CURRICULUM VITAE

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Personal:

Name:	**Scott Kirkpatrick**
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	Married, two children

EDUCATION:

1959 - 1963	A.B. in Physics
	Princeton University, Princeton, N.J.
	Thesis Topic: *"Optical Pumping of Solvated Electrons*
	in Na-NH3 Solutions".
	Advisor: Prof. T. R. Carver
1963 - 1968	Ph.D. in Physics,
	Harvard University, Cambridge, MA
	Thesis Topic: *"Magnetic Properties of Transition Metal Alloys:*
	Coherent Potential Approximation".
	Advisor: Prof. Henry Ehrenreich
1969 - 1971	Post-doc, James Franck Institute, Univ. of Chicago,
	with Prof. Morrel H. Cohen

EMPLOYMENT and VISITING POSITIONS:

1970 - 1971	Consultant, AEC Argonne National Laboratory, Argonne, IL
1971 - 2000	Research Staff Member, IBM Research Division, Yorktown Heights, NY
1974	Technical Assistant to the Director of Research, IBM.
Sept. 1976 - Jan. 1977	Visiting Associate Professor, Physics Dept. SUNY, Stony Brook, NY, U.S.A.
1977 - 1978	Manager, Condensed Matter Theory, Physical Sciences Dept., IBM Research
May 1978 - Aug. 1978	Visiting Professor, Dept. of Physics, University of Paris VI and University of Grenoble, France, Lecturer, Ecole d'Ete, Les Houches, 'Disordered Systems'.
1979 - 1980	Manager, Low Temperature Physics, Physical Sciences Dept., IBM Research
1981 - 1984	Senior Manager, VLSI and CAD, Computer Science Dept., IBM Research
1985	Manager, Systems Design, reporting to Group Director, Development, Communications Group, IBM
1986 - 1992	Senior Manager, Systems Design Lab, Computer Science Dept., IBM Research
Sept. 1992 - Aug. 1993	Visiting Professor, Dept. of Physics and Center for Neural Computation, Hebrew University, Jerusalem, Israel
July 1993	McDonnell-Pew Visiting Fellow, Salk Institute, San Diego, CA, USA.
1994 - June 2000	Manager, Multimedia Architecture, Computer Science Dept., IBM Research
March - April 1998	Visiting Professor, Dept. de Physique Statistique, Ecole Normale Superieure, Paris, France.
Nov 1998 - June 1999	Visitor, Applied Math, Weizmann Institute, and Computer Science Department, Hebrew University
Jan 2000 – present	Advisory Board, Internet Archive, San Francisco, CA
July 2000 - Oct 2000	Executive Director, Internet Archive, San Francisco, CA
Oct 2000 – present	Professor, School of Engineering and Computer Science, Hebrew University, Jerusalem
July 2001 – Sept 2001	Visiting Scholar, IBM Almaden Research Center, San Jose, CA
July 2003 – Sept 2003	Visiting Scholar, CS Dept, University of California, Berkeley, CA
July 2005 – Sept 2005	Visiting Scholar, ICSI, Berkeley, CA

July 2007 – Sept 2008 Visiting Professor, MIT Media Lab, Cambridge MA

RESEARCH INTERESTS:

1970's	magnetism and transport in amorphous materials
	electron localization, spin glasses,percolation
1980's	optimization of complex systems, computer-aided design for VLSI
	performance analysis and metrics for personal computing
	mobile computing – wireless media, pen-driven interfaces
	handwriting recognition
1990's	architectures for multimedia computing and communication
	digital TV
	low power technologies, system structures, and software
	computer interfaces in the attentive environment – esp. gesture
	connections between complexity and statistical physics
	understanding communications processes among neurons
2000's	design of information appliances against a moving technology
	connections between complexity and statistical physics
	access to "born digital" material for libraries of the future
	distributed computation on networks

