

PUBLICATIONS OF ARIEL FERNANDEZ

1. (1980) Ariel Fernandez: "On a Generalization of the Krull-Schmidt Theorem," Proceedings of the V National Congress of Mathematics, Cordoba, Argentina, 1980, Universidad de Cordoba Reports, IMAF #5, pages 61-68 (1980). Proceedings
2. (1982) Ariel Fernandez and Oktay Sinanoglu: "The Lifting of an Inonu-Wigner Contraction at the Level of Universal Coverings," Journal of Mathematical Physics 23, 2234 (1982) (3 pages). research article
3. (1984) Ariel Fernandez and Oktay Sinanoglu: "Symmetry-Breaking Instabilities under Nonclassical Bifurcation Conditions," Physical Review A 29, 2029 (1984) (3 pages). research article
4. (1984) Ariel Fernandez and Oktay Sinanoglu: "Spatial-Temporal dissipative Structures in Open Reactive Systems with a Negative Feedback Loop," Biosystems 17, 3 (1984) (8 pages). research article
5. (1984) Ariel Fernandez and Oktay Sinanoglu: "Locally Attractive Normal Modes for Chemical Processes," Journal of Mathematical Physics 25, 2576, (1984) (7 pages). research article
6. (1984) Ariel Fernandez and Oktay Sinanoglu: "Global Attractors and Global Stability for Closed Chemical Systems," Journal of Mathematical Physics 25, 406 (1984) (4 pages). research article
7. (1984) Ariel Fernandez and Oktay Sinanoglu: "Directed Graphs for Structurally-Stable PES's representing A-Priori Reaction Pathways," Theoretica Chimica Acta 65, 179 (1984) (8 pages). research article
8. (1984) Ariel Fernandez and Oktay Sinanoglu: "Conditions for the Validity of Ginzburg-Landau Equations in Far-From Equilibrium Kinetics," Physical Review A 30, 1522 (1984) (3 pages). research article
9. (1984) Ariel Fernandez and Oktay Sinanoglu: "The Structural Stability Restriction Rules Out Certain SN2 Pathways," Theoretica Chimica Acta 66, 147 (1984) (3 pages). research article
10. (1985) Ariel Fernandez: "Subordination of Fast-Relaxing Degrees of Freedom to Order Parameters under Ginzburg-Landau Regimes," Physical Review A, 31, 2738 (1985) (2 pages) research article
11. (1985) Ariel Fernandez: "Pattern of Separatrices and Intrinsic Reaction Coordinates for Degenerate Thermal Rearrangements," Theoretica Chimica Acta 67, 229 (1985) (8 pages). research article
12. (1985) Ariel Fernandez and Oktay Sinanoglu: "Subordination of the Fast-

Relaxing Degree of Freedom in the Center Manifold of the Belousov-Zhabotinsky System," *Physical Review A* 31, 2736 (1985) (2 pages). research article

13. (1985) Oktay Sinanoglu and Ariel Fernandez: "Solvophobic Forces and Molecular Surface Area Changes in Drug-Biomolecule Associations," *Biophysical Chemistry* 21, 167 (1985) (5 pages). research article

14. (1985) Ariel Fernandez and Oktay Sinanoglu: "Denaturation of Proteins in Methanol/Water Mixtures" *Biophysical Chemistry* 21, 163 (1985) (5 pages). research article

15. (1985) Ariel Fernandez and Oktay Sinanoglu: "A Reactive System with Diffusive Transport Displaying Two Different Symmetry-Breaking Dissipative Structures," *Zeitschrift fur Naturforschung* 40a, 611 (1985) (8 pages). research article

16. (1985) Oktay Sinanoglu and Ariel Fernandez: "Denaturation Maxima of Proteins and of Drug-Biomolecule Complex Formation," *Biophysical Chemistry* 21, 157 (1985) (6 pages). research article

17. (1985) Ariel Fernandez: "1,3-Sigmatropic Thermal Rearrangements as Vector Fields on the 2-Sphere," *Journal of Chemical Physics* 82, 3123 (1985) (5 pages). research article

18. (1985) Ariel Fernandez: "Center Manifold Extension of the Adiabatic Elimination Method," *Physical Review A* 32, 3070 (1985) (4 pages). research article

19. (1985) Ariel Fernandez: "A Reduction Scheme for Explosive Chemical Kinetics," *Journal of Chemical Physics* 83, 4488 (1985) (4 pages). research article

20. (1985) Ariel Fernandez: "Jahn-Teller Distortion Motions as Separatrices in PES," *Theoretical Chimica Acta* 68, 285 (1985) (6 pages). research article

21. (1985) Ariel Fernandez: "Global Instability of a Monoparametric Family of Vector Fields Representing the Unfolding of a Dissipative Structure," *Journal of Mathematical Physics* 26, 2632 (1985) (3 pages). research article

22. (1986) Ariel Fernandez and Herschel Rabitz: "Fundamental Sensitivity Propagators in Dissipative Systems," *Physical Review A* 33, 1913 (1986) (8 pages). research article

23. (1986) Ariel Fernandez: "Pattern of Intrinsic Reaction Coordinates and Separatrices for a Symmetry-Forbidden Reaction," *Zeitschrift fur Naturforschung* 41a, 529 (1986) (5 pages). research article

24. (1986) Ariel Fernandez: "Triangulation of the Lowest Energy Sheet for the Jahn-Teller PES," *Zeitschrift fur Naturforschung* 41a, 532 (1986) (5 pages) research article.
25. (1986) Ariel Fernandez: "Predicted Power Spectra for Subordinated Variables in Periodic Instabilities," *Physics Letters A*, 114A, 346 (1986) (5 pages). research article
26. (1986) Ariel Fernandez: "The Steady State Approximation as a Center Manifold Elimination in Chemical Kinetics," *Journal of the Chemical Society. Faraday Transactions II* 82, 849 (1986) (6 pages). research article
27. (1986) Ariel Fernandez and Herschel Rabitz: "Autocorrelations in the Center Manifold of Dissipative Systems," *Physical Review A* 33, 3314 (1986) (6 pages). research article
28. (1986) Ariel Fernandez: "Homology of a Structurally-Stable Chemical Rearrangement," *Zeitschrift fur Naturforschung* 41a, 256 (1986) (5 pages). research article
29. (1987) Ariel Fernandez: "Almost-Split Sequences and Morita-Duality," *Bulletin des Sciences Mathematiques. 2e series* 110, 425 (1987) (12 pages). research article
30. (1987) Ariel Fernandez and Herschel Rabitz: "Entrainment by Periodic Perturbations in the Center Manifold at Ginzburg-Landau Regimes," *Physical Review A* 34, 2307 (1987) (8 pages). research article
31. (1987) Ariel Fernandez: "Homology of Potential Energy Surfaces," *Zeitschrift fur Naturforschung* 41a, 1118 (1987) (4 pages). research article
32. (1987) Herschel Rabitz and Ariel Fernandez: "Energetic Materials Dynamics", in *Proceedings on the Workshop on Energetic Materials*, Los Alamos NM, October 14, 1986; published by the Chemical Propulsion Information Agency, #475; (1987) page 247 (2 pages). proceedings
33. (1987) Ariel Fernandez and Herschel Rabitz: "Transition to a Convective Roll Pattern as obtained from the Stochastic Center Manifold Theory," *Physical Review A* 35, 764 (1987) (4 pages). research article
34. (1987) Ariel Fernandez: "Virtual Size Parameter for the Scaling of Fluctuations at the Onset of a Center manifold in Dissipative Systems," *Physics Letters A* 119A, 168 (1986) (6 pages). research article
35. (1987) Ariel Fernandez: "Theory for Scaling of Fluctuations in Thermal Explosion Conditions," *Berichte der Bunsengesellschaft. Physikalische Chemie* 91, 159 (1987) (5 pages). research article
36. (1987) Ariel Fernandez: "Renormalization Group from a Center Manifold Reduction in Dynamical Critical Phenomena," *Berichte der Bunsengesellschaft. Physikalische Chemie* 91, 570 (1987) (4 pages). research article

