


**Statement of Ownership, Management, and Circulation**  
(All Periodicals Publications Except Requester Publications)

1. Publication Title Visual Neuroscience		2. Publication Number 0 0 8 - 2 7 9		3. Filing Date 11/1/2011	
4. Issue Frequency Bimonthly Jan, Mar, May, Jul, Sep, Nov		5. Number of Issues Published Annually 6		6. Annual Subscription Price \$1,541.00	
7. Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4) Cambridge University Press 32 Avenue of the Americas, New York, NY 10013-2473				Contact Person Helen Sunakawa Telephone 845-348-4411	
8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer) Cambridge University Press Edinburgh Building, Cambridge CB2 2RU, England					
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor (Do not leave blank)					
Publisher (Name and complete mailing address) Cambridge University Press 32 Avenue of the Americas, New York, NY 10013-2473					
Editor (Name and complete mailing address) Benjamin E. Reese, Neuroscience Research Institute, Univ of California at Santa Barbara, Santa Barbara, CA 93106-5060					
Managing Editor (Name and complete mailing address) Simon Ross, Cambridge University Press, Edinburgh Building, Cambridge CB2 2RU, England					
10. Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)					
Full Name Cambridge University Press		Complete Mailing Address Edinburgh Building Shaftesbury Rd Cambridge CB2 2RU, England			
11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box <input checked="" type="checkbox"/> None					
Full Name		Complete Mailing Address			
12. Tax Status (For completion by nonprofit organizations authorized to mail at nonprofit rates) (Check one) The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes: <input type="checkbox"/> Has Not Changed During Preceding 12 Months <input type="checkbox"/> Has Changed During Preceding 12 Months (Publisher must submit explanation of change with this statement)					

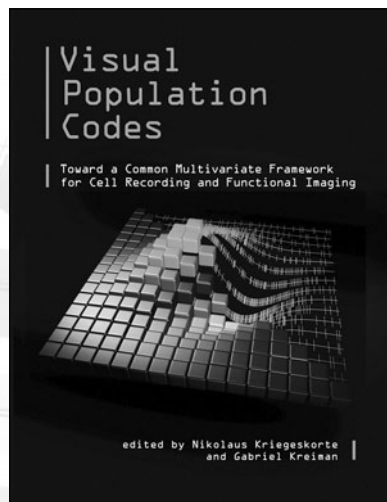
PS Form 3526, September 2007 (Page 1 of 3 (Instructions Page 3)) PSN 7530-01-000-9931 PRIVACY NOTICE: See our privacy policy on www.usps.com

13. Publication Title Visual Neuroscience		14. Issue Date for Circulation Data Below 07/11	
15. Extent and Nature of Circulation		Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (Net press run)		302	267
b. Paid and/or Requested Circulation	(1) Paid/Requested Outside-County Mail Subscriptions Stated on Form 3541. (include advertiser's proof and exchange copies)	70	40
	(2) Paid In-County Subscriptions Stated on Form 3541 (include advertiser's proof and exchange copies)	0	0
	(3) Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution	74	61
	(4) Other Classes Mailed Through the USPS	0	0
c. Total Paid and/or Requested Circulation (Sum of 15b. (1),(2),(3), and (4))		144	101
d. Free Distribution by Mail	(1) Outside-County as Stated on Form 3541	99	55
	(2) In-County as Stated on Form 3541	0	0
	(3) Other Classes Mailed Through the USPS	0	0
	(4) Free Distribution Outside the Mail (Carriers or other means)	43	43
e. Total Free or nominal rate distribution (Sum of 15d (1), (2), (3) and (4))		142	98
f. Total Distribution (Sum of 15c and 15e)		286	199
g. Copies not Distributed (See Instructions to Publishers #4 (page #3))		16	68
h. Total (Sum of 15f and g)		302	267
i. Percent Paid and/or Requested Circulation (15c. divided by 15g. times 100)		50%	51%
16. Publication of Statement of Ownership <input type="checkbox"/> Publication required. Will be printed in the _____ issue of this publication. <input type="checkbox"/> Publication not required.			