ADVISORY PANELS AND VISITING COMMITTEES

1976	Panel on Future of Condensed Matter Physics, DOE
1979-1981	Board of Trustees, Aspen Institute for Physics
1983	Panel on Large Scale Computation, Leesburg, VA
1988	DARPA study of potential of Neural Networks
1991	DARPA summer panel on mobile computing, Woods Hole
1995 - 1998	member, Scientific Advisory Committee, Caltech/NSF Center for Neuromorphic Systems Engineering
1991 - 1995	led IBM internal assessments of low power technologies
1995 - 1997	co-led white paper on Media Processing in IBM
1998 - 2000	representative of multimedia in IBM Research on Professional Interest Committee
1999 - 2002	Member, IEEE Fellow Comittee
2000 - present	Trustee, Associated Universities, Inc., oversight body for National Radio Astronomy Observatory
2002 - present	Scientific Advisory Board, Istituto Scientifico Interscambio and Progetto Lagrange, Torino, Italy
2004 - present	Steering Committee, Complex Systems Society
2007 - present	Member, Experts Committees for FP7 Future Internet programs, FIRE and EIFFEL
2009	Advisory Board, US Virtual Astronomical Observatory

SCIENTIFIC MEETINGS: ORGANIZATION

1974 - 1978	Program committee member (chair in 1976), International Conference on Magnetism and Magnetic Materials
1976	Co-chair, Gordon Conference on Quantum Solids and Liquids
1988 - 1991	Program committee member, program chair, general chair, workshop co-chair, Neural Information Processing Systems conference.
1992 - now	Board member, NIPS Foundation
1987 - now	Program committee member, Snowbird meeting on Neural Network Computing
1994 - present	Founder and organizer,ten workshops on "Frontiers of Distributed Information Systems" Key West, FL, Aspen, CO, San Francisco, CA, and Woods Hole, MA
1994	Program committee and panel chair, IEEE Symposium on Low Power Electronics
1999-2001	Program Committee and organizer, Internet Archive 2000 and 2001 Symposia, San Francisco
2006	Cochair, workshop on "Future Internet: Fundamentals and Measurement," held at CoNEXT, Lisbon, Portugal Dec 4, 2006 as part of the Arcadia COST Action.
2008	Cochair, European Conference on Complex Systems, Jerusalem, IL Sept 14-19.

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

Since 1960s	Member of the American Physical Society
Since 1970s	Member of AAAS.
Since 1980	Senior Member of the IEEE and its Computer Society.
Since 2000	Member of ACM

EDITORIAL DUTIES:

Member, Advisory Board, Journal of Statistical Physics: Experiment and Theory,
Member, editorial boards, Complex Systems, Journal of Complexity,
Neural Computation, Network, IEEE Transactions on Neural Networks
Reviewer for Physical Review, Physical Review Letters, Science, Nature,
Neural Computation, Random Structures and Algorithms,
PNAS, American Mathematical Monthly, and others.

ACADEMIC AND PROFESSIONAL AWARDS:

1982,6	IBM $80K Corporate Awards for contributions to optimization in VLSI
1984	Runner-up for Lancaster Prize of AAAS, given annually for best paper in Science, for the paper "Optimization by Simulated Annealing"
1987	American Physical Society Prize for Industrial Applications of Physics
1985	Elected Fellow of the American Physical Society
1989	Elected Fellow of the AAAS
1991	Elected Fellow of the IEEE
1991	Elected to IBM's Academy of Technology (an internal consulting body of about 200 scientists, engineers, and programmers)
1993 - 1996	served on Technology Council, (governing board of IBM Academy)
1995	runner up for the FOLLI Prize, for paper with B. Selman, "Critical Behavior in the Satisfiability of Random Boolean Expressions"

RESEARCH SUPPORT:

2000-2002	DARPA project - "Autonomous Negotiating Teams," with Bart Selman, Cornell University
2003-2006	BSF with Michael Jordan, UC Berkeley
2004-2007	EVERGROW, 6th Framework Integrated Project, Co-coordinator. 26 institutions, 5.6M EUR total
2004-2010	ISF-funded Center for Complex Systems, HUJI, BIU and TAU participating
2006	ARCADIA, COST Activity, Co-chair
2008 - 2010	ONELAB2, FP7 Integrated Project
2009 - 2011	HUMINET, FP7 Integrated Project (proposed)

PATENTS:

1. C.D. Gelatt and S. Kirkpatrick, "Optimization of an Organization of Many Discrete Elements", US Patent No. 4,495,559 (1985).