37. (1987) Ariel Fernandez: "Intrinsic Fluctuations Determined by the Existence of a Center Manifold," *Journal of Physics A. Letters* 20, L509 (1987) (5 pages). research article
38. (1987) Ariel Fernandez: "Statistics of the Ensemble of Primary Structures for Inhomogeneous Polymer Chains," *International Journal of Theoretical Physics* 26, 495 (1987) (5 pages). research article
39. (1987) Ariel Fernandez: "Statistics of Disordered Polymers: an Effective Hamiltonian and its Associated Gibbs Measure," *Berichte der Bunsengesellschaft, Physikalische Chemie* 91, 753 (1987) (4 pages) research article
40. (1987) Ariel Fernandez: "Intrinsic Fluctuations associated with the Onset of a Center Manifold," *Journal of Physics A. Letters* 20, L579 (1987) (4 pages). research article
41. (1987) Ariel Fernandez and Herschel Rabitz: "Center Manifold Renormalization in Dynamic Critical Phenomena for Dissipative Spin Systems," *Physical Review A* 35, 5203 (1987) (6 pages). research article
42. (1987) Ariel Fernandez: "Statistical Weights for Primary Structures in Inhomogeneous Polymer Chains," *Berichte der Bunsengesellschaft. Physikalische Chemie* 91, 611 (1987) (4 pages). research article
43. (1987) Ariel Fernandez: Book Review, "Renormalization Group Theory for Macromolecules", by Carl Freed, *Berichte der Bunsengesellschaft. Physikalische Chemie* 91, 683 (1987) (1 page). book review
44. (1987) Ariel Fernandez: "Boundary Conditions of the Time-Reversible Liouville Equation in order to Derive the Onset of a Convective Pattern," *Journal of Physics A, Letters*. 20, L 763 (1987) (6 pages). research article
45. (1987) Ariel Fernandez: Proceedings of the Workshop "Dynamic Days, Dusseldorf, June 11-14, 1987," *Physica D (Nonlinear Phenomena)*. proceedings
46. (1988) Ariel Fernandez: "Stochastic Interpretation of Lag Times for the Onset of Template Amplification in RNA Replication," *Journal of the Chemical Society. Faraday Transactions I*. 84, 1543 (1988) (6 pages). research article
47. (1987) Ariel Fernandez: "Intrinsic fluctuations in Macromolecular Self-Replicating Systems," *Berichte der Bunsengesellschaft Physikalische Chemie*. 91, 1002 (1987) (5 pages) research article.
48. (1987) Ariel Fernandez and Herschel Rabitz: "Stochastic Theory of Ignition, " *International Journal of Theoretical Physics*, 26, 1093 (1987) (10 pages). research article

49. (1987) Ariel Fernandez and Herschel Rabitz: "Effective Propagators for Quenched Disorder in Linear Polymers," *Biophysical Chemistry*. 28, 89 (1987) (4 pages). research article
50. (1988) Ariel Fernandez: "Self-Organization in the Center Manifold of Dissipative Systems," *Journal of Physics A, Letters*. 21, L 295 (1988) (6 pages). research article
51. (1988) Ariel Fernandez: "Far-From Equilibrium Fluctuations Triggering the RNA De-Novo Synthesis," *Colloid and Polymer Science*. 266, 385 (1988) (4 pages). research article
52. (1988) Ariel Fernandez: "Dissipation of Fluctuations in Reactive Systems at the Onset of a Center Manifold" *Zeitschrift fur Physikalische Chemie. Neue Folge*. 158, 147 (1988) (6 pages). research article
53. (1988) Ariel Fernandez: "On the Correlation of Subsystems at the Onset of a Center Manifold," *Journal of the Chemical Society. Faraday Transactions II*, 84, 1741 (1988) (6 pages) research article
54. (1988) Ariel Fernandez: "The Onset of Macroscopically-Detectable Amplification in Template Concentration for Self-Replicating RNA," *Biophysical Chemistry*. 29, 317 (1988) (7 pages). research article
55. (1988) Ariel Fernandez: "Assembling of Random Inhomogeneous Polymers: A Grand Ensemble Approach Using the Replica Method," *Chemical Physics Letters*. 149, 113 (1988) (6 pages). research article
56. (1988) Ariel Fernandez and Herschel Rabitz: "The Scaling of Nonequilibrium Fluctuations in Gaseous Thermal Explosions," *Berichte der Bunsengesellschaft. Physikalische Chemie*. 92, 754 (1988) (6 pages) research article
57. (1988) Ariel Fernandez: "Center Manifold and Phase-Ordering Dynamics for the Onset of Nonequilibrium Organizations" *Physica Status Solidi (b)*. 149, 127 (1988) (6 pages). research article
58. (1988) Ariel Fernandez: "On Renormalization of Fluctuations at the Onset of a Center Manifold," *Journal of Physics A. Letters* 21, L 607 (1988) (4 pages). research article
59. (1988) Ariel Fernandez: "The Irreversibility Paradox Revised: The Onset of a Center Manifold," *International Journal of Theoretical Physics* 27, 725 (1988) (6 pages). research article
60. (1988) Ariel Fernandez: "Quenched Disorder in Linear Polymers" *Zeitschrift for Physikalische Chemie (Leipzig)* 269, 1213 (1988) (5 pages). research article
61. (1988) Ariel Fernandez: "Stochastic Dynamical Constraints in de-novo RNA Replication," *Journal of Theoretical Biology* 134, 419 (1988) (12 pages). research article

62. (1988) Ariel Fernandez: "Phase-Ordering Dynamics for the Onset of a Center Manifold," *Physical Review A* 38, 4256 (1988) (6 pages). research article
63. (1988) Ariel Fernandez: Book review: "Deterministic chaos, 2nd. Edition, by H. G. Schuster," *Berichte der Bunsengesellschaft. Physikalische Chemie. BU 3181*, appeared in October issue, 1988 (1 page). book review
64. (1988) Ariel Fernandez: "Correlation of Subsystems for the Transition to a Convective Pattern," *Journal of Physics A. Letters* 21, L967 (1988) (6 pages). research article
65. (1989) Ariel Fernandez: "Thermodynamics of Phase Transitions for an Ensemble of Inhomogeneous Primary Sequences," *Zeitschrift fur Physikalische Chemie (Leipzig)* 270, 676 (1989) (7 pages). research article
66. (1989) Ariel Fernandez: "Amplification of Intrinsic Fluctuations along the Center Manifold," *Berichte der Bunsengesellschaft. Physikalische Chemie.* 93, 95 (1989) (5 pages). research article
67. (1989) Ariel Fernandez: "Sequence-Dependence for the Melting of Globular States in Heteropolymers," *Chemical Physics Letters.* 154, 396 (1989) (6 pages). research article
68. (1988) Ariel Fernandez: "Dispersion of Tertiary Structures for an Ensemble of Primary Sequences in an Externally-Induced Transition of Correlation Regimes/ Biophysical Chemistry. 32, 167 (1988) (6 pages). research article
69. (1989) Ariel Fernandez: "Partial Relaxation of the Enzyme-Product Binding by Refolding of the Growing Chain in Autocatalytic RNA Replication," *Naturwissenschaften* 76, 69, (1989) (3 pages). research article
70. (1989) Ariel Fernandez: "Correlation of Pause Sites in MDV-1 RNA Replication with Kinetic Refolding of the Growing Chain: A Monte-Carlo Simulation of the Markov Process," *European Journal of Biochemistry.* 182, 161, (1989) (4 pages). research article
71. (1989) Ariel Fernandez: "A Structural Phase Transition in RNA," *Berichte der Bunsengesellschaft Phys. Chemie* 93, 574 (1989) (3 pages). research article
72. (1989) Ariel Fernandez: "Externally-Induced Phase Transition for Random Inhomogeneous Polymers," *Journal of Physics A* 22, 3137 (1989) (5 pages). research article
73. (1989) Ariel Fernandez: "On the Microscopic Origin of Cooperativity and its Effect on Long Lifetime Kinetic Modes for Template-Free RNA Synthesis," *J. Chem. Soc. Faraday Trans. 2*, 85, 1377 (1989)(14 pages). research article
74. (1989) Ariel Fernandez: "Mode-Coupling and the Microscopic Derivation of a Rate Constant for Isomerizations in Liquids," *Journal of Physics A* 22, L731 (1989) (6 pages). research article

