CURRICULUM VITAE

Home - Kfar Aharon, Ness Ziona
Office - Department of Chemical Physics, Weizmann Institute of Science, Rehovot 76100, Israel
Education - B.Sc. in Chemistry (with honors), Hebrew University, Jerusalem, 1973
Ph.D. in Theoretical Chemistry (summa cum laude), Hebrew University, Jerusalem, 1976

Experience and Professional Experience

- Israel Defense Forces, 1967-1970, 1973-1974, command and administrative duties of unit of 40 soldiers
- Teaching assistant, Hebrew University, Jerusalem, 1975-1976
- Postdoctoral Fellow, Massachusetts Institute of Technology, 1977-1979
- Senior Scientist, Department of Chemical Physics, Weizmann Institute of Science, April 1979-1980
- Associate Professor, Department of Chemical Physics, Weizmann Institute of Science, October 1980-1984
- Visiting Professor, City College of the City University of New York, April-July 1981
- Consultant, Exxon Research and Engineering Co., June-July 1981
- Visiting Professor, The University of Chicago, 1984-1985
- Professor, Department of Chemical Physics, Weizmann Institute of Science, 1985-
- Visiting Professor, Columbia University, November-December 1985
- Visiting Professor, The University of Chicago, July-August 1986
- Head, Department of Chemical Physics, The Weizmann Institute of Science. July 1987-Dec. 1988
- Visiting Professor, The University of Chicago, July-August 1987
- Visiting Professor, The University of Chicago, July-August 1988
- Visiting Professor, IHES, Bures-sur-Yvette, France, October 1988.
- Dean, Faculty of Chemistry, The Weizmann Institute of Science, Jan 1989-Jan 2001
- Visiting Professor, The University of Chicago, September 1990 - March 1991
- Visiting Professor, NORDITA and Niels Bohr Institute, Copenhagen, Denmark, March-August 1991
- Adjunct Professor, NORDITA, Copenhagen, Denmark, 1992-2006
- Visiting Professor, The University of Chicago, January 1992
- Visiting Professor, IHES, Bures-sur Yvette, France, April 1992
- Visiting Professor, The University of Chicago, January-February, March-April, 1993
- Visiting Fellow, The Isaac Newton Institute, University of Cambridge, UK, Sept-Oct 1995
- Visiting Professor, IHES, Bures-sur-Yvette, France, April 1997
- Member, Scientific Committee of International Center of Condensed Matter Physics, Brasilia, Brazil, 1996-2006
- Visiting Professor, The Rockefeller University, August-October 1997
- Visiting Fellow, The Isaac Newton Institute, University of Cambridge, UK, January 1999
- Member, Prize Committee for the Young European Prize in Mathematics, 2000
- Member, Centro Internacional de Ciencias (CIC), Cuernavaca, Morelos, Mexico, 2000 –
- Director, Minerva Center for Nonlinear Physics, 2004 –2014
- Visiting Professor, The Chinese University of Hong Kong, January –May 2004
- Visiting Professor, Ecole Normale Superieure, Lyon, April 2005
- Member of the Board of Governors, The Institute for Complex Adaptive Matter (A Multi-campus Research Program of the University of California), 2006 –
- Visiting Professor, Ecole Normale Superieure, Paris, April 2006
- President, Scientific Committee of the International Center of Condensed Matter Physics, Brasilia, Brazil, 2006-2009
- Chairman, steering committee of a Center of Excellence of the Ministry of Science.
- The committee for the Alon Fellowships (Government fellowships for returning Israeli academics after post-doctoral training). 2007-.2009

- Visiting Professor, The Chinese University of Hong Kong, Sept-December 2008.
- Member, the committee on Statistical Physics of IUPAP (International Union of Pure and Applied Physics), 2008
– President of the Academic Advisory Committee, International Institute of Physics, Natal, Brazil, 2009-
  - Board member, the Niels Bohr International Academy, Copenhagen, Denmark, 2013-
  - Elected as the Chair of the International Commission for Statistical Physics for the International Union of Pure and Applied Physics (IUPAP) 2013-2020
  - Member of the Israeli Government committee for university scholarships for the Israeli Arab minority students.
  - Visiting Review Committee, Physics Department, the Chinese University of Hong Kong, 2016.
  - Visiting Review Committee, ICTS, TIFR, Bangalore India (2017).
  - Member of the Committee for hiring Full Professor, Ecole Normal Superieure, Paris, 2018.
  - Director, Minerva Center for "Aging, from Physical Materials to Human Tissues", 2019-
  - Member of the Harvey Prize selection committee, 2021.

