

## BORIS I. SHRAIMAN

### Publications (in anti-chronological order)

1. Liu T, Papagiannakopoulos T, Puskar K, Qi S, Santiago F, Clay W, Lao K, Lee Y, Nelson SF, Kornblum HI, Doyle F, Petzold L, Shraiman B, Kosik KS., "Detection of a microRNA signal in an in vivo expression set of mRNAs," PLoS ONE; **2**(8):e804, (2007)
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3. Hufnagel L, Teleman AA, Rouault H, Cohen SM, Shraiman B.I., "On the mechanism of wing size determination in fly development," Proc Natl Acad Sci U S A. **104**(10):3835-40,(2007)
4. Vergassola M, Villermaux E, Shraiman B.I., 'Infotaxis' as a strategy for searching without gradients. Nature. **445**(7126):406-9, (2007).
5. Hufnagel, L., Kreuger J., Cohen S.M. and Shraiman B.I., "On the role of glypicans in the process of morphogen gradient formation", Dev Biol. **300**(2):512-22, (2006).
6. Djordjevic M, Semenova E, Shraiman B.I. and Severinov K., "Quantitative analysis of a virulent bacteriophage transcription strategy", Virology **354**(2):240-51, (2006).
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8. Ramanathan S., Detwiler P., Sengupta A. and Shraiman, B.I. "G-protein-coupled enzyme cascades have intrinsic properties that improve signal localization and fidelity", Biophys J. **88**: 3063-71,(2005).
9. Semenova E., Djordjevic M, Shraiman, B.I., and Severinov K., "The tale of two RNA polymerases: transcription profiling and gene expression strategy of bacteriophage Xp10", Mol Microbiol. **55**: 764-77, (2005).
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12. Thattai M. and Shraiman B.I, "Metabolic switching in the sugar phosphotransferase system of *Escherichia coli*", Biophys J. **85**: 744-54, (2003).

13. Djordjevic, M., Sengupta A.M., and Shraiman, B.I., "A biophysical approach to transcription factor binding site discovery", *Genome Res.* **13**: 2381-90, (2003).
14. Pumir, A and Shraiman, B.I., "Lagrangian Particle Approach to Large Eddy Simulations of Hydrodynamic Turbulence", *J. of Statistical Physics* **113**:693-700, (2003)
15. Ronen M, Rosenberg, R., Shraiman, B.I., and Alon, U. "Assigning numbers to the arrows: parameterizing a gene regulation network by using accurate expression kinetics", *Proc. Natl. Acad. Sci. USA*, **99**: 10555-60 (2002).
16. "Specificity and Robustness in Transcription Control Networks", A.Sengupta, M. Djordjevic, and B.I. Shraiman, *Proc. Natl. Acad. Sci. USA*, **99**, 2072-2077, (2002)..
17. Balkovsky E. and Shraiman, B.I. "Olfactory search at high Reynolds number", *Proc Natl Acad Sci USA*.**99**,12589-93 (2002).
18. "Lagrangian View of Turbulent Energy Transfer", A. Pumir, B.I. Shraiman and M. Chertkov, *Europhys. Lett.*, **56**, 379-85, (2001).
19. "Engineering Aspects of Enzymatic Signal Transduction: Photoreceptors in the Retina", P.Detwiler, S. Ramanathan, A.Sengupta and B.I. Shraiman, *Biophys.J.*, **79**, 2801-2817, (2000).
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25. "Intergrain Magnetoresistance via Second Order Tunneling in Perovskite Manganites", S. Lee, S-W.Cheong, H. Hwang, J.Ratcliff, B.I. Shraiman, *Phys.Rev. Lett.* **82**, 4508-4511, (1999).
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31. "Perturbation Theory for the Delta-Correlated Model of Passive Scalar Advection Near Batchelor Limit", A. Pumir, B. I. Shraiman and E. D. Siggia, *Phys. Rev. E, Rapid Comm.*, **55**, R1263, (1997).
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33. "On the Role of Assembly Kinetics in Determining the Structure of Clathrin Cages", *Biophysical Journal*, **72**, 935, (1997).
34. "'Zipper' Model of Enveloped Virus Budding", preprint, (1996).
35. "Symmetry and Scaling in Turbulent Mixing", B. I. Shraiman and E. D. Siggia, *Phys. Rev. Lett.*, **77**, 2463, (1996).
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53. "On the Excitation Spectrum of a Spiral State of a Doped Antiferromagnet", B. I. Shraiman and E. D. Siggia, *Phys. Rev. B* **46**, 8305 (1992).
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