17. Signature and Title of Editor, Publisher, Business Manager, or Owner 	Date 11/01/2011
---	--------------------

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

 The MIT Press



## Visual Population Codes

Toward a Common Multivariate  
Framework for Cell Recording  
and Functional Imaging

edited by **Nikolaus Kriegeskorte  
and Gabriel Kreiman**

“Everything you wanted to know  
about neural coding in the visual  
system is in this book, and it is  
clearly presented by some of the  
best people in this important  
field of research.”

— Leo M. Chalupa, Vice President  
for Research, The George Wash-  
ington University

Computational Neuroscience series  
632 pp., 14 color plates, 151 b&w illus., \$55 cloth

To order call 800-405-1619 • <http://mitpress.mit.edu> • Visit our e-books store: <http://mitpress-ebooks.mit.edu>

## DETAILED INFORMATION FOR CONTRIBUTORS

**AIMS AND SCOPE.** *Visual Neuroscience* is an international journal devoted to the publication of experimental and theoretical research on biological mechanisms of vision. A major goal of publication is to bring together in one journal a broad range of studies that reflect the diversity and originality of all aspects of neuroscience research relating to the visual system. Contributions may address molecular, cellular or systems-level processes in either vertebrate or invertebrate species. The journal publishes work based on a wide range of technical approaches, including molecular genetics, anatomy, physiology, psychophysics and imaging, and utilizing comparative, developmental, theoretical or computational approaches to understand the biology of vision and visuo-motor control. The journal also publishes research seeking to understand disorders of the visual system and strategies for restoring vision. Studies based exclusively on clinical, psychophysiological or behavioral data are welcomed, provided that they address questions concerning neural mechanisms of vision or provide insight into visual dysfunction.

**ORIGINALITY AND COPYRIGHT.** To be considered for publication in *Visual Neuroscience* a manuscript cannot have been published previously, nor can it be under review for publication elsewhere. Papers with multiple authors are reviewed with the assumption that all authors have approved the submitted manuscript and concur in its submission to *Visual Neuroscience*. A Transfer of Copyright Agreement must be executed before an article can be published. Government authors whose articles were created in the course of their employment must so certify in lieu of copyright transfer. Authors are responsible for obtaining written permission from the copyright owners to reprint any previously published material included in their article.

### MANUSCRIPT SUBMISSION AND REVIEW.

#### VISUAL NEUROSCIENCE ONLINE SUBMISSION

All submissions to *Visual Neuroscience* should proceed online:  
<http://mc.manuscriptcentral.com/cup/vns>

For information on the new online submission and review system, please read the Tutorial for Authors or the Tutorial for Reviewers

<http://mc.manuscriptcentral.com/tutorials>

For questions on the submission and reviewing process please contact the Editor or Associate Editors

#### Editor

Benjamin E. Reese  
 Neuroscience Research Institute, University of California  
 Santa Barbara, CA 93106-5060, USA  
 E-mail: [vns@lifesci.ucsb.edu](mailto:vns@lifesci.ucsb.edu)

#### Associate Editors

Lynne Kiorpes  
 Center for Neural Science, New York University  
 New York, NY 10003 USA  
 E-mail: [lynne@cns.nyu.edu](mailto:lynne@cns.nyu.edu)

Peter D. Lukasiewicz  
 Department of Ophthalmology  
 Washington University School of Medicine  
 Saint Louis, MO 63110 USA  
 E-mail: [lukasiewicz@vision.wustl.edu](mailto:lukasiewicz@vision.wustl.edu)

Paul R. Martin  
 Sydney Eye Hospital and  
 Department of Ophthalmology  
 University of Sydney  
 Sydney, NSW 2001 Australia  
 E-mail: [prmartin@physiol.usyd.edu.au](mailto:prmartin@physiol.usyd.edu.au)