Fellowships and Honors

- Israel Chemical Society Prize, 1972
- The G.Y. Yashinsky Prize for Distinguished Thesis, 1976
- Dr. Chaim Weizmann Postdoctoral Fellowship, 1977-1978
- The Aharon Katchalsky (Katzir) Prize, 1977
- The S. Sachs Prize, 1982
- "Philips Lecturer", Haverford College, Pennsylvania 1984
- Fellow of the Japan Society for the Promotion of Science, March-April 1987.
- "Gunar Kallen Memorial Lecturer", Lund, Sweden, 1987
- The E.D. Bergman Prize Administered by the Israel Academy of Sciences and Humanities, 1989
- "Sloan Lecturer", Colby College, Maine, 1992
- The Barbara and Morris L. Levinson Professorial Chair in Chemical Physics, 1992
- Fellow of the Japan Society for the Promotion of Science, October-November 1992
- Award of the Royal Society, (UK) 1995
- The C.N Yang Visiting Professor 1995, Chinese University of Hong Kong
- UNESCO Professor in Science and Sustainable Development 1995-2000
- The "Fiorino d'Oro", the highest prize given by the Municipality of Florence for outstanding achievements in science, culture and human affairs, 1998
- Research Fellow of the National Research Council (UK) - January 1999
- Fellow of the Japan Society for the Promotion of Science, September-November 1999
- The Raman Chair, a Professorship instituted by the Indian Academy of Sciences in honour of its founder, C.V. Raman, 2000
- Fellow of the American Physical Society 2002-
- Fellow of the German National Academy of Natural Sciences Leopoldina 2002-
- "Euroattractor 2002"- a special prize given by the Polish Academy of Sciences for "Life achievements in Nonlinear Dynamics", Warsaw 2002
- Fellow of the World Innovation Foundation, 2004 –
- Fellow of the Institute of Physics (UK) 2004 –
- The Weizmann Prize 2005 (a tri-annual prize in the Exact Sciences given by the Mayor of Tel Aviv)
- Conferred knighthood by the President of the Italian Republic Mr. Giorgio Napolitano in the "Order of the Star of Italian Solidarity" at the highest grade of "Grande Ufficiale" (Great Officer), for ``Outstanding Scientific Achievements by an Italian citizen abroad". June 2007
- The Brazilian Minister of Education ``Distinguished Lecturer Program": a special set of lectures delivered in Brasilia and televised to all Brazilian universities, August 2007.
- The Israel Prize for Physics, 2009.

- Elected Foreign Member of the Royal Danish Academy of Sciences and Letters, 2010
- The European Research Council "Advanced" grant award (2.5 million dollars), 2010.
-GI3 Visiting Professor of the World Premier International Advanced Institute for Material Research, February 2011 (Sendai, Japan).
- The Gauss Professorship for 2011 from the Goettingen Academy of Sciences, March 2011.
- The 3'rd Moshinsky Memorial Lecture, UNAM, Mexico, November 2011.
- Conferred PhD honoris causa, the University of Rio Grande do Norte, Natal, Brazil, October 2012.
- The Raymond and Beverly Sackler Distinguished Lecturer at the Niels Bohr International Academy, August, 2013.
- Conferred the Grand Star of the "Order of Scientific Merit" of the Federal Republic of Brazil for "Outstanding Scientific Achievements", 2014.
- AIRBUS Professorship, 2015.
- The "Chandrasekhar Lectures", International Center for Theoretical Sciences, Tata Institute of Fundamental Research, Bangalore, India, April 2015.
- The first "Rita Levi-Montalcini Prize" for Scientific Cooperation, Italy, 2016.
- Elected to the Academia Europaea, August 2017.
- Simons Professorship, the Niels Bohr Institute, Copenhagen, Denmark, August-October 2017.
- The European Physical Society Prize in Statistical and Nonlinear Physics 2017.
- Invitation to the Colloquium Ehrenfestii in Leiden and signing the "Ehrenfest Wall", 2018.
- Received Fellowship of the "1000 Talents Program", The People's Republic of China, 2019 –
- Nominated to the Section Committee of Physics and Engineering Sciences of the European Academy, 2021-
- Honorary Member of the Physical Society of Uzbekistan, 2021-
- Conferred PhD Honoris Causa, the Rey Juan Carlos University, Madrid, Spain, January 2022.
- The L.P. Kadanoff Prize of the American Physical Society, 2023.

