

Curriculum Vitae

Eli Ben-Naim

Group Leader

Complex Systems (T-13)

Theoretical Division, MS-B213

Los Alamos National Laboratory

Los Alamos, NM 87545

PHONE: (505) 667-9471

FAX: (505) 665-3003

EMAIL: ebn@lanl.gov

WWW: <http://cnls.lanl.gov/~ebn/>

PHONE: (505) 672-1075

FAMILY: Married +3

BIRTHDATE: September 9, 1965

LANGUAGES: English, Hebrew, French

EMPLOYMENT HISTORY:

- Group Leader, Los Alamos National Laboratory, 2006-present.
- Staff Member, Los Alamos National Laboratory, 1998-2006
- Postdoctoral Research Fellow, Los Alamos National Laboratory, 1996-1998.
- Postdoctoral Research Associate, University of Chicago, 1994-1996.

EDUCATION:

- **Ph.D.**, 1994, Boston University, in Physics.
- **B.Sc.**, *summa cum laude*, 1990, Hebrew University, Israel, in Physics and Mathematics.

RESEARCH:

- Statistical Physics.
- Nonlinear Dynamics.
- Random Processes.
- Soft Matter.
- Complex Systems.

PROFESSIONAL ACTIVITIES:

- Physical Review E, Editorial Board, 2004-2006.
- Journal of Physics A, Advisory Board, 2002-.
- Nonlinear Studies, Editorial Board, 2006-.
- Lecture Notes in Physics, Guest Editor, 2003.
- Adjunct Professor, Physics and Astronomy, University of New Mexico, 2006-.
- Center for Nonlinear Studies, LANL, Executive Committee, 1998-.
- National Science Foundation, Review Panel, 2003, 2005.
- National Aeronautics and Space Administration, Review Panel, 2004.
- APS Topical Group, Statistical and Nonlinear Physics, Member at large, 2006-2009.

PRIZES AND AWARDS:

- Alon Young Investigator Fellowship, Israel, 2003.
- Director's Postdoctoral Fellowship, Los Alamos National Laboratory, 1996.
- Goldhaber Prize, Boston University, 1992.
- Rector Prize, Hebrew University, 1989, 1990.
- Israeli Parliament Prize, 1989, 1990.
- Freshman Award, Hebrew University, 1988 .

GRANTS:

- Statics and Dynamics of Granular Media, PI, LANL-LDRD, 1998, 480K/3Yr.
- Statistical Properties of Granular Chains, PI, LANL-LDRD, 2001, 510K/3Yr.
- Granular Flow and Kinetics, co-PI & LANL PI, DOE-BES, 2001, 1500K/5Yr.
- Statistical Physics of Infrastructure Networks, co-PI & PI, LANL-LDRD, 2003, 5000K/3Yr.
- Energy Distributions in Granular Flows, PI, LANL-LDRD, 2005, 780K/3Yr.
- Physics of Algorithms, LANL-LDRD, co-I, 2006, 4500K/3Yr.

TEACHING EXPERIENCE:

- Instructor, Physics Department, Boston University, 1990-1992.
- Instructor, Mathematics Department, Hebrew University, 1989-1990.

POSTDOCS:

- David Roberts, 2006-, Theoretical Physics.
- Matthew Hastings, 2001-2002. Granular Chains [47].
- Zahir Daya, 2000-2003. Granular Chains [46, 49, 56, 79, 86].
- Zoltan Toroczkai, 1999-2001, Statistical Physics [A] .

STUDENTS:

- Jin-Sup Kim, Seoul National University, 2006. Social dynamics [87].
- Federico Vazquez, Boston University, 2005-2006. Social dynamics [82, 83, 85, 89].
- Benjamin Machta, Brown University, 2005, Granular materials [78].
- Xiabo Nie, Johns Hopkins University, 1999-2002. Granular materials [39, 51].
- Istvan Daruka, Notre Dame University, 1997. Surface growth [30].
- Elizabeth Grossman, University of Chicago, 1995-1996. Granular hydrodynamics [25].
- Tong Zhuo, University of Chicago, 1995-1996. Granular hydrodynamics [25].

