

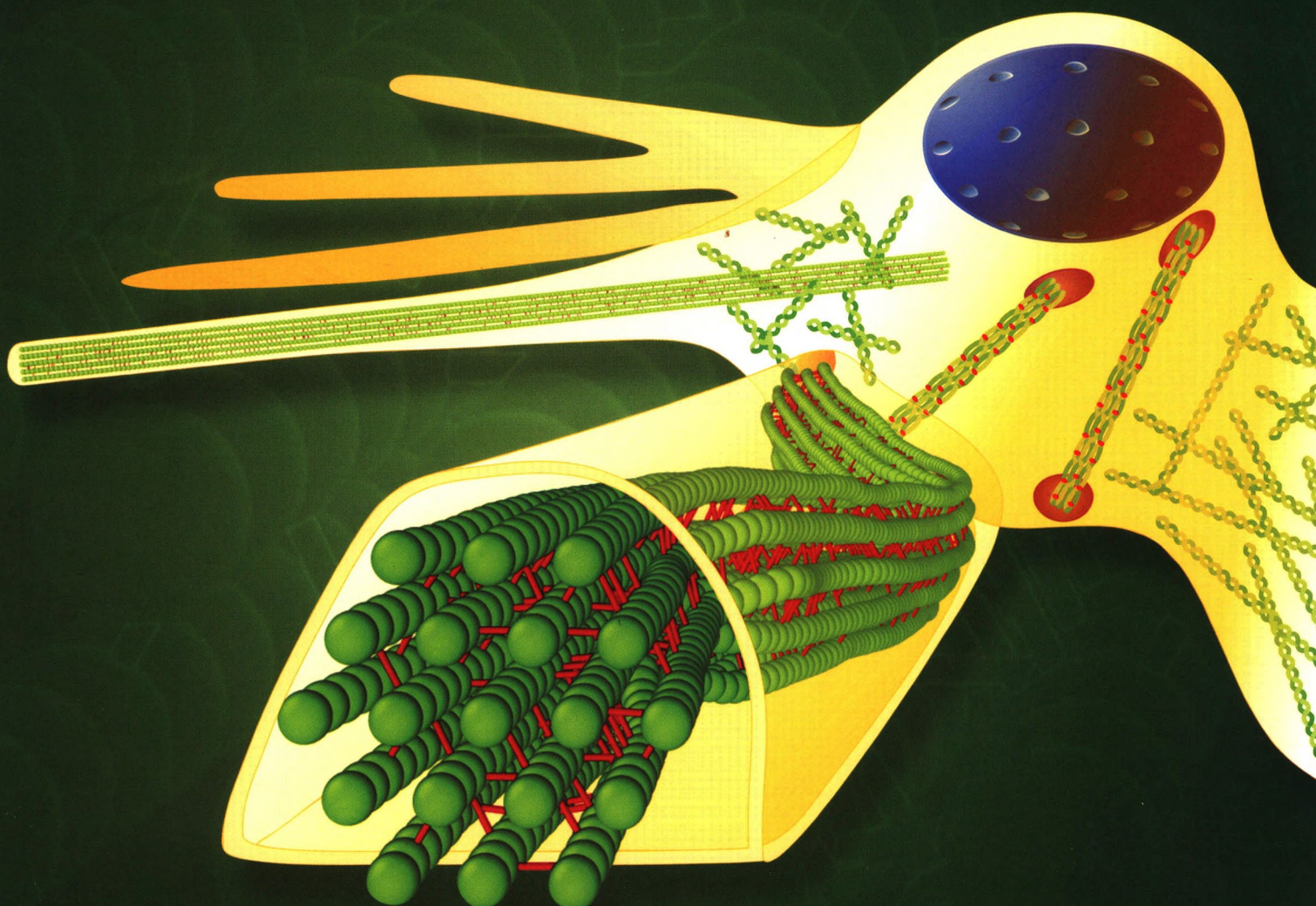
AMS ACTA MECHANICA SINICA



Volume 35 · Number 2 · April 2019

Buckling of filamentous actin bundles in filopodial protrusions

Yanzhong Wang · Jin Qian



The Chinese Society of
Theoretical and
Applied Mechanics



Institute of Mechanics,
Chinese Academy
of Sciences



Springer

THEMED ARTICLE ON MECHANICAL ENVIRONMENTS OF LIVING CELLS

- 265 **Mechanical microenvironments of living cells: a critical frontier in mechanobiology**
G.Y. Huang · F. Xu · G.M. Genin · T.J. Lu
- 270 **Tissue cell differentiation and multicellular evolution via cytoskeletal stiffening in mechanically stressed microenvironments**
J.W. Chen · N. Wang
- 275 **Mechanical force drives the polarization and orientation of cells**
S.J. He · X.M. Li · B.H. Ji
- 289 **Mechanical microenvironment as a key cellular regulator in the liver**
Z.F. You · L. Zhou · W.J. Li · C.Y. Huang · Y.N. Du
- 299 **Nuclear mechanics during and after constricted migration**
Y.T. Xia · C.R. Pfeifer · D.E. Discher
- 309 **Effects of hypoxia on the biological behavior of MSCs seeded in demineralized bone scaffolds with different stiffness**
Y.Y. Sun · G.B. Chen · Y.G. Lv
- 321 **Imaging oxygen microenvironment in hydrogel microwell array**
M. Wang · S.B. Liu · F. Li
- 329 **Fabrication of three-dimensional islet models by the geometry-controlled hanging-drop method**
B. Gao · C. Jing · K. Ng · B. Pingguan-Murphy · Q.Z. Yang
- 338 **Volumetric response of an ellipsoidal liquid inclusion: implications for cell mechanobiology**
X. Chen · W. He · S.B. Liu · M.X. Li · G.M. Genin · F. Xu · T.J. Lu
- 343 **Diffusive-stochastic-viscoelastic model for specific adhesion of viscoelastic solids via molecular bonds**
K.C. He · L. Li · J.Z. Wang
- 355 **Harnessing structural instability for cell durotaxis**
J. Wei · X.F. Chen · B. Chen
- 365 **Buckling of filamentous actin bundles in filopodial protrusions**
Y.Z. Wang · J. Qian
- 376 **Molecular simulation of diffusion of rigidity-tuned nanoparticles in biological hydrogels**
F.L. Tian · H. Wang · H.W. Li · P. Cheng · X.H. Shi