Editorial Boards

- Nonlinearity (Editorial Board 1988-1991); Editor in Chief 1991-1999
- Physica A (Statistical and Theoretical Physics) (1987-1991)
- Physics Reports (1988-
- Chaos, Solitons and Fractals (Honorary Editor) (1992-2011)
- Physical Review E (Advisory Editorial Board) 1992-1998
- Journal of Statistical Mechanics: Theory and Experiment (2003-2007)

Research Interests

- Nonequilibrium Thermodynamics and Statistical Mechanics
- Stochastic Theory. Instabilities
- Nonlinear Systems and Chaotic Motions. Turbulence and Turbulent Transport Processes
- Fractals in Physics
- Fracture of brittle and ductile materials, the glass transition. Mechanical properties of amorphous materials. Cross effects between mechanical and magnetic properties in metallic glasses. Frictional granular matter. Anomalous elasticity and screening by plasticity in amorphous solids.

Itamar Procaccia December 2023

List of Publications

1. I. Procaccia and R.D. Levine, "Vibrational energy transfer in non-reactive molecular collisions: an information theoretical analysis", Chem.Phys.Lett. 33, 5 (1975).
2. I. Procaccia and R.D. Levine, "From bulk vibrational relaxation data to the detailed (microscopic) rate constants", J.Chem.Phys. 62, 2496 (1975).
3. I. Procaccia and R.D. Levine, "The populations time evolution in vibrational disequilibrium: an information theoretic approach with application to HF", J.Chem.Phys. 62, 3819 (1975).
4. I. Procaccia, Y. Shimoni and R.D. Levine, "Rotational relaxation: an analytic solution of the master equation with application to HCl", J.Chem.Phys. 63, 3181 (1975).
5. I. Procaccia and R.D. Levine, "Vibrational energy transfer in molecular collisions: an information theoretic analysis and synthesis", J.Chem.Phys. 63, 4261 (1975).
6. I. Procaccia and R.D. Levine, "Rotational excitation of HD by collision with He", Physica 82A, 623 (1976).
7. R.D. Levine, R.B. Bernstein, P. Kahana, I. Procaccia and E.T. Upchurch, "Surprisal analysis and probability matrices for rotational energy transfer", J.Chem.Phys., 64, 796 (1976).
8. I. Procaccia and R.D. Levine, "Cross sections for rotational energy transfer: an information-theoretic synthesis", J.Chem.Phys. 64, 808 (1976).
9. I. Procaccia and R.D. Levine, "The role of the collision partner in the rotational excitation of diatomic molecules", J.Chem.Phys. 65, 495 (1976).
10. I. Procaccia, Y. Shimoni and R.D. Levine, "Entropy and macroscopic disequilibrium: I. Isothermal time evolution with applications to vibrational relaxation", J.Chem.Phys. 65, 3284 (1976).
