### Contents

**Volume 4, Number 12, Pages 1–173**

**Founded in 1660, the Royal Society is the independent scientific academy of the UK, dedicated to promoting excellence in science.**

**Registered Charity No 207043**

**Physical and Life Sciences**

**ISSN 1742-5689**

**22 February 2007**

**www.journals.royalsoc.ac.uk**

**Published in Great Britain by the Royal Society, 6–9 Carlton House Terrace, London SW1Y 5AG**

---

**Review. Colloidal lithography and current fabrication techniques producing in-plane nanotopography for biological applications**

M. A. Wood

---

**Review. Mineral minimization in nature's alternative teeth**


---

**Material properties of brachiopod shell ultrastructure by nanoindentation**


---

**Neutral fitness landscapes in signalling networks**

P. Fernández & R. V. Solé

---

**Embryonic nodal flow and the dynamics of nodal vesicular parcels**

J. H. E. Cartwright, N. Piro, O. Piro & I. Tuval

---

**Statistical analysis of the dynamics of antibody loss to a disease-causing agent: plague in natural populations of great gerbils as an example**

S. Park, K.-S. Chan, H. Viljugrein, L. Nekrassova, V. S. Ageyev, N. L. Klassovskiy, S. B. Pole & N. Chr. Stenseth

---

**The feeding dynamics of broiler chickens**

L. M. Collins & D. J. T. Sumpter

---

**Modelling the checkpoint response to telomere uncapping in budding yeast**

C. J. Proctor, D. A. Lyall, R. J. Boys, C. S. Gillespie, D. P. Sharkey, D. J. Wilkinson & T. B. L. Kirkwood

---

**Evaluating candidate agents of selective pressure for cystic fibrosis**

E. M. Pooleman & A. P. Calvani

---

**Nonlinear mechanics of soft fibrous networks**

A. Kabla & L. Mahadevan

---

**The interplay between a self-organized process and an environmental template: corpse clustering under the influence of air currents in ants**

C. Jost, J. Verret, E. Cassabia, J. Gastrais, M. Challet, J. Luc, S. Blanco, M. J. Clifton & G. Therazazu

---

**Thermally responsive polymeric hydrogel brushes: synthesis, physical properties and use for the culture of chondrocytes**

J. Collett, A. Crawford, P. V. Hatton, M. Geoghegan & S. Rimmer

---

**Variability of the mechanical properties of bone, and its evolutionary consequences**

J. D. Currey, J. W. Pitchford and P. D. Baxter

---

**The reinfection threshold regulates pathogen diversity: the case of influenza**

D. Gökaydin, J. B. Oliveira-Martins, I. Gordo & M. G. M. Gomes

---

**Vaccination and the dynamics of immune evasion**

O. Restif & B. T. Grenfell

---

**Comparative estimation of the reproduction number for pandemic influenza from daily case notification data**

G. Chowell, H. Nishiura & L. M. A. Bettencourt

---

**Report. Concentration dependence of vibrational properties of bioprotectant/water mixtures by inelastic neutron scattering**

S. Magazu, F. Migliardi & A. J. Ramirez-Cuesta