Ariel Fernández Stigliano, Ph. D.*
Curriculum Vitae

*Also styled as Ariel Fernández

Born in Bahía Blanca, Argentina, April 8, 1957
US and Argentine citizen

Main websites:

Scientific website
Ariel Fernandez Consultancy
AF Innovation
Ariel Fernandez ResearchGate
Ariel Fernandez Google Scholar Citations
Ariel Fernandez Wikipedia (Mandarin)
Ariel Fernandez Baidu Encyclopedia (Mandarin)
Ariel Fernandez Books
Physics at the Biomolecular Interface (Latest Book)

Current Positions

- Senior Investigator, Argentine National Research Council (CONICET) (2011-).

Instituto Argentino de Matemática
"Alberto P. Calderón"
1083 Buenos Aires, Argentina

- Former Karl F. Hasselmann Chaired Professor of Bioengineering, Rice University

- Expert scientifique, Comité d'Evaluation Scientifique, Innovation Biomédicale (CE18), Agence Nationale de la Recherche, France (2015-)

- Chief Scientific Officer and Vicepresident, ProWDSciences, Inc. (Protein-Water Dehydron), 2013-

  ProWD Sciences in the web:
  National Science Foundation: Leading Scientists Discuss Converging Technologies: Sangtae Kim (ProWD Sciences)
  Physics Wiki, London

- Honorary Investigator, Collegium Basilea, Institute of Advanced Study, CH 4053 Basel, Switzerland (2006-)

- Visiting Professor, National Tsing-Hua University, Hsinchu, Republic of China (2010-)

- President, AF Innovation, SRL, a Pharmaceutical Consultancy (2010-).

- Vicepresident and Chief Scientific Officer at Ariel Fernandez Consultancy, GmbH, a Biotechnology firm specialized in dynamic molecular design (2013-)

- CSO, Coeur-Tek, a biotech company focused on heart failure (US patent #9,051,387), to be incorporated.

Past Appointments

- Karl F. Hasselmann Endowed Chair Professor of Engineering, Rice University, Department of Bioengineering, Rice University, Houston, TX 77005 (2005-2011)

- Professor of Bioengineering, Rice University (retired)

- Rice Research Professor (2011)

- Distinguished Investigator, PI Pharmaceutical Informatics, Morgridge Institute for Research at the University of Wisconsin-Madison, Madison, Wisconsin 53715 (2011-2012)

- Adjunct Professor of Molecular Therapy, M. D. Anderson Cancer Center (UTMC) (2006-)

- Adjunct Professor (2006-2008) and Visiting Scholar (2008-2012), Computer Science Department, The University of Chicago.

- Senior Scientific Consultant, Eli Lilly and Company (2004-2011).

Primary research foci

Pharmacoinformatics and Pharmacogenomics; Translational Medical Informatics; Molecularly Targeted Cancer Therapy; Clinical Kinomics; Integrative Biology; Bioinformatics; Discovery Informatics; Systems Bioengineering; Molecular Theranostic Engineering; Physical Chemistry; Molecular Biophysics, Dehydron Physics

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Education

- Ph. D. Yale University, 1984
  (fastest awarded Yale Ph. D. on record).
- Sr. Research Scientist, Max-Planck-Institut fuer biophysikalische Chemie, Division of Nobel Laureate Manfred Eigen, Goettingen, Germany, 1986-1989.
- Research Associate (1985-1987), Visiting Senior Research Scientist (1994-1996), Princeton University.
- Licenciado en Matematica (1980), Quimico (1979), Universidad Nacional del Sur, Bahia Blanca, Argentina.

Parameters

- Intelligence IQ 151 (test# e2a3fa0b)
- Citations* 3570
- h-index* 31
- i10-index* 98

(*) Source: Google Scholar Citations for Ariel Fernandez, 5/10/2016.

Summary of Personal Accomplishments

Ariel Fernández introduced what appears to be the correct formulation for **self-organization in nonequilibrium thermodynamics** by realizing that the thermodynamically relevant degrees of freedom must belong to a **center manifold**, an algebraically closed entity, and not to an attractor, as Ilya Prigogine previously assumed. He has provided a **semiempirical solution to the protein folding problem** by introducing the **epistructural tension**, a measure of the distortion of the water structural matrix that requires a multi-scale theory of dielectrics. He rationally discovered a ligand biologic that would competitively **disrupt a protein-protein interface** for therapeutic purposes (patent US 9,051,387). He also managed to predict and control **induced folding** in drug-target associations. He introduced the concept of **dehydron**, a structural defect in soluble proteins that promotes its own dehydration and creates **epistructural tension**. A dehydron is a meta-structural feature of relevance in drug design, enzyme catalysis and protein folding. Ariel Fernández determined and measured the **dehydronic field**, the mechanical equivalent of the dehydration propensity of a dehydron exerted on a test nonpolar molecule and orthogonal to the Coulombic field. His current efforts are devoted to show that dehydrons are endowed with a catalytic role as enablers and stimulators of enzymatic activity. This research on the chemical functionality of structural

defects in soluble proteins is expected to have paramount implications in molecular medicine as described in AF's latest book "Physics at the Biomolecular Interface" (May, 2016).

