

T74  
T84/m

# Trends in Microbiology

Trends in Microbiology February 2014 Vol. 22 No. 2, pp. 49–106 ISSN 0966-842X



Viral hepatitis peek-a-boo

Cell  
PRESS



## Editor

Gail Teitzel

## Executive Editor, Microbiology

Lakshmi Goyal

## Journal Manager

Jeanette Bakker

## Journal Administrators

Patrick Scheffmann

Ria Otten

## Advisory Editorial Board

Adriano Aguzzi, *Zurich, Switzerland*

Norma Andrews, *College Park, USA*

Paul Bieniasz, *New York, USA*

Barry Bloom, *Boston, USA*

Ulla Bonas, *Halle, Germany*

Julian Davies, *Vancouver, Canada*

W. Ford Doolittle, *Halifax, Canada*

Brett Finlay, *Vancouver, Canada*

Vincent Fischetti, *New York, USA*

William Goldman, *Chapel Hill, USA*

Bryan Grenfell, *Princeton, USA*

Stefan Kaufmann, *Berlin, Germany*

Karla Kirkegaard, *Stanford, USA*

Ulrich Koszinowski, *Munich, Germany*

John Mekalanos, *Boston, USA*

Richard Moxon, *Oxford, UK*

Ken Nealson, *Los Angeles, USA*

Glen Nemerow, *La Jolla, USA*

Philippe Sansonetti, *Paris, France*

Chihiro Sasakawa, *Tokyo, Japan*

Quentin Sattentau, *Oxford, UK*

Olaf Schneewind, *Chicago, USA*

Robin Weiss, *London, UK*

## Editorial Enquiries

*Trends in Microbiology*

Cell Press

600 Technology Square

Cambridge, MA 02139, USA

Tel: +1 617 397 2848

Fax: +1 617 397 2810

E-mail: tim@cell.com

## Science & Society

- 49 **Do we need a new vaccine to control the re-emergence of pertussis?** Kingston H.G. Mills, Pádraig J. Ross, Aideen C. Allen, and Mieszko M. Wilk

## Spotlights

- 53 **Bacterial toxins and small molecules elucidate endosomal trafficking** Louise H. Slater, Anne E. Clatworthy, and Deborah T. Hung
- 55 **Entrapment exploited** Jos A.G. van Strijp and Suzan H.M. Rooijackers
- 57 **HCV-like IRESs sequester eIF3: advantage virus** Debjit Khan, Prasanna Bhat, and Saumitra Das

## Opinion

- 59 **Peek-a-boo: membrane hijacking and the pathogenesis of viral hepatitis** Zongdi Feng and Stanley M. Lemon

## Reviews

- 65 **Spatiotemporal organization of microbial cells by protein concentration gradients** Daniela Kiekebusch and Martin Thanbichler
- 74 **Planting the seed: target recognition of short guide RNAs** Tim Künne, Daan C. Swarts, and Stan J.J. Brouns
- 84 **Interactions in multispecies biofilms: do they actually matter?** Mette Burmølle, Dawei Ren, Thomas Bjarnsholt, and Søren J. Sørensen
- 92 **Bacterial virulence and Fis: adapting regulatory networks to the host environment** Alexandre Duprey, Sylvie Reverchon, and William Nasser
- 100 **Chaperone fusion proteins aid entropy-driven maturation of class II viral fusion proteins** Peng Ge and Z. Hong Zhou

Федеральное государственное  
бюджетное учреждение науки  
Центральная научная библиотека  
Уральского отделения  
Российской академии наук (ЦНБ УрО РАН)

**Cover:** On pages 59–64, Feng and Lemon discuss how hepatitis A virus (HAV) and hepatitis E virus (HEV) can play a game of peek-a-boo with their envelopes, where at one time the host can see it and another it does not. HAV hijacks cellular membranes to exit host cells in a lipid membrane. HEV has acquired the ability to shed its envelope during its extracellular phase. The cover image shows a Gatekeeper butterfly similarly playing peek-a-boo while camouflaged on a blossom. Cover image printed with permission from Zande Basenjis/iStockphoto LP.