75. (1989) Ariel Fernandez: "Effective Phase Space for Isomerizations in Liquids," *Chemical Physics Letters*. 162, 14 (1989) (6 pages). research article
76. (1989) Ariel Fernandez: "Structural Phase Transitions and the Catalytic Role of RNA in Proton Transfer Events," *Naturwissenschaften* 76, 469 (1989) (3 pages). research article
77. (1989) Ariel Fernandez: "Metastable RNA Folding and the Enhancement of Autocatalytic Activity," *Naturwissenschaften* 76, 525 (1989) (5 pages). research article
78. (1990) Ariel Fernandez: Review on "Asymptotic Degeneracy for Systems with Interfaces" (V. Privman and N. Svrakic) *Mathematical Reviews (Am. Math. Soc.)* 90h:82084 (1990). critical review
79. (1990) Ariel Fernandez: Review on "Fractal Boundary for the Existence of Invariant Circles for Area-Preserving Maps" (J.A. Ketoja and R.S. Mackay), *Mathematical Reviews (American Mathematical Society)* 90f: 58118. critical review
80. (1989) Ariel Fernandez: "Pause Sites and Regulatory Role of Secondary Structure in RNA Replication," *Biophysical Chemistry* 34, 29 (1989) (6 pages). research article
81. (1990) Ariel Fernandez: Review on "Analysis of the Three-Dimensional Time-Dependent Landau-Ginzburg Equation and its Solutions" (M. Skierski et al.) *Mathematical Reviews (American Mathematical Society)* (1990) 90h: 82007. critical review
82. (1990) Ariel Fernandez: "Increasing the Replicative Capacity of a Naturally-Occurring RNA Template," *Berichte der Bunsengesellschaft. Phys. Chemie* 94, 463 (1990) (4 pages) research article
83. (1989) Ariel Fernandez: "Effect of Primary Structure Disorder on Coil-Gobule phase Transition," *Berichte der Bunsenges. Phys. Chemie* 93, 879 (1989) (5 pages). research article
84. (1990) Ariel Fernandez: "Implications on the Soliton Model on a Novel Model for Proton Transfer Catalysis in RNA," *Berichte der Bunsenges, Phys. Chem.*. 94, 461 (1990) (3 pages) research article
85. (1990) Ariel Fernandez: "Coherent Collective Modes in Catalytic RNA," *Zeitschrift fur Physik B (Condensed Matter)* 79, 255 (1990) research article.
86. (1990) Ariel Fernandez: "Statistical Mechanical Model for Proton Transfer in RNA" *Journal of Physics A. Letter to the Editor* 23, L247 (1990) Research Article
87. (1990) Ariel Fernandez: "Spectrum of Relaxation Timescales for Metastable RNA Folding", *PHYSICA A (Statistical and Theoretical Physics)* 165, 352 (1990) research article
88. Ariel Fernandez: "Is the Distribution of Substates in Biopolymer Folding Ultrametric?", *Annalen der Physik*

(Leipzig) 48, 238 (1991)

89. Ariel Fernandez: "The Importance of Metastable RNA Folding in Biological Regulation and Control", *Berichte der Bunsengesellschaft Physikalische Chemie* 94, 615 (1990)

90. Ariel Fernandez: "The Importance of Metastable RNA Folding in Template-Replicase Interactions", *Berichte der Bunsengesellschaft Physikalische Chemie* 94, 650 (1990)

91. Ariel Fernandez: "Glassy Kinetic Barriers Between Conformational Substates in RNA Folding", *PHYSICAL REVIEW LETTERS* 64, 2328 (1990)

92. Ariel Fernandez: "Theoretical Prediction of the Primary Sequence for an RNA Species Synthesized de-novo", *Berichte der Bunsenges. Physikalische Chemie* 94, 785 (1990)

93. Ariel Fernandez: " Kinetic Assembling of the Biologically-Active Secondary Structure of CAR, the Target Sequence for the Rev Protein of H/IM", *Archives of Biochemistry and Biophysics. (Communications Section)* 280, 421 (1990)

94. Ariel Fernandez: "Relaxation Timescales for Conformational Substates in Disordered Polymers", *Annalen der Physik* 1, 61 (1992)

95. Ariel Fernandez: "Proton Exchange Activity as a Probe for Solitons in RNA", *PHYSICA A (Statistical and Theoretical Physics)* 167, 338 (1990)

96. Ariel Fernandez: Critical Review of the paper by R. E. Mirollo and S. H. Strogatz: "Jump bifurcation and Hysteresis in an Infinite-Dimensional Dynamical System of Coupled Spins (SIAM J. Appl. Math. 50, no. 1, 108-124 (1990))", Mathematical Reviews (Am. Math. Soc.). 91b:82038 (Feb. 1991)
97. Ariel Fernandez: Critical Review of the paper by A. Radosz: "On the Class of Exactly Soluble Models of Phase Transitions, (Physics Letters A 144,440-443(1990))", Mathematical Reviews (Am. Math. Soc.). 91a:82030 (Jan. 1991)
98. Ariel Fernandez: "Ultrametricity in the Externally-Induced Conformational Substates of Disordered Polymers", Internat. Journal of Theoretical Physics 30, 85 (1991)
99. Ariel Fernandez and Eugene I. Shakhnovich: "Activation Energy Landscape for Metastable RNA Folding", Physical Review A-Rapid Communications 42, 3657 (1990).
100. Ariel Fernandez: "Growth of Ordered Domains Beyond a Dynamic Instability in Dissipative Systems", International Journal of Theoretical Physics 30, 79 (1991)
101. Ariel Fernandez: "Random Energy Model for the Kinetics of RNA Folding", PHYSICAL REVIEW LETTERS 65, 2259 (1990)
102. Ariel Fernandez: "The Relevance of Energy Localization in RNA Self-Splicing", Berichte der Bunsengesellschaft für Physikalische Chemie 95, 31 (1991)

103. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the videotape "The Beauty and Complexity of the Mandelbrot Set", by John Hubbard (Science Television, distributed by the American Mathematical Society, Providence, RI, 1989), Mathematical Reviews. American Mathematical Society, June 1991, 91f:58077
104. Ariel Fernandez: "Early Base-Pair Fluctuations and the Activation of mRNA Splicing", PHYSICA A (Statistical and Theoretical) 173, 522 (1991)
105. Ariel Fernandez: "RNA Self-Splicing and Energy Localization" Internal J. Theor. Phys. 30, 129 (1991)
106. Ariel Fernandez: "Fluctuations and Resulting Competing Pathways in RNA Folding: The Activation of Splicing." Physical Review A-Rapid Communications 43, 1138 (1991)
107. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by T. Sen and M. Tabor "Lie Symmetries of the Lorenz Model" (Physica D44, 313 (1990)), Mathematical Reviews (Am. Math. Soc.). 91g:58248, 1991.
108. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by N. Sri Namachchivaya: "Stochastic Bifurcation" (Appl. Math. Comput. 39, 37 (1990)), Mathematical Reviews (Am. Math. Soc.). 91j:58121. 1991.
109. Ariel Fernandez: Critical Review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by N. Lygeros: "Iteration des Fonctions Complexes $z \rightarrow zm+c$ " (Compt. Rend. Acad. Sci. Paris Ser. I, Math. 311, 689 (1990)) Mathematical Reviews (Am. Math. Soc.). 91j:58137.1991.