Awards and Previous Appointments

- Camille and Henry Dreyfus Teacher-Scholar Awardee, 1991
- Camille and Henry Dreyfus Distinguished New Faculty Awardee, 1989
- John S. Guggenheim Memorial Foundation Fellow, 1995-1996
- Consultant to U.S. Federal Government, NIH, Special Panel on Centers of Excellence in Systems Biology, 2003-
- National Cancer Institute (NCI) Reviewer. NIH Study Section RFA-07-005 "Advanced Proteomic Platforms and Computational Sciences for NCI Clinical Proteomic Technologies Initiative", 2006-
- Guest Professor, Institute for Protein Research, Osaka University, Japan, 2003
- Visiting Senior Researcher, Max-Planck-Institut fuer Biochemie, Abteilung Robert Huber, Martinsried, Germany, 2000-
- Visiting Senior Scientist, Institute for Nonlinear Science, University of California at San Diego, 1989
- Managing Editor, Frontiers in Bioscience, Encyclopedia of Bioscience, 2006-
- Editor, Journal of Biological Physics and Chemistry, Basel, Switzerland, 2000-
- Fulbright Scholar, US Information Agency, 1999 and Fulbright Fellow, 1981
- Alexander von Humboldt Foundation Awardee (1995)
- Max Planck Society Scholar, Goettingen, Germany (1987-1989)
- Feinberg Fellow, Israel, 1984-1985
- Full Professor, Indiana University School of Informatics, 2003-2005.
- Full Professor, Center for Computational Biology and Bioinformatics, Indiana University School of Medicine, 2003-2005.
- Elected Fellow, American Institute for Medical and Biological Engineering, 2006
- Full Professor and Principal Investigator, UNS and Natl. Res. Council of Argentina, 1994-2003.
- Medal "State of Buenos Aires" to the best graduate, Argentina, 1980
- Deputy Governor, American Biographical Institute, 1998-
- Co-organizer and Proceedings Editor of the Miami Bio/Technology Winter Symposium, Nature-sponsored, 1993.
- Chair, "Resistance and Safety"/Kinase Inhibitors, Cambridge Healthtech Institute's Sixth Annual "Discovery on Target" Symposium; October 20-23, Boston, MA, USA, 2008.
- Honorary Member, Collegium Basilea, Institute for Advanced Study, Basel, Switzerland, 2006-
- Adjunct Professor of Computer Science, The University of Chicago (2005-2008).
- Editorial Board Member, Journal of Postgenomics: Drug & Biomarker Development - Open Access, OMICS Publishing Group, 2010-
- Editorial Board Member, Journal of Bioengineering & Biomedical Science, OMICS Publishing Group, 2010-

- Editorial Board Member, Journal of Metabolomics: Open access, OMICS Publishing Group, 2012-
- Distinguished Scientific Leader Lecturer, Georgia Institute of Technology, 11/10/2010, Lecture title: “Evolutionary insights into the control of drug specificity”. URL: https://smartech.gatech.edu/handle/1853/36240?show=full
- Columnist at Project Syndicate, The World’s Opinion Page (2011-)
- Editorial Board Member, Journal of Pharmacogenomics & Pharmacoproteomics, OMICS Publishing Group, 2015-
- Expert scientifique, Comité d’Evaluation Scientifique, Innovation Biomédicale (CE18), Agence Nationale de la Recherche, France, 2015-

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Legal Consultancies - Pharmaceutical Patent Litigation

- Schiff/Hardin, LLP (Chicago-based Law Firm).
- Racoczy, Molino, Mazzocchi and Siwik, LLP (Chicago-based Law Firm)

Recent Grant support, PI: Ariel Fernandez

- NIH Grant Award 1R01 GM072614 from the National Institute of General Medical Sciences (NIGMS). Title: “Protein packing defects as functional markers and drug targets”. Total amount of award: $1.6million (2005-2009).
- Eli Lilly and Company, Unrestricted research funds (2004-2011)

Recent Lectures

- Seminar lecture: “Curbing drug side effects by exploiting integrative ideas in molecular biophysics”, Computations in Science Seminars, Kersten Physics Teaching Center, The University of Chicago, November 28 (2007).
- Keynote speaker: “Curbing the Cardiotoxicity of Kinase Inhibitors: The Methyl that Saved the Heart”, *Discovery on Target 2007*, Cambridge Healthtech Institute Fifth Annual, “Developing inhibitors for Promising Drug Targets”, World Trade Center, Boston, MA, October 15-18 (2007).
- "7th International Workshop on Pharmacodynamics of Anticancer Agents”, organized by the University of Chicago, Guanacaste, Costa Rica, September 16-20 (2007).
- “Re-engineering of Imatinib to Decrease Cardiac Risk: Translational Ideas in Drug Discovery”, *World Pharmaceutical Congress*, Cambridge Healthtech Institute Second Annual “Cardiotoxicity and Drug Safety”, Philadelphia, PA, May 12-13 (2008).
- “Curbing side effects in anticancer drugs”, in “Science for Health with a Human Face”, *International Symposium* (4 Nobel laureates in attendance), Madrid, Spain, November 4-7 (2008).
- “Translational ideas in drug discovery”, Guest lecturer, *Genomics Research Center*, *Academia Sinica*, Taipei, Taiwan, June 14-21 (2008).

- Keynote speaker and Chair, “Resistance and Safety”. Lecture title: “Translational ideas to curb side effects in anticancer kinase-targeting therapy: Reducing cardiotoxicity through inhibitor redesign”. Cambridge Healthtech Institute’s Sixth Annual “Discovery on Target”/KINASE INHIBITORS; October 20-23, 2008, Boston, MA, USA.
- Lecturer, 238th American Chemical Society National Meeting & Exposition. ACS paper 251: “Translational ideas in molecular therapy: Re-engineering anticancer drugs to curb side effects”; section “Novel Approaches to fine tune anticancer drugs to achieve acceptable clinical outcomes, Walter E. Washington Convention Center, August 16-20, 2009, Washington DC, USA.
- Lecturer, “Frontiers in Pharmacology” Seminar Series, University of California at Davis, Department of Pharmacology, GBSF Auditorium, October 23, 2009, UC Davis, Davis CA, USA.
- Keynote speaker, “Origin of Life: Molecular origins, Extinction, Life in Extremes, Species Diversification”, Vienna Biocenter, Noviembre 18, 2010, Vienna, Austria, sitio web: www.originoflife2010.com
- Distinguished Scientific Leader Lecturer, Georgia Institute of Technology, 11/10/2010, Lecture title: “Evolutionary insights into the control of drug specificity”. URL: https://smartech.gatech.edu/handle/1853/36240?show=full
- Chair of Session “Protein Kinase Inhibitors in Cancer” (# 5-8), Speech title: “Translational Ideas in Molecular Cancer Therapy”, BIT Life Sciences’ 4th Annual Protein & Peptide Conference (PepCon 2011), Beijing, China, March 23-25, 2011.

Patents

- **US 8,466,154 B2** (awarded)

Ariel Fernández et al.: “Methods and Composition of Matter Related to Wrapping of Dehydrons”. Inventors: Ariel Fernández, William Bornmann, Gabriel Lopez-Berestein, Angela Sanguino, Zeng-Hong Peng, Anil K. Sood. Awarded: June 18, 2013.

