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 Mesoscopics, 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, 1981 – present
(8) Senior Lecturer, Bar-Ilan University, 1977 – 1981
(9) 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;
Visiting Professor, Tokyo Institute of technology, Tokyo, 2016–2009.

(3) **ACADEMIC PRIZES AND FELLOWSHIPS**:
Israel Prize for Physics and Chemistry (2018)
Order of the Star of Italy, President of Italy (2017)
Distinguished Scientist Award, Chinese Academy of Sciences (2017)
Honorary Professor, Beihang University, Beijing, China (2016)
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);
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. A**17**, L424 (1984)];
Royal Society Fellowship, England (1979);
Rothschild Fellowship, Israel (1971).

(4) CITATIONS and INVITED TALKS: Ninety two papers with over 100 citations, 95 papers with over 95 citations (h=95). Ten papers of the last 10 years are between the top 1% cited (ISI-Web of Science). Over 4000 citations last year. Over 250 plenary and invited talks at international conferences. **Currently Between the two most cited scientists in Israel (in all fields) http://www.webometrics.info/en/node/158**

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 750 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 many citations this article was published again in Advances in Physics **51**, 187 (2002). (1440 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) (**283** 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). (**987** citations)
6. H. Makse, S. Havlin, H. E. Stanley, "Modeling urban growth patterns," Nature 377, 608 (1995).
7. 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), (**1914** citations)
8. 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). (**410** citations)
9. 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). (**377** citations)
10. H. Makse, S. Havlin, P. R. King, H. E. Stanley, "Spontaneous-stratification in granular mixtures," Nature 386, 379 (1997). (**255** citations)
11. E. Koscielny-Bunde, A. Bunde, S. Havlin, E. Roman, Y. Goldreich, J. Schellenhuber, "Indication of a universal persistence law governing atmospheric variability," Phys. Rev. Lett. 81, 729 (1998). (**431** cit.)
12. 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). (**744** citations)
13. 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). (**971** citations)
14. E. Tomer, L. Safonov, S. Havlin, "Presence of many stable nonhomogeneous states in an inertial car-following model," Phys. Rev. Lett. 84, 382 (2000). (**152** citations)
15. 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). (**352** citations)
16. R. Cohen, K. Erez, D. ben-Avraham, S. Havlin, "Resilience of the Internet to random breakdown," Phys. Rev. Lett. 85, 4626 (2000). (**1203** citations). Reprinted in Collection of Complex Network Papers, Princeton University Press (2005).
17. R. Cohen, K. Erez, D. ben-Avraham, S. Havlin, "Breakdown of the Internet under intentional attack," Phys. Rev. Lett. 86, 3682 (2001). (**720** citations).
18. R. Cohen, S. Havlin, and D. ben-Avraham "Efficient immunization strategies for computer networks and populations," Phys. Rev. Lett. 91, 247901 (2003). (**460** citations)
19. R. Cohen, S. Havlin, "Scale free networks are ultrasmall," Phys. Rev. Lett. 90, 058701 (2003). (**334** citations)
20. C. Song, S. Havlin and H. A. Makse "Self-similarity of complex networks," Nature 433, 392 (2005). (**615** citations); Nature Physics, 2, 275 (2006). (**277** citations)
21. S. Buldyrev, R. Parshani, G. Paul, H. E. Stanley and S. Havlin " Catastrophic cascade of failures in interdependent networks " Nature 464, 1025 (2010). (**1217** citations)
22. C.M. Schneider, A.A. Moreira, J.S. Andrade, S. Havlin, H.J. Herrmann "Mitigation of Malicious Attacks on Networks" PNAS 108, 3838 (2011). (**248** citations)
23. A. Bashan, Y. Berezin, S.V. Buldyrev and S. Havlin "The extreme vulnerability of interdependent spatially embedded networks" Nature Physics 9, 667 (2013).
24. A Majdandzic et al "Spontaneous recovery in dynamical networks", Nature Physics 10 (1), 34 (2014); "Multiple tipping points and optimal repairing in interacting networks" Nature Comm. 7,10850 (2015).
25. J. Fan, J. Meng, Y. Ashkenazy, S. Havlin, H.J. Schellnhuber "Network analysis reveals strongly localized impacts of El Nino PNAS 114, 7543 (2017)