110. Ariel Fernandez: Critical Review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the book by J. T. Sandefur "Discrete Dynamical Systems" (Oxford University Press, NY, 1990), Mathematical Reviews (Am. Math. Soc.). 91 i:58074, 1991.
111. Ariel Fernandez: Critical Review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by A. Lopes "Dimension Spectra and a Mathematical Model for Phase Transition" (Adv. Appl. Math. 1 1, 475 (1990)) Mathem. Reviews (Am. Math. Soc.). 91i:58082. 1991.
112. Ariel Fernandez and Alejandro Belinky: "Ergodic and Nonergodic Relaxation Timescales for Metastable RNA Folding", Berichte der Bunsenges. Phys. Chem. 94, 1512 (1990)
113. Ariel Fernandez: "New Possibility for Metastable RNA Folding of Biological Significance: A Physico-Chemical View at Biological Regulation and Control", (E-7444) Berichte der Bunsenges. Phys. Chem. 94, 1515(1990)
114. Ariel Fernandez: "Functional Metastable Structures in RNA Replication", PHYSICA A (Statistical and Theoretical) 176,499(1991)
115. Ariel Fernandez: Critical Review especially commissioned for inclusion in MATHEMATICAL REVIEWS on the book "Fractals and Chaos", edited by A. Crilly, R. Earnshaw and H. Jones (Springer-Verlag, New York, 1991), Mathematical Reviews (Am. Math. Soc.) , 91i:58094, 1991.

116. Ariel Fernandez: Critical Review especially commissioned for inclusion in MATHEMATICAL REVIEWS on the VMS videotape "Fractals, an animated discussion, with E. Lorenz and B. Mandelbrot", by H.-O. Peitgen, H. Jurgens, D. Saupe and C. Zuhlten (W. H. Freeman and Co., New York 1990),
Mathematical Reviews (Am. Math. Soc.) 92a:58099 (1991)

117. Ariel Fernandez: Critical Review especially commissioned for inclusion in MATHEMATICAL REVIEWS on the book "The Art of Modeling Dynamical Systems", by F. Morrison (J. Wiley and Sons, New York, 1991),
Mathematical Reviews (Am. Math. Soc.) 91m:58146 (1991)

118. Ariel Fernandez: Critical Review especially commissioned for inclusion in MATHEMATICAL REVIEWS on the article "Statistical Physics of Intermittency", by S Sato and K. Honda (Phys. Rev. A. 42, 3233, 1990),
Mathematical Reviews (Am. Math. Soc.) 91m:82095 (1991)

119. Ariel Fernandez: "Phenotypic Traits and Regulatory Role of RNA Folding in Molecular Selection", Zeitschrift fur Naturforschung C (Biological Sciences) 46c. 656 (1991)

120. Ariel Fernandez: Critical review especially commissioned for inclusion in MATHEMATICAL REVIEWS on the videotape "Transition to Chaos: The Orbit Diagram and the Mandelbrot Set", by R. L. Devaney (Science Television, New York; distributed by the American Mathematical Society Providence, RI, 1990), Mathematical Reviews (AMS) 91 m:58098 (1991)

121. Ariel Fernandez: Critical reviews specially commissioned for inclusion in MATHEMATICAL REVIEWS on the papers by B. Fourcade and A.-M. Tremblay, J. Stat. Phys. 61, 607 and 61,639(1990), Mathematical Reviews(AMS) 91k:58081 and 91k:58082 (1991)

122. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by W. Just, Phys. Lett. 4150, 362 (1990),
Mathematical Reviews (AMS) 91m:58102 (1991)
123. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by R. Devaney and M. Durkin, Amer. Math. Monthly 98, 217 (1991)
Mathematical Reviews (AMS) 92a:58113 (1991)
124. Alejandro Belinky and Ariel Fernandez: "Preservation of a Kinetically-Originated Folding of the Cis Antirepressor Sequence for Transport of HIV-1 Viral RNA",
Biophysical Chemistry 42, 1 (1992)
125. Ariel Fernandez: "Effect of Excluded Volume Interactions on the Folding of a Structural Motif for RNA Catalysis"
Chemical Physics Letters 183, 499 (1991)
126. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by Nobel Laureate C. N. Yang: "A Journey through Statistical Mechanics", Integrable Systems (Tianjin, 1987), pp. 11-20,
Nankai Lectures in Math. Phys., World Sci. Publish., 1990;
Mathematical Reviews (Am. Math. Soc.) 92c:82003 (1992)
127. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by R L Devaney: "ez: dynamics and bifurcations", Int. J. Bifur. Chaos (Appl. Sci. Engrg.) 1, 287 (1991);
Mathematical Reviews (Am. Math. Soc.) 92e:58176 (1992)
128. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by T. Kapitaniak: "On strange nonchaotic attractors and their dimensions", Chaos, Solitons, Fractals 1, 67 (1991)
Mathematical Reviews 92d:58136 (1992)

129. Ariel Fernandez: "Base-Pair Fluctuations in the Activation of Pre-mRNA Splicing", Proceedings of the 1991 International Conference on Noise in Physical Systems and 1/f Fluctuations, Nov. 24-27, 1991, Kyoto, Japan, Edited by T. Musha, S. Sato and M. Yamamoto (1991, Ohmsha, Ltd.) pages 661-664.

130. Ariel Fernandez: "Excluded Volume Effects on the Stacking of RNA Base Pairs", Physical Review A-Rapid Communications 44, 7910 (1991)

131. Ariel Fernandez: "Structural Organization of an RNA Catalyst with the Random Energy Model as a Reference Frame", International Journal of Theoretical Physics 31, 983 (1992)

132. Ariel Fernandez: " On how hydrolysis at the 3'end is prevented in the splicing of a sequentially folded group I intron"; FEBS Letters (Federation of European Biochemical Societies) 297, 201 (1992)

133. Ariel Fernandez: Critical Review specially commissioned for inclusion in MATHEMATICAL REVIEWS (Published by American Mathematical Society) on the paper by K. Chang et al.: "General Resonance Spectroscopy", Physica D51, 99 (1991); 92K:58236 (1992)

134. Ariel Fernandez: Critical Review specially commissioned for inclusion in MATHEMATICAL REVIEWS (Published by American Mathematical Society) on the paper by D. Gronau: "Do the Jabotinsky equation imply the translation equation?", World Science Publishing, Teaneck, NJ, 1989, pp. 231-239; Mathematical Reviews 91m:58143 (1991)

