

Biophysics in Latin America

Pietro Ciancaglini¹ · Rosangela Itri²

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Following the special issue coordinated by Morales and Alonso, Successful Latin American initiatives in biophysics (Morales & del Valle Alonso, 2014), this is another action to promote the biophysics research that takes place in Latin America, with the focus on the IUPAB Congress in 2020 (<http://www.sbbq.org.br/iupab2020>, n.d.).

The Latin American Federation of Biophysical Societies (LAFeBS) and POSLATAM were founded in 2007 to encourage the development and dissemination of the biophysics area. Nowadays, the Federation involves Biophysical Societies and groups of researchers from the following countries: Argentina, Brazil, Colombia, Portugal, Spain, Uruguay, Venezuela and Cuba (<http://www.lafebs.org>, n.d.).

The plan for this Special Issue catalyzed by Cris dos Remedios (Editor in Chief) started one year ago. Several researchers were invited from all the countries of Latin America to contribute. With satisfaction, we acknowledge

all authors who kindly accepted our invitation to write a review in biophysical-related areas of expertise. With their valuable contributions (26 review papers in total), the main research areas are highlighted here and reflect the panorama of biophysics in Latin America. They comprise: Molecular Machinery; Protein–Nucleic Acid Interactions; Protein Structure to Function; Computational Biophysics; Experimental and Computational Approaches to Protein Design; Protein Misfolding; Membrane Permeation: Channels and Transporters; Biomimetic Structures and Systems (Nanobiophysics); Drug Discovery and Delivery; Protein Folding and Assembly; Applications in Biomedical and Materials Science; Membrane-Active Peptides; Physics of Cancer; and Photodynamic Therapy (Table 1 lists the content of the Special Issue), with reviews from Cuba (1), Venezuela (2), Uruguay (2), Argentina (6) and Brazil (15).

In spite of intermittent resources which feed science in Latin America (Petherick, 2017), this Special Issue demonstrates the quality of the work developed in Latin America in the frontier of knowledge (<https://www.thomsonreuters.com/en.html>, n.d.). Furthermore, as biophysics permeates more than one area of expertise, with the appliance of different methodologies, the research is often carried out by multidisciplinary teams with strong international cooperation.

Therefore, the presence of Latin America's leading scientists among the invited writers certainly contributes to creating a very rich environment, which we are certain allows for bringing together the best of science in biophysics in development in Latin America.

Enjoy reading!
Pietro and Rosangela.

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✉ Pietro Ciancaglini
pietro@ffclrp.usp.br

✉ Rosangela Itri
itri@if.usp.br

¹ Depto. Química, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto da Universidade de São Paulo, FFCLRP-USP, Ribeirão Preto, São Paulo, Brazil

² Depto. Física Aplicada, Instituto de Física, IF-USP, Universidade de São Paulo, São Paulo, SP, Brazil

Table 1 of MS accepted in the SI

Order	Country	Corresponding author	Article title
01	Venezuela	Padrón	Lessons from a tarantula: new insights into myosin interacting-heads motif evolution and its implications on disease
02	Venezuela	Padrón	Lessons from a tarantula: new insights into muscle thick filament and myosin interacting-heads motif structure and function
03	Brazil	Garratt	Septin structure and filament assembly
04	Argentina	Cehin	Lessons learned from protein aggregation: toward technological and biomedical applications
05	Brazil	Lopes	Going deep into protein secondary structure with synchrotron radiation circular dichroism spectroscopy
06	Cuba	Alvarez Valcarcel	Biophysical and biochemical strategies to understand membrane binding and pore formation by sticholysins, pore-forming proteins from a sea anemone
07	Argentina	Amodeo	Plant and animal aquaporins crosstalk: what can be revealed from distinct perspectives
08	Argentina	Flecha	Kinetic stability of membrane proteins
09	Uruguay	Marin	Protein folding and tRNA biology
10	Argentina	Fanani	The many faces (and phases) of ceramide and sphingomyelin I: single lipids
11	Argentina	Fanani	The many faces (and phases) of ceramide and sphingomyelin II: binary mixtures
12	Brazil	Cuccovia	Counting ions and other nucleophiles at surfaces by chemical trapping
13	Brazil	Lamy	Structural insights on biologically relevant cationic membranes by ESR spectroscopy
14	Brazil	De Paula	Biophysical approaches in the study of biomembrane solubilization: quantitative assessment and the role of lateral inhomogeneity
15	Brazil	Neto	Lipid-packing perturbation of model membranes by pH-responsive antimicrobial peptides
16	Brazil	Ramos	The role played by modified bioinspired surfaces in interfacial properties of biomaterials
17	Brazil	Barroso da Silva	Development of constant pH simulation methods in implicit solvents and applications in biomolecular systems
18	Brazil	Coutinho	Experimental and theoretical studies of emodin interacting with a lipid bilayer of DMPC
19	Brazil	Bolean	Biophysical aspects of biomineralization
20	Brazil	Tedesco	Nano-medicine associated with photodynamic therapy for glioblastoma treatment
21	Argentina	Alonso	Relationship between biophysical properties of nano-structures and their toxicity on zebrafish
22	Brazil	Morales	New perspectives in nano-therapeutics for chronic respiratory diseases
23	Uruguay	Ferreira	Lead poisoning: acute exposure of the heart to lead ions promotes changes in cardiac function and Cav1.2 ion channels
24	Brazil	Roque	The role of negative conductances in neuronal subthreshold properties and synaptic integration
25	Brazil	Kushmerick	Control of neuronal excitability by Group I metabotropic glutamate receptors
26	Brazil	Naves	Morphological and functional diversity of first-order somatosensory neurons

References

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- <http://www.sbbq.org.br/iupab2020> (n.d.)
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