2. S. Kirkpatrick, E.P. Kronstadt, R. K. Montoye, W. W. Wilcke, "Test Circuit for Differential Cascode Switching", U.S Patent No. 4,656,417, (1987)

3. J. Cooper, S. Kirkpatrick, R. Linsker, "Method for Distributing Wire Load in a Multilayer Package" US patent No. 4,713,773. (1987)

4. C. Georgiou, S. Kirkpatrick, "Disk Drive Power Management System and Method," US patent No. 5,774,292 (1998)

5. C. Georgiou, S. Kirkpatrick, and T. Larsen, "Performance-Temperature Optimization by Modulating the Switching Factor of a Circuit," US Patent No. 5,798,918. (1998)

6. C. Georgiou, S. Kirkpatrick, T. Larsen, "Performance-Temperature Optimization by Cooperatively Varying the Voltage and Frequency of a Circuit," US Patent No. 5,940,785 (1999)

7. S. Kirkpatrick and C. Narayanaswami, 2 patents on uses of digital watermarking, filed 1997-8.

8. R. Kjeldsen, S. Kirkpatrick, and L-K. Liu, 2 patents on capture of gestures for computer input filed in 1999, one more filed in 2000.

9. S. Kirkpatrick and others, Technical Disclosure Bulletin publications on file caching, 3D input device, magnetic monopole detector geometry, and optical inspection.

10. J. Devor and S. Kirkpatrick, "Non-Contact Current Detection Device," filed 2003.

11. S. Kirkpatrick and D. Weinshall, "Imprinting an Identification Certificate," filed 2003

<u>LIST OF PUBLICATIONS</u>:

Note: I am skeptical of the citation counts that we sometimes include in our publication lists. Mine are not at all reliable because my publications appear and are used within both physical science and computer science journals. This causes anomalies. On the ISI website, my paper, "Percolation and Conduction," in Revs. Mod. Phys. (1973) is counted as cited 2067 times. In the CiteSeer database, I have so far only found 3 citations to this paper. In the CiteSeer listing of most cited computer science authors, I am number 490, with 1962 citations, while S. Kirkpatrick and Scott Kirkpatrick together receive 2219 hits in the database. Eliminating self-citations in the roughly 100 papers that I have written might explain the difference. My Science and Nature papers during the 1990's on the sharp transition in K-SAT have ISI citation counts of about 100 each. According to ISI, my most cited nonreview paper in physics is "Classical Transport in Disordered Material,..." in Phys Rev. Letts, (1971) with 357 citations.

The paper, "Optimization by Simulated Annealing," in Science (1983) is a special case. It has 1363 citations in Citeseer. ISI finds 92 citations for that paper. Google Scholar counts citations more freely, apparently using all web references. Based on this data, I recently found that "Optimization by Simulated Annealing" was the single most cited paper ever published in Science, surpassing even Garret Hardin's "Tragedy of the Commons" and several key papers on DNA sequencing.

Also, I cannot list invited talks as I have never kept records of this activity. I have ranged from giving 4 to perhaps 16 seminars or colloquia each year since 1969, when I received my PhD. The average is perhaps 10 per year. I have spoken at most of the major US research universities and industrial labs, as well as those in France, Italy, Israel and the UK.

A. <u>Articles:</u>

1. S. Kirkpatrick, K. A. Muller, and R. S. Rubins, "Strong Axial EPR Spectrum of Fe3+ in SrTiO3 Due to Nearest Neighbor Charge Compensation," *Phys. Rev.* 135, A86 (1964).

2. P. N. Argyres and S. Kirkpatrick, "Quantum Kinetic Equations for Electrons in Random Impurities," *Ann. Phys. (N.Y.)* 42, 513 (1967).