135. Ariel Fernandez: Critical Review specially commissioned for inclusion in MATHEMATICAL REVIEWS (Published by American Mathematical Society) on the paper by G. Troll: "A devil's staircase into chaotic scattering", Physica D50, 276 (1991); Mathematical Reviews (Am. Math. Soc.) 92c:58087 (1992)
136. Ariel Fernandez: "Modulation of the stability of a replication complex and its effect on the rate of chain elongation: Extending the notion of processivity". Chemical Physics Letters 192, 294 (1992)
137. Ariel Fernandez: "Multiprocessed simulation of competing folding pathways in RNA: The shaping of the catalytic site for splicing". Berichte der Bunsengesellschaft für Physikalische Chemie. 95, 1674 (1991)
138. Ariel Fernandez: "How random are regulatory signals in RNA replication?". Berichte der Bunsengesellschaft für Physikalische Chemie 96, 705 (1992)
139. Ariel Fernandez: "A parallel computation revealing the role of the in vivo environment in shaping the catalytic structure of a mitochondrial RNA transcript", Journal of Theoretical Biology 157, 487(1992)
140. Ariel Fernandez: Critical review specially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by V. Privnan: "Finite size scaling: new results", Physica A 177, 241 (1991); Mathematical Reviews (Am. Math. Soc.); to appear.
141. Ariel Fernandez: "Folding pathway leading to the most stable conformation of a random RNA chain", Physical Review A-Rapid Communication 45, 8348 (1992)

142. Ariel Fernandez and Herschel Rabitz: "Localization of Strain in the RNA Backbone and its Functional Implication", PHYSICAL REVIEW LETTERS 69, 546 (1992)

143. Ariel Fernandez: "A Structural Motif Detrimental to Ribozyme Function", Proceedings of the International Meeting "RNA Processing", Keystone, Colorado, May 27-31, 1992; page 108.

144. Ariel Fernandez and Alejandro Belinky: "Evidence of a Tertiary Interaction Functional in Group I 3' splicing", FEBS Letters (Fed. Eur. Bioch. Soc.) 305, 225 (1992)

145. Ariel Fernandez: "Noncoexisting Structural Elements in Group I pre-mRNA's", Biophysical Chemistry 45, 27 (1992)

146. Ariel Fernandez: "A dynamical model for ribozyme function based on the sequential folding of pre-mRNA transcripts", Journal of Biochemistry (Japan) 113, 22 (1993)

147. Ariel Fernandez: "Computation of the fraction of RNA sequences that fold sequentially into a unique free energy minimum", Physical Review A-Rapid Communication 46, R 4524 (1992)

148. Ariel Fernandez: Critical review especially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by P. March: "Remarks on scaling a model of Witten-Sander type", J. Stat. Phys. 67, 1117 (1992); Mathematical Reviews (AMSV 93h:82064 (1993)

149. Ariel Fernandez: Critical review especially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by S. Aubry, G. Abramovici and J.-L. Raimbault: "Chaotic polaronic and bipolaronic states in the adiabatic Holstein model", J. Stat. Phys. 67, 675 (1992); Mathematical Reviews (AMS). 93e:82047 (1993)
150. Ariel Fernandez and Herschel Rabitz: "Searching for the inside of the cob\5 ribozyme", report published in the Proceedings of the Miami Bio/Technology Symposium. Ariel Fernandez, Editor, January 17-23, 1993; page 42.
151. Ariel Fernandez, Alfred Lewin and Herschel Rabitz: "Structure-induced strain determining the internal cyclization site in the yeast cob\5 autocatalytic intron: Theory and experimental tests" Journal of Theoretical Biology 164, 121 (1993)
152. Ariel Fernandez and Luis Godinez Mora Tovar: "Coarse-grained dynamics for proton exchange in RNA", Chemical Physics Letters 208, 148 (1993)
153. Ariel Fernandez: "Simulating the exploration of RNA conformation space with a parallel updating strategy", Physical Review E 48, 3107 (1993)
154. Ariel Fernandez and Alejandro Belinky: "Learning to fold a random RNA chain", Chemical Physics Letters 212, 201 (1993)
155. Ariel Fernandez: "Learning to fold RNA with parallel processors", PHYSICA A (Statistical & Theoretical) 201, 557-572 (1993)

156. Ariel Fernandez: "Stress localization in the RNA backbone: A mechanical footprint for predicting base-backbone tertiary contacts", *Journal of Theoretical Biology* 166, 443 (1994)
157. Ariel Fernandez: "Memorizing all significant foldings of a random RNA chain", *PHYSICA A (Stat. & Theor.)* 203, 359 (1994)
158. Ariel Fernandez and Alejandro Belinky: "Neural network hamiltonian governing the formation of RNA base pairs", *Berichte der Bunsengesellschaft für Physikalische Chemie Rapid Communication* 98, 125 (1994)
159. Ariel Fernandez: "Microscopic Derivation of the Low-T Myoglobin-CO Recombination Rate", *Berichte der Bunsengesellschaft für Physikalische Chemie. Rapid Communication* 98, 260 (1994)
160. Ariel Fernandez: "A measure on the space of RNA folding pathways: Towards a new scheme of statistical inference", *PHYSICA A (Statistical & Theoretical)* 210, 403 (1994)
161. Ariel Fernandez: "A measure on the space of polymer folding pathways: Preliminaries for a new scheme of statistical inference", *Journal of Statistical Physics* 77, 1079 (1994)
162. Ariel Fernandez: "Ascribing weights to folding histories: Explaining the expediency of biopolymer folding", *Journal of Physics A (Mathematical & General)* 27, 6039 (1994)
163. Ariel Fernandez: "Describing RNA sequential folding by dynamic coarse-graining of the extended conformation space", *Physical Review E, Rapid Communications* 50, R243 5(1994)
164. Ariel Fernandez: "Politica y Supercomputacion en Estados Unidos", *Suplemento Cultural: Ideas/Imágenes, "La Nueva Provincia"* 2 pages, October 20, 1994. NEWSPAPER

165. Ariel Fernandez: "RNA Folding and the Principle of Least Action", (Invited Lecture) Actas del III Congreso Bianual de Matematica "Antonio Monteiro". Bahia Blanca, Argentina, April 26-28, 1995, pages 107-120 (1996)
166. Ariel Fernandez: "Construccion de una Mecanica Estadistica en el Espacio de Historias de Plegamiento de un Biopolimero: Hacia una Nueva Herramienta Predictiva de Biodinamica Molecular", Actas del IX Congreso Argentino de Fisico-quimica. page 47, San Luis, Argentina, November 21-25,1994.
167. Ariel Fernandez: "Almost Split Sequences and Module Categories: A Complementary View to Auslander-Reiten Theory", Commentationes Mathematicae (Charles University, Prague) 36, 417(1995)
168. Ariel Fernandez: "Towards an Action Principle Governing Biopolymer Folding In Vitro", Journal of Mathematical Chemistry 17, 401 (1995)
169. Ariel Fernandez, Hugo Arias and Diego Guerin: "Folding RNA with the minimal loss of entropy", Physical Review E. Rapid Communication 52, 1299 (1995)
170. Ariel Fernandez: "The Statistical Mechanics of Kinetically-Controlled RNA Folding Pathways", Annalen der Physik 4, 600-620 (1995)
171. Ariel Fernandez: "Structural Consequences Stemming from the Existence of a Single Almost Split Sequence", Revista de la Union Matematica Argentina 39, 147 (1995)
172. Ariel Fernandez and Hernan Cendra: "In vitro RNA folding: The principle of sequential minimization of entropy loss at work", Biophysical Chemistry 58, 335 (1996)

