April 3, 2012

CURRICULUM VITAE

ROBERT J. ADLER

PERSONAL

Born:	May 17, 1950, Newcastle, Australia
Citizenship:	Israeli, Australian
Date of Aliyah:	June 30, 1980
Marital Status:	Married, two daughters, four grandsons, two granddaughters
Residence:	30 Shimkin St., Haifa, 34750, Israel
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EDUCATION

1967–1971	B.Sc. (First class honours), University of Sydney
1972	M.Sc. Australian National University
1973–1975	Ph.D. University of New South Wales

EMPLOYMENT

1972	Research Officer, Australian Bureau of Statistics
1973–1975	Graduate student/TA, Univ. of New South Wales
1976	CSIRO Postdoctoral Fellow, Tel-Aviv and Cambridge
1977	Research Scientist, CSIRO
1978–1979	Queen Elizabeth II Research Fellow, University of NSW
1980–1985	Associate Professor, Technion
1986–	Professor, Technion, Industrial Eng. and Management
1996–1999	Professor, University of North Carolina, Chapel Hill
1996–	Louis and Samuel Seiden Academic Chair (Technion)
2008–	Professor, Technion. 50% Indust. Eng. Management, 50% Electrical Eng.
2010–	Professor, Technion. 100% Electrical Engineering

VISITING APPOINTMENTS (Month or longer)

University of New South Wales	1982 (Summer), 2008 (Aug-Oct)
Cornell University	1983 (Summer), 1991 (Nov), 1993 (Feb)
University of Washington	1984 (Summer), 1986 (Jan-July)
University of Lund	1988 (Feb)
Carleton University	1989 (Feb), 1992 (Feb)
Math. Sciences Research Institute, Berkeley	1991 (Dec), 1997 (Aug–Nov), 1998 (Feb)
Stanford University	2004 (Jan–Mar)
University of California, Santa Barbara	1990 (Feb), 1991-95 (summers) 2003/4 (Sept-Mar)
University of North Carolina, Chapel Hill	1979 (Jan–May), 1985 (Aug–Dec) Adjunct Professor, 1999–2003
Institut Mittag-Leffler, Stockholm	2007 (Oct-Dec)
Harvard University	2008 (Jan-June)
National University of Singapore	2008 (June-July)
Université Blaise Pascal	2009 (July)

PRIZES AND AWARDS

(a) Grants (non-Technion)

1981	Office for the Absorption of New Scientists ($10,000) *Random Fields.*
1983–1991	U.S. Air Force Office of Scientific Research ($259,250) *Random Fields, Theory and Application.*
1987–1990	U.S. Israel Binational Science Foundation ($101,200) *Set Indexed Empirical Processes.* (Joint with R. Pyke)
1990–1993	U.S. Israel Binational Science Foundation ($63,000) *Stable Processes—Theory and Applications.* (Joint with M. Taqqu and G. Samorodnitsky)
1990–1993	Israel Academy of Sciences ($85,000) *Distribution and Measure Valued Processes.*
1991–1993	Office of Naval Research ($286,693) *Gaussian and Related Random Fields.* (Co-principal investigator. Raisa Feldman, principal investigator.)
1993–1996	U.S. Israel Binational Science Foundation ($78,000) *Non-Markov and Self-Avoiding Superprocesses.* (Joint with J. Rosen and G. Samorodnitsky)
1993–1996	Israel Academy of Sciences ($72,000) *Interaction in Superprocesses.*
1993–1996	Office of Naval Research ($478,130) *Problems in Heavy Tailed Distributions.* (Co-principal investigator. Raisa Feldman, principal investigator.)
1996	Office of Naval Research ($79,000) *Computation and Visualisation of Random Surfaces.*
1996–1999	U.S. National Science Foundation ($120,000) *Building on Superprocesses.*
1998–2001	Israel Science Foundation ($154,875) *The Topology of Random Fields.*
2001–2005	U.S. Israel Binational Science Foundation ($60,000) *Interacting Particle Systems and Superprocesses.* (Joint with Leonid Mytnik and Rick Durrett)
2005–2009	U.S. Israel Binational Science Foundation ($88,000) *Random Fields over Manifolds: Some Geometry, Theory and Applications.* (Joint with Gennady Samorodnitsky and Jonathan Taylor)
2008–2011	U.S. National Science Foundation ($199,276) *The Algebraic Topology of Random Fields and its Applications.* (Joint with Jonathan Taylor, Shmuel Weinberger, Keith Worsley)
2009–2013	U.S. Israel Binational Science Foundation (∼$95,000) *The Geometry of Random Field Excursions: Statistics and Probability.* (Joint with Samuel Kou, Gennady Samorodnitsky and Jonathan Taylor)
2010–2014	Israel Science Foundation (∼$200,000) *An Algebraic Approach to Random Field Topology.*
2011-2016	U.S. Air Force Office of Scientific Research ($350,000) *SATA: Stochastic Algebraic Topology and Applications.*

(b) Selected Honours

1968–1969	Commonwealth Undergraduate Scholarship
1970–1971	Bureau of Statistics Cadetship
1973–1975	Commonwealth Postgraduate Research Award
1976	CSIRO Postdoctoral Fellowship
1978–1979	Queen Elizabeth II Research Fellowship
1985–	Member (elected) International Statistical Institute
1989–	Fellow, Institute of Mathematical Statistics
1994	Technion Academic Excellence Award
1996–	Louis and Samuel Seiden Academic Chair (Technion)
1997	IMS Medallion Lecturer
2000	Special Invited Paper, *Annals of Applied Prob*, 10, 2000, 1–74.
2006	Birnbaum Lecture, University of Washington
2006	PIMS 10th Anniversary Distinguished Lecture, Calgary.
2009	Saint Flour Lecturer.