3. B. Velicky, S. Kirkpatrick, and H. Ehrenreich, "Single-site Approximations in the Electronic Theory of Simple Binary Alloys," *Phys. Rev.* 175, 747 (1968).

4. S. Kirkpatrick, B. Velicky, and H. Ehrenreich, "Paramagnetic Ni-Cu Alloys: Electronic Density of States in the Coherent Potential Approximation," Phys. Rev. B1, 3250 (1970).

5. E. N. Economou, S. Kirkpatrick, M. H. Cohen, and T. P. Eggarter, "Localization in Disordered Materials: Binary Alloys," Phys. Rev. Lett. 25, 520 (1970).

6. S. Kirkpatrick, "Lifetime Broadening on Noble Metal Fermi Surfaces," Phys. Rev. B3, 2563 (1971).

7. V. K. S. Shante and S. Kirkpatrick, "An Introduction to Percolation Theory," Adv. in Phys. 30, 325 (1971).

8. D. D. Koelling, D. L. Johnson, S. Kirkpatrick, and F. M. Mueller, "Electronic Structure of Cubic Laves Phase ZrZn," Solid State Comm. 9, 2039 (1971).

9. S. Kirkpatrick, "Classical Transport in Disordered Media: Scaling and Effective Medium Theories," Phys. Rev. Lett. 27, 1722 (1971).

10. S. Kirkpatrick and T. P. Eggarter, "On the Localized States of a Binary Alloy," Phys. Rev. B6, 3598 (1972).

11. W. A. Thompson, T. Penney, S. Kirkpatrick, and F. Holtzberg, "Systematics of Conduction in a Band Tail," Phys. Rev. Lett. 29, 779 (1972).

12. S. Kirkpatrick and A. F. Mayadas, "Theory of the Resistivity of Inhomogeneous Conducting 'Fine Lines'," J. Appl. Phys. 44, 4370 (1973).

13. S. Kirkpatrick, "The Nature of Percolation Channels," Solid State Comm. 12, 1279 (1973).

14. S. Kirkpatrick, "Percolation and Conduction I: Transport Theory of Percolation Processes," Revs. Mod. Phys. 45, 574 (1973).

15. L.- J. Tao, S. Kirkpatrick, R. J. Gambino, and J. J. Cuomo, "Charge Transfer and the Magnetic Properties of Amorphous Gd.33Co.67," Solid State Comm. 13, 1491 (1973).

16. S. Kirkpatrick and A. B. Harris, "Theory of the Spin Excitations of Rb2MnxNi1-xF4," Phys. Rev. B12, 4980 (1975).

17. D. Sherrington and S. Kirkpatrick, "Soluble Model of a Spin Glass," Phys. Rev. Lett. 35, 1792 (1975).

18. S. Kirkpatrick, "Percolation Phenomena in Higher Dimensions: Approach to the Mean-Field Limit," Phys. Rev. Lett. 36, 69 (1976).

19. A. B. Harris and S. Kirkpatrick, "Low Frequency Response Functions of Random Magnetic Systems," Phys. Rev. B16, 542 (1977).

20. A. Sur, J. L. Lebowitz, J. Marro, M. H. Kalos, and S. Kirkpatrick, "Monte Carlo Studies of Percolation Phenomena for a Simple Cubic Lattice," Journal of Statistical Physics, J. Stat. Phys. 15, 345 (1976).

21. T. Mizoguchi, T. R. McGuire, S. Kirkpatrick and R. J. Gambino, "Measurement of the Spin-Glass Order Parameter in Amorphous Gd0.37Al0.63," Phys. Rev. Lett. 38, 89 (1977).

22. R. S. Alben, S. Kirkpatrick and D. Beeman, "Spin Waves in Random Ferromagnets," Phys. Rev. B15, 346 (1977).

23. S. Kirkpatrick, "Percolation Thresholds in Ising Magnets and Conducting Mixtures," Phys. Rev. B15, 1533 (1977).

24. J. V. Jose, L. P. Kadanoff, S. Kirkpatrick, and D. R. Nelson, "Renormalization, Vortices, and Symmetry-breaking Perturbations in the Two Dimensional Planar Model," Phys. Rev. B16, 1217 (1977).