VISITING POSITIONS:

- Kavli Institute of Theoretical Physics, University of California, Santa Barbara, 2005.
- Isaac Newton Institute for Mathematical Sciences, Cambridge UK, 2006.
- Lorentz Center, Leiden University, Leiden Netherlands, 2003.

PROFESSIONAL ORGANIZATIONS:

- American Physical Society, Member.
- Institute of Physics, Fellow.

INVITED TALKS AT CONFERENCES:

- Large Deviations, University of Michigan, Ann Arbor, MI, 2007.
- Boston University Physics Department Alumni Reunion, Boston, MA 2007.
- Algorithms, Inference, and Statistical Physics, Santa Fe, NM 2007.
- Self-Organization in Active Biological Systems, Argonne, IL, 2007.
- Random Shapes, IPAM, University of California, Los Angeles, CA, 2007.
- Crime Hot Spots, IPAM, University of California, Los Angeles, CA, 2007.
- Dynamics Days Asia Pacific, Pohang, Korea, 2006.
- Nonequilibrium Statistical Mechanics, Newton Institute, Oxford, UK, 2006.
- Knots and Macromolecules, Venice, Italy, 2006.
- Pattern Formation and Transport Phenomena, Joao Pessoa, Brazil, 2005.
- From Glasses to Gases in Granular Matter, CECAM, Lyon, France, 2005.
- APS March Meeting, Los Angeles CA, 2005.
- SIAM Materials, Los Angeles, CA 2004.
- Dynamics Days, Chapel Hill, NC, 2004.
- Nonequilibrium Statistical Physics, Dresden, Germany, 2003.
- European Union summer school and conference Pattern formation in Granular materials and Soft Matter, Benasque, Spain, 2003.
- Particulate Flow and Control, Cleveland, OH 2003.
- Granular Hydrodynamics and Related Topics, Albuquerque, NM 2003.
- Arizona Days, University of Arizona, Tucson AZ, 2003.
- 88th Statistical Mechanics Conference, Rutgers University, Piscataway NJ, 2002.
- Granular Gases, CECAM, Lyon, France, 2002.
- Formation of Structures in Granular Matter, Leiden University, Netherlands, 2002.
- Granular Flow and Kinetics, Argonne National Lab, Argonne IL, 2002.
- APS March Meeting, Indianapolis IN, 2002.
- Soft Matter as Nonlinear Science, Irvine CA, 2001.
- Granular Matter, Argonne National Laboratory, Argonne IL, 2000.
- 82nd Statistical Mechanics Conference, Rutgers University, Piscataway NJ, 1999.
- Dynamics of Nonequilibrium Systems, Porto, Portugal, 1999.

- Arizona Days, Tucson AZ, 1999.
- Granular Matter, Argonne National Laboratory, Argonne IL, 1998.
- APS March Meeting, Los Angeles CA, 1998.
- Collective Phenomena in Physics, University of the West Indies, Barbados, 1998.
- Arizona Days, Tucson AZ, 1997.

INVITED SEMINARS AND COLLOQUIA

- University of New Mexico, Albuquerque, NM, 2006.
- University of New Mexico, Albuquerque, NM, 2004.
- University of Arizona, Tucson, AZ 2004.
- University of South Carolina, Columbia, SC, 2004.
- University of New Mexico, Albuquerque, NM, 2002.
- Florida State University, Tallahassee, FL, 2002.
- Emory University, Atlanta, GA, 2001.
- University of Maryland, College Park, MD, 2001.
- Tel Aviv University, Tel Aviv, Israel, 2001.
- Yale University, New Haven, CT, 2000.
- Boston University, Boston, MA, 2000.
- Duke University, Durham, NC, 2000.
- Johns Hopkins University, Baltimore, MD, 2000.
- University of Toronto, Toronto, Canada, 2000.
- Princeton University, Princeton, NJ, 1999.
- University of Virginia, Charlottesville, VA, 1999.
- Duke University, Durham, NC, 1999.
- Denver University, Denver, CO 1999.
- Colorado State University, Fort Collins, CO, 1999.
- CEA, Saclay, France, 1999.
- University of Colorado, Boulder, CO, 1998.
- University of New Mexico, Albuquerque, NM, 1998.
- University of Akron, Akron, OH, 1998.
- Virginia Polytechnic University, Blacksburg VA, 1998.