MAJOR PROFESSIONAL ACTIVITIES

Editorial

1. *Stochastic Processes and Their Applications*, 1993–1995, Editor.
2. *Annals of Applied Probability*, 2003-2005, Editor.

Editorial Boards

1. *Stochastic Processes and Their Applications*, 1989–1993, 1996–2000, Associate editor.
2. *Bulletin of the Institute of Mathematical Statistics*, 1989–1996, Corresponding editor.
3. *Advances in Applied Probability*, 1990–2008, Associate editor.
4. *Journal of Applied Probability*, 1990–2008, Associate editor.
5. *Annals of Probability*, 2000–2002, Associate editor.
6. *IMS/Bernoulli Monograph Series.* 2000–2002, Member of Management Committee.
7. IMS Festschrift Advisory Panel, Co-chair, 2009–

Conference Organisation

1. *Twentieth Conference on Stochastic Processes and their Applications*, Israel, 1991 Chair of Organising and Program Committees.
2. *Twenty-second Conference on Stochastic Processes and Their Applications*, Amsterdam, 1993, Member of Program Committee.

3. *57th Annual Meeting of IMS and 3rd Bernoulli Society World Congress*, Chapel Hill, 1994, Member of Program Committee.

4. *Workshop on Stable Time Series*, Santa Barbara, 1995, Co-chair of Organising Committee.

5. *Workshop on Non-Linear Time Series for Learning, Prediction and Control*, Technion, 1998, Co-organiser.

6. IMS workshop on *Geometry and Random Fields*, Dallas, 1998, Organiser.

7. *Fourth International Symposium on Probability and its Applications*, July 2002, Banff, Canada. Invited session organiser and chair, *Gaussian processes on manifolds.*

8. *Thirtieth Conference on Stochastic Processes and their Applications*, Santa Barbara, July, 2005, Program Committee.

9. *Stochastic Models: Theory and Applications*, Carmiel, Israel, 2006, Program Committee.

10. *Fifth International Symposium on Probability and its Applications* of the *IMS*, Rio de Janeiro, July 2006, Program Commitee Co-chair.

11. *XXVI International Seminar on Stability Problems for Stochastic Models*, Carmiel, October, 2007. Program Committee Co-chair.

12. *7-th World Congress in Probability and Statistics* Singapore, July 2008. Invited session organiser and chair, *Gaussian processes and their applications.*

13. *Random Fields and Stochastic Geometry*, Banff, Canada, February 2009. Co-Organiser.

14. *American Institute of Mathematics workshop on 'Topological Complexity of Random Sets'*, Palo Alto, California, August 2009. Co-Organiser.

15. *WAART: Workshop in Algebraic and Random Topology*, Chicago, April 2010. Co-Organiser.

16. IMS Annual Meeting, Gothenburg, August 2010. Invited session organiser and chair, *Neuroscience, imaging and random fields.*

17. January 2012, AMS Short Course on *Random Fields and Random Geometry*, AMS Annual Meeting, Boston. Co-organiser.

18. October 2013, IMA Workshop on *Topological Data Analysis.* Program committee.

Selected Committees

1. Bernoulli Society Council, 1985–1989, Member.

2. Committee for Conferences in Stochastic Processes, 1984–1993, 1997–2001, Member; 2001–2003, Chair.

3. IMS Nominations Committee, 1987, 1990, Member.

4. Bernoulli Society Publications Committee, 1993–1996, Member.

5. Israel Statistical Association Nominations Committee, 1995, Member.

6. Bernoulli Society Nominations Committee, 1999–2002, Member.

7. Israel Science Foundation: Grant Evaluation Committees, 2003/4, 2010/11, 2012/13 Member.
8. IMS Committees on Publications and Special Lectures, 2002–2005, Member (*Ex officio*).
9. Loève Prize Committee, Member. 2005–
10. IMS Council, 2002–2005, Member (*Ex officio*).
11. IMS Publications Committee, Chair. 2007–2009.
12. ICIAM/IMS/IMU Committee on *Quantitative Assessment of Research*, 2007-2008.
13. IMS Memorials Committee, Member, 2009–2010.
14. Council for Higher Education, Committee for the evaluation of Statistics studies in Israel, Member, 2009-10, Follow-up, 2012.
15. US-Israel Binational Science Foundation: Evaluation Committee for Applied Mathematics, 2010/11, Chair.

Refereeing, etc.

Have refereed for (at least – but I long ago gave up keeping count) the following journals: *Annals of Probability, Journal of Applied Probability, Advances in Applied Probability, Journal of Multivariate Analysis, Annals of Statistics, Australian Journal of Statistics, Stochastic Processes and Their Applications, Zeitschrift fur Wahrscheinlichkeitstheorie, SIAM Journals, Zeitschrift für Mathematik, Studia Mathematica, Proceedings of the American Math Soc, IEEE Trans. Inf. Theory, Probability and Statistics Letters, Stochastics, Sankya, American J. Mathematics*, etc, etc.