11. I. Procaccia and R.D. Levine, "Comment on the rotational excitation in hydrogen halide rare gases collision", Phys.Rev. 14, 1569 (1976).
12. I. Procaccia, "Energy transfer in molecular collisions: The microscopic and macroscopic description and the connection between them", Ph.D. Thesis, the Hebrew University of Jerusalem (1976).
13. I. Procaccia and R.D. Levine, "Potential work: a statistico-mechanical approach for systems in disequilibrium", J.Chem.Phys. 65, 3357 (1976).
14. I. Procaccia, S. Mukamel and J. Ross, "Formation of ensembles with constraints of coherence", J.Chem.Phys. 66, 5064 (1977).
15. I. Procaccia and J. Ross, "Stability and relative stability in reactive systems far from equilibrium. I. Thermodynamic analysis", J.Chem.Phys. 67, 5558 (1977).
16. I. Procaccia and J. Ross, "Stability and relative stability in reactive systems far from equilibrium. II. Kinetic analysis of relative stability of multiple stationary states", J.Chem.Phys. 67, 5565 (1977).
17. S. Mukamel, I. Procaccia and J. Ross, "Consequences of size dependence of transition probabilities in stochastic equations", J.Chem.Phys. 68, 1205 (1978).
18. I. Procaccia, S. Mukamel and J. Ross, "On the theory of unimolecular reactions; application of mean first passage times to reaction rate", J.Chem.Phys. 68, 3244 (1978).
19. I. Procaccia and S. Mukamel, "A note on the bimodal stationary distributions in stochastic models of chemical hard instabilities", J.Stat.Phys. 18, 633 (1978).
20. I. Procaccia and J. Ross, "The 1977 Nobel prize for chemistry", Science 198, 716 (1977).
21. D. Gutkowicz-Krusin, I. Procaccia and J. Ross, "On the efficiency of rate processes. Power and efficiency of heat engines", J.Chem.Phys. 69, 3898 (1978).
22. D. Gutkowicz-Krusin, I. Procaccia and J. Ross, "Analytic results for asymmetric random walk with exponential transition probabilities", J.Stat.Phys. 19, 525 (1978).
23. I. Procaccia, D. Ronis, M.A. Collins, J. Ross and I. Oppenheim, "Statistical mechanics of stationary states. I. Formal theory", Phys.Rev.A 19, 1290 (1979).
24. D. Ronis, I. Procaccia and I. Oppenheim, "Statistical mechanics of stationary states. II. Applications to low density systems", Phys.Rev.A 19, 1307 (1979).
25. D. Ronis, I. Procaccia and I. Oppenheim, "Statistical mechanics of stationary states. III. Fluctuations in dense fluids with applications to light scattering", Phys.Rev.A 19, 1324 (1979).