25. S. Kirkpatrick, "Frustration and Ground State Degeneracy in Spin Glasses," Phys. Rev. B16, 4630 (1977).

26. S. Kirkpatrick and C. M. Varma, "Anomalous Specific Heat of Dipolar Spin Glasses and Ferroelectrics," Solid State Commun. 25, 821 (1978).

27. S. Kirkpatrick and D. Sherrington, "Infinite-ranged Models of Spin Glasses," Phys. Rev. B17, 4384 (1978).

28. B. Derrida, J.-M. Maillard, J. Vannimenus, and S. Kirkpatrick, "Interface Entropy and Phase Transitions in Frustrated Ising Systems," Lettres au Journale de Physique 39, L465 (1978).

29. M. F. Thorpe and S. Kirkpatrick, "Percolation as the Zero Temperature Limit of the Dilute Ising Model," J. Phys. A, 12, 1835 (1979).

30. S. Kirkpatrick, "Modelling Diffusion and Collection of Charge from Ionizing Radiation in Silicon Devices," IEEE Transactions on Electron Devices, ED-26, 1742 (1979).

31. C. Jayaprakash and S. Kirkpatrick, "Random Anisotropy Models in the Ising Limit," Phys. Rev. B21, 4079 (1980).

32. S. Kirkpatrick and E. P. Stoll, "A Very Fast Shift-Register Sequence Random Number Generator," J. Comp. Phys. (1981).

33. D. J. Thouless and S. Kirkpatrick, "Conductivity of the Disordered Linear Chain," J. Phys C 14, 235 (1981).

34. S. Kirkpatrick and A. P. Young, "Ordering in the Infinite-Ranged Ising Spin Glass – Exact Solutions for Small Samples," J. Appl. Phys. 52, 1712 (1981).

35. Y. Gefen, A. Aharony, B. B. Mandelbrot and S. Kirkpatrick, "A Solvable Fractal Model for the Backbone Cluster at Percolation," Phys. Rev. Letters 47, 1771 (1981).

36. C. Kawabata, J. Jose and S. Kirkpatrick, "Monte Carlo Studies of +-J Spin Glasses with Continuous Symmetries in D=2," J. Phys. C. 14, 2633 (1981).

37. A. P. Young and S. Kirkpatrick, "Low Temperature Behavior of the Infinite-Range Ising Spin Glass: Exact Statistical Mechanics for Small Samples," Phys. Rev. B25, 440 (1982).

38. S. Kirkpatrick and A. P. Young, "On the Ground State of the Infinite-Ranged Ising Spin Glass," J. Phys. C, Letters 1982-83.

39. J. F. Fernandez, G. Grinstein, Y. Imry, and S. Kirkpatrick, "Numerical Evidence for dc = 2 in the Random Field Ising Model," Phys. Rev. Letts. 51, 203 (1983).

40. S. R. McKay, A. N. Berker and S. Kirkpatrick, "Spin-Glass Behavior in Frustrated Ising Models in the Chaotic Renormalization Group," Phys. Rev. Lett. 48, 767 (1982).

41. S. Kirkpatrick, C. D. Gelatt, Jr., and M. P. Vecchi, "Optimization by Simulated Annealing," Science 220, 671 (1983).

42. S. Kirkpatrick, "Optimization by Simulated Annealing: Quantitative Studies," Journal of Statistical Physics, Vol. 34, Nos. 5/6, 975-986 (1984).

43. S. Kirkpatrick and R. H. Swendson, "Statistical Mechanics and Disordered Systems," Communications of the ACM 347, 363 (1985).

44. S. Kirkpatrick and G. Toulouse, "Configuration Space Analysis of Travelling Salesman Problems," Journale de Physique, Vol. 46, pp. 1277-1292 (1985).