- **US 9,051,387 B2** (awarded)

Richard L. Moss and Ariel Fernández: “Inhibition of MYBP-C binding to myosin as a treatment for heart failure”. Inventors: Richard L. Moss and Ariel Fernández; Asignee: Wisconsin Alumni Research Foundation. Awarded: June 9, 2015.

Books

- Author: Ariel Fernández
  Title: “Transformative Concepts for Drug Design: Target Wrapping”
  Publisher: Springer, Heidelberg, Berlin (240 pages)
  ISBN: 978-3-642-11791-6
  Publication year: 2010.

- Author: Ariel Fernández Stigliano
  Title: "Biomolecular Interfaces: Interactions, Functions and Drug Design"
  Publisher: Springer, Heidelberg, Berlin (372 pages)
  ISBN: 978-3319168494
  Publication year: 2015.

- Author: Ariel Fernández
  Title: "Physics at the Biomolecular Interface: Fundamentals for Molecular Targeted Therapy" (488 pages)
  Publisher: Springer International Publishing, Switzerland
  Soft and Biological Matter Series
  ISBN: 978-3-319-30851-7
  Publication year: 2016.

- Authors: L. Ridgway Scott and Ariel Fernández
  Title: "Mathematical Approach to Protein Biophysics"
  Publisher: SIAM (280 pages)
  In press
  Publication year: 2017.

Critiques on recent work

- *Nature* **432**, 688 (2004)

News and Views article on: Despa, F., Fernandez, A. and Berry, R.S. Dielectric modulation of biological water. *Phys. Rev. Lett.* **93**, 228104 (2004)

- *Journal of Clinical Investigation* **117**, 3650-3653 (2007)

Commissioned Editorial Commentary by George Demetri on: Fernández, A. *et al*. An anticancer C-Kit kinase inhibitor is re-engineered to make it more active and less cardiotoxic. *Journal of Clinical Investigation* **117**, 4044-4054 (2007)

- *Nature Reviews Drug Discovery* **7**, 120-121 (2008)

Research Highlights, "Anticancer drugs: Redesigning kinase inhibitors", on: Fernández, A. et al. An anticancer C-Kit kinase inhibitor is re-engineered to make it more active and less cardiotoxic. *Journal of Clinical Investigation* **117**, 4044-4054 (2007)

- *Chemical & Engineering News (ACS)* **86**, number 09, p.31 (2008)

Science & Technology Concentrates: "Drug Design Strategy Aims for Disorder", on: Crespo, A. and Fernández, A. Induced disorder in protein-ligand complexes as a drug-design strategy". *Molecular Pharmaceutics* (ACS), published online February 16, 2008.

- *Nature*, News and Views on Ariel Fernandez and Michael Lynch, *Nature* 474, 502-505 (2011). Philip Ball "The Achilles Heel of Biological Complexity" Published online 18 May 2011 | Nature | doi:10.1038/news.2011.294

Critique Excerpts

The research by Fernández and collaborators (cf. *Journal of Clinical Investigation* **117**, 4044-4054 (2007)) has been auspiciously received by key researchers in cancer therapy and is being perceived as a conceptual and technical breakthrough. Thus, Harvard Medical School Professor *George Demetri*, director of the Center for Sarcoma and Bone Oncology at Dana-Farber Cancer Institute, wrote:

"The approach used here by Fernández et al. holds great promise to allow more customized development of rationally designed therapeutic agents."
"…with tools such as those described by Fernández et al., the future certainly looks bright for constructing ever-better agents that can be combined safely and effectively to manage, and eventually cure, many forms of human cancer."
(from Demetri's Commentary, *Journal of Clinical Investigation* **117**, 3650-3653, 2007).

Thomas Force, Wilson Professor of Medicine at Thomas Jefferson University, who first characterized and reported imatinib cardiotoxicity in his 2006 *Nature Medicine* article, said:

"…this knowledge could potentially steer drug development away from targets and pathways that would lead to toxicity, but would leave tumor cell killing intact. Fernández and co-workers, in this really remarkable piece of work, have proven that this is indeed possible. Their findings will hopefully encourage drug makers to pursue a similar approach of "rational drug re-design" (and drug design) in the development of new anti-cancer agents..."

http://www.medicalnewstoday.com/articles/90646.php

In "Chemistry World" (Royal Society of Chemistry, UK), Force added:
"The biggest message of this paper is that a cardiotoxic cause can be identified and steered away from. There are hundreds of agents in development that could benefit from this research."

http://www.rsc.org/chemistryworld/News/2007/December/03120703.asp

The research by Fernández also received coverage from the popular press (*Reuters*):

http://www.reuters.com/article/healthNews/idUSN0341290220071203

The Fernandez contribution was highlighted in *Nature Reviews Drug Discovery* **7**, 120-121 (February 2008). (Research Highlights, "Anticancer drugs: Redesigning kinase inhibitors"). Thus, *Nature Reviews* editor Sarah Crunkhorn wrote:
"In summary, WBZ_4 [the drug designed by the Fernandez team] could have potential as a novel therapy for *GISTs* [gastro-intestinal stromal tumors], and

the approach demonstrated in the study might also be applied to engineer the specificity of other kinase inhibitors with the aim of creating safer and more effective drugs."

Other Recent Critiques

The paper: Ariel Fernández (2012) Epistructural tension promotes protein associations, *Physical Review Letters* **108**, 188102 has been reviewed in *Chemical & Engineering News* and *Physics/Focus (American Physical Society)*:

"Protein Binding Hot Spots" by Jyllian Kemsley
Chemical & Engineering News, **90**(20), May 14, 2012 [Science & Technology, Concentrates]
"Focus: Proteins Hook up Where Water Allows". May 4, 2012, *Physics* **5**, 51 (2012), DOI: 10.1103/Physics.5.51, URL: http://physics.aps.org/articles/v5/51

The paper: Ariel Fernández and Michael Lynch, Nonadaptive origins of interactome complexity". *Nature* **474**, 502-505 (2011) has been reviewed in *Scientific American* and *Nature/News*:

"Why Are You So Complex? Complicated Protein Interactions Evolved to Stave Off Mutations" by Philip Ball. *Scientific American*, May 18, 2011. URL:http://www.scientificamerican.com/article/complicated-protein-interactions-evolved-to-stave-off-mutations/

