

NAME: Shlomo Havlin**Education:**

— **Ph.D.**, with Highest Distinction, 1972, Bar-Ilan University, Physics.

Employment:

- (1) Dean, Faculty of Exact Sciences, 1999 – 2001
- (2) President, Israel Physical Society, 1996 – 1999
- (3) Director, Minerva Center for Mesoscopies, Fractals and Neural Networks, 1998 – 2011
- (4) Head, ISF National Excellence Center for Complex Networks, 2002 – 2011
- (5) Director, Science Beyond 2000 - Science Education Unit, 1996 – 2010
- (6) Chairman, Department of Physics, 1984 – 1988
- (7) Professor, Bar-Ilan University, 1984 – present
- (8) Associate Professor, Bar-Ilan University, 1981 – 1984
- (9) Senior Lecturer, Bar-Ilan University, 1977 – 1981
- (10) Lecturer, Bar-Ilan University, 1972 – 1977

Honors:**(1) EDITORIAL BOARDS:**

Europhys. Lett. (2008-)
New Journal of Physics (2004-2010)
Physica A (1991-),
International Journal of Fractals (1991-),
Journal of Statistical Physics (1991-1995),
Research Physics Letters (2007-)

(2) SABBATICAL POSITIONS:

Royal Society Visiting Fellow, University of Edinburgh, 1978–1979;
Visiting Scientist, Physical Sciences Laboratory, DCRT, NIH, 1983–1984;
Visiting Professor, Boston University, 1984–1985; 1991–1992;
Visiting Scientist, Physical Sciences Laboratory, DCRT, NIH, 1989–1991.

(3) ACADEMIC PRIZES AND FELLOWSHIPS:

Rothschild Prize for Physical and Chemical Sciences, Israel (2014)
Lilienfeld Prize for "a most outstanding contribution to physics", APS, USA (2010)
Weizmann Prize for Exact Sciences, Israel (2009)
Nicholson Medal, American Physical Society, USA (2006);
Excellence National Center Award for Complex Networks, Israel Science Foundation (2004);
Prize for best scientific paper for public in Israel, Minister of Science, Israel (2002);
Prize for best scientific paper of 2000 [Ref. 17 below], Bar-Ilan University (2001);
Fellow, American Physical Society (1997);
President, Israel Physical Society (1996–1999);
Minerva Center Award (1993);
Humboldt Award – Germany (1988), extended twice (2002, 2006);
Landau Prize for Outstanding Research (1988);
Top 100 Most-Cited Articles of 1984 [Havlin and Nossal, J. Phys. A17, L424 (1984)];
Royal Society Fellowship, England (1979);
Rothschild Fellowship, Israel (1971).

- (4) CITATIONS and INVITED TALKS:** Seventy papers with more than 100 citations, 88 papers with more than 88 citations ($h=88$). Thirteen papers of the last 10 years are between the top 1% cited (ISI-Web of Science). Over 3000 citations per year. Over 200 plenary and invited talks at international conferences.

Selected Books (of 11 total):

1. R. Cohen and S. Havlin, *Complex networks: Structure, Robustness and Function* (Cambridge University Press, 2010); Translated to Chinese (Cambridge University Press, 2015)
2. D. Ben-Avraham and S. Havlin, *Diffusion and Reactions in Fractals and Disordered Systems* (Cambridge University Press, 2000; 2nd ed., 2005).
3. A. Bunde and S. Havlin, eds., *Fractals in Science* (Springer, Berlin, 1st ed. 1994, 2nd ed., 1995).
4. A. Bunde and S. Havlin, eds., *Fractals and Disorder* (Springer, Berlin, 1st ed. 1992, 2nd ed., 1996).