- University of Missouri-Rolla, Rolla MO, 1998.
- Tel Aviv University, Tel Aviv, Israel, 1997.
- University of Western Ontario, London OT, 1997.
- Central Michigan University, Mt. Pleasant, MI, 1997.
- Penn State University, University Park, PA, 1997.
- Lehigh University, Bethlehem PA, 1997.
- University of Arizona, Tucson, AZ, 1997.
- Notre Dame University, Notre Dame, IN, 1996.
- Center for Nonlinear Studies, Los Alamos, NM, 1996.
- Boston University, Boston, MA, 1995.
- The Technion, Israel, 1996.
- University of Chicago, Chicago, IL, 1994.

CONFERENCES ORGANIZED:

- Complexity of Biological and Soft Materials, May 21-25, 2007, Santa Fe, NM.
- Random Shapes. April 16-20, 2007, Los Angeles, CA, 2007.
- The scientific legacy of Brosl Hasslacher, November 3-4, 2006, Los Alamos, NM.
- Statistical Physics of Complex Systems, July 26-August 6, 2007, Los Alamos, NM.
- Statistical Physics of Macromolecules, May 12-17, 2004, Santa Fe, NM.
- Networks: Structure, Function, and Dynamics, June 12-16, 2003, Santa Fe, NM.
- Granular Flow and Kinetics, January 19-21, 2003, Argonne, IL.
- Principles of Soft Matter, May 21-25, 2001, Santa Fe, NM.
- Sciences Impacting our Future, June 5-8, 2000, Los Alamos, NM.
- Complex Interactions in Granular Materials, April 7-8, 2000. Argonne, IL.
- Granular Materials, June 20-22, 1998. Albuquerque, NM.
- Nonequilibrium Dynamics, April 20-22, 1998, Los Alamos, NM.
- Arizona Days, January 24-25, 1997, University of Arizona, Tucson, AZ.

REFEREEING:

- *Physical Review A, B, E, L*
- *Journal of Physics A*
- *Physica A,D*
- *Reviews of Modern Physics*
- *Europhysics Letters*
- *Physics Letters A*
- *New Journal of Physics*
- *Journal of Statistical Physics*
- *Journal of Statistical Mechanics*
- *Journal of Computational Physics*
- *Journal of Chemical Physics*
- *European Physics Journal B,E*
- *Journal de Physique II*
- *Chaos*
- *Lecture Notes in Physics*
- *Communicatoins in Mathematical Physics*
- *Proceedings of the Royal Society*
- *SIAM Journal of Applied Mathematics*
- *Granular Matter*
- *Journal of the Franklin Institute*
- *Mathematical Biosciences*
- *Journal of Artificial Society and Simulation Science*
- *Journal of Quantitative Analysis in Sports*

PUBLICATIONS:

94. Singular Energy Distributions in Granular Media,
J. Stat. Phys., submitted (2007),
E. Ben-Naim and A. Zippelius.
93. Addition-Deletion Networks,
J. Phys. A, in press (2007),
E. Ben-Naim and P.L. Krapivsky.
92. Efficiency of Competitions,
Phys. Rev. E, submitted (2007),
E. Ben-Naim and N. W. Hengartner.
91. Nonlinear Integral-Equation Formulation of Orthogonal Polynomials,
J. Phys. A **40**, F9 (2007),
C. M. Bender and E. Ben-Naim.
90. Condensates in Driven Aggregation Processes,
Phys. Rev. E **75**, 011103 (2007),
E. Ben-Naim and P. L. Krapivsky.
89. Scaling in Tournaments,
EPL **77**, 30005 (2007),
E. Ben-Naim, F Vazquez, and S. Redner.
88. What is the most competitive sport?
J. Korean Phys. Soc. **50**, 124 (2007),
E. Ben-Naim, F Vazques, and S. Redner.
87. Dynamics of Multi-Player Games,
J. Stat. Mech. P07001 (2006),
E. Ben-Naim, B. Kahng, and J. S. Kim.
86. Experimental Characterization of Vibrated Granular Rings,
Eur. Phys. Jour. E **21**, 1 (2006),
Z. A. Daya, E. Ben-Naim, and R. E. Ecke.
85. Weak Disorder in Fibonacci Sequences,
J. Phys. A **39**, L301 (2006),
E. Ben-Naim and P. L. Krapivsky.
84. Parity and Predictability of Competitions,
Journal of Quantitative Analysis in Sports, Vol. 2: No. 4, Article 1 (2006),
E. Ben-Naim, F Vazquez, and S. Redner.