"The Achilles' heel of biological complexity" by Philip Ball, *Nature*, 18 May 2011, doi:10.1038/news.2011.294
URL:http://www.nature.com/news/2011/110518/full/news.2011.294.html

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Some recent doctoral thesis directed by Ariel Fernández

Molecular basis of gene dosage sensitivity
Jianping Chen
Rice University, Department of Physics and Astronomy, 2009
https://scholarship.rice.edu/handle/1911/61791

Specificity in the druggable kinome: Molecular basis and its applications
Xi Zhang
Rice University, Department of Physics and Astronomy, 2009
https://scholarship.rice.edu/handle/1911/61945

Selected publications

- Ariel Fernández, Tobin R. Sosnick and Andrés Colubri: “Dynamics of hydrogen-bond desolvation in folding proteins”, Journal of Molecular Biology 321, 659-675 (2002).
- 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).
- 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).
- Ariel Fernández and Ridgway Scott: “Adherence of packing defects in soluble proteins”, Physical Review Letters 91, 018102, 4 pages (2003).
- 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).
- 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).
- Ariel Fernández: “Keeping Dry and Crossing Membranes”. Nature Biotechnology 22, 1081-1084 (2004).
- Ariel Fernández, et al.: “An anticancer C-kit kinase inhibitor is re-engineered to make it more active and less cardiotoxic”. Journal of Clinical Investigation 117, 4044-4054 (2007).
- Jianping Chen, Han Liang and Ariel Fernández: “Protein structure protection commits gene expression patterns”. Genome Biology 9, R107 (2008).
- Ariel Fernández and Jianping Chen: “Human capacitance to dosage imbalance: Coping with inefficient selection”. Genome Research 19, 2185-2192 (2009).
- Ariel Fernández and Michael Lynch: “Nonadaptive origins of interactome complexity”. Nature 474, 502-505 (2011).
- Ariel Fernández: “Epistructural tension promotes protein associations”. Physical Review Letters 108, 188102 (2012).

Ariel Fernández Stigliano
Bibliography

Sources: ResearchGate, Google Scholar Citations, Baidu Encyclopedia (Mandarin) and Wikipedia (Mandarin)

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).

3. (1984) Ariel Fernandez and Oktay Sinanoglu: "Symmetry-Breaking Instabilities under Nonclassical Bifurcation Conditions, " Physical Review A 29, 2029 (1984) (3 pages).

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).

5. (1984) Ariel Fernandez and Oktay Sinanoglu: "Locally Attractive Normal Modes for Chemical Processes," Journal of Mathematical Physics 25, 2576, (1984) (7 pages).

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).

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).

8. (1984) Ariel Fernandez and Oktay Sinanoglu: "Conditions for the Validity of Gingzburg-Landau Equations in Far-From Equilibrium Kinetics," Physical Review A 30, 1522 (1984) (3 pages).

9. (1984) Ariel Fernandez and Oktay Sinanoglu: "The Structural Stability Restriction Rules Out Certain SN2 Pathways," Theoretica Chimica Acta 66, 147 (1984) (3 pages).

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).

11. (1985) Ariel Fernandez: "Pattern of Separatrices and Intrinsic Reaction Coordinates for Degenerate Thermal Rearrangements," Theoretica Chimica Acta 67, 229 (1985) (8 pages).

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).

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).

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

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).

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

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).

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

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

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

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).

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

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

24. (1986) Ariel Fernandez: "Triangulation of the Lowest Energy Sheet for the Jahn-Teller PES," Zeitschrift fur Naturforschung 41a, 532 (1986) (5 pages).

25. (1986) Ariel Fernandez: "Predicted Power Spectra for Subordinated Variables in Periodic Instabilities," Physics Letters A 114A, 346 (1986) (5 pages).

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).

27. (1986) Ariel Fernandez and Herschel Rabitz: "Autocorrelations in the Center Manifold of Dissipative Systems," Physical Review A 33, 3314 (1986) (6 pages).

28. (1986) Ariel Fernandez: "Homology of a Structurally-Stable Chemical Rearrangement," Zeitschrift fur Naturforschung 41a, 256 (1986) (5 pages).

29. (1986) Ariel Fernandez: "Almost-Split Sequences and Morita-Duality," Bulletin des Sciences Mathematiques 2e series 110, 425 (1986) (12 pages).

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).

31. (1987) Ariel Fernandez: "Homology of Potential Energy Surfaces," Zeitschrift fur Naturforschung 4la, 1118 (1987) (4 pages).

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).

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).

35. (1987) Ariel Fernandez: "Theory for Scaling of Fluctuations in Thermal Explosion Conditions," Berichte der Bunsengesellschaft. Physikalische Chemie 91, 159 (1987) (5 pages).

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).

37. (1987) Ariel Fernandez: "Intrinsic Fluctuations Determined by the Existence of a Center Manifold," Journal of Physics A Letters 20, L509 (1987) (5 pages).

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).

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)

40. (1987) Ariel Fernandez: "Intrinsic Fluctuations associated with the Onset of a Center Manifold," Journal of Physics A Letters 20, L579 (1987) (4 pages).

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).

42. (1987) Ariel Fernandez: "Statistical Weights for Primary Structures in Inhomogeneous Polymer Chains," Berichte der Bunsengesellschaft. Physikalische Chemie 91, 611 (1987) (4 pages).

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).

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).

47. (1987) Ariel Fernandez: "Intrinsic fluctuations in Macromolecular Self-Replicating Systems," Berichte der Bunsengesellschaft Physikalische Chemie. 91, 1002 (1987) (5 pages).

48. (1987) Ariel Fernandez and Herschel Rabitz: "Stochastic Theory of Ignition," International Journal of Theoretical Physics, 26, 1093 (1987) (10 pages).

49. (1987) Ariel Fernandez and Herschel Rabitz: "Effective Propagators for Quenched Disorder in Linear Polymers," Biophysical Chemistry 28, 89 (1987) (4 pages).

50. (1988) Ariel Fernandez: "Self-Organization in the Center Manifold of Dissipative Systems," Journal of Physics A Letters 21, L 295 (1988) (6 pages).

51. (1988) Ariel Fernandez: "Far-From Equilibrium Fluctuations Triggering the RNA De-Novo Synthesis," Colloid and Polymer Science 266, 385 (1988) (4 pages).