173. Ariel Fernandez and Herschel Rabitz: "Statistical Mechanics on the Space of Kinetic Folding Pathways", *Il Nuovo Cimento*, sect. D, 170, 983(1995)
174. Ariel Fernandez, Gustavo Appignanesi and Hernan Cendra: "What size RNA loop holds bulk solvent?", *Chemical Physics Letters* 242, 460(1995)
175. Hernan Cendra, Ariel Fernandez and Walter Reartes: "A geometric framework for polymer folding", *Journal of Mathematical Chemistry* 19, 331 (1996)
176. Ariel Fernandez, Hugo Arias and Gustavo Appignanesi, "Plegamiento del ARM con la minima perdida de entropia", *Act as de la XXI Va. Reunion Anual, Sociedad Argentina de Biofisica. Bahia Blanca, Argentina, October 19-21,1995*, page 86 (1995)
177. Ariel Fernandez and Gustavo Appignanesi: "An action principle for biopolymer folding in vitro: A new perspective on the design of expeditiously-folded RNA molecules", *Journal of Mathematical Chemistry* 20, 95(1996)
178. Ariel Fernandez and Alejandro Belinky: "Information generation and the loss of conformational entropy during RNA folding", *Journal of Physics A* 29, L433 (1996)
179. Ariel Fernandez and Alejandro Belinky: "Sequentially-folded SV11 RNA: Metastability is relevant to biological function", *Biophysical Chemistry* 61,101 (1996)
180. Ariel Fernandez and Gustavo Appignanesi: "Magnesium-aided folding of group I ribozymes with a minimal loss of entropy", *Biophysical Chemistry* 61, 51 (1996)
181. Ariel Fernandez: "The expediency of RNA folding as revealed by the maximization in information content", *Physica A* 233, 226 (1996)

182. Gustavo Appignanesi and Ariel Fernandez: "Cooperativity along kinetic pathways in RNA", *Journal of Physics A* 29, 6265 (1996)
183. Ariel Fernandez: "Statistical folding dynamics for random heteropolymers", *Journal of Physics A (Letter to the Editor)* 29, L523 (1996)
184. Ariel Fernandez: "Un Nobel para los Superfluidos", Newspaper interview on scientific matters, *Pagina/12*. page 17, 10-X-96, Argentina.
NEWSPAPER ARTICLE
185. Ariel Fernandez, G. Appignanesi, H. Arias and R. Montani: "Plegamiento del acido ribonucleico asistido por Magnesio"; *Proceedings XXI Congreso Argentino de Quimica; Bahia Blanca, Argentina; September 18-20, 1996*; page 280. PROCEEDINGS
186. Ariel Fernandez and Hugo Arias: "Plegamiento de Proteinas con la menor perdida de entropia"; *Proceedings XXI Congreso Argentino de Quimica, Bahia Blanca, Argentina; September 18-20, 1996*; page 295.
PROCEEDINGS
187. Ariel Fernandez, Gustavo Appignanesi y R. Montani: "Plegamiento de biopolimeros asistido por Magnesio", *Proceedings 81st. National Meeting in Physics, AFA, Tandil, Argentina, September 17-22, 1996*, page 200.
PROCEEDINGS
188. Ariel Fernandez and Gustavo Appignanesi: "Variational Approach to Relaxation in Complex Free Energy Landscapes: The Polymer Folding Problem", *PHYSICAL REVIEW LETTERS* 78, 2668 (1997)
189. Ariel Fernandez and Hugo Arias: "Folding ribonucleic acid with a minimal loss of entropy", *Folding & Design* 1, supplement, S20, Abstract 53, (1996); *The 24th Aharon Katzir-Katchalsky Conference, Jerusalem, Israel, November 17-21, 1996*
190. Debora Figlas, Hugo Arias, Ariel Fernandez and Daniel M. Alperin: "Dramatic Saccharide-Mediated Protection of Chaotropic-Induced Deactivation of Cocanavalin A", *Archives of Biochemistry and Biophysics* 340, 154(1997)

191. Ariel Fernandez, G. Appignanesi, H. Arias y R. Montani: "El Magnesio en el plegamiento del ARM" and "A variational approximation to the problem of relaxation in complex free energy landscapes", in Proceedings of the X Argentinian Congress in Physical Chemistry; Tucuman, Argentina; April 21-25,1997. PROCEEDINGS
192. Ariel Fernandez, Gustavo Appignanesi and Ruben Montani: "Adiabatic Ansatz in RNA Folding Dynamics", Physical Review E 56, 927 (1997)
193. Ariel Fernandez and Andres Colubri: "Semiempirical Variational Approach to RNA Folding", PHYSICA A (Statistical and Theoretical), 248, 336-352 (1998)
194. Ariel Fernandez: "Semiempirical Solution to the Protein Folding Problem: Recognizing Patterns of Locally-Encoded Signals", INVITED LECTURE. Symposium 6, Lecture S23; "Magnesium-aided ribonucleic acid folding", (with G. A. Appignanesi, R. A. Montani and H. R. Arias) #56; "A novel discrete method for RNA secondary structure prediction" (with D. Guerin, M. Costabel and W. Reartes) #58, Proceedings of the III Iberoamerican Congress of Biophysics. Buenos Aires, Argentina, September 20-23, 1997. PROCEEDINGS
195. Debora Figlas, Hugo Arias, Ariel Fernandez, Mario Alperin: "Dramatic Saccharide-Mediated Deactivation of Concanavalin A", 17th International Congress of Biochemistry and Molecular Biology, San Francisco, California, USA, August 24-29, 1997, Abstracts published in the FASEB Journal (Fed. Am. Soc. Exp. Biol.), 11 (section Glycobiology I), A1248, Abstract 2287 (1997) PROCEEDINGS
196. Ariel Fernandez and Andres Colubri: "Microscopic Dynamics for a Coarsely-Defined Solution to the Protein Folding Problem", Journal of Mathematical Physics 39, 3167-3187 (1998)
197. Gustavo Appignanesi, Ruben Montani, and Ariel Fernandez: "Glassy Relaxation Dynamics and Ruggedness Beyond the Ultrametric Limit" Journal of Statistical Physics 91, 669 (1998)

198. Gustavo Appignanesi and Ariel Fernandez: "A Variational Approach to Relaxation in Ultrametric Spaces", *Physica A (Statistical and Theoretical Physics)* 256, 359 (1998)
199. Ariel Fernandez: "The Lagrangian Structure of Long-time Torsional Dynamics Leading to RNA Folding", *Journal of Statistical Physics* 92, 237 (1998)
200. Ariel Fernandez, Blanca Niel and Teresita Burastero: "The RNA Folding Problem: A Variational Problem Within an Adiabatic Approximation". *Biophysical Chemistry* 74, 89 (1998)
201. Ariel Fernandez and Andres Colubri: "How large should proteins be: A statistical dynamics approach", *Communication abstract # 108-06*, page 55; Andres Colubri and Ariel Fernandez, "Lifting Markov chains defined over a coarse-grained system", *Communication abstract # 108-07*, page 55; Ariel Fernandez, Andres Colubri, Ana Tablar and Teresita Burastero: "Good structure seekers in RNA folding", *Communication abstract # I08-05*, page 54, *Proceedings of the XLVIII Anual Meeting of Scientific Communications of the U. M. A. (Argentinian Mathematical Union)*. Bariloche, Argentina, September 22-25, 1998 (in Spanish).
PROCEEDINGS
202. Gustavo Appignanesi, Ruben Montani and Ariel Fernandez: "Brachistochrone pathways in the relaxation of complex hierarchical systems", *Abstract # 05.13*, page 16; Gustavo Appignanesi, Ariel Fernandez and Ruben Montani: "Variational approach to relaxation in complex free energy landscapes: Biopolymer folding", *Abstract # 87.6*, Page 168; G. Appignanesi, A. Fernandez and R. Montani: "Variational principle for relaxation in ultrametric spaces" *Abstract # 87.7*, page 168, *Proceedings 83rd. National Meeting of the A. F. A. (Argentinian Physical Association)*. La Plata, Argentina, September 21-25, 1998 (in Spanish).
PROCEEDINGS
203. Gustavo Appignanesi, Ruben Montani and Ariel Fernandez, "A Variational Approach to Relaxation in Rugged Free Energy Landscapes", *Physica A* 262, 349 (1999)