26. I. Procaccia, D. Ronis and I. Oppenheim, "Light scattering from nonequilibrium stationary states: the implication of broken time reversal symmetry", Phys.Rev.Lett. 42, 287 (1979).
27. I. Procaccia and J. Ross, "Stability and relative stability in systems with multiple stationary states", Prog.Theor.Phys.Supp. 64, 244 (1978).
28. I. Procaccia and J. Ross, "On measures of stability and relative stability in systems with multiple stationary states", in synergetics far from equilibrium A. Pacault and C. Vidal, eds., Springer (Berlin, 1978).
29. I. Procaccia, D. Ronis and I. Oppenheim, "Statistical mechanics of stationary states. IV. Far from equilibrium stationary states and the regression of fluctuations", Phys.Rev.A 20, 2533 (1979).
30. J. Machta, I. Oppenheim and I. Procaccia, "Statistical mechanics of stationary states. V. Fluctuations in systems with velocity fields", Phys.Rev.A 22, 2809 (1980).
31. I. Procaccia, "On time reversal symmetry breaking and fluctuation dissipation theorems in stationary states", in order and fluctuations in equilibrium and nonequilibrium statistical mechanics, G. Nicols, G. Dewell and J.W. Turner, eds., Wiley & Sons (1981).
32. I. Procaccia, "Hydrodynamic fluctuations in nonequilibrium stationary states", Proceedings of the XVII'th Oaxtepec meeting on statistical mechanics, Mexico 1979.
33. J. Machta, I. Oppenheim and I. Procaccia, "Light scattering and pair-correlation functions in fluids with nonuniform velocity fields", Phys.Rev.Lett. 42, 1368 (1979).
34. P.H. Richter, I. Procaccia and J. Ross, "Chemical instabilities", Adv.Chem.Phys. 43, 217 (1980).
35. D. Ronis, I. Procaccia and J. Machta, "statistical mechanics of stationary states. VI. Hydrodynamic fluctuation theory far from equilibrium", Phys.Rev.A 22, 714 (1980).
36. I. Goldhirsch and I. Procaccia, "The number of propagating modes in hydrodynamic systems", Physica 105A, 330 (1981).
37. I. Goldhirsch and I. Procaccia, "Statistical mechanics of stationary states. VII. Quantum statistical theory with applications to ferromagnets", Phys.Rev.A 22, 1720 (1980).
38. I. Goldhirsch and I. Procaccia, "Nonlinear behaviour at a chemical instability: a detailed renormalization group analysis of a case model", Phys.Rev.A 24, 572 (1981).
39. I. Goldhirsch and I. Procaccia, "Threshold behaviour at the onset of the Rayleigh-Benard instability", Phys.Rev.A 24, 580 (1981).
40. I. Procaccia and I. Goldhirsch, "Non-classical" threshold behaviour at far from equilibrium instabilities", in systems far from equilibrium, L. Garrido, ed., Springer (1980).
41. I. Procaccia and M. Gitterman, "Slowing down of chemical reactions near thermodynamic critical points", Phys.Rev.Lett. 46, 1163 (1981).
42. I. Procaccia and M. Gitterman, "Dynamical critical phenomena in chemically reactive fluid mixtures", Phys.Rev.A 25, 1137 (1982).

43. H.G.E. Hentschel and I. Procaccia, "Sound attenuation in critically slowed down chemically reactive systems", J.Chem.Phys. 76, 666 (1982).
44. D. Gutkowicz-Krusin and I. Procaccia, "Equilibrium fluctuations in fluid layers: effects of transport across fluid-solid interfaces", Phys.Rev.Lett. 48, 417 (1982).
45. I. Procaccia, "Critical slowing down of chemical reactions near thermodynamic critical points", in nonlinear phenomena in chemical dynamics, A. Pacault and C. Vidal, eds. Springer (1982).
46. H.G.E. Hentschel and I. Procaccia, "On heterogeneous catalysis near magnetic phase transitions of the catalyst", J.Chem.Phys. 77, 5234 (1982).
47. D. Ronis and I. Procaccia, "A nonlinear resonant coupling of shear mode to heat mode in fluids far from equilibrium", Phys.Rev.A 26, 1812 (1982).
48. M. Gitterman and I. Procaccia, "Quantitative theory of solubility in supercritical fluids", J.Chem.Phys. 78, 2648 (1983).
49. I. Procaccia, "The effect of many body collective phenomena on the rates of chemical reactions", in quantum chemistry and biochemistry, eds. B. Pullman and J. Jortner, Reidel, N.Y. (1982).

