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BORN: August 28, 1932

EDUCATION:

1956 B. Sc., Technion, Haifa

1960 Ph. D., Bristol University, England

EMPLOYMENT:

1960-1961 Research Associate, Brandeis University

1961-1964 Assistant Professor, Yeshiva University

1964-1967 Associate Professor, Yeshiva University

1967-1973 Professor, Tel Aviv University and Yeshiva University (Joint appointment)

1973-2001 Professor, Tel Aviv University

1973-2007 Professor, University of South Carolina (Joint position)

2007-2008 Professor, George Mason University

2008-present Professor, Chapman University

HONORS:

-Elected Fellow American Physical Society, 1981

-Weizmann Prize in Physics, 1984

-Rotschild Prize in Physics, 1984

-Miller Research Professorship award at Berkeley 1988 - 1989

-The Israel National Prize in Physics 1989

-Elected to the National Academy of Science of Israel 1990

-Elliott-Cresson Medal of the Franklin Institute 1991

-Honorary Doctorate Technion, Haifa 1992

-Honorary Doctorate University of South Carolina 1994

-Elected to the National Academy of Sciences, USA, 1994

-Hewlett-Packard Europhysics Prize 1995

-Wolf Prize, 1998

-EMET Prize, 2006

-Reuters Citation Laureate, 2009

Full List of Publications:

1. On the Measurement of Velocity of Relativistic Particles **Y. Aharonov**, D. Bohm Nuovo Cimento Suppl. (ser 10)5, 429-39 (1957)
2. Discussion of Experimental Proof for the Paradox of Einstein, Rosen, and Podolsky D. Bohm, **Y. Aharonov** Phys.Rev. 108, 1070-1076 (1957)
3. Significance of Electromagnetic Potentials in the Quantum Theory **Y. Aharonov**, D. Bohm Phys. Rev. 115, 485-91 (1959)
4. Further Discussion of Possible Experimental Tests for the Paradox of Einstein, Podolsky and Rosen D. Bohm, **Y. Aharonov** Nuovo Cimento 17, 964 (1960)
5. Time in the Quantum Theory and the Uncertainty Relation for Time and Energy **Y. Aharonov**, D. Bohm Phys. Rev. 122, 1649-58 (1961)
6. Remarks on the Possibility of Quantum Electrodynamics without Potentials **Y. Aharonov**, D. Bohm Phys. Rev. 125, 192 (1962)
7. Further Discussion of the Role of Electromagnetic Potentials in the Quantum Theory **Y. Aharonov**, D. Bohm Phys. Rev. 130, 1625 (1963)
8. Answers of Fock Concerning the Time Energy Indeterminacy Relation **Y. Aharonov**, D. Bohm Phys. Rev. 134B, 1417-18 (1964)
9. Time Symmetry in the Quantum Process of Measurement **Y. Aharonov**, P.G. Bergman and J.L. Lebowitz Phys. Rev. 134, 1410-16 (1964)
10. A Quantum Characterization of Classical Radiation **Y. Aharonov**, D. Falkoff, E. Lerner, H. Pendleton Ann. Phys. USA 39, 498 (1966)
11. An Experimental Characterization of Classical vs. Quantum Radiation Sources **Y. Aharonov**, D. Falkoff, E. Lerner, H. Pendleton *Physics of Quantum Electronics* Ed. P.L. Kelley, B. Love and P. E. Tannerwald, McGraw Hill, NY, p.841 (1966)
12. Charge Superselection Rule **Y. Aharonov**, L. Susskind Phys. Rev. 155, 1428 (1967)
13. Observability of the Sign Change of Spinors under 2π Rotations **Y. Aharonov** and L. Susskind Phys. Rev. 158, 1237-9 (1967)
14. Non Local Effects in Classical and Quantum Theories D. Wisnivesky, **Y. Aharonov** Ann. Phys. 45, 479 (1967)
15. Some Quantum Aspects of Interference Phenomena **Y. Aharonov** and A. Petersen IEEE Ant. AP15, 185 (1967)
16. Superluminal Behavior, Causality and Instability **Y. Aharonov**, A. Komar, L. Susskind Phys. Rev. 182, 1400 (1969)