204. Ariel Fernandez and Teresita Burastero: "Coarsely-Defined Solution to the Protein Folding Problem", *Il Nuovo Cimento "D"* 20D, 1891 (1998)
205. Ariel Fernandez: "Coarse Graining the Soft-Mode Dynamics of a Folding Protein", *Physical Chemistry-Chemical Physics (PCCP. The Royal Society of Chemistry, U. K.)* 1, 861 (1999)
206. Ariel Fernandez: "Folding a Protein by Discretizing its Backbone Torsional Dynamics", *Physical Review E* 59, 5928 (1999)
207. Ariel Fernandez, Rodolfo Salthu and Hernan Cendra: "Discretized Torsional Dynamics and the Folding of an RNA Chain", *Physical Review E*, 60, 2105-2119 (1999)
208. Gustavo Appignanesi and Ariel Fernandez: "Folding Group I RNA Ribozymes with a Minimal Loss of Entropy: Role of Mg(II) Ions, Pseudoknot Formation and Study of Folding Pathways" (Contributed paper BFSA.P1.19); Gustavo Appignanesi, Ruben Montani and Ariel Fernandez: "Braquistochrone Relaxation within the Context of Broken Ergodicity: Biopolymers, Ultrametric Spaces and Disordered Systems" (Contributed paper BFSA.P1.20), in *Proceedings (Abstract Book), "World of Physics", Institute of Physics 1999 Congress: Biomolecular Folding and Self Assembly*, April 12-14, 1999, University of Salford, U. K.. PROCEEDINGS
209. Ariel Fernandez and Andres Colubri: "Nucleation theory for helix unfolding in peptide chains", *Physical Review E* 60, 4645-4653 (1999)
210. Ariel Fernandez, Teresita Burastero, Rodolfo Salthu and Ana Tablar: "Energy level statistics in the fine conformational resolution of RNA folding dynamics", *Physical Review E* 60, 5888-5894 (1999)

211. Ariel Fernandez, Andres Colubri, Teresita Burastero and Ana Tablar: "How large should proteins be?: The minimal size of a good structure seeker", *Physical Chemistry Chemical Physics (PCCP)*. Royal Society of Chemistry 1, 4347-4355 (1999)
212. Ariel Fernandez, Konstantin Kostov and R. Stephen Berry: "From residue matching patterns to protein folding topographies: General model and bovine pancreatic trypsin inhibitor", *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, USA* 96, 12991-12996 (1999)
213. Ariel Fernandez and R. Stephen Berry: "Self-organization and mismatch tolerance in protein folding: General theory and an application", *Journal of Chemical Physics* 112, 5212-5222 (2000)
214. Ariel Fernandez, Konstantin Kostov and R. Stephen Berry: "Coarsely resolved topography along protein folding pathways", *Journal of Chemical Physics* 112, 5223-5229 (2000)
215. Ariel Fernandez and Andres Colubri: "Renormalized Hamiltonian for a Peptide Chain: Digitalizing the Protein Folding Problem", *Journal of Mathematical Physics*. 41, 2593-2603 (2000)
216. Ariel Fernandez: "Digitalized entrainment of torsional dynamics for a folding protein: the nonhierarchical folding of beta-lactoglobulin", *Physical Chemistry Chemical Physics (PCCP)*, The Royal Society of Chemistry 2, 1375-1384 (2000)
217. Ariel Fernandez, Andres Colubri and R. Stephen Berry: "Topologies to geometries in protein folding: hierarchical and nonhierarchical scenarios", *Journal of Chemical Physics* 114, 5871-5888 (2001)

218. Ariel Fernandez, Andres Colubri and R. Stephen Berry: "Topology to Geometry in protein folding: beta-lactoglobulin", PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, USA 97, 14062-14066 (2000)
219. Ariel Fernandez, Andres Colubri, Gustavo Appignanesi and Teresita Burastero: "Coarse semiempirical solution to the protein folding problem", PHYSICA A. Statistical Mechanics & its Applications 293, 358-384 (2001)
220. Ariel Fernandez: "Conformation-dependent environments in folding proteins", Journal of Chemical Physics 114, 2489-2502 (2001)
221. Ariel Fernandez, Gustavo Appignanesi and Andres Colubri: "Finding the collapse-inducing nucleus in a folding protein", Journal of Chemical Physics 114, 8678-8684 (2001)
222. Ariel Fernandez and Gustavo Appignanesi: "RNA folder: Earliest moves of a good structure seeker", Journal of Chemical Physics 114, 9184-9191 (2001)
223. Ariel Fernandez, Andres Colubri and Gustavo Appignanesi: "Semiempirical prediction of protein folds", Physical Review E 64, 21901-21915 (2001)
224. R. Stephen Berry, Ariel Fernandez and Konstantin Kostov: "Connecting cluster dynamics and protein folding", European Physical Journal D 1 6, 47-50(2001)
225. Ariel Fernandez: "Cooperative walks in a cubic lattice: Protein folding as a many-body problem", Journal of Chemical Physics 115, 7293-7297 (2001)
226. Ariel Fernandez: "Protein folding: coming to terms with cooperativity", Journal of Biological Physics and Chemistry 1, 10-11 (2001)
227. Ariel Fernandez: "Protein design from in silico dynamic information: The emergence of the 'turn-dock-lock' motif", Protein Engineering 15 1-6 (2002)
228. Ariel Fernandez: "Protein folding cooperativity in a correlated lattice", Physics Letters A 290, 101-105 (2001)
229. Ariel Fernández, Andrés Colubri and R. Stephen Berry: "Three-body correlations in protein folding: the origin of cooperativity", Physica A 307, 235-259 (2002)

230. Ariel Fernández and Jeremy Ramsden: “On adsorption-induced denaturation of folded proteins”, *Journal of Biological Physics and Chemistry* 1, 81-84 (2001)
231. Ariel Fernández: “Evolving solvent contexts in protein folding: modeling the self-protecting chain”, *Physica A* 308, 80-88 (2002)
232. Andrés Colubri and Ariel Fernández: “Pathway diversity and concertedness in protein folding: An ab-initio approach”, *Journal of Biomolecular Structure & Dynamics* 19, 739-764 (2002)
233. Ariel Fernández: “Protein folding: Is hierarchical versus nonhierarchical a productive issue?”, *Journal of Biomolecular Structure & Dynamics* 19, 735-737 (2002).
234. Ariel Fernández: “Time-resolved backbone desolvation and mutational hot spots in folding proteins”, *Proteins: Structure Function and Genetics* 47, 447-457 (2002).
235. Ariel Fernández and Andrés Colubri: “Pathway Heterogeneity in Protein Folding”, *Proteins: Structure Function and Genetics* 48, 293-310 (2002)
236. Ariel Fernández: “Folding proteins in an environment-sensitive lattice”, *Journal of Biological Physics & Chemistry* 2, 12-18 (2002)
237. Ariel Fernández: “Intramolecular modulation of electric fields in folding proteins”, *Physics Letters A* 299, 217-220 (2002).
238. Tobin R. Sosnick, R. Stephen Berry, Andrés Colubri and Ariel Fernández: “Distinguishing foldable proteins from nonfolders: When and how do they differ?”, *Proteins: Structure, Function & Genetics* 49, 15-23 (2002).
239. Ariel Fernández: “How do we probe ubiquitin’s pathway heterogeneity?” *Journal of Biomolecular Structure & Dynamics, Express Communication* 19, 949-960 (2002).
240. Ariel Fernández: “Local solvent dielectrics and destabilization of solvent-exposed states in folding proteins”, *Physica A* 316, 77-84 (2002).
241. Ariel Fernández and R. Stephen Berry: “Extent of hydrogen-bond protection in folded proteins: a constraint on packing architectures”, *Biophysical Journal* 83, 2475-2481 (2002).
242. Ariel Fernández, Tobin R. Sosnick and Andrés Colubri: “Dynamics of hydrogen-bond desolvation in folding proteins”, *Journal of Molecular Biology* 321, 659-675 (2002).
243. Ariel Fernández: “Insufficient hydrogen-bond desolvation and prion-related disease”, *European Journal of Biochemistry* 269, 4165-4172 (2002). Priority paper; cover for September issue.

