2003) Micromechanics of chromatin and chromosomes (Review). *Biochem Cell Biol.* Jun;81(3):209-20.

Poirier, M.G. and Marko, J.F. (2003) Micromechanical properties of mitotic chromosomes (Review). *J Musc Res Cell Motil.* 23, 409-431.

Poirier, M.G. and Marko, J.F. (2002) Mitotic chromosomes are chromatin networks without an internal protein scaffold. *Proc Natl Acad Sci USA* 99, 15393-15397.

Sarkar, A., Eroglu, S., Poirier, M.G., Nemani, A., Gupta, P. and Marko, J.F. (2002) Dynamics of chromosome compaction during mitosis, *Exp Cell Res.* Jul 1;277(1):48-56.

Poirier, M.G. and Marko, J.F. (2002) Effect of internal friction on biofilament dynamics. *Phys Rev Lett.* 88(22):228103.

Poirier, M.G., Eroglu, S. and Marko, J.F. (2002) The bending rigidity of mitotic chromosomes *Mol Biol Cell.* 13:2170-2179.

Poirier, M.G., Monhait, T. and Marko, J.F. (2002) Reversible hypercondensation and decondensation of mitotic chromosomes studied using combined chemical-micromechanical techniques. *J Cell Biochem.* 85:422-424.

Poirier, M.G., Nemani, A., Gupta, P., Eroglu, S. and Marko, J.F. (2001) Probing chromosome structure with dynamic force relaxation *Phys Rev Lett.* 86, 360-363.

Poirier, M. Eroglu, S., Chatenay, D. and Marko, J.F. (2000) Reversible and irreversible unfolding of mitotic newt chromosomes by applied force *Mol Biol Cell* 11, 269-276.