83. Alignment of Rods and Partitions of Integers,
Phys. Rev. E **73**, 031109 (2006),
E. Ben-Naim and P. L. Krapivsky.
82. On the structure of Competitive Societies,
Eur. Phys. Jour. B **49**, 531 (2006),
E. Ben-Naim, F Vazquez, and S. Redner.
81. Chronological Rank in Biological Evolution,
J. Stat. Mech. L10002 (2005),
E. Ben-Naim and P. L. Krapivsky.
80. Polymerization with Freezing,
J. Phys. Cond. Matter **17**, S4249 (2005),
E. Ben-Naim and P. L. Krapivsky.
79. Granular Chains,
Chaos **15**, 041109 (2005),
E. Ben-Naim, Z. A. Daya, and R. E. Ecke
78. Power-law velocity distributions in Granular Gases,
Phys. Rev. E **72**, 021302 (2005),
E. Ben-Naim, B. Machta, and J. Machta.
77. Velocity Distributions of Granular Gases with Drag and with Long-Range Interactions,
Phys. Rev. Lett. **95**, 068001 (2005),
K. Kohlstedt, A. Snezhko, M. Sapozhnikov, I. Aranson, J. Olafsen, and E. Ben-Naim.
76. Dynamics of Social Diversity,
J. Stat. Mech. L11002 (2005),
E. Ben-Naim and S. Redner.
75. Percolation with Multiple Giant Clusters,
J. Phys. A, **38**, L417 (2005),
E. Ben-Naim and P. L. Krapivsky.
74. Kinetic Theory of Random Graphs,
AIP Conference Proceedings **776**, 3 (2005),
E. Ben-Naim and P. L. Krapivsky.
73. Opinion Dynamics: Rise and Fall of Political Parties,
Europhys. Lett. **69**, 671 (2005),
E. Ben-Naim.
72. Stationary States and Energy Cascades in Inelastic Gases,
Phys. Rev. Lett. **94**, 138001 (2005),
E. Ben-Naim and J. Machta.

70. Kinetic Theory of Random Graphs: from Paths to Cycles,
Phys. Rev. E **71**, 026129 (2005),
E. Ben-Naim and P. L. Krapivsky.
71. Winning Quick and Dirty: the Greedy Random Walk,
J. Phys. A **37**, 11321 (2004),
E. Ben-Naim and S. Redner.
69. Unicyclic Components in Random Graphs,
J. Phys. A **37**, L189 (2004),
E. Ben-Naim and P. L. Krapivsky.
68. Random Geometric Series,
J. Phys. A **37**, 5949 (2004),
E. Ben-Naim and P. L. Krapivsky.
67. Size of Outbreaks Near the Epidemic Threshold,
Phys. Rev. E **69**, 050901R (2004),
E. Ben-Naim and P. L. Krapivsky.
66. Finite size Fluctuations in Interacting Particle Systems,
Phys. Rev. E **69**, 046113 (2004),
E. Ben-Naim and P. L. Krapivsky.
65. Extremal Properties of Random Structures,
Lecture Notes in Physics **650**, 211 (2004),
E. Ben-Naim, P. L. Krapivsky, and S. Redner,
64. Stable Distributions in Stochastic Fragmentation,
J. Phys. A **37**, 2863-2880 (2004),
P. L. Krapivsky, E. Ben-Naim, and I. Grosse.
63. Leadership Statistics in Random Structures,
Europhys. Lett. **65**, 151-157 (2004),
E. Ben-Naim and P. L. Krapivsky.
62. Self-Similarity in Random Collision Processes,
Phys. Rev. E **68**, R050103-R050106 (2003),
D. ben-Avraham, E. Ben-Naim, K. Lindenberg, A. Rosas.
61. Unity and Discord in Opinion Dynamics,
Physica A **330**, 99-106 (2003),
E. Ben-Naim, P. L. Krapivsky, F. Vasquez, and S. Redner,
60. Exchange Driven Growth,
Phys. Rev. E **68**, 031104-031112 (2003),
E. Ben-Naim and P. L. Krapivsky.

