THE BIOLOGICAL PHYSICIST

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

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In this Issue

This issue of THE BIOLOGICAL PHYSICIST brings you the announcement of a new DBP Gallery of Images. We also bring you PRE and PRL Highlights, as well as job ads and an announcement about nominations for the upcoming DBP election. Stay tuned for more interviews and features coming soon.

– SB

DBP LAUNCHES IMAGE GALLERY

Inspired by the success of the DFD and GSNP Image Galleries, the DBP will host an Image Gallery at the 2009 March Meeting in Pittsburgh!

Please help us show that Biological Physics has as many beautiful and informative images as do fluid dynamics, nonlinear physics and statistical physics.

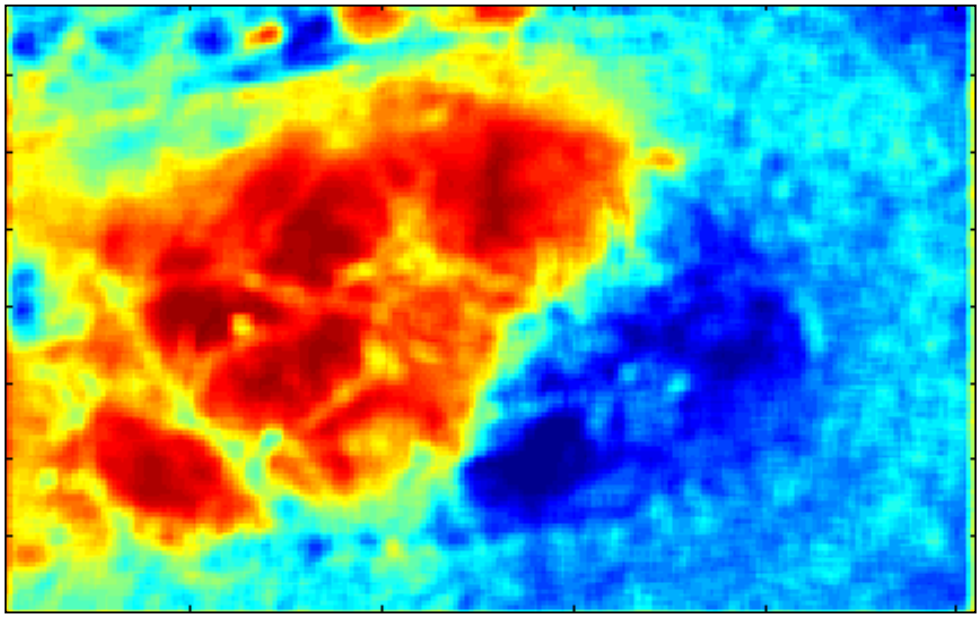
The concept is simple: DBP members can submit either a poster or a video that has to do with Biological Physics. The entries will be judged on the basis of scientific and aesthetic merit; the winners of the competition will be announced at the business meeting of the DBP on Tuesday of the meeting. In addition, winning entries will appear online on the DBP website. During the March Meeting, the entries will be displayed in the poster area, including video entries, which will be on continuous loop.

Posters must fit in a space of 4' by 4'. Videos must be no more than 3 minutes, and come in one of several standard categories, which are listed on the entry form. The deadline to submit poster or video entries is February 10, 2009. Check the DBP website (http://units.aps.org/units/dbp) for a downloadable entry form that should be available soon, or email glazier@indiana.edu for more information.

Note that you must be a DBP member in order to submit an entry. If you are not yet a member, you can join for the small cost of $6 at http://www.aps.org/membership/units/join-unit.cfm.

This should be a lot of fun, so please join in!

- James Glazier, DBP Chair



Is it art? Is it data?

SPECIAL DBP ANNOUNCEMENT

UPCOMING DBP ELECTION!

The DBP must elect a new Division Councillor to replace Robert Eisenberg, whose term ends on December 31, 2008. We are writing to urge you to suggest, to the DBP Nominating Committee, names of DBP/APS members who in your opinion have the necessary expertise and interest. We also need replacements for Members-at-Large Réka Albert and Brian Salzberg, whose terms expire in March 2009. The Division Councillor (four-year term) "…shall serve as liaison between the Council of the Society and the Executive Committee of the Division." The three-year Member-at-Large officers are members of the DBP Executive Committee and participate in subcommittee work involving many aspects of division operations. These officers will be expected to attend March Meetings during their tenure.