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).

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)

54. (1988) Ariel Fernandez: "The Onset of Macroscopically-Detectable Amplification in Template Concentration for Self-Replicating RNA," Biophysical Chemistry 29, 317 (1988) (7 pages).

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).

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)

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).

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).

59. (1988) Ariel Fernandez: "The Irreversibility Paradox Revised: The Onset of a Center Manifold," International Journal of Theoretical Physics 27, 725 (1988) (6 pages).

60. (1988) Ariel Fernandez: "Quenched Disorder in Linear Polymers" Zeitschrift for Physikalische Chemie (Leipzig) 269, 1213 (1988) (5 pages).

61. (1988) Ariel Fernandez: "Stochastic Dynamical Constraints in de-novo RNA Replication," Journal of Theoretical Biology 134, 419 (1988) (12 pages).

62. (1988) Ariel Fernandez: "Phase-Ordering Dynamics for the Onset of a Center Manifold," Physical Review A 38, 4256 (1988) (6 pages).

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).

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).

66. (1989) Ariel Fernandez: "Amplification of Intrinsic Fluctuations along the Center Manifold," Berichte der Bunsengesellschaft. Physikalische Chemie 93, 95 (1989) (5 pages).

67. (1989) Ariel Fernandez: "Sequence-Dependence for the Melting of Globular States in Heteropolymers," Chemical Physics Letters 154, 396 (1989) (6 pages).

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).

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).

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).

71. (1989) Ariel Fernandez: "A Structural Phase Transition in RNA," Berichte der Bunsengesellschaft Phys. Chemie 93, 574 (1989) (3 pages).

72. (1989) Ariel Fernandez: "Externally-Induced Phase Transition for Random Inhomogeneous Polymers," Journal of Physics A 22, 3137 (1989) (5 pages).

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).

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).

75. (1989) Ariel Fernandez: "Effective Phase Space for Isomerizations in Liquids," Chemical Physics Letters. 162, 14 (1989) (6 pages).

76. (1989) Ariel Fernandez: "Structural Phase Transitions and the Catalytic Role of RNA in Proton Transfer Events," Naturwissenschaften 76, 469 (1989) (3 pages).

77. (1989) Ariel Fernandez: "Metastable RNA Folding and the Enhancement of Autocatalytic Activity, "Naturwissenschaften 76, 525 (1989) (5 pages).

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).

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)

83. (1989) Ariel Fernandez: "Effect of Primary Structure Disorder on Coil-Gobule phase Transition," Berichte der Bunsenges. Phvs. Chemie 93, 879 (1989) (5 pages).

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).

85 (1990) Ariel Fernandez: "Coherent Collective Modes in Catalytic RNA," Zeitschrift fur Phvsik B (Condensed Matter) 79, 255 (1990) (7 pages).

86 (1990) Ariel Fernandez: "Statistical Mechanical Model for Proton Transfer in RNA", Journal of Physics A. Letter to the Editor 23, L247 (1990)

87 (1990) Ariel Fernandez: "Spectrum of Relaxation Timescales for Metastable RNA Folding", PHYSICA A (Statistical and Theoretical Physics) 165, 352 (1990)

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 Bunsengessellschaft 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 fur Physikalische Chemie 95, 31 (1991)

103. Ariel Fernandez: Critical review especially 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, Rl, 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 especially 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 especially 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 especially commissioned for inclusion in MATHEMATICAL REVIEWS on the paper by N. Lygeros: "Iteration des Fonctions Complexes z->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 especially 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 especially 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. Zahlten (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, Rl, 1990), Mathematical Reviews (AMS) 91 m:58098 (1991)

121. Ariel Fernandez: Critical reviews especially 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 especially 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 especially 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 especially 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 especially 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 especially 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 1/1 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 especially 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 especially 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 especially 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 fur Physikalische Chemie 95, 1674 (1991)

138. Ariel Fernandez: "How random are regulatory signals in RNA replication?" Berichte der Bunsengesellschaft fur 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 especially commisioned 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/Technologv 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 fiir Phvsikalische Chemie Rapid Communication 98, 125 (1994)

159. Ariel Fernandez: "Microscopic Derivation of the Low-T Myoglobin-CO Recombination Rate", Berichte der Bunsengesellschaft fur Phvsikalische 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/lmagenes, "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 1 7-21, 1996

190. Debora Figlas, Hugo Arias, Ariel Fernandez and Daniel M. Alperin: "Dramatic Saccharide-Mediated Protection of Chaotropic-lnduced 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. 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(ll) 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). Roval 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).

275. Ariel Fernández: "Direct nanoscale dehydration of hydrogen bonds".
Journal of Physics D, Applied Physics 38, 2928-2932 (2005).

276. Vladimir N. Uversky, Ariel Fernández and Anthony L. Fink. "Structural and conformational prerequisites of amyloidogenesis". In: Protein Misfolding, Aggregation and Conformational Diseases. Vol. I: Protein Aggregation and Conformational Diseases (Uversky V.N., Fink A.L., Eds.) Springer, New York, pages 1-20, ISBN 038725918X (2006).

277. Ariel Fernández: "Protein function with concurrent promiscuity", Opinions and Commentary, Journal of Biomolecular Structure & Dynamics 22, 615-624 (2005).

278. Ariel Fernández: "Incomplete protein packing as a selectivity filter in drug design". Structure 13, 1829-1836 (2005).

279. Ariel Fernández: "The integrated development of network complexity modulates the diverse evolutionary mutation rates of individual proteins",
FEBS Letters (Fed. Eur. Biochem. Soc.) 579, 5718-5722 (2005).

280. Ariel Fernández: “Wrapping a hydrogen bond with a molecular force probe: the mechanical equivalent of dehydration propensity”. Journal of Biological Physics and Chemistry 6, 3-7 (2006).

281. Ariel Fernández: “What factor drives the fibrillogenic association of beta-sheets?” FEBS Letters (Fed. Eur. Biochem. Soc.) 579, 6635-6640 (2005).

282. Ariel Fernández and Sridhar Maddipati: “The a-priori inference of cross reactivity for drug targeted kinases”. Journal of Medicinal Chemistry 49, 3092-3100 (2006).