17. Modular Variables in Quantum Theory **Y. Aharonov**, H. Pendleton, A. Petersen *Int.J.Th.Phys.* 2, 213 (1969)
18. On the Interaction Between Matter and Radiation **Y. Aharonov** and G. Carmi Report AFCRL-69-0136 CFSTI (1970)
19. Deterministic Quantum Interference Experiments **Y. Aharonov**, H. Pendleton, A. Peterson *Int.J.Th.Phys.* 3, 443 (1970)
20. Definability and Measurability in Quantum Mechanics **Y. Aharonov**, A. Petersen *Quantum Theory and Beyond*, Ed. T. Bastin, Cambridge, UK, p.135 (1971)
21. Dual-Parton Model for Mesons and Baryons **Y. Aharonov**, A. Casher, L. Susskind *Phys. Lett.* B35, 512-14 (1971)
22. Generalized Destruction Operators and a New Method in Group Theory **Y. Aharonov**, H.W. Huang, J.M. Knight, E. Lerner *Nuovo Cimento* 2, 1317 (1971)
23. Spin- $\frac{1}{2}$ Partons in a Dual Model of Hadrons **Y. Aharonov**, A. Casher, L. Susskind *Phys. Rev.* D5, 988-994 (1972)
24. Oscillator Phase States, Thermal Equilibrium and Group Representations **Y. Aharonov**, E.C. Lerner, H.W. Huang, J.M. Knight *J. Math. Physics* 14, 745-756 (1973)
25. Quantum Aspects of the Equivalence Principle **Y. Aharonov**, G. Carmi *Found. of Phys.* 3, 493 (1973)
26. Quantum Related Reference Frames and the local Physical Significance of Potentials **Y. Aharonov**, G. Carmi *Found. of Physics* 4, 75 (1974)
27. Measurement of Non-Canonical Variables **Y. Aharonov**, J.L. Safko *Ann. Phys.* 91, 279-94 (1975)
28. Models for Renormalization **Y. Aharonov**, E. Lerner and T. Banks *Lett. Nuovo Cimento* 13, 305 (1975)
29. A New Vector Product and Its Applications in Physics **Y. Aharonov**, H.A. Farach, C.P. Poole, Jr. *Am. J. of Phys.* 45, 451 (1977)
30. Models for Phase Transitions and Symmetry Breaking **Y. Aharonov**, J. Knight, G.T. Hsieh *Phys. Rev.* A17, 1454 (1978)
31. Instantons and Confinement **Y. Aharonov**, A. Casher and S. Yankielowicz *Nucl. Phys.* B146, (1), 256-272 (1978)
32. Application of the Nonlinear Vector Product to Lorentz Transformations H.A. Farach, **Y. Aharonov**, C.P. Poole, S.I. Zanette *Am. J. Phys.* 47, 247 (1979)
33. A New Approach to Perturbation Theory **Y. Aharonov**, C.K. Au *Phys. Rev. Lett.* 42, 1582 (1979)
34. Quantum Effects of Electromagnetic Potentials on an Internal Degree of Freedom **Y. Aharonov**, M. Vardi *Phys. Rev.* D20, 3213-3215 (1979)
35. Renormalization of Configuration Space **Y. Aharonov** and E. Lerner *Phys. Rev.* D20,

1877-1880 (1979)

36. Ground State of Spin 1/2 Charged Particle in a Two Dimensional Magnetic Field **Y. Aharonov**, A. Casher Phys. Rev. A19, 2461-2462 (1979)

37. Gauge Invariance and Pseudo Perturbations **Y. Aharonov** and C.K. Au Phys. Rev. A20, 1553-1562 (1979)

38. Logarithmic Perturbative Expansion C.K. Au, **Y. Aharonov** Phys. Rev. A20, 2245-2250 (1979)

39. Meaning of an Individual "Feynman-Path" **Y. Aharonov** and M. Vardi Phys. Rev. D21, 4, 2235-2240 (1980)

40. States and Observables in Relativistic Quantum Field Theories **Y. Aharonov** and D. Albert Phys. Rev. D21, 3316-3321 (1980)

41. Hydrogen Atom in Static Multiple Field C.K. Au, **Y. Aharonov** Phys. Rev. A22, 328-331 (1980)

42. A Vector Product Formulation of Special Relativity and Electromagnetism C.P. Poole, Jr., H.A. Farach and **Y. Aharonov** Found. of Phys. 10, 531-536 (1980)

43. Spontaneously Broken SU(3) Symmetry in a Laser **Y. Aharonov**, J.M. Knight Phys. Rev. Lett. 45, 1920-1923 (1980)

44. An Operational Approach for Testing the Postulate of Measurement in Quantum Theory **Y. Aharonov**, M. Vardi Found. of Phys., 11, 121-126 (1981)

45. Can We Make Sense Out of the Measurement Process in Relativistic Quantum Mechanics **Y. Aharonov**, D. Albert Phys. Rev. D24, 359-364 (1981)

46. Bound State Perturbation Theory for the One-Space and One Time Dimension Klein-Gordon Equation C.K. Au and **Y. Aharonov** J. Math. Phys. 22, 1428-1432 (1981)