Please send your suggested names to the Chair of the DBP Nominations Committee, Dean Astumian, astumian@maine.edu, with a copy to nordlund@uab.edu, identifying the person you are recommending, providing background on the individual, and stating why you feel the person is particularly well-suited for the position. Once the Nominating Committee has published names of its nominees for each open position, additional nominations from the general DBP membership can be added, subject to a 5% of division membership minimum.

We appreciate your involvement in the direction and governance of the DBP.

- *James Glazier, Chair*
- *Dean Astumian, Chair, Nominations Committee*
- *Tom Nordlund, Secretary-Treasurer*

Division of Biological Physics
American Physical Society

PRL HIGHLIGHTS

Soft Matter, Biological, &
Inter-disciplinary Physics Articles from
Physical Review Letters

6 June 2008

Vol 100, Number 22, Articles (22xxxx)
Articles published 31 May - 6 Jun 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=100&Issue=22

Receptor Noise and Directional Sensing in Eukaryotic Chemotaxis
Wouter-Jan Rappel and Herbert Levine
Published 2 June 2008 // 228101

Prediction of Binding Sites in Receptor-Ligand Complexes with the Gaussian Network Model
Turkan Haliloglu, Emek Seyrek, and Burak Erman
Published 3 June 2008 // 228102

Transient Protein Softening during the Working Cycle of a Molecular Machine
Jörg Pieper, Alexandra Buchsteiner, Norbert A. Dencher, Ruep E. Lechner, and Thomas Hauß
Published 3 June 2008 // 228103

Passive Oscillations of Two Tandem Flexible Filaments in a Flowing Soap Film
Lai-Bing Jia and Xie-Zhen Yin
Published 5 June 2008 // 228104

Nucleosome Switches
David J. Schwab, Robijn F. Bruinsma, Joseph Rudnick, and Jonathan Widom
Published 6 June 2008 // 228105

Direct Observation of the Phenomenology of a Solid Thermal Explosion Using Time-Resolved Proton Radiography
L. Smilowitz, B. F. Henson, J. J. Romero, B. W. Asay, C. L. Schwartz, A. Saunders, F. E. Merrill, C. L. Morris, K. Kwiatkowski, G. Hogan, P. Nedrow, M. M. Murray, T. N. Thompson, W. McNeil, P. Rightley, M. Marr-Lyon, and pRad Collaboration
Published 4 June 2008 // 228301
See Also: Phys. Rev. Focus

Climate Networks around the Globe are Significantly Affected by El Niño
K. Yamasaki, A. Gozolchiani, and S. Havlin
Published 5 June 2008 // 228501

Topology and Predictability of El Niño and La Niña Networks
Anastasios A. Tsonis and Kyle L. Swanson
Published 5 June 2008 // 228502

13 June 2008

Vol 100, Number 23, Articles (23xxxx)
Articles published 7 Jun - 13 Jun 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=100&Issue=23

Polarity-Dependent Dielectric Torque in Nematic Liquid Crystals
Mingxia Gu, Sergij V. Shiyanovskii, and Oleg D. Lavrentovich
Published 13 June 2008 // 237801

Entropy Maximization in the Force Network Ensemble for Granular Solids
Brian P. Tighe, Adrianne R. T. van Eerd, and Thijs J. H. Vlugt
Published 12 June 2008 // 238001

Steady-State Chemotaxis in Escherichia coli
Yariv Kafri and Rava Azeredo da Silveira
Published 12 June 2008 // 238101

Single Cell Mechanics: Stress Stiffening and Kinematic Hardening
Pablo Fernández and Albrecht Ott
Published 13 June 2008 // 238102

Supercoiling and Denaturation of DNA Loops

T. B. Liverpool, S. A. Harris, and C. A. Laughton
Published 13 June 2008 // 238103

Experimental Verification of Morphological Instability in Freezing Aqueous Colloidal Suspensions
S. S. L. Peppin, J. S. Wettlaufer, and M. G. Worster
Published 9 June 2008 // 238301

Identification of Functional Information Subgraphs in Complex Networks
Luís M. A. Bettencourt, Vadas Gintautas, and Michael I. Ham
Published 13 June 2008 // 238701

20 June 2008

Vol 100, Number 24, Articles (24xxxx)
Articles published 14 Jun - 20 Jun 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=100&Issue=24

Experimental Investigation of the Freely Cooling Granular Gas
C. C. Maaß, N. Isert, G. Maret, and C. M. Aegerter
Published 18 June 2008 // 248001