TECHNION ACTIVITIES

81–	Innumerable Faculty committees, including, at various times, chair of Faculty building and library commitees, Faculty research center, membership in graduate and undergraduate studies committees, etc.
81–85, 86–91	Organized inter-faculty (Industrial Eng., Electrical Eng., Mathematics) seminar on Probability Theory and Stochastic Processes.
86–90, 99–00	Head, Probability and Statistics Area.
88–91	Member, Standing Committee on Graduate & Undergraduate Studies
88–89, 92–93, 06–07	Member, Senate Standing Committee on Senior Appointments & Tenure
90–96, 2010–	Member, Technion Synagogue Committee
93–95	Member, Governance Committee
98	Member, Provost Search Committee
98–99, 00–01	Associate Dean for Academic Affairs
99–00, 02–03, 09–10	Rotating Head of Professional Committees
00–01, 08-10	Member, Senate Steering Committee
01–03, 06–07	Member, Senate Standing Committee for Honorary Degrees
02–03	Member, Senate Preparatory Committee for Distinguished Professors
05–07	Chair, Technion Synagogue Committee
06-07, 08-10	Elected member, Technion Senate

INDUSTRIAL RESEARCH EXPERIENCE

1. Time series modelling and forecasting of economic indicators Australian Bureau of Statistics (1972).

2. Stochastic process models of pulsar signal reception and of rough, metallic, surfaces. CSIRO (1977).

SUPERVISION OF GRADUATE STUDENTS

(Current position appended, where known.)

1. Richard Wilson (Ph.D.) Statistics, University of New South Wales, 1983.
   Senior Lecturer, Statistics, University of Queensland.

2. Michael Aronowich (D.Sc.) IE&M, Technion, 1985.

3. Gennady Samorodnitsky (D.Sc.) IE&M, Technion, 1986,
   Professor, OR&IE, Cornell University.

4. Raisa Epstein (now Feldman) (D.Sc.) Mathematics, Technion, 1987.
   Past Chair, Statistics & Applied Probability, University of California, Santa Barbara.

5. Michael Nahum (M.Sc.) IE&M, Technion, 1990.

6. Mordechai Zagha (M.Sc.) IE&M, Technion, 1991.

7. Leonid Mytnik (M.Sc.) IE&M, Technion, 1993.
   Associate Professor, IE&M, Technion.

8. Tamar Gadrich (D.Sc.) IE&M, Technion, September, 1993.
   Senior Lecturer, Ort Braude College, Carmiel.

9. Lydia Ivanitskaya (M.Sc.) IE&M, Technion, 1994.

10. Leonid Mytnik (D.Sc.) IE&M, Technion, 1996.
    Associate Professor, IE&M, Technion.

11. Assaf Zeevi (M.Sc.) IE&M,Technion, 1996. (Joint with Ron Meir.)
    Henry Kravis Professor of Business, Columbia University.

12. Radu Rosu (M.Sc.) Statistics, UNC Chapel Hill, 1999.

13. Georgios Skoulakis (Ph.D.) Statistics, UNC Chapel Hill, 1999.
    Assistant Professor, Robert H. Smith School of Business, University of Maryland.

14. Guillame Bonnet (Ph.D.) Statistics, UNC Chapel Hill, 2001.

15. Jonathan Taylor (Ph.D.) Statistics, McGill, 2001. (Joint supervision with K. Worsley, McGill). Thesis won the 2001 Robillard Award for best thesis in Probability and Statistics in Canada.
    Associate Professor, Statistics, Stanford, and Canada Research Chair, U. Montreal.

16. Sreekar Vadlamani, (PhD) IE&M, Technion, 2007.
    Tata Institute for Fundamental Research, Bangalore.

17. Omer Bobrowski, (PhD) EE, Technion, Commenced 2008.

18. Eliran Subag, (PhD) EE, Technion. Commenced 2010.

SUPERVISION OF POSTDOCTORAL SCHOLARS

(Current position appended, where known.)

1. Nathalie Eisenbaum, 1988/89.
   Chargé de Recherche, Université Paris 6
2. Patrik Albin, 1989.
   Associate Professor, Chalmers University of Technology.
3. Marica Lewin, 1990/92.
4. Sergei Lyalko, 1990/93.
   Computing, private sector, Canada.
5. Roger Tribe, 1992/93.
   Associate Professor, Mathematics, University of Warwick.
6. Srikanth Iyer, 1994/96.
   Associate Professor, Statistics, Indian Institute of Science, Bangalore.
7. John Verzani, 1994/95.
   Professor and Chair, Mathematics, CUNY, Staten Island.
8. Aaron Gross, 1994/95.
   Financial computing, private sector, Tel Aviv.
9. Ekaterina Todorova Kolkovska, 2000.
   Investigador Titular A, Mathematics, CIMAT, Mexico.
10. Xiang Kai Nan, 2002/2003.
    Senior Lecturer, Mathematics, Hunan Normal University.
11. Sreekar Vadlamani, 2009/2010.
    Tata Institute for Fundamental Research, Bangalore.
12. Elina Moldavskaya, 2010–
13. Yogeshwaran Dhandapani, 2011–

SUMMER AND WINTER SCHOOLS, MINI-COURSES, etc.