45. F. Darema, S. Kirkpatrick and V. A. Norton, "Parallel algorithms for chip placement by simulated annealing", IBM Journal of R&D, Vol. 31, pp.391-402 (May 1987)

46. J. Vannimenus, S. Kirkpatrick, F. D. M. Haldane, and C. Jayaprakash, "Ground State Morphology of Random Frustrated XY Systems and Spin Glass Effects in La2CuO4-y," Phys Rev B39, 4634-4643, 1989.

47. Philip N. Strenski and Scott Kirkpatrick "Analysis of Finite Length Annealing Schedules" Algorithmica, 6, 346-366 (1991).

48. S. Kirkpatrick and B. Selman, "Critical Behavior in the Satisfiability of Random Boolean Expressions," Science, v. 264, pp. 1297 - 1301, 1994.

49. E. P. Harris, S. W. Depp, W. E. Pence, S. Kirkpatrick, M. Sri-Jayantha, and R. R. Troutman, "Technology Directions for Portable Computers," Proceedings of the IEEE, v. 83, pp. 636 - 658, 1995. (reprinted in Nikkei Electronics, 1995.8.21, p. 147 (1995) and in another, special issue, on "Secondary Battery and Related Technology."

50. B. Selman and S. Kirkpatrick, "Critical Behavior in the Computational Cost of Satisfiability Testing," Artificial Intelligence Journal, 81, 273-295, 1996.

51. R. Monasson, R. Zecchina, S. Kirkpatrick, B. Selman and L. Troyansky, "Determining Computational Complexity from Characteristic Phase Transitions," Nature, v. 400, 133-137 (1999).

52. R. Monasson, R. Zecchina, S. Kirkpatrick, B. Selman and L. Troyansky, "2+P-SAT: Relation of Typical-Case Complexity to the Nature of the Phase Transition," Random Structures and Algorithms, 15, 414-435, 1999.

53. S. Kirkpatrick, W. W. Wilcke, R. B. Garner, and H. Huels, "Percolation in Dense Storage Arrays," Physica A314,220-229 (2002).

54. S. Kirkpatrick, "Rough Times Ahead," Science 299, 668-669 (2003).

55. S. Kirkpatrick and J. J. Schneider, "How Smart Does an Agent Need to Be?" International Journal of Physics, to appear (2004).

56. Johannes J. Schneider and S. Kirkpatrick, "Selfish vs. Unselfish Optimization of Network Creation," J. Stat. Mech. P08007 (2005).

57. Shai Carmi, Shlomo Havlin, Scott Kirkpatrick, Yuval Shavitt, and Eran Shir, "Medusa – New Model of Internet Topology Using k-shell Decomposition," PNAS 104, 11150 - 11154 (2007).

Unpublished: (IBM internal reports)

1. F. Darema-Rogers, S. Kirkpatrick, and V. A. Norton, "Simulated Annealing on Shared-Memory Parallel Systems," IBM RC12195, 10/2/86

2. D.Kaeli and S. Kirkpatrick, "PC Workload Characterization Using Mirage" IBM RC13680 3/7/88

3. K.S. Natarajan and S. Kirkpatrick, "Evaluation of Parallel Placement by Simulated Annealing: Part I - The Decomposition Approach" IBM RC 15246 10/20/89

4. K.S. Natarajan and S. Kirkpatrick, "Evaluation of Parallel Placement by Simulated Annealing: Part II- The FLAT Approach" IBM RC 15247 12/13/89

5. S. Kirkpatrick, W. E. Pence, III, and 20 others, "Media Processing White Paper," IBM (no longer Confidential) internal report, 30+ pp, 10/94.

6. S Kirkpatrick, five others, "Embedded Processing White Paper" for IBM's Corporate Technology Committee (IBM Confidential) 1998-99.