Two-Dimensional NMR of Diffusion Systems
Yi-Qiao Song, Lukasz Zielinski, and Seungoh Ryu
Published 18 June 2008 // 248002

Diffusion and Spatial Correlations in Suspensions of Swimming Particles
Patrick T. Underhill, Juan P. Hernandez-Ortiz, and Michael D. Graham
Published 16 June 2008 // 248101

Role of Internal Chain Dynamics on the Rupture Kinetic of Adhesive Contacts
V. Barsegov, G. Morrison, and D. Thirumalai
Published 20 June 2008 // 248102

Scaling of Degree Correlations and Its Influence on Diffusion in Scale-Free Networks
Lazaros K. Gallos, Chaoming Song, and Hernán A. Makse
Published 19 June 2008 // 248701

Self-Propelled Particle Model for Cell-Sorting Phenomena
Julio M. Belmonte, Gilberto L. Thomas, Leonardo G. Brunnet, Rita M. C. de Almeida, and Hugues Chaté
Published 20 June 2008 // 248702

27 June 2008

Vol 100, Number 25, Articles (25xxxx)
Articles published 21 Jun - 27 Jun 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=100&Issue=25

Cooperativity, Sensitivity, and Noise in Biochemical Signaling
William Bialek and Sima Setayeshgar
Published 23 June 2008 // 258101

Limits of Filopodium Stability
Sander Pronk, Phillip L. Geissler, and Daniel A. Fletcher
Published 23 June 2008 // 258102

Mutagenic Evidence for the Optimal Control of Evolutionary Dynamics
Raj Chakrabarti, Herschel Rabitz, Stacey L. Springs, and George L. McLendon
Published 24 June 2008 // 258103

Microcanonical versus Canonical Analysis of Protein Folding
J. Hernández-Rojas and J. M. Gomez Llorente
Published 25 June 2008 // 258104

Ion Specific Protein Assembly and Hydrophobic Surface Forces
M. Lund, P. Jungwirth, and C. E. Woodward
Published 26 June 2008 // 258105

Viscous-Fingering-Like Instability of Cell Fragments
A. C. Callan-Jones, J.-F. Joanny, and J. Prost
Published 26 June 2008 // 258106

Bayesian Approach to Network Modularity
Jake M. Hofman and Chris H. Wiggins
Published 23 June 2008 // 258701

4 July 2008

Vol 101, Number 1, Articles (01xxxx)
Articles published 28 Jun - 4 Jul 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=101&Issue=1

Nuclear Quantum Effects in Water
Joseph A. Morrone and Roberto Car
Published 1 July 2008 // 017801

Novel Self-Organization Mechanism in Ultrathin Liquid Films: Theory and Experiment
J. Trice, C. Favazza, D. Thomas, H. Garcia, R. Kalyanaraman, and R. Sureshkumar
Published 2 July 2008 // 017802

Pattern Capacity of a Perceptron for Sparse Discrimination
Vladimir Itskov and L. F. Abbott
Published 30 June 2008 // 018101

Rectification of Swimming Bacteria and Self-Driven Particle Systems by Arrays of Asymmetric Barriers
M. B. Wan, C. J. Olson Reichhardt, Z. Nussinov, and C. Reichhardt
Published 3 July 2008 // 018102

Curvature-Driven Lipid Sorting in a Membrane Tubule
Hongyuan Jiang and Thomas R. Powers
Published 3 July 2008 // 018103

Cellular Properties and Population Asymptotics in the Population Balance Equation
Tamar Friedlander and Naama Brenner
Published 3 July 2008 // 018104

Onset of Mechanical Stability in Random Packings of Frictional Spheres
M. Jerkins, M. Schröter, H. L. Swinney, T. J. Senden, M. Saadatfar, and T. Aste
Published 2 July 2008 // 018301

Clustering Analysis of Seismicity and Aftershock Identification
Ilya Zaliapin, Andrei Gabrielov, Vladimir Keilis-Borok, and Henry Wong
Published 30 June 2008
018501

Decelerating Microdynamics Can Accelerate Macrodynamics in the Voter Model
H.-U. Stark, C. J. Tessone, & F. Schweitzer
Published 30 June 2008 // 018701

11 July 2008

Vol 101, Number 2, Articles (02xxxx)
Articles published 5 Jul - 11 Jul 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=101&Issue=2