59. Shattering Transitions in Collision-Induced Fragmentation,
Phys. Rev. E **68**, 021102-021108 (2003),
P. L. Krapivsky and E. Ben-Naim.
58. Bifurcations and Patterns in Compromise Processes,
Physica D **183**, 190-204 (2003),
E. Ben-Naim, P. L. Krapivsky, and S. Redner.
57. The Inelastic Maxwell Model,
Lecture Notes in Physics **624**, 65-94 (2003).
E. Ben-Naim and P. L. Krapivsky.
56. Spontaneous Spirals in Vibrated Granular Chains,
MRS Symposium Proceedings **759**, 129-134 (2003),
R. E. Ecke, Z. A. Daya, M. K. Rivera, and E. Ben-Naim.
55. Kinetic Theory of Traffic Flows,
Traffic and Granular Flow '01 155-168 (Springer, Berlin, 2003),
E. Ben-Naim and P. L. Krapivsky.
54. Growth and Structure of Stochastic Sequences,
J. Phys. A **35**, L557-L563 (2002),
E. Ben-Naim and P. L. Krapivsky.
53. Dynamics of Freely Cooling Granular Gases,
Phys. Rev. Lett., **89**, 204301-204304 (2002),
X. Nie, E. Ben-Naim, and S. Y. Chen.
52. Impurity in a Maxwellian Unforced Granular Fluid,
Eur. Phys. J. E **8**, 507-515 (2002),
E. Ben-Naim and P. L. Krapivsky.
51. Scaling, Multiscaling, and Nontrivial Exponents in Inelastic Collision Processes.
Phys. Rev. E **66**, 011309-011318 (2002),
E. Ben-Naim and P. L. Krapivsky.
50. Nontrivial Velocity Distributions in Inelastic gases,
J. Phys. A **35**, L147-L153 (2002),
P. L. Krapivsky and E. Ben-Naim.
49. Entropic Tightening of Vibrated Chains,
Phys. Rev. E, **66**, R025102-R025105 (2002),
M. B. Hastings, Z. A. Daya, E. Ben-Naim, and R. E. Ecke.
48. Parity and Ruin in a Stochastic Game,
Eur. Phys. Jour. B **25**, 239-243 (2002),
E. Ben-Naim and P. L. Krapivsky.

47. Extremal Properties of Random Trees,
Phys. Rev. E, **64**, R35101-R35103 (2001),
E. Ben-Naim, P. L. Krapivsky, and S. N. Majumdar.
46. Knots and Random Walks in Vibrated Granular Chains,
Phys. Rev. Lett. **86**, 1414-1417 (2001),
E. Ben-Naim, Z. A. Daya, P. Vorobieff, and R. E. Ecke.
45. Fragmentation with a Steady Source,
Phys. Lett. A **275**, 48-53 (2000),
E. Ben-Naim and P. L. Krapivsky.
44. Stochastic Aggregation: Scaling Properties,
J. Phys. A **33**, 5477-5487 (2000),
E. Ben-Naim and P. L. Krapivsky.
43. Stochastic Aggregation: Rate Equations Approach,
J. Phys. A **33**, 5465-5475 (2000),
P. L. Krapivsky and E. Ben-Naim.
42. Dynamics of vibrated Granular Monolayers,
Europhys. Lett. **51**, 679-685 (2000),
X. Nie, E. Ben-Naim, and S. Y. Chen.
41. Scale Invariance and Lack of Self-Averaging in Fragmentation,
Phys. Rev. E **61**, R993-R996 (2000),
P. L. Krapivsky, I. Grosse, and E. Ben-Naim.
40. Multiscaling in Inelastic Collisions,
Phys. Rev. E **61**, R5-R8 (2000),
E. Ben-Naim and P. L. Krapivsky.
39. Shock-Like Dynamics of Inelastic Gases,
Phys. Rev. Lett., **83**, 4069-4072 (1999),
E. Ben-Naim, S. Y. Chen, G. D. Doolen, and S. Redner.
38. Comment on “Dynamic Scaling in the Spatial Distribution of Persistent Sites”,
cond-mat/9902073,
E. Ben-Naim and P. L. Krapivsky.
37. Genetic Correlations in Mutation Processes,
Phys. Rev. E, **59**, 7000-7009 (1999),
E. Ben-Naim and A. S. Lapedes.
36. Maxwell Model of traffic flows,
Phys. Rev. E, **59** 88-97 (1999),
E. Ben-Naim and P. L. Krapivsky.

