Review. A biophysical perspective on dispersal and the geography of evolution in marine and terrestrial systems 135
M. N. Dawson & W. M. Hamner

Review. Practical and theoretical advances in predicting the function of a protein by its phylogenetic distribution 151
P. R. Kirsch, V. van Noort, B. E. Dutilh & M. A. Huynen

On methods for studying stochastic disease dynamics 171
M. J. Keeling & J. V. Ross

The thermodynamic driving force for bone growth and remodelling: a hypothesis 183
H. O. K. Kirchner & M. Lazar

The three-dimensional locomotor dynamics of African (Loxodonta africana) and Asian (Elephas maximus) elephants reveal a smooth gait transition at moderate speed 195
L. Ren & J. R. Hutchinson

Transmission electron microscopy study of the cell-sensor interface 213

Information-theoretic sensitivity analysis: a general method for credit assignment in complex networks 223
N. Lüdtke, S. Panzeri, M. Brown, D. S. Broomhead, J. Knowles, M. A. Montemurro & D. B. Kell

The evolution of developmental patterning under genetic duplication constraints 237
M. A. Fuentes & D. C. Krakauer

A stochastic model for ecological systems with strong nonlinear response to environmental drivers: application to two water-borne diseases 247
C. T. Codeço, S. Lole, M. Pascual, M. Bouma & A. I. Ko

Report. Novel patterning of nano-bioceramics: template-assisted electrohydrodynamic atomization spraying 253
X. Li, J. Huang & M. J. Edirisinghe