Out-of-Equilibrium Microrheology inside Living Cells
Claire Wilhelm
Published 9 July 2008 // 028101

Discovering Ordered Phases of Block Copolymers: New Results from a Generic Fourier-Space Approach
Z. Guo, G. Zhang, F. Qiu, H. Zhang, Y. Yang, and A.-C. Shi
Published 8 July 2008 // 028301

Temperature-Responsive Polymers in Mixed Solvents: Competitive Hydrogen Bonds Cause Cononsolvency
F. Tanaka, T. Koga, and F. M. Winnik
Published 11 July 2008 // 028302

Hydrothermal Convection in Moderately Thin Spherical Shells
Z. Dai, K. Zhang, X. Liao, and G. Schubert
Published 8 July 2008 // 028501

18 July 2008

Vol 101, Number 3, Articles (03xxxx)
Articles published 12 Jul - 18 Jul 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=101&Issue=3

Dynamic Singularity in Multicomponent Glass-Forming Metallic Liquids
S. M. Chathoth, B. Damaschke, M. M. Koza, and K. Samwer
Published 17 July 2008 // 037801

Topological Defects in Spherical Nematics
H. Shin, M. J. Bowick, and X. Xing
Published 17 July 2008 // 037802

Model of DNA Bending by Cooperative Binding of Proteins
S. M. Rappaport and Y. Rabin
Published 14 July 2008 // 038101

Hydrodynamic Attraction of Swimming Microorganisms by Surfaces
A. P. Berke, L. Turner, H. C. Berg & E. Lauga
Published 17 July 2008 // 038102

Test of the Gouy-Chapman Theory for a Charged Lipid Membrane against Explicit-Solvent Molecular Dynamics Simulations
M. Yi, H. Nymeyer, and H.-X. Zhou
Published 18 July 2008 // 038103

Local Stress Control of Spatiotemporal Ordering of Colloidal Crystals in Complex Flows
L. T. Shereda, R. G. Larson & M. J. Solomon
Published 15 July 2008 // 038301

Field-Induced Layer Formation in Dipolar Nanofilms
Jelena Jordanovic and Sabine H. L. Klapp
Published 16 July 2008 // 038302

25 July 2008

Vol 101, Number 4, Articles (04xxxx)
Articles published 19 Jul - 25 Jul 2008
http://scitation.aip.org/dbt/dbt.jsp?KEY=PRLTAO&Volume=101&Issue=4

Critical Dynamics of Vesicle Stretching Transition in Elongational Flow
V. Kantsler, E. Segre, and V. Steinberg
Published 21 July 2008 // 048101

Soft Swimming: Exploiting Deformable Interfaces for Low Reynolds Number Locomotion
R. Trouilloud, T.S. Yu, A.E. Hosoi & E. Lauga
Published 24 July 2008 // 048102

Impact of Loop Statistics on the Thermodynamics of RNA Folding
T.R. Einert, P. Näger, H. Orland & R.R. Netz
Published 24 July 2008 // 048103

Asymmetric Exclusion Processes with Constrained Dynamics
M. Sellitto
Published 25 July 2008 // 048301

PRE HIGHLIGHTS

Biological Physics Articles from
Physical Review E

June 2008

Vol 77, Number 6, Articles (06xxxx)
http://scitation.aip.org/dbt/dbt.jsp?KEY=PLEEE8&Volume=77&Issue=6

RAPID COMMUNICATIONS

Scaling theory of DNA confined in nanochannels and nanoslits
Theo Odijk
Published 9 June 2008 // 060901(R)

Reliability of genetic networks is evolvable
Stefan Braunewell and Stefan Bornholdt
Published 20 June 2008 // 060902(R)

Activity-dependent stochastic resonance in recurrent neuronal networks
Vladislav Volman and Herbert Levine
Published 20 June 2008 // 060903(R)

Entangled dynamics of a stiff polymer
F. Höfling, T. Munk, E. Frey, and T. Franosch
Published 20 June 2008 // 060904(R)
See Also: Publisher's Note

ARTICLES

Evolutionary model with Turing machines
Giovanni Feverati and Fabio Musso
Published 3 June 2008 // 061901

Shape of nonseptated Escherichia coli is asymmetric
E. Itan, G. Carmon, A. Rabinovitch, I. Fishov, and M. Feingold

Published 4 June 2008 // 061902

Free energy of twisted semiflexible polymers
Supurna Sinha
Published 4 June 2008 // 061903