35. Domain number distribution in the nonequilibrium Ising model,
J. Stat. Phys. **93**, 583-601 (1998),
E. Ben-Naim and P. L. Krapivsky.
34. Slow Relaxation in Granular Compaction,
Physica D **123**, 380-385 (1998),
E. Ben-Naim, J.B. Knight, E. R. Nowak, H. M. Jaeger, and S. R. Nagel.
33. Steady State Properties of Traffic Flows,
J. Phys. A, **31** 8073-8080 (1998),
E. Ben-Naim and P. L. Krapivsky.
32. Mean Field Theory for Polynuclear Surface Growth,
J. Phys. A **31** 5001-5012 (1998),
E. Ben-Naim, A. R. Bishop, I. Daruka, and P. L. Krapivsky.
31. Density Fluctuations in Vibrated Granular Materials,
Phys. Rev. E **57**, 1971-1982 (1998),
E. R. Nowak, J. B. Knight, E. Ben-Naim, H. M. Jaeger, and S. R. Nagel.
30. Stationary Velocity Distributions in Traffic Flows,
Phys. Rev. E **56**, 6680-6686 (1997),
E. Ben-Naim and P. L. Krapivsky.
29. Studies of Granular Compaction,
Powders & Grains '97 377-380 (1997),
E. R. Nowak, M. Povinelli, H. M. Jaeger, S. R. Nagel, J. B. Knight, and E. Ben-Naim.
28. Domain Statistics in Coarsening Systems,
Phys. Rev. E **56**, 3788-3798 (1997),
P. L. Krapivsky and E. Ben-Naim.
27. Multiscaling in Fragmentation,
Physica D **107**, 156-160 (1997),
E. Ben-Naim and P. L. Krapivsky.
26. Towards Granular Hydrodynamics in Two-Dimensions,
Phys. Rev. E **55**, 4200-4206 (1997),
E. L. Grossman, T. Zhou, and E. Ben-Naim.
25. Species Segregation in a Model of Interacting Populations,
Physica A **239**, 437-446 (1997),
L. Frachebourg, P. L. Krapivsky, and E. Ben-Naim.
24. Spatial Organization in Lotka-Volterra Systems,
Phys. Rev. E **54**, 6186-6200 (1996),
L. Frachebourg, P. L. Krapivsky, and E. Ben-Naim.