David S. Williams  
 Jules Stein Eye Institute, UCLA School of Medicine  
 Los Angeles, CA 90095 USA  
 E-mail: [dswilliams@ucla.edu](mailto:dswilliams@ucla.edu)

Subsequent correspondence should refer to the Manuscript Reference Number, which will appear on the Acknowledgment sent to the corresponding author. Each manuscript will normally be reviewed by at least two referees with relevant scientific experience. Authors may suggest appropriate reviewers, but final selection of referees will be made by the Editor. Reviewers are asked to evaluate manuscripts for their scientific merit and clarity of presentation and to voice any concerns related to the

welfare of animal and human subjects. Every effort will be made to notify authors of the reviewers' recommendations within 4 weeks of receipt of a manuscript.

**MANUSCRIPT LENGTH AND EXCESS PAGE CHARGES.** Concisely written papers are more likely to receive favorable review than those judged to be excessively long, but page charges are not levied for any articles. Manuscripts submitted as Brief Communications should normally occupy no more than 4 printed pages, figures included (approximately 13 manuscript pages).

**MANUSCRIPT PREPARATION AND STYLE.** Manuscripts must be in English and typed double-spaced. Allow margins of about 1" (20 mm), using a 5-space paragraph indent. Do not hyphenate words at the end of lines and do not justify right margins. Numbers should be spelled out when they occur at the beginning of a sentence; use Arabic numerals elsewhere. Abbreviations should be used sparingly and nonstandard abbreviations should be defined at their first occurrence. Metric system (SI) units should be used. Manuscripts that do not conform to the style of *Visual Neuroscience* may be returned to the corresponding author without review. Authors of accepted manuscripts will be required to follow the instructions to authors for Online Submission.

**MANUSCRIPT ELEMENTS AND ORDER.** Unless there are obvious and compelling reasons for variation (e.g. Review Articles, Brief Communications), manuscripts should be organized as follows:

**Title page.** The title should be concise, informative, and free of abbreviations, chemical formulae, technical jargon, and esoteric terms. This page should include (a) the full title of the article, (b) names and affiliations of all authors, (c) the name, mailing address, telephone and fax numbers, and E-mail address for editorial correspondence, (d) the address for correspondence and/or reprint requests if different from the foregoing address, (e) a short title of 50 characters or less, and (f) a list of the number of manuscript pages, number of tables, and number of figures.

**Abstract and keywords page.** The second page of the manuscript should include (a) the article's full title, (b) an abstract of no more than 300 words, and (c) up to 5 keywords associated with the content and major thrust of the article. The abstract should give a succinct account of the objective, methods, results, and significance of the research.

**Introduction.** This section begins on page 3 and should clearly state the objective of the research in the context of previous work bearing directly on the subject.

**Materials and methods.** This section should be brief but provide sufficient information to permit others to replicate the study. Pertinent details of species, apparatus and equipment, procedures and experimental design should be described.

**Data from images.** Methods of data acquisition, image processing, and figure preparation should be specified when images serve as the basis for quantitative data. This refers to optical, confocal, and CCD images as well as to images of gels, immunoblots, histological sections, etc.

*All experiments involving human subjects must be conducted in accordance with principles embodied in the Declaration of Helsinki (Code of Ethics of the World Medical Association). Experiments involving animal subjects must conform to the principles regarding the care and use of animals adopted by the American Physiological Society and the Society for Neuroscience. The editor may refuse papers that provide insufficient evidence of adherence to these principles.*

**Results.** The results should be presented clearly and concisely, using figures and tables to summarize or illustrate the important findings. Quantitative observations are often more effectively displayed in graphs than in tables.

**Discussion.** The discussion should summarize the major findings and explain their significance in terms of the objectives of the study and relationship to previous work. This section should present compact, clearly developed arguments rather than wide-ranging speculation or uncritical collation of earlier reports.

