

# PUBLICATIONS

1. Baruch Barzel and Ofer Biham, *Physical Review Letters* **112**, 088902 (2014). Response to comment on Binomial moment equations for stochastic reaction systems. [[Link](#)]
2. Baruch Barzel and Abert-László Barabási, *Nature Physics* **9**, 673-681 (2013). Universality in network dynamics. [[Link](#); [Featured in 2Physics](#) and [News@Northeastern](#)]
3. Baruch Barzel and Abert-László Barabási, *Nature Biotechnology* **31**, 720–725 (2013). Network link prediction by global silencing of indirect correlations. [[Link](#); [Featured in News&Views](#) and [News@Northeastern](#)]
4. Baruch Barzel and Ofer Biham, *Physical Review E* **86**, 031126-38 (2012). Stochastic analysis of complex reaction networks using binomial moment equations. [[Link](#)]
5. Baruch Barzel and Ofer Biham, *Physical Review Letters* **106**, 150602-05 (2011). Binomial moment equations for stochastic reaction systems. [[Link](#)]
6. Baruch Barzel, Ofer Biham, Raz Kupferman, Azi Lipshtat and Amir Zait, *Physical Review E* **82**, 021117-28 (2010). Dimensional reduction of the master equation for stochastic chemical networks: The reduced-multiplane method. [[Link](#)]
7. Franck Le-Petit, Baruch Barzel, Ofer Biham, Evelyne Roueff and Jacques Le-Bourlot, *Astronomy and Astrophysics* **505**, 1153-1165 (2009). Incorporation of stochastic chemistry on dust grains in the Meudon PDR code using moment equations. [[Link](#)]
8. Baruch Barzel and Ofer Biham, *Physical Review E*, **80**, 046104-14 (2009). Quantifying the connectivity of a network – The network correlation function method. [[Link](#)]
9. Baruch Barzel and Ofer Biham, *Physical Review E*, **80**, 031117-30 (2009). Stochastic analysis of dimerization systems. [[Link](#)]
10. Baruch Barzel and Ofer Biham, *Physical Review E* **78**, 041919-26 (2008). Calculation of switching times in the genetic toggle switch and other bi-stable systems. [[Link](#)]
11. Baruch Barzel, Ofer Biham and Raz Kupferman, *SIAM Multiscale Modeling & Simulation*, **6(3)**, 963-982 (2007). Analysis of the multiplane method for stochastic simulations of reaction networks with fluctuations. [[Link](#)]
12. Baruch Barzel and Ofer Biham, *Astrophysical Journal Letters*, **658**, L37-L40 (2007). Efficient simulations of interstellar gas-grain chemistry using moment equations. [[Link](#)]
13. Baruch Barzel and Ofer Biham, *Journal of Chemical Physics*, **127**, 144703-26 (2007). Efficient stochastic simulations of complex reaction networks on surfaces. [[Link](#)]
14. Baruch Barzel, Ofer Biham and Raz Kupferman, *Physical Review E*, **76**, 26703-12 (2007). Evaluation of the multiplane method for efficient simulations of reaction networks. [[Link](#)]
15. Baruch Barzel and Ofer Biham, In *Proceeding of the International Workshop on Molecules in Space & Laboratory*, Paris, France, (May 14-18, 2007). Eds.: J.L. Lemaire and F. Combes, 425-430 (2007). Simulations of water-ice formation on dust grains using moment equations.

## BOOK CHAPTERS:

16. Graph theory properties of cellular networks. Baruch Barzel, Amitabh Sharma and Abert-László Barabási, *Handbook of Systems Biology – Concepts and Insights*, Chapter 9, Pages: 177-193. Editors: Marian Walhout, Marc Vidal and Job Dekker. Academic Press – Elsevier (2013). [[Link](#)]