23. Two Scales in Asynchronous Ballistic Annihilation,
J. Phys. A **29**, L561-L568 (1996),
E. Ben-Naim, S. Redner, and P. L. Krapivsky.
22. Nucleation-and-Growth in One Dimension,
Phys. Rev. E **54**, 3562-3568 (1996),
E. Ben-Naim and P. L. Krapivsky.
21. Segregation in a One-Dimensional Model of Interacting Species,
Phys. Rev. Lett. **77**, 2125-2128 (1996),
L. Frachebourg, P. L. Krapivsky, and E. Ben-Naim.
20. Space Covering by Growing Rays,
J. Phys. A **29**, 2959-2968 (1996),
P. L. Krapivsky and E. Ben-Naim.
19. Comment on Kinematic Scaling and Crossover to Scale Invariance in Martensite Growth,
Phys. Rev. Lett. **76**, 3234 (1996),
E. Ben-Naim and P. L. Krapivsky.
18. Coarsening and Persistence in the Voter Model,
Phys. Rev. E **53**, 3078-3087 (1996),
E. Ben-Naim, L. Frachebourg, and P. L. Krapivsky.
17. Individual Entanglement in a Simulated Polymer Melt,
Phys. Rev. E **53**, 1816-1822 (1996),
E. Ben-Naim, G. S. Grest, T. A. Witten, and A. R. C. Baljon.
16. Reaction Kinetics of Cluster Impurities,
Phys. Rev. E **53**, 1566-1571 (1996),
E. Ben-Naim.
15. Aggregation with Multiple Conservation Laws,
Phys. Rev. E **53**, 291-298 (1996),
P. L. Krapivsky and E. Ben-Naim.
14. Kinetics of Aggregation-Annihilation Processes,
Phys. Rev. E **52**, 6066-6070 (1995),
E. Ben-Naim and P. L. Krapivsky.
13. Multiscaling in Stochastic Fractals,
Phys. Lett. A **196**, 168-172 (1994),
P. L. Krapivsky and E. Ben-Naim.
12. Scaling and Multiscaling in Models of Fragmentation,
Phys. Rev. E **50**, 3502-3507 (1994),
P. L. Krapivsky and E. Ben-Naim.

11. Kinetics of Heterogeneous Single-Species Annihilation,
Phys. Rev. E **50**, 2474-2481 (1994),
P. L. Krapivsky, E. Ben-Naim, and S. Redner.
10. Kinetics of Ballistically Controlled Reactions,
J. Phys. Chem. **98**, 7284-7288 (1994),
E. Ben-Naim, P. L. Krapivsky, F. Leyvraz, and S. Redner.
9. Cluster Approximation for the Contact Process,
J. Phys. A **27**, L481-L487 (1994),
E. Ben-Naim and P. L. Krapivsky.
8. Kinetics of Clustering in Traffic Flows,
Phys. Rev. E **50**, 822-829 (1994),
E. Ben-Naim, P. L. Krapivsky, and S. Redner.
7. On Irreversible Deposition on Disordered Substrates,
J. Phys. A **27**, 3575-3577 (1994),
E. Ben-Naim and P. L. Krapivsky.
6. Collective Properties of Adsorption-Desorption Processes,
J. Chem. Phys. **100**, 6778-6782 (1994),
P. L. Krapivsky and E. Ben-Naim.
5. Time-Series Expansion for Reaction Processes,
Phys. Rev. E **48**, 2603-2609 (1993),
E. Ben-Naim and J. Zhuo.
4. Decay Kinetics of Ballistic Annihilation,
Phys. Rev. Lett. **70**, 1890-1893 (1993),
E. Ben-Naim, S. Redner, and F. Leyvraz.
3. Partial Absorption and “Virtual” Traps,
J. Stat. Phys. **71**, 75-88 (1993),
E. Ben-Naim, S. Redner, and G. H. Weiss.
2. Inhomogeneous Two-Species Annihilation in the Steady State,
J. Phys. A **25**, L575-L583 (1992),
E. Ben-Naim and S. Redner.
1. Bimodal Diffusion in Power-Law Shear Flows,
Phys. Rev. A **45**, 7207-7213 (1992),
E. Ben-Naim, S. Redner, and D. ben-Avraham.

BOOKS EDITED:

- A. Complex Networks,
Lecture Notes in Physics, in press (2004)
E. Ben-Naim, H. Frauenfelder, Z. Toroczkai, Editors.

CHAPTERS IN BOOKS:

- 5. Complex Networks,
S. Dorogovtsev, J. F. F. Mendes, Editors (AIP, New York, 2005). [74]
- 4. Complex Networks,
E. Ben-Naim, H. Frauenfelder, Z. Toroczkai, Editors (Springer, Berlin, 2004). [65]
- 3. The Physics of Granular Media,
H. Hinrichsen and D. Wolf, Editors (Wiley-VCH, Weinham, 2004). [57]
- 2. Granular Gas Dynamics,
T. Poeschel and N.Brilliantov, Editors (Springer, Berlin, 2003). [57]
- 1. Jamming and Rheology: Constrained Dynamics on Microscopic and Macroscopic Scales,
A. J. Liu and S. R. Nagel, Editors (Taylor & Francis, London, 2001). [31]