

### Selected Recent Publications by members of the FuturICT Consortium

1. *Dimension of spatially embedded networks*, D. Li, K. Kosmidis, A. Bunde, S. Havlin, Nature Physics Vol. 7, pp. 481–484 (2011).
2. *Game for change*, S. de Freitas, Nature Vol. 470, pp. 330-331 (2011).
3. *Network theory is sorely required*, T. Lux, Nature Vol. 469, pp. 302 (2011).
4. *Systemic risk in banking ecosystems*, A.G. Haldane and R.M. May, Nature Vol. 469, pp. 351-355 (2011).
5. *Statistical mechanics: The physics of where to go*, D. Brockmann, Nature Physics Vol. 6, pp. 720-721 (2010).
6. *Modelling the scaling properties of human mobility*, C. Song, T. Koren, P. Wang, A.-L. Barabási, Nature Physics Vol. 6, pp. 818–823 (2010).
7. *Identification of influential spreaders in complex networks*, M. Kitsak, L. K. Gallos, S. Havlin, F. Liljeros, L. Muchnik, H. E. Stanley, H.A. Makse, Nature Physics Vol. 6, 11 (2010).
8. *Social learning promotes institutions for governing the commons*, K. Sigmund, H. De Silva, A. Traulsen, C. Hauert, Nature Vol. 466, pp. 861–863 (2010).
9. *Link communities reveal multiscale complexity in networks*, Y.-Y. Ahn, J. P. Bagrow, S. Lehmann, Nature Vol. 466, pp. 761–764 (2010).
10. *How to improve the use of metrics*, Opinion, Nature Vol. 465, pp. 870–872 (2010).
11. *Assessing assessment*, Nature Vol. 465, pp. 845 (2010).
12. *Catastrophic cascade of failures in interdependent networks*, S.V. Buldyrev, R. Parshani, G. Paul, H.E. Stanley, S. Havlin, Nature Vol. 464, pp. 1025-1028 (2010).
13. *Complex networks: The fragility of interdependency*, A. Vespignani, Nature Vol. 464, pp. 984-985 (2010) .
14. *Common ecology quantifies human insurgency*, J.C. Bohorquez, S. Gourley, A.R. Dixon, M. Spagat, N.F. Johnson, Nature Vol. 462, pp. 911-914 (2009).
15. *Modelling to contain pandemics*, J.M. Epstein, Nature Vol. 460, pp. 687 (2009).
16. *A model approach*, Editorial, Nature Vol. 460, pp. 667 (2009).
17. *The economy needs agent-based modeling*, J.D. Farmer and D. Foley, Nature Vol. 460, pp. 685-686 (2009).
18. *Melt-down modeling*, News Feature, Nature Vol. 460, pp. 680-682 (2009).
19. *A simple model of bipartite cooperation for ecological and organizational networks*, S. Saavedra, F. Reed-Tsochas and B. Uzzi, Nature Vol. 457, pp. 463-466 (2009).
20. *Economics Crisis*, T. Lux & F. Westerhoff, Nature Physics Vol. 5, pp. 2 - 3 (2009).

21. *Economy needs a scientific revolution*, J.-P. Bouchaud, Nature Vol. 455, pp. 1181 (2008).
22. *Welcome to the petacentre*, News Feature, Nature Vol. 455, pp. 16-21 (2008).
23. *Wikiomics* News Feature, Nature Vol. 455, pp. 22-25 (2008).
24. *Social dynamics: Emergence of language* V. Loreto and L. Steels, Nature Physics Vol. 3, pp. 758 - 760 (2007).
25. *Reaction-diffusion processes and metapopulation models in heterogeneous networks*, V. Colizza, R. Pastor-Satorras, A. Vespignani, Nature Physics Vol. 3, pp. 276 - 282 (2007).
26. *Quantifying social group evolution*, G. Palla, A.-L. Barabási, T. Vicsek, Nature Vol. 446, pp. 664-667 (2007).
27. *Origins of fractality in the growth of complex networks*, C.M. Song, S. Havlin, H.A. Makse, Nature Physics Vol. 2, pp. 275 - 281 (2006).
28. *2020 Computing: The creativity machine*, V. Vinge, Nature Vol. 440, pp. 411 (2006).
29. *2020 Computing: Everything, everywhere*, News Feature, Nature Vol. 440, pp. 402-405 (2006).
30. *2020 Computing: Science in an exponential world*, A. Szalay and J. Gray, Nature Vol. 440, pp. 413-414 (2006).
31. *The scaling laws of human travel*, D. Brockmann, L. Hufnagel, T. Geisel, Nature Vol. 439, pp. 462-465 (2006).
32. *'No entry' signal in ant foraging*, E.J.H. Robinson, D.E. Jackson, M. Holcombe, F.L.W. Ratnieks, Nature Vol. 438, pp. 442 (2005).
33. *Evolution of indirect reciprocity*, M.A. Nowak & K. Sigmund, Nature 437, pp. 1291-1298 (2005).
34. *Self-similarity of complex networks*, C.M. Song, S. Havlin, H.A. Makse, Nature Vol. 433, pp. 392-395 (2005).
35. *Trail geometry gives polarity to ant foraging networks*, D.E. Jackson, M. Holcombe, F.L.W. Ratnieks, Nature Vol. 432, pp. 907-909 (2004).
37. *Optimal traffic organization in ants under crowded conditions*, A. Dussutour, V. Fourcassié, D. Helbing, and J.-L. Deneubourg, Nature Vol. 428, pp. 70-73 (2004).
38. *The Semantic Web: Web Debates*: T. Berners-Lee and J. Handler, Nature <http://www.nature.com/nature/debates/e-access/Articles/bernerslee.htm>
39. *Simulating dynamical features of escape panic*, D. Helbing, I. Farkas and T. Vicsek, Nature Vol. 407, pp. 487-490 (2000).
40. *Diameter of the World Wide Web*, R. Albert, H. Jeong and A.-L. Barabási, Nature Vol. 401, pp. 130-131 (1999) .

