Biophysics of active systems: a themed issue dedicated to the memory of Tom Duke

Papers of a Theme Issue organized by Frank Jülicher

**Introduction**

Theme Issue in memory of Tom Duke

F. Jülicher

**Articles**

Ratchets in hydrodynamic flow: more than waterwheels

J. C. Sturm, E. C. Cox, B. Comella & R. H. Austin

A minimal model for metabolism-dependent chemotaxis in *Rhodobacter sphaeroides*

S. Fan & R. G. Endres

Effects of molecular noise on bistable protein distributions in rod-shaped bacteria

L. Wetmann, M. Barney & K. Kose

On growth and form of *Bacillus subtilis* biofilms

J. Dervaux, J. C. Magniez & A. Libchaber

Phase-locked spiking of inner ear hair cells and the driven noisy Adler equation

R. Shlomovitz, Y. Roongthumskul, S. Ji, D. Bozovic & R. Bruinsma

A model of ionic transport and osmotic volume control in cochlear outer hair cells

T. West & J. Ashmore

Ensemble velocity of non-processive molecular motors with multiple chemical states

A. Vilfan

Molecular mechanisms for microtubule length regulation by kinesin-8 and XMAP215 proteins

L. Reese, A. Melbinger & E. Frey

A phenomenological density-scaling approach to lamellipodial actin dynamics


Separation of blood cells with differing deformability using deterministic lateral displacement


A kinetic mechanism for cell sorting based on local variations in cell motility

M. Delarue, J.-F. Joanny, F. Jülicher & J. Prost

Stress distributions and cell flows in a growing cell aggregate

Volume title page and table of contents