Review articles
Soil engineering in vivo: harnessing natural biogeochemical systems for sustainable, multi-functional engineering solutions

Research articles
Predictions of tumour morphological stability and evaluation against experimental observations
K. Pham, H. B. Frieboes, V. Cristini & J. Lowengrub

Bird migration flight altitudes studied by a network of operational weather radars

A systems engineering approach to validation of a pulmonary physiology simulator for clinical applications

Mechanism of variable structural colour in the neon tetra: quantitative evaluation of the Venetian blind model
S. Yoshioka, B. Matsuhana, S. Tanaka, Y. Inouye, N. Oshima & S. Kinoshita

Insights from unifying modern approximations to infections on networks
T. House & M. J. Keeling

Fifteen observations on the structure of energy-minimizing gaits in many simple biped models
M. Srinivasan

Quiescence: a mechanism for escaping the effects of drug on cell populations
T. Alarcón & H. J. Jensen

Non-equilibrium phase transition in mesoscopic biochemical systems: from stochastic to nonlinear dynamics and beyond
H. Ge & H. Qian

Modelling the relationship between environmental factors, transcriptional genes and deoxynivalenol mycotoxin production by strains of two Fusarium species
M. Schmidt-Heydt, R. Parra, R. Geisen & N. Magan

Concentration dependence of lipopolymer self-diffusion in supported bilayer membranes
H.-Y. Zhang & R. J. Hill

Reports
A moment invariant for evaluating the chirality of three-dimensional objects
J. Hattne & V. S. Lamzin

Corrigendum for the paper ‘North–South divide: contrasting impacts of climate change on crop yields in Scotland and England’
M. H. Butterworth, M. A. Seminov, A. Barnes, D. Moran, J. S. West & B. D. L. Fitt