Dynamic light scattering study on phase separation of a protein-water mixture: Application on cold cataract development in the ocular lens
V. Petta, N. Pharmakakis, G. N. Papatheodorou, and S. N. Yannopoulos
Published 4 June 2008 // 061904

Multiplicative-noise-induced coherence resonance via two different mechanisms in bistable neural models
Jun Tang, Ya Jia, Ming Yi, Jun Ma, and Jiarong Li
Published 6 June 2008 // 061905

Sequence-dependent effects on the properties of semiflexible biopolymers
Zicong Zhou and Béla Joós
Published 9 June 2008 // 061906

Diploid biological evolution models with general smooth fitness landscapes and recombination
David B. Saakian, Zara Kirakosyan, and Chin-Kun Hu
Published 11 June 2008 // 061907

Characteristics of temporal fluctuations in the hyperpolarized state of the cortical slow oscillation
M. T. Wilson, M. Barry, J. N. J. Reynolds, E. J. W. Hutchison, and D. A. Steyn-Ross
Published 11 June 2008// 061908

Time correlation function in systems with two coexisting biological species
E. Arashiro, A. L. Rodrigues, M. J. de Oliveira, and T. Tomé
Published 12 June 2008// 061909

Two-state model for helicase translocation and unwinding of nucleic acids
A. Garai, D. Chowdhury, and M. D. Betterton
Published 13 June 2008// 061910

From baseline to epileptiform activity: A path to synchronized rhythmicity in large-scale neural networks
Vladimir Shusterman and William C. Troy
Published 16 June 2008// 061911

Interaction between motor domains can explain the complex dynamics of heterodimeric kinesins
Rahul Kumar Das and Anatoly B. Kolomeisky
Published 17 June 2008 // 061912

The colocalization transition of homologous chromosomes at meiosis
Mario Nicodemi, Barbara Panning, and Antonella Prisco
Published 17 June 2008 // 061913

Nanoscale magnetic biotransport with application to magnetofection
E. P. Furlani and K. C. Ng
Published 17 June 2008// 061914

Modeling background intensity in DNA microarrays
K. M. Kroll, G. T. Barkema, and E. Carlon
Published 18 June 2008 // 061915

Micromechanical model for elasticity of the cell cytoskeleton
Sitikantha Roy and H. Jerry Qi
Published 18 June 2008// 061916

Inflation of the edge of chaos in a simple model of gene interaction networks
D. Stokić, R. Hanel, and S. Thurner
Published 18 June 2008 // 061917

Nonlinear dilational mechanics of Langmuir lipid monolayers: A lateral diffusion mechanism
L. R. Arriaga, I. López-Montero, R. Rodríguez-García, and F. Monroy
Published 20 June 2008// 061918

Effect of hydrodynamic interaction on partially stretched polymers
Anirban Sain
Published 23 June 2008 // 061919

Evolving model of amino acid networks

Shan Chang, Xiong Jiao, Xin-qi Gong, Chun-hua Li, Wei-zu Chen, and Cun-xin Wang
Published 24 June 2008 // 061920

Controlling the onset of Hopf bifurcation in the Hodgkin-Huxley model
Y. Xie, L. Chen, Y. Mei Kang, and K. Aihara
Published 26 June 2008 // 061921

Chaotic component obscured by strong periodicity in voice production system
Chao Tao and Jack J. Jiang
Published 27 June 2008// 061922

Spontaneous emergence of sequence-dependent rosettelike folding of chromatin fiber
Ph. St-Jean, C. Vaillant, B. Audit, and A. Arneodo
Published 27 June 2008 // 061923

BRIEF REPORTS

Orientational ordering in the nematic phase of a polyethylene glycol–peptide conjugate in aqueous solution
I. W. Hamley, M. J. Krysmann, G. E. Newby, V. Castelletto, and L. Noirez
Published 18 June 2008 // 062901

July 2008

Vol 78, Number 1, Articles (01xxxx)
http://scitation.aip.org/dbt/dbt.jsp?KEY=PLEEE8&Volume=78&Issue=1

RAPID COMMUNICATIONS

Decay times in turnover statistics of single enzymes
Martin Lindén
Published 3 July 2008// 010901(R)

Growth of lipid vesicle structures: From surface fractals to mass fractals
S. Roldán-Vargas, R. Barnadas-Rodríguez, A. Martín-Molina, M. Quesada-Pérez, J. Estelrich, and J. Callejas-Fernández
Published 23 July 2008 // 010902(R)