41. *Coherent moving states in highway traffic*, D. Helbing and B.A. Huberman, Nature Vol. 396, pp. 738-740 (1998) .
42. *Modelling the evolution of human trail systems*, D. Helbing, J. Keltsch and P. Molnár, Nature, Nature Vol. 388, pp. 47-50 (1997).
43. *Pattern in Escalations in Insurgent and Terrorist Activity*, N. Johnson, S. Carran Botner, K. Fontaine, N. Laxague, P. Nuetzel, J. Turnley, B. Tivnan, Science Vol. 333 pp. 81-84 (2011).
44. *Coping with Chaos: How Disordered Contexts Promote Stereotyping and Discrimination*, D.A. Stapel and S. Lindenberg, Science Vol. 332 pp. 251-253 (2011).
45. *Ensuring the data-rich future of the social sciences*, G. King, Science Vol. 331, pp. 719-721 (2011).
46. *Special online collection: Dealing with data*, Collection of papers by various authors , Science <http://www.sciencemag.org/site/special/data/> (2011).
47. *Complex Systems View of Educational Policy*, S. Maroulis, R. Guimera, H. Petry, M.J. Stringer, L.M. Gomez, L.A.N. Amaral, U. Wilensky, Science Vol. 330, pp. 38-39 (2010).
48. *Limits of Predictability in Human Mobility*, C. Song, Z. Qu, N. Blumm, A.-L. Barabási, Science Vol. 327, pp. 1018-1021 (2010).
49. *Predicting the Behavior of Techno-Social Systems*, A. Vespignani, Science Vol. 325, pp. 425-428 (2009).
50. *Economic networks: The new challenges*, F. Schweitzer, G. Fagiolo, D. Sornette, F. Vega-Redondo, A. Vespignani, D.R. White, Science Vol. 325, pp. 422-425 (2009).
51. *Connections: Ourselves and our interactions: The ultimate physics problem?* B.R. Jasny, L.M. Zahn, E. Marshall, Science, Vol. 325, pp. 405-405 (2009).
52. *Scale-free networks: A decade and beyond*, A.-L. Barabási, Science Vol. 325, pp. 412-413 (2009).
53. *Phone infections*, S. Havlin, Science Vol. 324, pp. 1023-1024 (2009).
54. *Computational social science*, D. Lazer et al. , Science Vol. 323, pp. 721-723 (2009).
55. *Jams, Waves and Clusters*, D. Helbing and M. Treiber, Science Vol. 282, pp. 2001-2003 (1998).
56. *Emergence of social cohesion in a model society of greedy, mobile individuals*, C.P. Roca and D. Helbing, PNAS, Vol. 108, 28 pp. 11370 (2011).
57. *Mitigation of malicious attacks on networks*, C.M. Schneider, A.A. Moreira, J.S. Andrade, Jr., S. Havlin, H.J. Herrmann, PNAS, Vol. 108, 10 pp. 3838 (2011).
58. *Switching processes in financial markets*, T. Preis, J.J. Schneider, H.E. Stanley, PNAS, Vol. 108, 19 pp. 7674 (2011).