1. December 2000, Four lecture minicourse on *Random Fields and their Geometry*, CRM Workshop on Mathematical Methods in Biology and Medicine, Montreal.
2. June 2001, Six lecture minicourse on *Random Fields and their Geometry*, The 22nd Finnish Summer School on Probability Theory. Lahti, Finland
3. June 2003, Five lecture minicourse on *Random Fields and (Differential) Geometry*, Probability Intern Program, Madison, Wisconsin.

4. July, 2005, International Centre of Excellence for Education in Mathematics, Graduate School, Brisbane. 15 lecture course on *Random Fields and Geometry.*
   Available online at http://qtss.amsi.org.au/qtmedia/UQGradSchoolAdler.html.

5. November 2007, Three lectures on *Random Fields on Manifolds, Kinematic Formulae, and Integral Geometry in Gauss Space*, Institute Mittag-Leffler, Stockholm.

6. July 2009, XXXVIII-th International Probability Summer School, Saint-Flour. 12 hour lecture course on *Topological Complexity of Random Functions.*

7. January 2012, AMS Short Course on *Random Fields and Random Geometry*, AMS Annual Meeting, Boston. (Joint with Jonathan Taylor.)

PARTICIPATION IN INTERNATIONAL CONFERENCES

Plenary and invited only

1. September 1981, 14th European Meeting of Statisticians, Wroclaw. *Level crossings for certain non-Gaussian processes and fields.*

2. December 1981, 43rd Meeting of the International Statistical Institute, Buenos Aires. *Random field models in surface science.*

3. March, 1982, Joint Israeli-British Meeting on Stochastic Modelling, Brighton. *Random Fields.*

4. August 1982, 6th Meeting of the Australian Statistical Society, Melbourne: *Random fields and rough surfaces: An example of the interaction of theory and practice.*

5. August 1983, 185th Meeting of the Institute of Mathematical Statistics, Toronto. *Some sample path properties of random fields.*

6. June 1984, 14th Conference on Stochastic Processes and their Applications, Gothenburg. *Tail behaviour for the suprema of empirical processes.*

7. March 1986, Pacific Northwest Probability Meeting, Seattle. *A Markov process approach to the study of Fock space.*

8. February 1987, Israel Mathematical Society Annual Meeting, Tel Aviv. *Multivariate Kolmogorov-Smirnov statistics; An example of the interaction of Statistics and Functional Analysis.*

9. May 1988, Australian Joint Mathematics Meeting, Canberra. *Quantum field theory and experimental design.*

10. May 1989, Workshop on Markov Processes in Functional Spaces, Ithaca, NY. *The net charge process for interacting signed diffusions.*

11. July 1990, London Mathematical Society Durham Symposium: Stochastic Analysis, Durham, England. *Intersection local time for distribution and measure valued processes.*

12. August 1990, Second World Congress of the Bernoulli Society, Uppsala, Sweden. *Random Fields* (Session organiser).

13. November 1991, Special Program on Empirical Processes and their Applications, Mathematical Sciences Research Institute, Berkeley. *A menagerie of measure valued diffusions.*

14. March 1992, 1992 Seminar on Stochastic Processes, Seattle. *Particle pictures for superprocess local times.*

15. June 1992, 223rd Meeting of the Institute of Mathematical Statistics, Corvallis, Oregon. *The expected number of level crossings for stationary, harmonisable, symmetric, stable processes.*

16. October 1992, Special Meeting on Superprocesses and Interacting Systems, Montreal. *Particle pictures for superprocess intersection local times.*

17. April 1993: ONR Oceanographic Meeting, Los Angeles. *Gaussian and related random fields: A tutorial overview.*

18. September 1993, France-Israel Binational Symposium on the Brownian Sheet. Tel-Aviv. *Superprocesses with memory*

19. December 1994, Conference in Memory of Stamatis Cambanis, Athens, Greece. *Some extensions of superprocesses.*

20. April 1996, Applied Probability Day, Columbia University, New York. *Building on superprocesses.*

21. October 1996, AMS Southeastern Sectional Meeting, Special Session on Applied Probability, Chattanooga, Tennesee. *Non-linear models for time series using mixtures of experts.*

22. January 1997, AMS Joint Mathematics Meeting, Special Session on Stochastic Modelling, *Random measure models for some oceanographic phenomena.*

23. January 1997, Aha Huliko'a Workshop on "Methods from Theoretical Physics Applied to Oceanography", Honolulu, *Superprocesses and plankton dynamics.*

24. July 1997, 60th IMS Annual Meeting, Park City, Utah. "Special Invited (IMS Medallion) Lecture" *Random Fields: Geometry in Action.*

25. August 1997: Workshop on SPDE, UBC, Vancouver, *Superprocesses, The Movie.*

26. September 1997, Workshop on Stochastic Partial Differential Equations, (MSRI-Evans lecture) Berkeley, *Super Menageries.*

27. June, 1998: Workshop on Statistics of Brain Mapping, Montreal, *Euler characteristics and exceedence probabilities.*

28. August 1988, Workshop on "Extremes—Risk and Safety", Gothenburg, *Euler characteristics and exceedence probabilities.*