ARTICLES

Solitary waves in twist-opening models of DNA dynamics
Giuseppe Gaeta and Laura Venier
Published 7 July 2008 // 011901

Indeterminacy of spatiotemporal cardiac alternans
Xiaopeng Zhao
Published 9 July 2008 // 011902

Unzipping of two random heteropolymers: Ground-state energy and finite-size effects
M. V. Tamm and S. K. Nechaev
Published 9 July 2008 // 011903

Prisoner's dilemma on a stochastic nongrowth network evolution model
V. Hatzopoulos and H. Jeldtoft Jensen
Published 11 July 2008 // 011904

Dynamical origin of spectrally rich vocalizations in birdsong
J. D. Sitt, A. Amador, F. Goller, and G. B. Mindlin
Published 11 July 2008 // 011905

Deterministic walks with inverse-square power-law scaling are an emergent property of predators that use chemotaxis to locate randomly distributed prey
A. M. Reynolds
Published 11 July 2008 // 011906

Force-induced stretched state: Effects of temperature
Sanjay Kumar and Garima Mishra
Published 16 July 2008 // 011907

Counterion-dependent microrheological properties of F-actin solutions across the isotropic-nematic phase transition
J. He, M. Mak, Y. Liu, and J. X. Tang
Published 16 July 2008 // 011908

Thermal denaturation of a native protein via spinodal decomposition in the framework of first-passage-time analysis
Y. S. Djikaev and Eli Ruckenstein
Published 18 July 2008 // 011909

Information capacity of genetic regulatory elements
G. Tkačik, C. G. Callan, Jr., and W. Bialek

BRIEF REPORTS

JOB AD

Postdoctoral Research Position in Computational Modeling of Morphogenesis

The group of Professor Timothy Newman at Arizona State University has an opening for a post-doctoral research associate funded by the Human Frontier Science Program. The successful applicant will join our efforts in computational modeling of developmental systems, in particular large-scale coherent cell movements during early embryogenesis. Applicants must have a PhD in the physical or life sciences. Ideal candidates will demonstrate a strong interest in developmental biology and expertise in large-scale computations. Funding for this position is held collaboratively with the laboratory of Prof. Cornelis Weijer at the University of Dundee Biocentre. There will be opportunities for the successful applicant to spend several weeks each year in the Weijer laboratory.

The position can begin as early as fall 2008. Although the initial appointment will be for one year, an extension to a second or third year may be made by mutual agreement and based on availability of funds.

Applicants must submit their applications online at http://phy.asu.edu/employment.php. Please upload separate PDF files for the cover letter, CV, statement of research experience (including a section on experience with computation), and contact details of three references. Review of applications has begun and will continue every two weeks until the successful applicant has been recruited.

Arizona State University is an affirmative action, equal opportunity employer, committed to excellence through diversity.

JOB AD

Princeton University
Postdoctoral Research Associate

The successful candidate will undertake joint experimental/theoretical research into how bacterial cells establish, maintain, and change their shapes. This is a fundamental open question in the biology of bacteria. While the chemical composition of the cell wall that gives these cells their shape is well characterized, the way in which the cell wall is organized and rearranged to achieve the wide variety of observed shapes and permit continuous growth remains unclear. To begin to address these questions, we have developed a computational, biophysical model for cell-wall organization. We envision extending these studies by combining experimental microscopy and molecular genetics approaches with computational data analysis and additional theoretical modeling of cell-wall structure. Important new areas of focus include the cell-wall dynamics during cell growth and division. The research will provide opportunities for learning both experimental and computational/modeling approaches as it will be conducted as a close collaboration between the Gitai and Wingreen labs, exploiting the Gitai lab's experimental expertise with advanced live-cell imaging and molecular genetics and the Wingreen lab's expertise in data analysis and modeling. The position is available immediately. All interested candidates should submit a CV, cover letter, and three letters of recommendation.

A Ph.D. in Physics, Applied Physics, Biophysics or a closely related field is required, as is experience in computer programming.

A strong interest in biology and the desire to pursuing a career in research at the interface of physics and biology is preferred.

Princeton University is an equal opportunity employer and complies with applicable EEO and affirmative action regulations. You may apply online at http://jobs.princeton.edu (search on requisition number 0800330) or for general application information and information on how to self-identify, please see http://www.princeton.edu/dof/ApplicantsInfo.htm. We strongly request that all interested candidates use the online application process.