FLUID MECHANICS

- 384 **Direct numerical simulation of a turbulent boundary layer over an anisotropic compliant wall**
Q.-J. Xia · W.-X. Huang · C.-X. Xu
- 401 **Numerical solutions of 2-D steady compressible natural convection using high-order flux reconstruction**
Y.J. Yu · F. Liu · T.B. Zhou · C. Gao · Y. Liu
- 411 **Physical mechanism for origin of streamwise vortices in mode A of a square-section cylinder**
L. M. Lin · S. Y. Shi · Y. X. Wu

SOLID MECHANICS

- 419 **Influence of stress and high temperature treatment on the permeability evolution behavior of sandstone**
P. Xu · S.-Q. Yang
- 433 **Topology optimization of continuum structures considering damage based on independent continuous mapping method**
J.Z. Du · Y.H. Guo · Z.M. Chen · Y.K. Sui
- 445 **Surface evolution caused by curvature driven forces based on natural exponential pair potential**
D. Wang · Y.J. Yin · Z. Zhong · Z. Su · Z.L. Hu

ams.cstam.org.cn

www.springer.com/journal/10409

Local Post Office Code No. 2-703



**ACTA
MECHANICA
SINICA**
力学杂志 (英文版)

ISSN 0567-7718



9 770567 771194



THEMED ARTICLE ON MECHANICAL ENVIRONMENTS OF LIVING CELLS

- 265 **Mechanical microenvironments of living cells: a critical frontier in mechanobiology**
G.Y. Huang · F. Xu · G.M. Genin · T.J. Lu
- 270 **Tissue cell differentiation and multicellular evolution via cytoskeletal stiffening in mechanically stressed microenvironments**
J.W. Chen · N. Wang
- 275 **Mechanical force drives the polarization and orientation of cells**
S.J. He · X.M. Li · B.H. Ji
- 289 **Mechanical microenvironment as a key cellular regulator in the liver**
Z.F. You · L. Zhou · W.J. Li · C.Y. Huang · Y.N. Du
- 299 **Nuclear mechanics during and after constricted migration**
Y.T. Xia · C.R. Pfeifer · D.E. Discher
- 309 **Effects of hypoxia on the biological behavior of MSCs seeded in demineralized bone scaffolds with different stiffness**
Y.Y. Sun · G.B. Chen · Y.G. Lv
- 321 **Imaging oxygen microenvironment in hydrogel microwell array**
M. Wang · S.B. Liu · F. Li
- 329 **Fabrication of three-dimensional islet models by the geometry-controlled hanging-drop method**
B. Gao · C. Jing · K. Ng · B. Pingguan-Murphy · Q.Z. Yang
- 338 **Volumetric response of an ellipsoidal liquid inclusion: implications for cell mechanobiology**
X. Chen · W. He · S.B. Liu · M.X. Li · G.M. Genin · F. Xu · T.J. Lu
- 343 **Diffusive-stochastic-viscoelastic model for specific adhesion of viscoelastic solids via molecular bonds**
K.C. He · L. Li · J.Z. Wang
- 355 **Harnessing structural instability for cell durotaxis**
J. Wei · X.F. Chen · B. Chen
- 365 **Buckling of filamentous actin bundles in filopodial protrusions**
Y.Z. Wang · J. Qian
- 376 **Molecular simulation of diffusion of rigidity-tuned nanoparticles in biological hydrogels**
F.L. Tian · H. Wang · H.W. Li · P. Cheng · X.H. Shi

FLUID MECHANICS

- 384 **Direct numerical simulation of a turbulent boundary layer over an anisotropic compliant wall**
Q.-J. Xia · W.-X. Huang · C.-X. Xu
- 401 **Numerical solutions of 2-D steady compressible natural convection using high-order flux reconstruction**
Y.J. Yu · F. Liu · T.B. Zhou · C. Gao · Y. Liu
- 411 **Physical mechanism for origin of streamwise vortices in mode A of a square-section cylinder**
L. M. Lin · S. Y. Shi · Y. X. Wu

SOLID MECHANICS

- 419 **Influence of stress and high temperature treatment on the permeability evolution behavior of sandstone**
P. Xu · S.-Q. Yang
- 433 **Topology optimization of continuum structures considering damage based on independent continuous mapping method**
J.Z. Du · Y.H. Guo · Z.M. Chen · Y.K. Sui
- 445 **Surface evolution caused by curvature driven forces based on natural exponential pair potential**
D. Wang · Y.J. Yin · Z. Zhong · Z. Su · Z.L. Hu

ams.cstam.org.cn

www.springer.com/journal/10409

Local Post Office Code No. 2-703



**ACTA
MECHANICA
SINICA**
力学杂志 (英文版)

ISSN 0567-7718



9 770567 771194