283. Sridhar Maddipati and Ariel Fernández: “Feature-similarity kinase classifier as a ligand engineering tool”. Biomolecular Engineering 23, 307-315 (2006).

284. Ariel Fernández and L. Ridgway Scott: “Modulating drug impact by wrapping target proteins”. Expert Opinion on Drug Discovery 2, 249-259
(doi:10.1517/17460441.2.2.249)
(2007).

285. Jianping Chen, Xi Zhang and Ariel Fernández: “Molecular basis for specificity in the druggable kinome: sequence-based analysis”. Bioinformatics 23, 563-572 (2007).

286. Sridhar Maddipati and Ariel Fernández: “Peptide translocators with engineered dehydration-prone hydrogen bonds”. Journal of Chemical Physics 126, 061102, Communication (2007).

287. A. Keith Dunker and Ariel Fernandez: “Engineering a productive enzyme confinement”. Trends in Biotechnology 25, 189-190, Research Focus (2007).

288. Ariel Fernández and Alejandro Crespo: “Wrapping technology and the enhancement of specificity in cancer drug treatment”. Frontiers in Bioscience 12, 3617-3627 (2007).

289. Ariel Fernández et al.: “Rational Drug Redesign to overcome drug resistance in cancer therapy: Imatinib moving target”. Cancer Research 67, 4028-4033, Priority Report, Cover featured (2007).

290. Ariel Fernández, Jianping Chen and Alejandro Crespo: “Solvent-exposed backbone loosens the hydration shell of soluble folded proteins”. Journal of Chemical Physics 126, 245103 (2007).

291. Natalia Pietrosemoli, Alejandro Crespo and Ariel Fernández:
“Dehydration propensity of order-disorder intermediate regions in soluble proteins”. Journal of Proteome Research 6, 3519-3526 (2007).

292. Jyotsnabaran Halder, …, Ariel Fernández, Gabriel Lopez-Berestein, Anil K. Sood:
“Therapeutic efficacy of a novel FAK inhibitor TAE226 in ovarian carcinoma”.
Cancer Research 67, 10976-10983 (2007).

293. Ariel Fernández, et al.: “An anticancer C-kit kinase inhibitor is re-engineered to make it more active and less cardiotoxic”. Journal of Clinical Investigation 117, 4044-4054 (2007). (featured in Press Releases).

Commentary by George Demetri: Structural reengineering of imatinib to decrease cardiac risk in cancer therapy. Journal of Clinical Investigation 117, 3650-3653 (2007).

294. Ariel Fernández: “Molecular basis for evolving self-dissimilarity in the yeast protein interaction network”. PLoS Computational Biology 3, e226 (2007).

295. Alejandro Crespo and Ariel Fernández: “Kinase packing defects as drug targets.” Drug Discovery Today 12, 917-923 (2007).

296. Ariel Fernández, Alejandro Crespo and Axel Blau: “Passive Water-Lipid Peptide Translocators with Conformational Switches: From Single-Molecule Probe to Cellular Assay”. Journal of Physical Chemistry B 111, 13987-13992 (2007).

297. Han Liang, Kristina Rogale-Plazonic, Jianping Chen, Wen-Hsiung Li and Ariel Fernández: “Protein under-wrapping causes dosage sensitivity and decreases gene duplicability”. PLoS Genetics 4, e11 (2008).

298. Ariel Fernández, Xi Zhang and Jianping Chen: “Folding and wrapping soluble proteins: Exploring the molecular basis of cooperativity and aggregation”. Progress in Molecular Biology and Translational Science 83, 53-88 (2008).

299. Ariel Fernández, Alejandro Crespo, Sridhar Maddipati and Ridgway Scott: “Bottom-up engineering of peptide cell translocators based on environmentally modulated quadrupole switches”. ACS Nano 2, 61-68 (2008).

300. Alejandro Crespo and Ariel Fernández: “Induced disorder in protein-ligand complexes as a drug-design strategy”. Molecular Pharmaceutics (ACS) 5, 430-437 (2008).

301. Xi Zhang, Alejandro Crespo and Ariel Fernández: “Turning promiscuous kinase inhibitors into safer drugs”. Trends in Biotechnology 26, 295-301 (2008).

302. Xi Zhang and Ariel Fernández: “*In silico* drug profiling of the human kinome based on a molecular marker for cross reactivity”. Molecular Pharmaceutics (ACS) 5, 728-738 (2008).

303. Han Liang and Ariel Fernández: “Evolutionary constraints imposed by gene dosage balance”. Frontiers in Bioscience 13, 4373-8 (2008).

304. Ariel Fernández and Alejandro Crespo: “Protein wrapping: a marker for association, aggregation and molecular targeted therapy”. Chemical Society Reviews (Royal Society of Chemistry, UK) 37, 2373-2382, Tutorial Review (2008).

305. Alejandro Crespo, Xi Zhang and Ariel Fernández: "Redesigning kinase inhibitors to enhance specificity". Journal of Medicinal Chemistry 51, 4890-4898 (2008).

306. Jianping Chen, Han Liang and Ariel Fernández: “Protein structure protection commits gene expression patterns”. Genome Biology 9, R107 (2008).

307. Ariel Fernández: “Structural Basis for Specificity in Drug Therapy” (Plenary Inaugural Lecture BIOMAT 2008). Actas de la Academia Nacional de Ciencias (Córdoba, Argentina) Tomo XIV, pages 11-22 (2008).

308. Ariel Fernández, Alejandro Crespo and Abhinav Tiwari: “Is there a case for selectively promiscuous anticancer drugs?”. Drug Discovery Today 14, 1-5 (2009)

309. Ariel Fernández, Soledad Bazán and Jianping Chen: “Taming the induced folding of drug-targeted kinases”. Trends in Pharmacological Sciences 30, 66-71 (2009).

310. Ariel Fernández and Sean Sessel: “Selective antagonism of anticancer drugs for side-effect removal”. Trends in Pharmacological Sciences 30, 403-410 (2009).

311. Ariel Fernández: “Target Discovery”, iDrugs 12, 620-622 (2009)

312. Ariel Fernández and Jianping Chen: “Human capacitance to dosage imbalance: Coping with inefficient selection”. Genome Research 19, 2185-2192 (2009).