50. H.G.E. Hentschel and I. Procaccia, "The intermittency exponent in fractally homogeneous turbulence", Phys.Rev.Lett. 49, 1158 (1982).
51. I. Procaccia and M. Gitterman, "Quantitative analysis of supercritical extraction", AIChE Journal 29, 686 (1983).
52. A. Ben-Mizrachi and I. Procaccia, "Microscopic derivation of nonlinear hydrodynamics in ordered systems with applications to nematic liquid crystals", Phys.Rev.A 27, 2126 (1983).
53. P. Grassberger and I. Procaccia, "The long time properties of diffusion in a medium with static traps", J.Chem.Phys. 77, 6281 (1982).
54. I. Procaccia and M. Gitterman, "Anomalies in chemical equilibria near critical points", Phys.Rev.A 27, 555 (1983).
55. H.G.E. Hentschel and I. Procaccia, "The fractal nature of turbulence as manifested in turbulent diffusion", Phys.Rev.A 27, 1266 (1983).
56. P. Grassberger and I. Procaccia, "Diffusion and drift in a medium with randomly distributed traps", Phys.Rev.A 26, 2686 (1982).
57. P. Grassberger and I. Procaccia, "On the characterization of strange attractors", Phys.Rev.Lett. 50, 346 (1983).
58. I. Procaccia and M. Gitterman, "Super critical extraction at atmospheric pressures", J.Chem.Phys. 78, 5275 (1983).
59. D. Gutkowicz-Krusin and I. Procaccia, "Effects of interfacial transport on the equilibrium fluctuations in fluid layers", Phys.Rev.A 27, 2585 (1983).
60. P. Grassberger and I. Procaccia, "Measuring the strangeness of strange attractors", Physica D 9, 189 (1983).
61. I. Procaccia, P. Grassberger and H.G.E. Hentschel, "On the characterization of chaotic motions", in dynamical systems and chaos, L. Garrido, ed. Springer, (1982).
62. I. Procaccia, M. Silverberg and D. Ronis, "Off-diagonal correlation functions in systems with thermal gradients and their detectability by light scattering", Phys.Rev.A 27, 3334 (1983).
63. H.G.E. Hentschel and I. Procaccia, "Passive scalar fluctuations in intermittent turbulence with applications to wave propagation", Phys.Rev.A 28, 417 (1983).
64. H.G.E. Hentschel and I. Procaccia, "The infinite number of dimensions of probabilistic fractals and strange attractors", Physica D 8, 435 (1983).
65. I. Procaccia and H. Schuster, "Functional renormalization group theory of universal 1/f noise in dynamical systems", Phys.Rev. A 28, 1210 (1983).
66. A. Ben-Mizrachi, I. Procaccia and P. Grassberger, "The characterization of experimental (noisy) strange attractors", Phys.Rev.A 29, 975 (1984).
67. P. Grassberger and I. Procaccia, "Estimating the Kolmogorov entropy from a chaotic signal", Phys.Rev.A 28, 2591 (1983).
68. P. Grassberger and I. Procaccia, "Dimensions and entropies of strange attractors from a fluctuating dynamics approach", Physica D 13D, 34 (1984).
69. E. Meron and I. Procaccia, "New critical divergencies in the heat conductivity in the presence of a temperature gradient", Phys.Rev.Lett. 51,15 (1983).
70. H.G.E. Hentschel and I. Procaccia, "Relative diffusion in turbulent media: the fractal dimension of clouds", Phys.Rev.A 29, 1461 (1984).
71. S. Grossmann and I. Procaccia, "Unified theory of turbulent diffusion", Phys.Rev.A 29, 1358 (1984).
72. S. Grossmann, I. Procaccia and P.S. Stern, "The effect of molecular properties on atmospheric dispersion of vapors", Phys.Lett. 104A, 140 (1984).
73. A. Ben-Mizrachi, I. Procaccia, N. Rosenberg, A. Schmidt and H.G. Schuster, "Real and apparent divergencies in the low frequency spectra of nonlinear dynamical systems", Phys.Rev.A 31, 1830 (1985).
74. I. Procaccia and M. Gitterman, Comment on "Anomalies in chemical equilibria near critical points", Phys.Rev.A 30, 647 (1984).