JOB AD

Postdoctoral Position
Insect Neurobiology and Aerodynamics

A postdoctoral position is available in the laboratory of Dr. Fabrizio Gabbiani at Baylor College of Medicine in Houston, Texas. The lab studies mechanisms of visually guided collision avoidance at the cellular, systems, and computational level using a variety of techniques (intra-/extra- cellular recordings, calcium imaging, pharmacology, behavior using high-speed video, compartmental modeling). The goal of the current project is to investigate how flight control and collision avoidance maneuvers are generated in freely flying animals. The postdoctoral fellow will have access to state-of-the art facilities for his/her project, and will be part of an international team based in the US and Europe. Further information about the lab can be found on our web site (http://glab.bcm.tmc.edu) and about the project by contacting Dr. Gabbiani (see below).

Applicants should have a strong work ethic, a theoretical/computational background and/or experience with electrophysiology from a neuroethological perspective.

Please send CV, statement of interests and the email addresses of at least two referees to Dr. Fabrizio Gabbiani (gabbiani@bcm.edu).

JOB AD

Postdoctoral Positions in Cartilage Imaging

Postdoctoral research positions are available in cartilage imaging. Recent PhD graduates with the following expertise/background are encouraged to apply: (1) Biomechanics of soft tissue; (2) Fourier-transform infrared spectroscopy/imaging; (3) Nuclear magnetic resonance imaging and spectroscopy; and (4) Connective tissue biology/chemistry. These positions are funded by two 5-year grants from the National Institutes of Health (NIH).

The ideal candidates should have solid research experience in one of the modern spectroscopy and imaging (MRI, NMR, FT-IRI, PLM). Background in connective tissue would be advantageous but not necessary. Working skills in imaging hardware and image analysis software could significantly facilitate the research. These positions require a PhD or equivalent in physics, biophysics, bioengineering, biomedical sciences, or a related field.

The successful candidates will join an active research lab where we aim to determine a set of multidisciplinary molecular parameters that describe the load-induced structural changes in osteoarthritic cartilage in animals at microscopic resolution. We use multidisciplinary techniques, including microscopic magnetic resonance imaging (μMRI), polarized light microscopy (PLM), Fourier-transform infrared imaging (FT-IRI), biomechanics, and histochemistry. Our lab instrumentation includes a new μMRI system (Bruker AVANCE II NMR Console with a 7T superconducting magnet), a mechanical system (EnduraTec ELF 3200), a quantitative PLM system (Leica DM RXP with two digital imaging systems), a modern FT-IRI system (PerkinElmer Spotlight 300), and a number of histology and analytical chemistry equipment. Our web site contains more information regarding our lab and some of our recently completed projects.

Interested individuals should send their CV and the contact information for at least three references to:

Professor Yang Xia
Dept of Physics, Oakland University, Rochester, MI 48309, USA
Tel: 248-370-3420; Fax: 248-370-3408; E-mail: xia@oakland.edu
Web: http://www.oakland.edu/~xia/XiaLab_index.html

JOB AD

Postdoctoral Position at the National Institutes of Health

A postdoc position is available in Dr. Robert Tycko's group in the Laboratory of Chemical Physics of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), located on the main NIH campus in Bethesda, Maryland. Research involves the development of novel nuclear magnetic resonance techniques and technology, and applications to problems in biophysics and biology. Recent projects and publications are described at http://www.niddk.nih.gov/intram/people/rtycko.htm. Candidates should have a strong record of achievements in experimental physical science, preferably with experience in magnetic resonance or related fields. To apply, please send your CV and publication list to robertty@mail.nih.gov, along with a cover letter that briefly describes your background, motivations for applying, and professional goals.

JOB AD

Postdoc in Physical Biology of Bacteria

Postdoctoral position to study the physical biology of bacterial mechanisms such as self-organization of division proteins (subcellular Min oscillations), export and motility apparatus (pili), and growth and division (peptidoglycan). My general interest is in developing computational models of spatial and temporal structure formation within bacteria, see http://www.physics.dal.ca/~adr

You should have a quantitative PhD and experience in computational modeling. The position is available from now until Sept 2009; however, the ideal start date is April 2009. Please submit your CV and up to three letters of recommendation to andrew.rutenberg@dal.ca The position is for one year, though additional funding should become available.