313. P. Vivas-Mejia, J. Benito, Ariel Fernández, et al.: “c-Jun-NH2-kinase-1 inhibition leads to antitumor activity in ovarian cancer”. Clinical Cancer Research 16, 184-194 (2010).

314. Ariel Fernández and R. Stephen Berry: “Golden rule for buttressing vulnerable soluble proteins”. Journal of Proteome Research (ACS) 9, 2643-2648 (2010).

315. Sean Sessel and Ariel Fernández: “Selectivity filters to edit out side effects in molecular anticancer therapy”. Current Topics in Medicinal Chemistry 11, 788-799 (2010).

316. Larisa Cybulski, Mariana Martin, Maria Mansilla, Ariel Fernández and Diego de Mendoza: “Membrane Thickness Cue for Cold Sensing in a Bacterium”. Current Biology 20, 1539-1544 (2010).

Editorially commissioned review by Kumaran Ramamurthi, Current Biology 20, R707-R709 (2010).
Research Highlight in Nature Reviews/Microbiology:
Lucie Wootton: “Bacillus takes the temperature”. Nature Reviews/Microbiology 8, 680 (2010).

317. Ariel Fernández: "Nanoscale Thermodynamics of Biological Interfacial Tension", Proceedings of The Royal Society A 467, 559-568 (2010).

318. Christopher Fraser, Ariel Fernández and Ridgway Scott: "Dehydron analysis: Quantifying the effect of hydrophobic groups on the strength and stability of hydrogen bonds". Advances in Experimental Medicine and Biology 680, 473-479 (2010).

319. Erica Schulz, Marisa Frechero, Gustavo Appignanesi and Ariel Fernández: "Sub-nanoscale surface ruggedness provides a water-tight seal for exposed regions in soluble protein structure". PLoS One (Public Library of Science) 5, e12844, PMID: 20862253 (2010).

320. Ariel Fernández: "Variational mechanics of water at biological interfaces". Fast Track Communication. Journal of Physics A: Math. Theor. 44, 292001 (2011).

321. Ariel Fernández: "Biology avoids phase separations". Journal of Physics A / Insights (2011) Online: http://iopscience.iop.org/1751-8121/labtalk-article/46468?labTalkTab

322. Ariel Fernández and Michael Lynch: "Nonadaptive origins of interactome complexity". Nature 474, 502-505 (2011).

323. Ariel Fernández, Christopher Fraser and L. Ridgway Scott: "Purposely engineered drug-target mismatches for entropy-based drug optimization". Trends in Biotechnology 30, 1-7 (2012).

324. Ariel Fernández, Yun-Huei Tzeng and Sze-Bi Hsu: "Subfunctionalization reduces the fitness cost of gene duplication in humans by buffering dosage imbalances". BMC Genomics 12, 604 (2011).

325. Ariel Fernández: "Mathematical modeling in biology: A mixed picture". Journal of Biological Physics and Chemistry (Collegium Basilea and AMSI) 11, 124 (2011).

326. Christopher M. Fraser, Ariel Fernández and L. Ridgway Scott. WRAPPA: A Screening Tool for Candidate Dehydron Identification. University of Chicago, Department of Computer Science Technical Report TR-2011-05, Communicated by L. Ridgway Scott on December 4, 2011.
URL: http://www.cs.uchicago.edu/research/publications/techreports/TR-2011-05

327. Ariel Fernández: "Communication: Epistructural thermodynamics of soluble proteins". Journal of Chemical Physics 136, 091101 (2012).

328. Sebastián Accordino, Marcela A. Morini, María B. Sierra, Ariel Rodriguez-Fris, Gustavo Appignanesi and Ariel Fernández: "Wrapping mimicking in drug-like small molecules disruptive of protein-protein interfaces". Proteins: Structure, Function, Bioinformatics 80, 1755-1765 (2012).

329. Sebastián Accordino, Ariel Rodriguez-Fris, Gustavo Appignanesi and Ariel Fernández: "A unifying motif of intermolecular cooperativity in protein associations". European Physical Journal E: Soft Matter and Biological Physics 35, 59 (2012).

330. Ariel Fernández: "Epistructural tension promotes protein associations". Physical Review Letters 108, 188102 (2012).

Reviewed in Physics (American Physical Society).
Focus: "Proteins Hook up Where Water Allows". Physics 5, 51 (2012).
Reviewed in Chemical & Engineering News
"Protein Binding Hot Spots". Chemical & Engineering News 90 (20), 39 (2012)

331. Ariel Fernández: "Comunication: Nanoscale electrostatic theory of epistructural fields at the protein-water interface". Journal of Chemical Physics 137, 231101 (2012).

332. Quoc-Nam Tran, Valentin Andreev and Ariel Fernández: "Likelihood of side effects depends on desired clinical impact: Affinities within a very small set of targets enables inference of promiscuity or specificity of kinase inhibitors," IEEE International Conference on Bioinformatics and Biomedicine Workshops, bibmw, pp.151-158 (2012).

URL:
http://www.computer.org/csdl/proceedings/bibmw/2012/2746/00/06470297-abs.html

333. Ariel Fernández Stigliano: "Breakdown of the Debye polarization ansatz at protein-water interfaces". Journal of Chemical Physics 138, 225103 (2013).

334. Maria B. Sierra, Sebastian Accordino, Ariel Rodriguez-Fris, Marcela Morini, Gustavo Appignanesi and Ariel Fernández Stigliano: "Protein packing defects 'heat up' interfacial water". European Physical Journal E 36, 62 (2013).

335. Ariel Fernández Stigliano: "Provisional theory of nanoscale water dielectrics". Journal of Biological Physics and Chemistry 13, 9-11 (2013).

336. Ariel Fernández: "Supramolecular evolution of protein organization". Annual Reviews of Genetics, in press (2015).

337. L. Ridgway Scott and Ariel Fernández Stigliano: "A disruptive dipole-dipole alignment promotes a stable molecular association". University of Chicago, Department of Computer Science Technical Report TR-2013-10, Communicated by L. Ridgway Scott on November 22, 2013.
URL: http://www.cs.uchicago.edu/research/publications/techreports/TR-2013-10

338. Ariel Fernández: "The principle of minimal episteric distortion of the water matrix and its steering role in protein folding". Journal of Chemical Physics 139, 085101 (2013).