47. A New Interpretation of the Scalar Product in Hilbert Space **Y. Aharonov**, D. Albert, C.A. Au Phys. Rev. Lett. 47, 1029-1032 (1981)

48. The Question of Gauge Dependence of Transition Probabilities in Quantum Mechanics: Facts, Myths and Misunderstandings **Y. Aharonov**, C.K. Au Phys. Lett. 86A, 269 (1981)

49. Lattice Model for Confining Bags **Y. Aharonov**, M. Schwartz Phys. Rev. Lett. 48, 1137-39 (1982)

50. Near Resonance Absorption Processes: A Model Study C.K. Au and **Y. Aharonov** Am. Journal of Physics 51, 156 (1983)

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52. A Reply to "Gauge Invariance and Experimental Processes" **Y. Aharonov** and C.K. Au Phys. Lett. 95A, 412 (1983)

53. Is the Usual Approach to Time Evolution Adequate: I. Nonrelativistic Consideration **Y. Aharonov** and D. Albert Phys. Rev. D29, 223 (1984)

54. Is the Usual Approach to Time Evolution Adequate: II. Relativistic Considerations **Y. Aharonov** and D. Albert *Phys. Rev. D* **29**, 228 (1984)
55. Field Compensation as an Alternative to Magnetic Shielding in Searches for n-n Transitions P. Kabir, S. Nussinov and **Y. Aharonov** *Phys. Rev. D* **29**, 1537 (1984)
56. Aharonov-Bohm Effect and Non Local Phenomena **Y. Aharonov** Proceedings Int. Symp. Foundations of Quantum Mechanics and their Technical Implications, Tokyo, p.10 (1984)
57. Consistency of the Aharonov-Bohm Effect with Quantum Theory **Y. Aharonov**, C.K. Au, E.C. Lerner and J.Q. Liang *Lett. Nuovo Cimento* **39**, 145-147 (1984)
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59. Quantum Frames of References **Y. Aharonov** and T. Kaufherr *Phys. Rev. D* **30**, 368 (1984)
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61. Topological Quantum Effects for Neutral Particles **Y. Aharonov**, A. Casher *Phys. Rev. Lett.* **53**, 319 (1984)
62. A Curious New Statistical Prediction of Quantum Theory D. Albert, **Y. Aharonov**, Susan D'Amato *Phys. Rev. Lett.* **54**, 5 (1985)
63. Reply to the Comment of Cohen and Peres D. Albert, Susan D'Amato and **Y. Aharonov** *Phys. Rev. D* **31**, 1526 (1985)
64. Multiple-Time Properties of Quantum Mechanical Systems **Y. Aharonov**, D. Albert, S. D'Amato *Phys. Rev. D* **32**, 1975 (1985)
65. Quantum Topo Dynamics **Y. Aharonov**, M. Schwartz *Phys. Lett.* **157B**, 57 (1985)
66. Aharonov-Bohm Effect for Neutral Particles **Y. Aharonov** and A. Casher "From SU(3) to Gravity", Ed. E. Gotsman and G. Tauber, Cambridge University Press, (1985)
67. On the Origin of the Universe in the Contest of String Models **Y. Aharonov**, A. Casher *Phys. Lett.* **166B**, 289 (1986)
68. Measurement Process in Relativistic Quantum Theory **Y. Aharonov**, D. Albert and L. Vaidman *Phys. Rev. D* **34**, 1805-1813 (1986)
69. Novel Properties of Preselected and Postselected Ensembles **Y. Aharonov**, D. Albert, A. Casher and L. Vaidman *Ann. New York Acad. Sciences*, **480**, 620 (1986)
70. Comments on "Curious Properties of Quantum Ensembles which have been both Preselected and Postselected" **Y. Aharonov**, D. Albert, S. D'Amato *Phys. Rev. Lett.* **56**, 2427 (1986)
71. Constraints on Anomalous Scattering of Neutrinos from Crystals **Y. Aharonov**, F.T. Avignone, A. Casher and S. Nussinov *Phys. Rev. Lett.* **58**, 1173-1175 (1987)
72. Phase Change During a Cyclic Quantum Evaluation **Y. Aharonov**, J. Anandan *Phys. Rev. Lett.* **58**, 1593-1596 (1987)