25 Selected Journal Articles: (over 700 total) For more details see <http://havlin.biu.ac.il/>

1. S. Havlin, M. Dishon, J. E. Kiefer, G. H. Weiss, "Trapping of random walks in two and three dimensions," *Phys. Rev. Lett.* **53**, 407 (1984).
2. S. Havlin, D. Ben-Avraham, "Diffusion in disordered media," *Advances in Physics* **36**, 695 (1987). Due to high number of citations this article was published again in *Advances in Physics* **51**, 187 (2002). (1344 citations)
3. R. F. Bonner, R. Nossal, S. Havlin, G. H. Weiss "Model for photon migration in turbid biological media" *J. Opt. Soc. of America A* **4**, 423 (1987) (**273** citations)
4. H. Larralde, P. Trunfio, S. Havlin, H. E. Stanley, G. H. Weiss, "Territory Covered by N-Diffusing Particles," *Nature* **355**, 423 (1992).
5. C. K. Peng, S. V. Buldyrev, A. L. Goldberger, S. Havlin, F. Sciortino, M. Simons, H. E. Stanley, "Long-range correlations in nucleotide sequences," *Nature* **356**, 168 (1992). (**905** citations)
6. S. V. Buldyrev, A.-L. Barabasi, F. Caserta, S. Havlin, H. E. Stanley, T. Vicsek "Anomalous interface roughening in porous media: Experiment and model" *Phys. Rev. A* **45**, R8313 (1992) (280 citations)
7. H. Makse, S. Havlin, H. E. Stanley, "Modeling urban growth patterns," *Nature* **377**, 608 (1995).
8. C.-K. Peng, S. Havlin, H. E. Stanley, A. L. Goldberger, "Quantification of scaling exponents and crossover phenomena in nonstationary heartbeat time series" *Chaos* **5**, 82 (1995), (**1622** citations)
9. M. H. R. Stanley, L. A. N. Amaral, S. V. Buldyrev, S. Havlin, H. Leschhorn, P. Maass, M. A. Salinger, H. E. Stanley, "Scaling behavior of firm growth," *Nature* **379**, 804 (1996). (356 citations)
10. P. Ch. Ivanov, M. G. Rosenblum, C.-K. Peng, J. Mietus, S. Havlin, H. E. Stanley, A. L. Goldberger, "Scaling behavior of heartbeat intervals obtained by wavelet-based time-series analysis," *Nature* **383**, 323 (1996). (**331** citations)
11. H. Makse, S. Havlin, P. R. King, H. E. Stanley, "Spontaneous-stratification in granular mixtures," *Nature* **386**, 379 (1997). (**241** citations)
12. E. Koscielny-Bunde, A. Bunde, S. Havlin, E. Roman, Y. Goldreich, J. Schellnhuber, "Indication of a universal persistence law governing atmospheric variability," *Phys. Rev. Lett.* **81**, 729 (1998). (**397** cit.)
13. G. M. Viswanathan, S. V. Buldyrev, S. Havlin, M. G. E. da Luz, E. P. Raposo, H. E. Stanley, "Optimizing the success of random searches," *Nature* **401**, 911 (1999). (**612** citations)
14. P. Ch. Ivanov, M. G. Rosenblum, L. A. N. Amaral, Z. Struzik, S. Havlin, A. L. Goldberger and H. E. Stanley, "Multifractality in human heartbeat dynamics," *Nature* **399**, 461 (1999). (**825** citations)
15. E. Tomer, L. Safonov, S. Havlin, "Presence of many stable nonhomogeneous states in an inertial car-following model," *Phys. Rev. Lett.* **84**, 382 (2000). (**143** citations)
16. A. Bunde, S. Havlin, J. Kantelhardt, T. Penzel, J-H. Peter, K. Voigt, "Correlated and uncorrelated regions in heart-rate fluctuations during sleep," *Phys. Rev. Lett.* **85**, 3736 (2000). (**305** citations)
17. R. Cohen, K. Erez, D. ben-Avraham, S. Havlin, "Resilience of the Internet to random breakdown," *Phys. Rev. Lett.* **85**, 4626 (2000). (**985** citations). Reprinted in *Collection of Complex Network Papers*, Princeton University Press (2005).
18. R. Cohen, K. Erez, D. ben-Avraham, S. Havlin, "Breakdown of the Internet under intentional attack," *Phys. Rev. Lett.* **86**, 3682 (2001). (**583** citations).
19. R. Cohen, S. Havlin, and D. ben-Avraham "Efficient immunization strategies for computer networks and populations," *Phys. Rev. Lett.* **91**, 247901 (2003). (**338** citations)
20. R. Cohen, S. Havlin, "Scale free networks are ultrasmall," *Phys. Rev. Lett.* **90**, 058701 (2003). (**279** citations)
21. C. Song, S. Havlin and H. A. Makse "Self-similarity of complex networks," *Nature* **433**, 392 (2005). (**497** citations)
22. R. Bartsch, J.W. Kantelhardt, T. Penzel, S. Havlin "Experimental Evidence for Phase Synchronization Transitions in the Human Cardiorespiratory System" *Phys. Rev. Lett.* **98**, 054102 (2007).
23. S. Buldyrev, R. Parshani, G. Paul, H. E. Stanley and S. Havlin "Catastrophic cascade of failures in interdependent networks" *Nature* **464**, 1025 (2010). (**675** citations)
24. A. Bashan, Y. Berezin, S.V. Buldyrev and S. Havlin "The extreme vulnerability of interdependent spatially embedded networks" *Nature Physics* **9**, 667 (2013).
25. A Majdandzic, B Podobnik, SV Buldyrev, DY Kenett, S Havlin, HE Stanley Spontaneous recovery in dynamical networks, *Nature Physics* **10** (1), 34 (2014).