339. María Eugenia Inda, Michel Vandenbranden, Ariel Fernández, et al.: "A lipid-mediated conformational switch modulates the thermosensing activity in DesK". Proceedings of the National Academy of Sciences USA 111, 3579-3584 (2014).

Reviewed in Research Highlights - Nature Chemical Biology 10, 240 (2014)

340. Ariel Fernández: "Synergizing immunotherapy with molecularly targeted anticancer treatment". Drug Discovery Today 19, 1427-1432 (2014).
Published online at
http://www.sciencedirect.com/science/article/pii/S135964461400107X
DOI information: 10.1016/j.drudis.2014.03.022

341. Ariel Fernández: "Water promotes the sealing of nanoscale packing defects in folding proteins". Journal of Physics: Condensed Matter – Fast Track Communications 26, 202101 (2014).

342. Ariel Fernández: "How do proteins dry in water?"
Journal of Physics: Condensed Matter – News Item, May 1 (2014).
Published at: http://iopscience.iop.org/0953-8984/labtalk-article/57046

343. Joan Montes de Oca, Ariel Rodriguez Fris, Gustavo Appignanesi and Ariel Fernández: "Productive induced metastability in allosteric modulation of kinase function". FEBS Journal (Federation European Biochemical Societies) 281, 3079-3091 (2014).
Published online at:
http://onlinelibrary.wiley.com/doi/10.1111/febs.12844/abstract;jsessionid=CF42405D678C5BC7A0C43AD3B80785C2.f03t04

344. Ariel Fernández: "Communication: Chemical functionality of interfacial water enveloping nanoscale structural defects in proteins". Journal of Chemical Physics 140, 221102 (2014).
http://scitation.aip.org/content/aip/journal/jcp/140/22/10.1063/1.4882895

345. Ariel Fernández: "Cancer Metabolomics in the Context of Systems Biology". Metabolomics 4, e127 (2015) doi:10.4172/2153-0769.1000e127
http://dx.doi.org/10.4172/2153-0769.1000e127

346. Ariel Fernández:"Quantum theory of interfacial tension quantitatively predicts spontaneous charging of nonpolar aqueous interfaces". Physics Letters A 379, 2405-2408 (2015).

347. Ariel Fernández: "Packing defects functionalize soluble proteins". FEBS Letters (Fed. Eur. Biochem. Soc.) 589, 967-973 (2015).
Featured in Journal Cover

348. Ariel Fernández: "Editorial: Evolutionary Roots of Proteomic Complexity and Lessons for the Drug Designer". Journal of Pharmacogenomics and Pharmacoproteomics 6, 1000e145 (2015) http://dx.doi.org/10.4172/2153-0645.1000e145

349. Ariel Fernández Stigliano: "Editorial: Drug-Based Disruption of Protein Complexes with Unknown Structure: Towards a Novel Platform for Drug Discovery". Journal of Pharmacogenomics and Pharmacoproteomics 6, 1000e149 (2015)
http://dx.doi.org/10.4172/2153-0645.1000e149

350. L. Ridgway Scott and Ariel Fernández Stigliano: "Mismatched ions indicate quantum effects in proteins." The University of Chicago, Department of Computer Science Technical Report TR-2015-10, Communicated by L. Ridgway Scott on November 8, 2015.
http://newtraell.cs.uchicago.edu/research/publications/techreports/TR-2015-10

351. Ariel Fernández and Ridgway Scott: "Drug leads for interactive protein targets with unknown structure". Drug Discovery Today, in press, Published online 17 October 2015, (2015) doi:10.1016/j.drudis.2015.10.006

352. Ariel Fernández: "Acid–base chemistry of frustrated water at protein interfaces". FEBS Letters 590, 215-223 (2016).

---

353. BOOK I
Author: Ariel Fernández
Title: "Transformative Concepts for Drug Design: Target Wrapping"
Publisher: Springer, Heidelberg, Berlin (240 pages)
ISBN: 978-3-642-11791-6
Publication year: 2010.

354. BOOK II
Author: Ariel Fernández Stigliano
Title: "Biomolecular Interfaces: Interactions, Functions and Drug Design"
Publisher: Springer, Heidelberg, Berlin (372 pages)
ISBN: 978-3319168494
Publication year: 2015.
Book Foreword and Highlights

355. BOOK III
Author: Ariel Fernández
Title: "Physics at the Biomolecular Interface: Fundamentals for Molecular Targeted Therapy" (488 pages)
Publisher: Springer International Publishing, Switzerland
Soft and Biological Matter Series
ISBN: 978-3-319-30851-7
Publication year: 2016.

356. BOOK IV
Authors: L. Ridgway Scott and Ariel Fernández Stigliano
Title: Mathematical Approach to Protein Biophysics
Publisher: SIAM
Publication year: 2017.
In press.

PATENTS

357.
US 8,466,154 B2 (awarded)
Ariel Fernández et al.: "Methods and Composition of Matter Related to Wrapping of Dehydrons". Inventors: Ariel Fernández, William Bornmann, Gabriel Lopez-Berestein, Angela Sanguino, Zeng-Hong Peng, Anil K. Sood. Awarded: June 18, 2013.

358.
US 9,051,387 B2 (awarded)
Richard L. Moss and Ariel Fernández: "Inhibition of MYBP-C binding to myosin as a treatment for heart failure". Inventors: Richard L. Moss and Ariel Fernández; Asignee: Wisconsin Alumni Research Foundation (WARF). Awarded: June 9, 2015.

SYNDICATED PRESS COLUMNIST

359. Ariel Fernández: "Human Evolution: No Easy Fix". Project Syndicate (The World's Opinion Page), Culture and Society Section, October 3, 2011.
Published at:
http://www.project-syndicate.org/commentary/human-evolution--no-easy-fix

English version in Al-Jazeera (Qatar).

360. Ariel Fernández: "Structural Defects in Proteins May Function as Catalysts, Study Reveals", Press Release: Discovery of the Catalytic Dehydron, WebWire, July 6, 2014.

361. Ariel Fernández: "Protein Structural Defects Are Enablers and Stimulators of Enzyme Catalysis". PR Newswire, July 14, 2014.
Reproduced in: Yahoo News, The Wall Street Journal - MarketWatch.