29. May 1999, Israel Statistical Association Annual Meeting, Tel Aviv. *Shape analysis with applications.*

30. June 1999, Applications of Heavy Tailed Distributions in Economics, Engineering and Statistics, Washington, DC. *Nonlinear time series via mixtures of autoregressions.*

31. September 2000, Topics in Modern Stochastic Analysis, Toronto, Canada. *The Burgers Superprocess.*

32. March 2001, Symposium on Discrete and Continuous Stochastic Evolutions, Warwick, England. *The geometry of Gaussian fields on manifolds.*

33. May 2002, Fourth Conference on Stochastic Analysis, Random Fields and Applications, Ascona, Switzerland. *Gaussian random fields on manifolds*

34. September 2003, Alcalá International Conference on Mathematical Ecology, Spain, *Why do plankton cells aggregate: a view from superprocesses.*

35. September 2003, Stochastic Partial Differential Equations, Banff, Canada. *Some new results in random field geometry.*

36. November 2003, Southern California Probability Symposium, Los Angeles, *Random fields on manifolds.*

37. July 2004, Sixth Bernoulli World Congress and the IMS Annual Meeting, Barcelona, *Extrema of random fields.*

38. August 2005, Fourth Conference on Extreme Value Analysis, Gothenburg, *Random fields over manifolds.*

39. October 2005, Twenty-seventh Midwest Probability Colloquium, Evanston. *Random Fields on Manifolds* (two lectures) and *A tutorial on Lipschitz-Killing curvature and Weyl's tube formula*, (two lectures).

40. June 2006, Extremes in Action (Conference in Honour of Georg Lindgren), Lund, Sweden. *Rice and Geometry*

41. June 2006, Statistics at the Frontiers of Science, Banff International Research Station. *Rice and Geometry.*

42. October 2006, The Eigth Northwest Probability Seminar, (Birnbaum Lecture) Seattle. *Integral geometry in Gauss spaces.*

43. October 2006, PIMS 10th Anniversary Distinguished Lecture Series, Calgary. *The brain, the universe, and random processes on manifolds.*

44. July 2007, The Fifth Conference on Extreme Value Analysis Probabilistic and Statistical Models and their Applications, Bern, Switzerland. *Some geometry for stable random fields.*

45. November 2007, Applications of Partial Differential Equations, Stockholm, Sweden. *On quantifying shape, with two applications to stochastic processes.*

46. January 2009, CRM Workshop on Random Functions, Random Surfaces and Interfaces, Montreal, Canada. *A kinematic formula for Gaussian excursions.*

47. January 2009, Workshop on Models and Images for Porous Media, Paris, France. *From statistics to topology and back again.*

48. June, 2010, ATMCS 10, Applied Topology: Methods, Computation, and Science 2010, Münster, Germany. *From statistics to topology and back again, via the Gaussian kinematic formula.*

49. December 2010. Borrowing Strength: Theory Following Applications. A Conference In Honor of Larry Brown's 70-th Birthday. U. Penn, Philadelphia. *Persistent homology, probability and statistics.*

50. June 2011. Workshop on Applied Algebraic Topology, ETH, Zürich. *Random fields and random geometry*

51. October 2011. Computational Methods in Applied Sciences, Columbia. New York, *Persistent homology, probability and statistics.*

52. November 2011. Workshop on Computational Topology, Fields Institute, Toronto. *TBA*

53. February, 2012. American Association for the Advancement of Science, Annual Meeting. Vancouver. *A common topological approach to randomness in the structure of brains and the cosmos.*

54. July, 2012. Workshop on Manifolds of Metrics and Probabilistic Methods in Analysis and Geometry", CRM Montreal. *TBA.*

SCIENTIFIC PUBLICATIONS

(a) Books

1. R.J. Adler, *The Geometry of Random Fields* (1981), Wiley, London, xi + 275.

2. R.J. Adler, *An Introduction to Continuity, Extrema, and Related Topics for General Gaussian Processes* (1990), vii + 160, IMS Lecture Notes-Monograph Series.

3. R.J. Adler, P. Muller, B. Rozovskii (eds.) *Stochastic Modelling in Physical Oceanography* (1996), Birkhaüser, Boston, xi+486.

4. R.J. Adler, R. Feldman, M. Taqqu, (eds.) *A Practical Guide to Heavy Tails: Statistical Techniques and Applications* (1998), Birkhaüser, Boston, xvi+533.

5. R.J. Adler and J.E. Taylor, *Random Fields and Geometry*, (2007), Springer, Boston, xx + 448.

6. R.J. Adler, *The Geometry of Random Fields* (2009), SIAM, Philadelphia, xxi + 275. (Reprinting of Item 1 above, with corrections, in the SIAM series *Classics in Applied Mathematics.*)

7. R.J. Adler, and J.E. Taylor, *Topological Complexity of Random Functions* (2011) *Springer Lecture Notes in Mathematics, Vol. 2019*, Springer. viii + 125.

8. R.J. Adler, K. Worsley and J. Taylor, *Applications of Random Fields and Geometry: Foundations and Case Studies*, (2013?), Springer, In preparation. (250 pages to date.)