B. Books, Book Chapters and Lecture Notes:

1. M. H. Brodsky and S. Kirkpatrick, editors, “Amorphous Semiconductors”, A.I.P. Conference Proceedings, (1974).

2. E. N. Economou, M. H. Cohen, K. Freed, and S. Kirkpatrick, ”Electronic Structure of Disordered Materials: A Review of Current Understanding,” chapter in ’Amorphous and Liquid Semiconductors’, J. Tauc, ed., Plenum Press 1974.

3. S. Kirkpatrick, ”Percolation and Conduction,” in ’Electrons in Disordered Systems’, Kyoto Seminar, published as ISSP Technical Report B15, 1973 (Tokyo), p. 18.

4. S. Kirkpatrick, ”Models of Disordered Materials,” eight lectures in the proceedings of the Ecole d’Ete de Physique, Les Houches 1978, ”Ill-Condensed Matter,” R. Balian, R. Maynard, and G. Toulouse, eds., (North-Holland, 1979), pp 324-403.

5. S. Kirkpatrick, ”Computer Simulation,” in Proceedings, Sixth Nathiagali Summer School in Physics, Islamabad, Pakistan, 1981, ”Physics and Contemporary Needs,” A. M. Khan, S. Riazuddin, A. Qadir, and M. N. Qazi, eds., Plenum Press (New York, 1984).

6. S. Kirkpatrick and G. Sorkin, ”Simulated Annealing,” The Handbook of Brain Theory and Neural Networks, M. Arbib, ed., p. 876, MIT Press (Cambridge, MA) 1995

7. S. Kirkpatrick and B. Selman, ”Statistical Physics and Computational Complexity,” in ”More is Different: Fifty Years of Condensed Matter Physics,” ed. N. P. Ong and R. N. Bhatt, pp. 331-345, Princeton University Press, 2001.

8. S. Kirkpatrick, ”History of Computer Science, a personal view” in Encyclopedia Treccani, History of 20th Century Science (Roma 2004).

9. Johannes J. Schneider and Scott Kirkpatrick, ”Stochastic Optimization,” Springer Monograph in Physics, ISBN 3540345590 (2006)

C. Papers Presented at Scientific Meetings:

1. S. Kirkpatrick, B. Velicky, N. D. Lang, and H. Ehrenreich, ”Magnetic Properties of Ni-Cu Alloys: Minimum Polarity Picture,” J. Appl. Phys. 40, 1283 (1969).

2. S. Kirkpatrick, ”Tight Binding Expansions for Strongly Disordered Materials,” J. Non-Cryst. Solids 8/10, 160 (1972).

3. S. Kirkpatrick, ”Binary Alloys in the Strong Scattering Limit: Moment Analysis,” J. de Phys. 33, Suppl. C3-247 (1972).

4. S. Kirkpatrick and T. P. Eggarter, ”Coexistence of Localized and Extended States?” in ’Computational Methods for Large Molecules and Localized States in Solids’, F. Herman, A. D. MacLean, and R. K. Nesbet, eds., Plenum Press, 1972, p. 327.

5. W. A. Thompson, T. Penney, F. Holtzberg, and S. Kirkpatrick, "Tunnelling and Band Tail Transport in Disordered EuS Crystals," Proceedings of 1972 Semiconductor Conference, Warsaw.

6. S. Kirkpatrick, "Antiferromagnetic Instability in Substitutional Alloys," in 'Amorphous Magnetism', H. Hooper and A. M. de Graaf, eds., Plenum Press (1972) p. 263.

7. S. Kirkpatrick, "Percolation Aspects of Metal-Insulator Transitions in Inhomogeneous Materials," in 'The Properties of Liquid Metals', S. Takeuchi, ed., (Taylor and Francis, London, 1973) p. 351.

8. S. Kirkpatrick, "Hopping Conduction: Experiment vs. Theory," in 'Amorphous and Liquid Semiconductors', J. Stuke and W. Brenig, eds., (Taylor and Francis, London, 1974) p. 183.

9. L.-J. Tao, R. J. Gambino, S. Kirkpatrick, and J. J. Cuomo, "Magnetic Properties of Gd-Co Films," A. I. P. Conference Proceedings 18, 641 (1973).