75. E. Meron and I. Procaccia, "Critical anomalies of transport coefficients in nonequilibrium steady state systems. I. Formal theory", Phys.Rev.A 30, 3214 (1984).
76. E. Meron and I. Procaccia, "Critical anomalies of transport coefficients in Nonequilibrium steady state systems. II. Applications to heat conducting fluids", Phys.Rev.A 30, 3221 (1984).
77. A. Ben-Mizrachi and I. Procaccia, "Universal power law for the dimension of strange attractors near the onset of chaos", Phys.Rev.Lett. 53, 1704 (1984).
78. I. Procaccia, "Fractal structures in turbulence", J.Stat.Phys. 36, 649 (1984).
79. I. Procaccia, "The invariants that characterize chaos and the relations between them in theory and experiments", Physica Scripta. 59, 40 (1985).
80. A. Cohen and I. Procaccia, "On computing the Kolmogorov entropy from the time signals of dissipative and conservative dynamical systems", Phys.Rev.A 31, 1872 (1985).
81. B. O'Shaughnessy and I. Procaccia, "Analytical solutions for diffusion on fractal objects", Phys.Rev.Lett. 54, 455 (1985).
82. A. Ben-Mizrachi and I. Procaccia, "On the wrinkling of mode-locked tori in the transition to chaos", Phys.Rev.A 31, 3990 (1985).
83. P. Cvitanovic, M.H. Jensen, L.P. Kadanoff and I. Procaccia, "Renormalization, unstable manifolds and the fractal structure of mode locking", Phys.Rev.Lett. 55, 343 (1985).
84. B. O'Shaughnessy and I. Procaccia, "Diffusion on fractals", Phys.Rev. A 32, 3073 (1985).
85. M.H. Jensen and I. Procaccia, "Chaos via quasiperiodicity: universal scaling laws in the chaotic regime", Phys.Rev.A 32, 1225 (1985).
86. I. Procaccia, "Universal properties and universal numbers and their measurement in experiments on chaotic dynamical systems", Proceedings of the Conference on "Chaos and instabilities in nonlinear optics".
87. T.C. Halsey, P. Meakin and I. Procaccia, "The scaling structure of the surface layer of diffusion limited aggregates", Phys.Rev.Lett. 56, 854 (1986).
88. I. Procaccia, "Chaos in Surface waves: theory in Spiegel's wake", Abstract in the Proceedings of the Summer School on Chaos in Fluid Dynamics - Woods Hole.
89. I. Procaccia, "Theory of strange sets with applications to almost everything", Abstracts in the Proceedings of the Summer School on Chaos in Fluid Dynamics - Woods Hole.
90. E. Meron and I. Procaccia, "How does low dimensional chaos arise in complex systems with infinite degrees of freedom" in Proceedings of the Conference on "Complex Systems", ed. H. Haken (Springer, Berlin 1985).
91. T.C. Halsey, M.H. Jensen, L.P. Kadanoff, I. Procaccia and B. Shraimann, "Fractal measures and their singularities: the characterization of strange sets", Phys.Rev.A 33, 1141 (1986).
92. E. Meron and I. Procaccia, "Theory of chaos in surface waves: from hydrodynamics to low dimensional dynamics", Phys.Rev.Lett. 56, 1323 (1986).
93. P. Cvitanovic, M.H. Jensen, L.P. Kadanoff and I. Procaccia, "Circle maps in the complex plane", in "Fractals in Physics", ed. L. Pietronero and E. Tosatti, (North Holland, 1985).
94. M.H. Jensen, A. Libchaber, L.P. Kadanoff, I. Procaccia and J. Stavans, "Global universality at the onset of chaos: Results of a forced Rayleigh-Benard experiment", Phys.Rev.Lett. 55, 2798 (1985).
95. I. Procaccia, "The characterization of fractal measures as interwoven sets of singularities: global universality at the transition to chaos", in "Dimension and Entropies in Chaotic Systems", ed. G. Mayer-Kress (Springer 1986).
96. J.-P. Eckmann and I. Procaccia, "Fluctuations of dynamical scaling indices in non linear systems", Phys.Rev.A 34, 659 (1986).
97. J.-M. Gambaudo, I. Procaccia, S. Thomae and C. Tresser, "New universal scenarios for the onset of chaos in Lorenz-type flows", Phys.Rev.Lett. 57, 925 (1986).
98. E. Meron and I. Procaccia, "Low dimensional chaos in surface waves: theoretical analysis of an experiment", Phys.Rev.A 34, 3221 (1986).
99. I. Procaccia, S. Thomae and C. Tresser, "First return maps as unified renormalization scheme for dynamical systems", Phys.Rev.A 35, 1884 (1987).