(b) Papers in journals (Published)

9. R.J. Adler and D.J. Scott, Martingale central limit theorems without uniform asymptotic negligibility, *Bull. Austral. Math. Soc.*, 13, 1975, 45–56 (Corrigendum, 18, 1978, 311–319).

10. R.J. Adler and A.M. Hasofer, Level crossings for random fields, *Annals of Probability*, 4, 1976, 1–12.

11. R.J. Adler, Excursions above a fixed level by n-dimensional random fields, *J. Applied Probability*, 13, 1976, 276–289.

12. R.J. Adler, On generalising the notion of upcrossings to random fields, *Adv. Applied Probability*, 8, 1976, 789–905.

13. R.J. Adler, Excursions above high levels by Gaussian random fields, *Stochastic Processes Appl.*, 5, 1977, 21–25.

14. R.J. Adler, Hausdorff dimension and Gaussian fields, *Annals of Probability*, 5, 1977, 145–151.

15. R.J. Adler, A spectral moment problem in two dimensions, *Biometrika*, 64, 1977, 367–373.

16. R.J. Adler, A martingale central limit theorem without negligibility conditions, *Bull. Austral. Math. Soc.*, 18, 1978, 13–19.

17. R.J. Adler, Weak convergence results for extremal processes generated by dependent random variables, *Annals of Probability*, 6, 1978, 660–667.

18. R.J. Adler, Some erratic patterns generated by the planar Wiener process, *Suppl. Adv. Appl. Prob.*, 10, 1978, 22–27.

19. R.J. Adler, The uniform dimension of the level sets of a Brownian sheet, *Annals of Probability*, 6, 1978, 509–515.

20. R.J. Adler, On the envelope of a Gaussian random field, *J. Appl. Prob.*, 15, 1978, 502–513.

21. R.J. Adler, Distribution results for the occupation measures of continuous Gaussian fields, *Stochastic Processes Appl.*, 7, 1978, 299–310.

22. R.J. Adler, A Hölder condition for the local time of the Brownian sheet, *Indiana Univ. Math. J.*, 29, 1980, 793–798.

23. R.J. Adler and D. Firman, A non-Gaussian model for random surfaces, *Phil. Trans. Royal Society*, 303, 1981, 433–462.

24. R.J. Adler, Random field models in surface science, (Invited paper) *Bull. Int. Statist. Inst.*, 49, 1981, 660–681.

25. R.J. Wilson and R.J. Adler, The structure of Gaussian fields near a level crossing, *Adv. Applied Probability*, 14, 1982, 543–565.

26. R.J. Adler, D. Monrad, R. Scissors and R.J. Wilson, Representations, decompositions, and sample function continuity of random fields with independent increments, *Stochastic Processes Appl.*, 15, 1983, 3–30.

27. R.J. Adler, The supremum of a particular Gaussian field, *Annals of Probability*, 12, 1984, 436–444.

28. R.J. Adler and P.D. Feigin, On the cadlaguity of random measures, *Annals of Probability*, 12, 1984, 615–630.

29. A. Aronowich and R.J. Adler, The behaviour of χ^2 processes at critical points, *Adv. Applied Probability,* 17, 1985, 280–297.

30. R.J. Adler and L.D. Brown, Tail behaviour for the suprema of empirical processes, *Annals of Probability*, 14, 1986, 1–30.

31. M. Aronowich and R.J. Adler, Extrema and level crossings of χ^2 processes, *Adv. Applied Probability*, 18, 1986, 901–920.

32. R.J. Adler and R. Epstein, A central limit theorem for Markov paths and some properties of Gaussian random fields, *Stochastic Processes and their Applications*, 25, 1987, 157–202.

33. R.J. Adler and G. Samorodnitsky, Tail behaviour for the suprema of Gaussian processes with applications to empirical processes, *Annals of Probability*, 15, 1987, 1339–1352.

34. M. Aronowich and R.J. Adler, Sample path behaviour of χ^2 surfaces at extrema, *Advances in Appl. Probability,* 20, 1988, 719–738.

35. R.J. Adler, Fluctuation theory for systems of signed and unsigned particles with interaction mechanisms based on intersection local times, *Advances in Appl. Probability,* 21, 1989, 334–356.

36. R.J. Adler, S. Cambanis and G. Samorodnitsky, On stable Markov processes, *Stochastic Processes and their Applications*, 34, 1990, 1–17.

37. R.J. Adler, L.D. Brown and K-L. Lu, Tests and confidence bands for bivariate cumulative distribution functions, *Communications in Statistics, Simulation and Computation*, 19, 1990, 25–36.

38. R.J. Adler, The net charge process for interacting, signed diffusions. *Annals of Probability*, 18, 1990, 602–625.

39. R.J. Adler, M.B. Marcus and J. Zinn, Central limit theorems for the local times of certain Markov processes and the squares of Gaussian processes. *Annals of Probability*, 18, 1126–1140, 1990.

40. R.J. Adler, R. Feldman and M. Lewin, Intersection local times for infinite systems of planar Brownian motions and the Brownian density process, *Annals of Probability*, 19, 192–220, 1991.

41. R.J. Adler and M. Lewin, Local time and Tanaka formulae for super Brownian motion and super stable processes, *Stochastic Processes and their Applications*, 41, 45–68, 1992.