10. P. Chaudhari, J. J. Cuomo, R. J. Gambino, S. Kirkpatrick, and L.- J. Tao, "Ternary Amorphous Alloys for Bubble Domain Applications," A. I. P. Conference Proceedings 24, 562 (1974).

11. S. Kirkpatrick and A. B. Harris, "Static Properties of Dilute Ferri- and Antiferromagnets," A. I. P. Conference Proceedings 24, 99 (1974).

12. S. Kirkpatrick, "Spin Excitations in Random Antiferromagnets," A. I. P. Conference Proceedings, 29, 141 (1975).

13. N. Heiman, K. Lee, R. I. Potter, and S. Kirkpatrick, "Modified Mean-Field Model for Rare Earth-Iron Amorphous Alloys," J. Appl. Phys. 47, 2634 (1976).

14. G. S. Cargill III and S. Kirkpatrick, "Structural Ordering in Some Amorphous Metals and Alloys," A. I. P. Conference Proc. 31, 339 (1976).

15. T. Mizoguchi, T. R. McGuire, R. J. Gambino and S. Kirkpatrick, "Magnetic Properties of Amorphous Gd-Al and Gd-Cu," Proceedings of the 1976 International Magnetism Conference, Amsterdam, Physica 86-88B, 783 (1977).

16. S. Kirkpatrick, "The Geometry of the Percolation Threshold," in 'Electrical, Thermal, and Optical Properties of Inhomogeneous Materials', J. C. Garland and D. B. Tanner, eds., AIP Conf. Procs. 40, 99 (1978).

17. T. R. McGuire, T. Mizoguchi, R. J. Gambino and S. Kirkpatrick, "Magnetic Phase Diagram of the Gd-Al and Gd-Cu Amorphous Alloy Systems," J. Appl. Phys. 49, 1689 (1978).

18. S. Kirkpatrick, "On Critical Slowing-Down in Spin Glasses," Proceedings of NATO Advanced Study Institute, Geilo, Norway 1979, T. Riste, ed., (Plenum Press, 1979), p 459.

19. C. N. Guy, J. L. Tholence, H. Maletta, D. J. Thouless, J. A. Hertz, and S. Kirkpatrick, "Panel Discussion: Spin Glasses," J. Appl. Phys. 50, 7308 (1979).

20. S. Kirkpatrick, "Percolation Thresholds in Granular Films – Non-Universality and Critical Current," Proceedings of Inhomogeneous Superconductors Conference, Berkeley Springs, W. Va., edited by S. A. Wolf and D. U. Gubser, A.I.P. Conf. Procs. 58, 79 (1979).

21. S. Kirkpatrick, "Disordered One-Dimensional Conductors at Finite Temperature" (Abstract only), Physica 106A, 175 (1981).

22. S. Kirkpatrick and A. P. Young, "Ordering in the Infinite-Ranged Ising Spin Glass – Exact Solutions for Small Samples," J. Appl. Phys. 52, 1712 (1981).

23. A. Aharony, Y. Gefen, B. B. Mandelbrot and S. Kirkpatrick, "Percolation, Critical Phenomena and Fractals," "Disordered Systems and Localization," Proceedings, Rome Conference on Localization and Disorder (Springer, Berlin, 1981) p. 56.

24. S. Kirkpatrick, "Models of Disordered Systems," "Disordered Systems and Localization," Proceedings, Rome Conference on Disordered Systems and Localization, Springer Lecture Notes in Physics No. 149, p. 280 (Berlin, 1981).

25. S. R. McKay, A. N. Berker and S. Kirkpatrick, "Amorphously Packed, Frustrated Hierarchical Models: Chaotic Rescaling and Spin-Glass Behavior," Proceedings, Third Joint Intermag - Magnetism Conference, Montreal, Quebec, 1982, J. Appl. Phys. 11, 7974 (1982).

26. M. P. Vecchi and S. Kirkpatrick, "Global Wiring by Simulated Annealing," IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems Volume CAD-2, pp. 215-222 (1983).

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