THE BIOLOGICAL PHYSICIST

The Newsletter of the Division of Biological Physics of the American Physical Society

Vol 3 № 1 Apr 2003

In this Issue

Introducing PRE Highlights!

Welcome to Volume 3 of THE BIOLOGICAL PHYSICIST. *In this issue we inaugurate a new feature that will be regularly appearing in* THE BIOLOGICAL PHYSICIST *from now on: PRE Highlights.*

PRE Highlights will provide you with a list of all the recent biological physics papers that have appeared in PRE over the past two months. Hopefully this will be a useful way to scan an important part of the literature at a glance. Along with the article citations, we will provide web links to the relevant issues of PRE where you can download articles of interest. Note that the current (April) issue of PRE is not yet complete – articles may be added until April 30. Because of this "offset" between the publication dates of PRE and THE BIOLOGICAL PHYSICIST, *we will list February and March PRE articles in this issue, April and May PRE articles in the June issue, etc. This will avoid the potential problem of omitting any biological physics articles that might be published online toward the end of the month.*

The minutes of the DBP Business Meeting and Executive Committee Meeting were not available to THE BIOLOGICAL PHYSICIST *at press time. We hope to be able to bring you the minutes in the June issue.*

Best,

Sonya

Biological Physics in the Physical Review

Margaret Foster, Margaret Malloy, Gary Grest and Frederick MacKintosh

Are you aware of the broad range of topics in biological physics published in PRE and PRL? Topics of recent publications in the Biological Physics Section in PRE have included analysis of genes, protein folding, RNA folding, lipid bilayers, models of intracellular calcium patterns, dynamics of microtubules and polar filaments, biological networks, cardiac dynamics, neural networks, analyses of electroencephalograms, bacterial colonies, and epidemic models. Since 2001, Part I of PRE has been devoted to soft matter and biological physics. All the Physical Review journals are available online at <http://publish.aps.org/>, and abstracts of articles and letters published in the past three years are freely available to all. Recently the journal has offered free color online only for authors supplying color PostScript files. See the announcement at <http://publish.aps.org/color03.html>.

Biological Physics is one of the fastest growing sections in PRE, with a 19% increase in submissions in 2002 compared to submissions in the previous year. We welcome submissions of papers appropriate for the biological physics sections in PRE and PRL. Guidelines for appropriate papers are given in the memo "Biological Physics papers in Physical Review E," available from <http://forms.aps.org/author.html>. Several years ago, MEDLINE began indexing biological physics papers published in PRE and PRL, so these papers should come to the attention of scientists working in related biological disciplines. The papers should also reach an international audience of readers, because of the international consituency of the Physical Review. The median time from receipt to acceptance for papers submitted directly to PRE in 2002 was 92 days for articles and Brief Reports and 71 days for Rapid Communications. For manuscripts published in PRE in 2002, the median time from acceptance to publication was 74 days for articles and Brief Reports and 54 days for Rapid Communications. For Letters published in PRL in 2002, the median time from receipt to acceptance was 134 days and from acceptance to publication, 36 days.

We would like to thank the referees and the editorial board members, who share their expertise to help maintain the quality of the biological physics papers in the Physical Review. The current editorial board members for biological physics are Steven J. Schiff and Michael Wortis for PRE and Didier Chatenay and Marcelo Magnasco for PRL. In 2002, 674 referees were used for the 365 papers submitted to the Biological Physics section in PRE. We try to be considerate of the referees and not overburden them with review requests, so it is helpful when current referees and authors also recommend new potential referees. So that our review requests are on target, we encourage referees to log onto our referee server <http://referees.aps.org/>, when appropriate, in order to update their expertise and contact information.

For Physical Review E,
Margaret C. Foster, Senior Assistant Editor
Margaret Malloy, Associate Editor
Gary Grest, Editor

For Physical Review Letters,
Frederick MacKintosh,
Adjunct Associate Editor

To contact these editors, please send email to pre@aps.org. Be sure to write BIOLOGICAL PHYSICS in the subject line.

PRE HIGHLIGHTS

FEBRUARY 2003
Biological Physics Articles from
Physical Review E
(Statistical, Nonlinear, and Soft Matter Physics)
Volume 67, Number 2, Articles (02xxxx)
http://ojps.aip.org/dbt/dbt.jsp?KEY=PLEEE8&Volume=67&Issue=2

ARTICLES

V. Bezák
Published 27 February 2003 (10 pages)
021913

Statistical physics of RNA folding
M. Müller
Published 27 February 2003 (17 pages)
021914

Modeling postshock evolution of large electropores
John C. Neu and Wanda Krassowska
Published 27 February 2003 (12 pages)
021915

BRIEF REPORTS

Stationary transmission distribution of random spike trains by dynamical synapses
Richard H. R. Hahnloser
Published 10 February 2003 (4 pages)
022901

Electromagnetic optimization of light-harvesting proteins
P. Etchegoin and R. C. Maher
Published 13 February 2003 (4 pages)
022902

Correlated noise in a logistic growth model
Bao-Quan Ai, Xian-Ju Wang, Guo-Tao Liu, and Liang-Gang Liu
Published 27 February 2003 (3 pages)
022903

MARCH 2003

Biological Physics Articles from Physical Review E
(Statistical, Nonlinear, and Soft Matter Physics)
Volume 67, Number 3, Articles (03xxxx)
http://ojps.aip.org/dbt/dbt.jsp?KEY=PLEEE8&Volume=67&Issue=3

RAPID COMMUICATIONS

Effect of divalent counterions on asymmetrically charged lipid bilayers
Bae-Yeun Ha
Published 18 March 2003 (4 pages) 030901(R)

ARTICLES

Steric constraints as folding coadjuvant
M. E. P. Tarragó, Luiz F. O. Rocha, R. A. daSilva, and A. Caliri
Published 10 March 2003 (7 pages)
031901

Iterative signature algorithm for the analysis of large-scale gene expression data
Sven Bergmann, Jan Ihmels, and Naama Barkai
Published 11 March 2003 (18 pages)
031902

Detecting scaling in the period dynamics of multimodal signals: Application to Parkinsonian tremor
Nir Sapir, Roman Karasik, Shlomo Havlin, Ely Simon, and Jeffrey M. Hausdorff
Published 11 March 2003 (8 pages)
031903

Condition for alternans and stability of the 1:1 response pattern in a "memory" model of paced cardiac dynamics
E. G. Tolkacheva, D. G. Schaeffer, Daniel J. Gauthier, and W. Krassowska
Published 12 March 2003 (10 pages)
031904

Selection of intracellular calcium patterns in a model with clustered Ca2+ release channels
J. W. Shuai and P. Jung
Published 13 March 2003 (8 pages)
031905

Hydrodynamics of bacterial colonies: A model
J. Lega and T. Passot
Published 13 March 2003 (18 pages)
031906

Nonequilibrium phase transition in a self-activated biological network
Hugues Berry
Published 14 March 2003 (9 pages)
031907

Tumbling of vesicles under shear flow within an advected-field approach
T. Biben and C. Misbah
Published 17 March 2003 (5 pages)
031908

Anomalous fluctuations of active polar filaments
Tanniemola B. Liverpool
Published 18 March 2003 (5 pages)
031909

Unfolding proteins in an external field: Can we always observe the intermediate states?

BRIEF REPORTS