59. *Uncovering space-independent communities in spatial networks*, P. Expert, T.S. Evans, V.D. Blondel, R. Lambiotte, PNAS, Vol. 108, 19 pp. 7663 (2011).
60. *Simple rules determine pedestrian behavior*, M. Moussaïd, D. Helbing, G. Theraulaz, PNAS, Vol. 108, 17 pp. 6884-6888 (2011).
61. *Critical effect of dependency groups on the function of networks*, R. Parshani, S.V. Buldyrev, S. Havlin, PNAS Vol. 108, 3 pp. 1007 (2011).
62. *Social influence undermines 'Wisdom of Crowd' effect*, J. Lorenz, H. Rauhut, F. Schweitzer, D. Helbing, PNAS Vol. 108, 22 pp. 9020-9025 (2011).
63. *Evidence for a bimodal distribution in human communication*, Y. Wu, C. Zhou, J. Xiao, J. Kurths, H.J. Schellnhuber, PNAS Vol. 107, 44 pp. 18803-18808 (2010).
64. *Multirelational organization of large-scale social networks in an online world* M. Szell, R. Lambiotte, S. Thurner, PNAS Vol. 107, 31 pp. 13636-13641 (2010).
65. *The future of social experimenting*, D. Helbing and W. Yu, PNAS, Vol. 107, 12 pp. 5265 (2010).
66. *Spontaneous emergence of social influence in online systems*, J.-P. Onnela and F. Reed-Tsochas, PNAS, Vol. 107, 43 pp. 18375 (2010).
67. *Solving the apparent diversity-accuracy dilemma of recommender systems*, T. Zhou, Z. Kuscsik, J.-G. Liu, M. Medo, J.R. Wakeling, Y.-C. Zhang, PNAS, Vol. 107, 10 pp. 4511 (2010).
68. *Multiscale mobility networks and the spatial spreading of infectious diseases*, D. Balcan, V. Colizza, B. Gonçalves, H. Hu, J.J. Ramasco, A. Vespignani, PNAS, Vol. 106, 51 pp. 21484 (2009).
69. *Scaling laws of human interaction activity*, D. Rybski, S. V. Buldyrev, S. Havlin, F. Liljeros, H. A. Makse, PNAS, Vol. 106, 31 pp. 12640 (2009).
70. *Sympathy and similarity: The evolutionary dynamics of cooperation*, K. Sigmund, PNAS, Vol. 106, 21 pp. 8405-8406 (2009).
71. *Collective dynamics of social annotation*, C. Cattuto, A. Barrat, A. Baldassarri, G. Schehr, V. Loreto, PNAS, Vol. 106, 26 pp. 10511 (2009).
72. *The outbreaks of cooperation among success-driven individuals under noisy conditions*, D. Helbing and W. Yu, PNAS Vol. 106, 10 pp. 3680 (2009).
73. *Extracting the multiscale backbone of complex weighted networks*, M.A. Serrano, M. Boguñá, A. Vespignani, PNAS Vol. 106, Issue: 16 pp. 6483 (2009).
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75. *Asymmetric disassembly and robustness in declining networks*, S. Saavedra, F. Reed-Tsochas and B. Uzzi, Vol. 105, 43 pp. 16466 (2008).

76. *Robust dynamic classes revealed by measuring the response function of a social system*, R. Crane and D. Sornette, Vol. 105, 41 pp. 15649-15653 (2008).
77. *A model of Internet topology using k-shell decomposition*, S. Carmi, S. Havlin, S. Kirkpatrick, Y. Shavitt, E. Shir, Vol. 104, 27 pp. 11150-11154 (2007).
78. *Scaling theory of transport in complex biological networks*, L. K. Gallos, C. Song, S. Havlin, H. A. Makse, Vol. 104, 19 pp. 7746-7751 (2007).
79. *Growth, innovation, scaling and the pace of life in cities*, L.M.A. Bettencourt, J. Lobo, D. Helbing, C. Kühnert, G.B. West, PNAS Vol. 104, 17 pp. 7301 (2007).
80. *Structure and tie strengths in mobile communication networks*, J.-P. Onnela, J. Saramäki, J. Hyvönen, G. Szabó, D. Lazer, K. Kaski, J. Kertész, A.-L. Barabási, Vol. 104, 18 pp. 7332 (2007).
81. *Semiotic dynamics and collaborative tagging*, C. Cattuto, V. Loreto, L. Pietronero, PNAS Vol. 104 5 pp. 1461-1464 (2007).
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83. *Scaling and memory in volatility return intervals in financial markets*, K. Yamasaki, L. Muchnik, S. Havlin, A. Bunde, and H.E. Stanley, PNAS Vol. 102, 26 pp. 9424-9428 (2005).
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