244. Ariel Fernández: “Desolvation shell of hydrogen bonds in folded proteins, protein complexes and folding pathways”, FEBS Letters (Fed. Eur. Biochem. Soc.) 527, 166-170 (2002).
245. Ariel Fernández: “The protective shell of a hydrogen bond: A motif in protein folding pathways”, Physics Letters A 302, 144-148 (2002).
246. Ariel Fernández and Mercedes Boland: “Solvent environment conducive to protein aggregation”, FEBS Letters (Fed. Eur. Biochem. Soc.) 529, 298-302 (2002).
247. Florin Despa, Ariel Fernández, R. Stephen Berry, Yaakov Levy and Joshua Jortner: “Interbasin-motion approach to dynamics of conformationally constrained peptides”. Journal of Chemical Physics 118, 5673-5684 (2003)
248. Ariel Fernández and Mercedes Boland: “What is inherently wrong with the prion structure?” Journal of Biological Physics & Chemistry 2, 98-100 (2002)
249. Ariel Fernández, Min-yi Shen, Andrés Colubri, Tobin R. Sosnick, R. Stephen Berry and Karl F. Freed: “Large-scale context in protein folding: villin headpiece”, Biochemistry 42, 664-671 (2003)
250. Ariel Fernández and Harold A. Scheraga: “Insufficiently dehydrated hydrogen bonds as determinants for protein interactions”, Proceedings of the National Academy of Sciences, USA 100, 113-118 (2003)
251. Ariel Fernández, Jozsef Kardos and Yuji Goto: “Protein folding: Could hydrophobic collapse be coupled with hydrogen-bond formation? FEBS Letters (Fed. Eur. Biochem. Socs.) 536, 187-192 (2003)
252. Ariel Fernández and Mercedes Boland: “Protein folding: where is the paradox?”, Journal of Biomolecular Structure and Dynamics 20, 331-2 (2002).
253. Ariel Fernández and R. Stephen Berry: “Proteins with hydrogen-bond packing defects are highly interactive with lipid bilayers: Implications for amyloidogenesis”, Proceedings of the National Academy of Sciences, USA 100, 2391-2396 (2003).
254. Ariel Fernández: “Record reveals simplicity of primeval protein alphabet”. J. Biol. Phys. Chem. 3, 1 (2003).
255. Ariel Fernández: “Lower limit to the size of the primeval aminoacid alphabet”, Zeitschrift für Naturforschung 59c, 151-2 (2004).
256. Ariel Fernández and Ridgway Scott: “Adherence of packing defects in soluble proteins”, Physical Review Letters 91, 018102, 4 pages (2003).

257. Ariel Fernández, Jozsef Kardos, Ridgway Scott, Yuji Goto and R. Stephen Berry: “Structural defects and the diagnosis of amyloidogenic propensity”, Proceedings of the National Academy of Sciences, USA 100, 6446-6451 (2003).
258. Ariel Fernández: “Dehydron: a guidance in protein supramolecular organization”, Annual Report, The Research Center for Structural and Functional Proteomics, Institute for Protein Research, Osaka University, Japan (ISSN 1348-0022) 24, 22-26 (2003).
259. Ariel Fernández: “What caliber pore is like a pipe? Nanotubes as modulators of ion gradients”, Journal of Chemical Physics 119, 5315-5319 Communication (2003).
Featured in Virtual Journal of Nanoscale Science and Technology 8, September 8, 2003, Section on Carbon Nanotubes, C60, and Related Topics).
260. Ariel Fernández and Ridgway Scott: “Dehydron: A structure-encoded signal for protein interactions”, Biophysical Journal 85, 1914-1928 (2003).
261. Ariel Fernández and Ridgway Scott: “Under-wrapped soluble proteins as signals triggering membrane morphology”, Journal of Chemical Physics 119, 6911-6915 (2003).
262. Ariel Fernández: “Oncogenic mutations and packing defects in protein structure”, Journal of Biomolecular Structure and Dynamics 21, 9-15 (2003).
263. Ariel Fernández, Ridgway Scott and Harold A. Scheraga: “Amino-acid residues at protein-protein interfaces: Why is propensity so different from relative abundance?”, Journal of Physical Chemistry B 107, 9929-9932 (2003).
264. Kristina Rogale and Ariel Fernández: “Protein folding: a good structure protector is also a good structure seeker”. Physics Letters A 321, 263-266 (2004)
265. Ariel Fernández: “Functionality of wrapping defects in soluble proteins: What cannot be kept dry must be conserved”. Journal of Molecular Biology 337, 477-483 (2004)
266. Ariel Fernández and Kristina Rogale: “Charge screening in confined water: frequency dissection”. Journal of Biological Physics and Chemistry 3, 82-84 (2003)
267. Ariel Fernández, L. Ridgway Scott and R. Stephen Berry: “The nonconserved wrapping of conserved folds reveals a trend towards increasing connectivity in proteomic networks”. Proceedings of the National Academy of Sciences, USA 101, 2823-2827 (2004)
268. Ariel Fernández and Kristina Rogale: “Sequence-space selection of cooperative model proteins”. Journal of Physics A: Mathematical & General 37, 197-202 (2004)
269. Ariel Fernández, Kristina Rogale, L. Ridgway Scott and Harold A. Scheraga: “Inhibitor design by wrapping packing defects in HIV-1 proteins”. Proceedings of the National Academy of Sciences, USA 101, 11640-11645 (2004).

270. Ariel Fernández and R. Stephen Berry: “Molecular dimension explored in evolution to promote proteomic complexity”. *Proceedings of the National Academy of Sciences, USA* 101, 13460-13465 (2004).
271. Ridgway Scott, Mercedes Boland, Kristina Rogale and Ariel Fernández: “Continuum equations for dielectric response to macromolecular assemblies at the nanoscale”. *Journal of Physics A: Mathematical and General* 37, 9791-9803 (2004).
272. Ariel Fernández: “Keeping Dry and Crossing Membranes”. *Nature Biotechnology* 22, 1081-1084 (2004).
273. Ariel Fernández: “Buffering the entropic cost of hydrophobic collapse in folding proteins”. *Journal of Chemical Physics* 121, 11501-11502 (Letter to the Editor) (2004). Featured in *Virtual Journal of Biological Physics Research*, Vol. 8, issue 11, December 1, 2004.
274. Florin Despa, Ariel Fernández and R. Stephen Berry: “Dielectric modulation of biological water”. *Physical Review Letters* 93, 228104 (4 pages) (2004). Featured in *Nature (News and Views)* 432, 688 (2004).