73. How to Ascertain the Values of Σ_x , Σ_y and Σ_z of a Spin 1/2 Particle **Y. Aharonov**, L. Vaidman, D. Albert *Phys. Rev. Lett.* **D58**, 1385-1387 (1987)
74. Surprising Quantum Effects **Y. Aharonov**, A. Casher, D. Albert, and L. Vaidman *Phys. Lett.* **A124**, 199 (1987)
75. SN 1987A Supernova: A Black Hole Precursor S. Nussinov, I. Goldman, G. Alexander and **Y. Aharonov** *Nature* **329**, 134 (1987)
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77. The Issue of Retrodiction in Bohm's Theory **Y. Aharonov** and D. Albert in *Quantum Implications* B.J. Hiley and F.D. Peat (eds.) . New York: Routledge & Kegan Paul, pp.224-226.
78. Macroscopic Fundamental Strings in Cosmology **Y. Aharonov**, F. Englert, J. Orloff *Phys. Lett.* **B 199**, 366 (1987)
79. Neutronization Neutrino Pulses from Supernovae and the Triplet Majoron Model **Y. Aharonov**, F.T. Avignone III and S. Nussinov *Phys. Lett.* **200**, 122 (1988)
80. Implications of the Triplet Majoron Model for the Supernova SN 1987A **Y. Aharonov**, F.T. Avignone III and S. Nussinov *Phys. Rev.* **D 17**, 1360-1367 (1988)
81. Implications of the Supernova SN 1987a Neutrino Signals I. Goldman, **Y. Aharonov**, G. Alexander and S. Nussinov *Phys. Rev. Lett.* **60**, 1789-1792 (1988)
82. How the Result of a Measurement of a Component of a Spin 1/2 Particle Can Turn Out to Be 100? **Y. Aharonov**, D. Albert and L. Vaidman *Phys. Rev. Lett.* **60**, 1351-1354 (1988)
83. Comment on "Proposed Aharonov-Casher Effect..." **Y. Aharonov**, P. Pearle and L. Vaidman, *Phys. Rev.* **A 35**, 4052-4055 (1988)
84. Geometric Quantum Phase and Angles J. Anandan and **Y. Aharonov** *Phys. Rev.* **D 38**, 1863-1870 (1988)
85. Observation on Conductance Quantization and Dephasing in Mesoscale Systems A. Stern, **Y. Aharonov**, A. Yakoby, and Y. Imry, Proc. 3rd. Int. Symp. Foundations of Quantum Mechanics, Tokyo, p. 201 (1989)
86. Reply to Leggett and Peres **Y. Aharonov** and L. Vaidman *Phys. Rev. Lett.* **16**, 19 (1989)
87. A New Characteristic of a Quantum System Between Two Measurements - Weak Value **Y. Aharonov** and L. Vaidman, *Bell's Theorem Quantum Theory and Conceptions of the Universe*, Ed. M. Kafatos, Kluwer Academic Publishers p. 17 (1989)
88. Comment on "Constraints on the Majoron..." **Y. Aharonov**, F.T. Avignone III, and S. Nussinov *Phys. Rev.* **D 39**, 985 (1989)
89. Possibility of a Sudden Flip or Disappearance of Electromagnetic Fields Without Photon Emission **Y. Aharonov**, F.T. Avignone III, S. Nussinov and Mohapatra *Phys. Rev.* **D 39**, 2448-2449 (1989)
90. Question of Non Locality of the Aharonov-Casher Effect B. Reznik and **Y. Aharonov**

Phys. Rev. **D40**, 4178-4183 (1989)

91. Towards a Two Vector Formulation of Quantum Mechanics **Y. Aharonov** and D. Rohrlich *Quantum Coherence*, Ed. J. Anandan, World Scientific, 221 (1990)

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93. Properties of a Quantum System During the Time Interval Between Two Measurements **Y. Aharonov** and L. Vaidman *Phys. Rev.* **A 41**, 11-20 (1990) 0

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97. Phase Uncertainty and Loss of Interference: A General Picture A. Stern, **Y. Aharonov**, and Y. Imry *Phys. Rev.* **A 41**, 3436-3448 (1990)

98. Born-Oppenheimer Revisited **Y. Aharonov**, E. Ben-Reuven, S. Popescu, D. Rohrlich *Nucl. Phys.* **B 350**, 818 (1990)

99. Comment on "New Model of Fractional Spin" **Y. Aharonov**, C.K. Au and L. Vaidman *Phys. Rev. Lett.* **66**, 1638-1639 (1991)

100. Complete Description of a Quantum System at a Given Time **Y. Aharonov** and L. Vaidman *J. Phys. A: Math. Gen.* **24**, 2315 (1991)

101. Is There A Preferred Canonical Quantum Gauge? **Y. Aharonov** and J. Anandan *Phys. Lett.* **A 160**, 493-497 (1991)

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104. Measurement of the Schrödinger Wave of a Single Particle **Y. Aharonov** and Lev Vaidman *Phys. Lett.* **A 178**, 38 (1993)

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Y. Aharonov and 15 authors *Phys. Rev. D* **52**, 3785-3792 (1995).
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