100. M.J. Feigenbaum, M.H. Jensen and I. Procaccia, "Time ordering and the thermodynamics of strange sets: Theory and experimental tests", Phys.Rev.Lett. 57, 1503 (1986).
101. M.H. Jensen, L.P. Kadanoff and I. Procaccia, "Scaling structure and thermodynamics of strange sets", Phys.Rev.A 36, 1409 (1987).
102. D. Katzen and I. Procaccia, "Phase transitions in the thermodynamics formalism of multifractals", Phys.Rev.Lett. 58, 1169 (1987).
103. E. Meron and I. Procaccia, "Gluing bifurcations in critical flows: The route to chaos in parametrically excited surface waves", Phys.Rev.A 35, 4008 (1987).
104. D. Auerbach, P. Cvitanovic, J.-P. Eckmann, G. Gunaratne and I. Procaccia, "Exploring chaotic motion through periodic orbits", Phys.Rev.Lett. 58, 2387 (1987).
105. D. Auerbach, B. O'Shaughnessy and I. Procaccia, "The scaling structure of strange attractors", Phys.Rev.A 37, 234 (1988).
106. I. Procaccia, "Exploring deterministic chaos via unstable periodic orbits", in "Chaos 87", ed. M. Duong-van, North-Holland, 1987.
107. G.H. Gunaratne and I. Procaccia, "Organization of Chaos", Phys.Rev.Lett. 59, 1377 (1987).
108. G.H. Gunaratne, M.H. Jensen and I. Procaccia, "Universal strange attractors on wrinkled Tori", Nonlinearity 1, 157 (1988).
109. P. Cvitanovic, G.H. Gunaratne and I. Procaccia, "Topological and metric properties of Henon-type strange attractors", Phys.Rev. 38A, 1503 (1988).
110. I. Procaccia, "Universal properties of dynamically complex systems: The organization of chaos", Nature 333, 618 (1988).
111. M.J. Feigenbaum, I. Procaccia and T. Tel, "Scaling properties of multifractals: A functional equation approach", Phys.Rev.A 39, 5359 (1989).
112. I. Procaccia and R. Zeitak, "The shape of fractal growth patterns: Exactly soluble models and stability considerations", Phys.Rev.Lett. 60, 2511 (1988).

113. I. Procaccia, "The organization of chaos by periodic orbits: Topological universality of complex systems", in Universalities in Condensed Matter Physics, ed. R. Jullien, L. Peliti.
114. J.P. Eckmann, D. Meakin, I. Procaccia and R. Zeitak, "Growth and form of noise-reduced diffusion limited aggregation", Phys.Rev.A 39, 3l85 (1989).
115. I. Procaccia, "Is the weather complex or just complicated", Nature 333, 498 (1988).
116. I. Procaccia and R. Zeitak, "Scaling exponents in non isotropic convective turbulence", Phys.Rev.Lett. 62, 2128 (1989).
117. G. Goren, I. Procaccia, S. Rasenat and V. Steinberg, "Interactions and dynamics of topological defects: Theory and experiments near the onset of weak turbulence", Phys.Rev.Lett. 63, 1237 (1989).
118. I. Procaccia, "Weak turbulence and the dynamics of topological defects" in "Measures of Complexities and Chaos", eds. N.B. Abraham, A. Albano, A. Passamante and P.E. Rapp, (Plenum, 1989).
119. E. Moses, G. Zocchi, I. Procaccia and A. Libchaber, "The dynamics and interaction of laminar thermal plumes", Europhys.Lett. 114, 55 (1991).
120. I. Procaccia and R. Zeitak, "Scaling exponents in thermally driven turbulence", Phys.Rev.A 42, 821 (1990).
121. J.-P. Eckmann, P. Meakin, I. Procaccia and R. Zeitak, "On the asymptotic shape of diffusion limited aggregates with anisotropy", Phys.Rev.Lett. 65, 52 (1990).
122. D. Auerbach and I. Procaccia, "Grammatical complexity in dynamical system", Phys.Rev.A 41, 6602 (1990).
123. J.P. Eckmann and I. Procaccia, "The generation of spatio-temporal chaos in large aspect ratio hydrodynamics", Nonlinearity 4, 567 (1991).
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