## visual neuroscience

# 50 no treatment 0 В Response amplitude (µV) 40 μM CNQX -50 50 AMPA/kainate sensitive elements (A minus B) 450 nm -50 time (msec)

vns

Volume: 26

ISSN: 0952-5238

CAMBRIDGE UNIVERSITY PRESS

### visual neuroscience

(ISSN 0952-5238)

#### **EDITOR**

Benjamin E. Reese University of California, Santa Barbara

#### ASSOCIATE EDITORS

Lynne Kiorpes, Center for Neural Science, New York University, New York, NY 10003. Peter D. Lukasiewicz, Department of Ophthalmology, Washington University School of Medicine, Saint Louis, MO 63110.  Paul R. Martin, National Vision Research Institute of Australia and Department of Optometry & Vision Sciences, University of Melbourne, Carlton, VIC 3053 Australia.
 David S. Williams, Jules Stein Eye Institute, UCLA School of Medicine, Los Angeles, CA 90095.

#### EDITORIAL BOARD

Alessandra Angelucci, University of Utah
Robert B. Barlow, SUNY Upstate Medical University
Jeannie Chen, University of Southern California
Shaun P. Collin, The University of Queensland
Andrew M. Derrington, University of Kent
Jeffrey S. Diamond, National Institute for Neurological Disorders and Stroke
Ronald Douglas, City University, London
Robert M. Duvoisin, Oregon Health and Science University
lone Fine, University of Washington

Karl Gegenfurtner, *Justus-Liebig-Universitdt Giessen*Espen Hartveit, *University of Bergen*Jonathan C. Horton, *University of California, San Francisco*Gerald H. Jacobs, *University of California, Santa Barbara*Michael S. Landy, *New York University* 

FORMER EDITOR (2002–2007)
LAURA J. FRISHMAN, University of Houston

FORMER EDITOR (1996–2001)

PETER D. SPEAR, University of Colorado at Boulder

Janis Lem, Tufts University
David W. Marshak, University of Texas at Houston
Maureen A. McCall, University of Louisville
Janine Mendola, McGill University
Stephen L. Mills, University of Texas at Houston
Kathryn M. Murphy, McMaster University
Maureen Neitz, University of Washington
Dario Ringach, University of California, Los Angeles
Evelyne Sernagor, Newcastle University
Robert G. Smith, University of Pennsylvania
Rowland Taylor, Oregon Health and Science University
Wallace B. Thoreson, University of Nebraska
John B. Troy, Northwestern University
Douglas R. Wong-Wylie, University of Alberta
Xian-Jie Yang, University of California, Los Angeles

FORMER EDITOR (1992–1996)
JAMES T. MCILWAIN, Brown University

FOUNDING EDITOR (1988-1991)

KATHERINE V. FITE, University of Massachusetts, Amherst

*Visual Neuroscience* (ISSN 0952-5238) publishes experimental and theoretical studies concerning the neural mechanisms of vision. Contributions may deal with molecular, cellular, and systems-level processes in both vertebrate and invertebrate species. Studies based exclusively on clinical, psychophysical, or behavioral data will be considered if they are related to neural mechanisms. Appropriate research areas include: photoreception and transduction, subcortical visual pathways, developmental processes, visually guided behavior, retinal structure and function, cortical mechanisms, oculomotor control, and substrates of perception.

Visual Neuroscience features full-length research papers, short communications, and review articles that critically examine topics related to the journal's principal focus.

Visual Neuroscience is indexed in Current Contents/Life Sciences; Science Citation Index; MEDLINE; Ocular Resources Review; Neuroscience Citation Index; and in the SCISEARCH and ISI/BIOMED databases.

Editorial Office: Benjamin E. Reese, Editor, *Visual Neuroscience*, University of California at Santa Barbara, Neuroscience Research Institute and Department of Psychology, Santa Barbara, CA 93106-5060, USA. Telephone/Fax: (805) 893-2091. E-mail: vns@lifesci.ucsb.edu

Publishing, Subscription and Advertising Offices: Cambridge University Press, 32 Avenue of the Americas, New York, NY 10013-2473, USA; and (outside the US and Canada) Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, England.

Published Bimonthly. Annual rates for institutions print and electronic: US \$1385.00 in the US, Canada, and Mexico; UK £795.00 + VAT elsewhere. Institutions electronic only: US \$1144.00 in the US, Canada, and Mexico; UK £660.00 + VAT elsewhere. Institutions print only: \$1260.00 in the US, Canada, Mexico; UK £730.00 + VAT elsewhere. Individuals print plus electronic: US \$320.00 in the US, Canada, and Mexico; UK £185.00 + VAT elsewhere. Individuals print only: US \$300.00 in the US, Canada, and Mexico; UK £170.00 + VAT elsewhere. Students: US \$102.00 in the US, Canada, and Mexico; UK £74.00 + VAT elsewhere. For members of the Society for Neuroscience, Association for Research in Vision, and Ophthalmology, European Society for Neuroscience: US \$170.00 in the US, Canada, Mexico; UK £110.00 + VAT elsewhere. Prices include postage and handling.

*Visual Neuroscience* is part of the Cambridge Journals Online (CJO) service. Access to online tables of contents and article abstracts is available to all researchers at no additional cost. Access to full text articles online is currently included with the cost of print and electronic subscription. Subscription must be activated: for details see http://www.journals.cambridge.org.

Copyright © Cambridge University Press, 2009. All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopy, or otherwise, without permission in writing from Cambridge University Press. For further information see http://us.cambridge.org/information/rights/ or http://www.cambridge.org/uk/information/rights/. Photocopying information for users in the U.S.A.: The Item-Fee Code for this publication (0952-5238/09 \$25.00) indicates that copying for internal or personal use beyond that permitted by Sec. 107 or 108 of the U.S. Copyright Law is authorized for users duly registered with the Copyright Clearance Center (CCC) provided that the appropriate remittance of \$25.00 per article is paid directly to: CCC, 222 Rosewood Drive, Danvers, MA 01923. Specific written permission must be obtained for all other copying.

Printed in the United States of America.

Periodicals postage paid at New York, NY, and additional mailing offices. Postmaster: send address changes in the US and Canada to: *Visual Neuroscience.*, Journals Department, Cambridge University Press, 100 Brook Hill Drive, West Nyack, NY 10994-2133.

About the Cover. Sequence of nested irradiance-response series showing AMPA/kainate-sensitive components of zebrafish ERG. Figure 2 from the article A spectral model for signal elements isolated from zebrafish photopic electroretinogram, by Nelson and Singla.