42. T. Gadrich and R.J. Adler, Slepian models for non-stationary Gaussian processes, *J. Appl. Prob.* 30, 1993, 98–111.

43. R.J. Adler, G. Samorodnitsky and T. Gadrich, The expected number of level crossings for stationary, harmonisable, symmetric, stable processes. *Annals of Applied Probability*, 2, 1993, 553–575.

44. R.J. Adler and J.S. Rosen, Intersection local times of all orders for Brownian and stable density processes—construction, renormalisation, and limit laws, *Annals of Probability*, 21, 1993, 1073–1123.

45. R.J. Adler and R. Pyke, Uniform quadratic variation for Gaussian processes, *Stochastic Processes and their Applications*, 48, 1993, 191–210.

46. T. Mikosch, T. Gadrich, C. Klüppelberg and R.J. Adler, Parameter estimation for ARMA models with infinite variance innovations, *Annals of Statistics* 23, 1995, 305–326.

47. R.J. Adler and G. Samorodnitsky, Super fractional Brownian motion, fractional super Brownian motion, and related self-similar (super) processes, *Annals of Probability*, 23, 1995, 743–766.

48. L. Mytnik and R.J. Adler, Bisexual branching diffusions, *Advances in Appl. Probability*, 27, 1995, 980–1018.

49. R.J. Adler and L. Ivanitskaya, A superprocess with a disappearing self-interaction, *J. Theoretical Probability*, 9, 1996, 245–261.

50. R.J. Adler and G. Samorodnitsky, Level crossings of absolutely continuous stationary symmetric α-stable processes. *Annals of Applied Probability*, 6, 1997, 460–493.

51. R.J. Adler and S.K. Iyer, Attractive polymer models for two and three dimensional Brownian motion, *Stochastic Processes and their Applications*, 66, 1997, 271–282.

52. R.J. Adler and R. Pyke, Brownian scan processes. *Advances in Appl. Probability*, 29, 1997, 295–326.

53. A. Zeevi, R. Meir and R.J. Adler, Time series prediction using mixtures of experts, in *Advances in Neural Information Processing Systems*, 9, 1997, 309–315.

54. R.J. Adler, Invited discussion on "Heavy tail modelling and telegraphic data" *Annals of Statistics*, 25, 1997, 1849–51.

55. R.J. Adler, Superprocesses and plankton dynamics, *Aha Huliko'a*, 1997, 121–128.

56. R.J. Adler and R. Tribe, Uniqueness for a historical SDE with a singular interaction. *J. Theoretical Probability*, 11, 1998, 515–533.

57. R.J. Adler and S.K. Iyer, An exponential change of measure for the Feller diffusion and some implications for superprocesses. *J. Appl. Probability*, 37, 2000, 236–245.

58. J. Verzani and R.J. Adler, IBM, SIBM and IBS. *Annals of Probability* 28, 2000, 462–477.

59. R.J. Adler, On excursion sets, tube formulae, and maxima of random fields, (Special Invited Paper) *Annals of Applied Probability*, 10, 2000, 1–74.

60. R.J. Adler and S.K. Iyer, On changes of measure for super Brownian motion. *Journal of Theoretical Probability*, 14, 2001, 527–557.

61. G. Skoulakis and R.J. Adler, Superprocesses over random flows, *Annals of Applied Probability*, 11, 2001, 488–543.

62. J.E. Taylor and R.J. Adler, Euler characteristics for Gaussian fields on manifolds, *Annals of Probability*, 31, 2003, 533-563.

63. R.J. Adler, Gaussian random fields on manifolds. *Stochastic Analysis, Random Fields and Applications*, 4, 2004, 3-20.

64. J. Taylor, A. Takemura and R.J. Adler, Validity of the expected Euler characteristic heuristic. *Annals of Probability*, 33, 2005, 1362-1396.

65. S. Vadlamani and R.J. Adler, Global geometry under isotropic Brownian flows. *Electronic Communications in Probability*, 11, 182-192, 2006.

66. G. Bonnett and R.J. Adler, The Burgers superprocess. *Stochastic Processes and their Applications*, 117, 143-164, 2007.

67. R.J. Adler, New developments in random field theory. (Invited review) *Journal of Stochastic Environmental Research and Risk Assessment.*) 22, 809-822, 2008.

68. J. Taylor and R.J. Adler, Poincaré's limit, kinematic formulae and Gaussian fields. *Annals of Probability*, 37, 1459–1482, 2009.

69. R.J. Adler, J. Ewing and P. Taylor, Citation Statistics, with discussion. *Statistical Science*, 24, 1–28, 2009. (See further details at item 94 below.)

70. R.J. Adler, G. Samorodnitsky and J.E. Taylor, Excursion sets of three classes of stable random fields. *Advances in Applied Prob.* 42, 293–318, 2010.

71. R.J. Adler, O. Bobrowski, M.S. Borman, E. Subag and S. Weinberger, Persistent homology for random fields and complexes. In *Borrowing Strength: Theory Powering Applications, A Festschrift for Lawrence D. Brown, IMS Collections* 6, 124–143, 2010.

72. A. Schwartzman, Y. Gavrilov and R.J. Adler, Multiple testing of local maxima for detection of peaks in 1D. *Annals of Statistics*, 39, 2011, 3290–3319.

(c) Papers in journals (Accepted for publication)

73. R.J. Adler, J. Blanchet and J. Liu, Efficient Monte Carlo for high excursions of Gaussian random fields. *Annals of Applied Probability*, 22, 2012, (45 pages.)

74. R.J. Adler, G. Samorodnitsky and J.E. Taylor, Geometric characteristics of the excursion sets of over high levels of non-Gaussian infinitely divisible random fields. *Annals of Probability*, 40, 2012, (43 pages).

(d) Papers in journals (Submitted)

75. O. Bobrowski and R.J. Adler, Distance functions, critical points, and topology for some random complexes. (50 pages)

76. R.J. Adler, K. Bartz and S. Kou, Estimating thresholding levels for random fields via Euler characteristics. (33 pages)

77. R.J. Adler, E. Subag and J.E. Taylor, Rotation and scale space random fields and the Gaussian kinematic formula. (39 pages)

78. R.J. Adler, E. Moldovskaya and G. Samorodnitsky, On the existence of paths between two points in high level excursion sets of Gaussian random fields. (36 pages)

(e) Papers in journals (In preparation)

79. R.J. Adler, O. Bobrowski and S. Weinberger, The persistent homology of noise.

(f) Articles in other peer reviewed outlets

80. R.J. Adler and M. Lewin, An evolution equation for the intersection local times of super processes, *Stochastic Analysis*, eds. M.T. Barlow and N.H. Bingham, *London Math. Soc. Lecture Notes*, 167, Cambridge University Press, 1–22, 1991 .

81. R.J. Adler, Superprocess local and intersection local times and their corresponding particle pictures. *Seminar on Stochastic Processes, 1992.* eds E. Çinlar, K.L. Chung, M.J. Sharpe, Birkhaüser, 1993, 1–42.

82. R.J. Adler, Superprocesses—the particle picture, *Measure-Valued Processes, Stochastic Partial Differential Equations, and Interacting Systems, CRM Proceedings and Lecture Notes*, 5, ed. D.A. Dawson, Centre de Recherches Mathématiques, Université de Montreal, 1994, 1–15.

83. R.J. Adler, Raisa Feldman and Colin Gallagher, Analysing stable time series, in *A Users Guide to Heavy Tails: Statistical Techniques for Analysing Heavy Tailed Distributions and Processes.* Adler, Feldman, Taqqu, (eds) (1998), Birkhaüser, Boston, 133–158.

84. R.J. Adler, J. Blanchet and J. Liu, Efficient simulation for tail probabilities of Gaussian random fields, *Proceedings of the 2008 Winter Simulation Conference* S.J. Mason, R.R. Hill, L. Moench, O. Rose, (eds) (2008).

(f) Other publications

85. R.J. Adler, Hausdorff dimension, *Encyclopedia of Statistical Sciences*, 3 (eds., N. Johnson and S. Kotz), Wiley, 1983, 580–584.

86. R.J. Adler, Local time, *Encyclopedia of Statistical Sciences,* 5 (eds., N. Johnson and S. Kotz), Wiley, 1985, 100–101.

87. R.J. Adler, Markov random fields, *Encyclopedia of Statistical Sciences*, 5 (eds., N. Johnson and S. Kotz), Wiley, 1985, 270–273.

88. R.J. Adler, Random fields, *Encyclopedia of Statistical Sciences*, 7 (eds., N. Johnson and S. Kotz), Wiley, 1986, 508–512.

89. R.J. Adler and R. Pyke, Problem 91-3, *Bulletin IMS*, 20, 1991, 407.

90. R.J. Adler, Editorial column, *Stochastic Processes Appl.*, 49, 1994, 1–2.

91. R.J. Adler, Random fields. *Encyclopedia of Environmetrics*, Wiley, 2001.

92. R.J. Adler, Orbituary, Ronald Pyke. *Bulletin IMS*, 35 (1), 4–5, 2006.

93. R.J. Adler, The impact of impact factors. *Bulletin IMS*, 36 (5), 5, 2007.

94. R.J. Adler, J. Ewing and P. Taylor, Joint Committee on Quantitative Assessment of Research: Citation Statistics. A report from the International Mathematical Union in cooperation with the International Council of Industrial and Applied Mathematics and the Institute of Mathematical Statistics. The official IMU posting is at `www.mathunion.org/fileadmin/IMU/Report/CitationStatistics.pdf`.

    The report has been widely translated. See the following sites:

    Chinese: *Mathematical Advance in Translation*, 28 (4), 289–304.
    Japanese: `http://mathsoc.jp/IMU/CitationStatisticsJp20081202.pdf`
    Spanish: `http://www.rsme.es/gacetadigital/abrir.php?id=832`
    Catalan: `http://www.iecat.net/institucio/societats/SCMatematiques/index.as`
    Portuguese: `In preparation.`

(g) Computer programs, videos, etc.

95. R.J. Adler and S. Lyalko, *INTERACT*, an interactive Fortran progam for the visualisation of one and two dimensional superprocesses, 1993.

96. R.J. Adler and A. Gross, *SUPER*, an interactive C/GL graphics package for the visualisation of superprocesses in dimensions one through five, 1994.

97. R.J. Adler, *Superprocesses—The Movie*. A 15-minute video of superprocess visualisations, 1994.