**Acknowledgments.** Use a separate page to recognize the contributions of individuals and supporting institutions.

**References.** *Visual Neuroscience* uses the author-date reference style of the *Journal of Physiology*. In the text, references should be cited as follows:

as shown by Herrick (1948)  
 (Gordon et al., 1973)  
 (Buhl & Peichl, 1986; Gordon et al., 1987)

The alphabetical list of references begins a new page, and must be typed double-spaced. Each in-text citation must have a corresponding reference and vice versa. List works by different authors who are cited within the same parentheses in chronological order, beginning with the earlier work. Journal titles should not be abbreviated. Only published articles and articles in press should appear in this list. Responsibility for the accuracy of references cited lies with the authors. Brief examples:

#### Journal article

BUHL, E.H. & PEICHL, L. (1986). Morphology of rabbit retinal ganglion cells projecting to the medial terminal nucleus of the accessory optic system. *Journal of Comparative Neurology* **253**, 163-174.

#### Book

HERRICK, C.J. (1948). *The Brain of the Tiger Salamander*. Chicago: University of Chicago Press.

#### Chapter in an edited book

BONDS, A.B. & DEBRUYN, E.J. (1986). Inhibition and spatial selectivity in the visual cortex: The cooperative neuronal network revisited. In *Models of Visual Cortex*, ed. Rose, D. & Dobson, V.G., pp. 292-300. Chichester, England: John Wiley & Sons.

For more than one work by the same author(s) published in the same year, use (Jones, 1986*a,b*) in text and likewise in the reference section.

**Tables.** Tables should be numbered consecutively with Arabic numerals and each should be typed double-spaced on a separate page. All tables are to be submitted as separate files. A short explanatory title and column headings should make the table intelligible without reference to the text. All tables must be cited and their approximate positions indicated in the text.

**Figures and legends.** The number of figures should be the minimum necessary to make the essential points of the paper. Figures should be composed to occupy a single column (8.3 cm) or two columns (17 cm). Diagrams and illustrations must have a professional appearance and be prepared to permit reduction. To assure legibility, letters, numbers, and symbols on figures should have a minimum height of 1 mm when reduced. Photomicrographs must include a calibration bar; if symbols are used on micrographs, they must contrast sufficiently with the background to be clearly visible when printed. Color figures may be published at no charge in the online edition; a charge of \$400 for the first color figure, and \$250 for subsequent color figures, will be levied for authors requesting color reproduction in the printed version of the journal. Each figure must be cited and its approximate position clearly indicated within the text. Figures must be numbered consecutively and be accompanied by a descriptive caption typed double-spaced on a separate page from the figure. The captions, collected at the end of the manuscript, should concisely describe the figure and identify any symbols and/or calibration bars. Each figure must be submitted electronically as a separate file. Electronic versions of figures should be submitted as TIFF or EPS files at 100% of a suitable final size. Color images for print should be 300 dpi and prepared in CMYK mode; halftone and grayscale figures should be 300 dpi; line artwork should be 1200 dpi. (Please note that each manuscript can have up to 200 MB of uploaded files, and that the LZW compression option in Adobe Illustrator is acceptable as well.)

**COPYEDITING AND PAGE PROOFS.** The publisher reserves the right to copyedit manuscripts to conform to the style of *Visual Neuroscience*. The corresponding author will receive page proofs for final proofreading. No rewriting of the final accepted manuscript is permitted at the proof stage, and substantial changes may be charged to the authors.

**OFFPRINTS.** The corresponding author will receive 25 free article offprints. A form will accompany the page proofs allowing orders for complete copies of the issue and for the purchase of additional offprints. Offprint requirements of all coauthors should be included on this form.

## CONTENTS

- Review Article*
- AARON J. MERCER AND WALLACE B. THORESON 453 The dynamic architecture of photoreceptor ribbon synapses: Cytoskeletal, extracellular matrix, and intramembrane proteins
- Research Articles*
- ALAN D. SPRINGER, DAVID TROILO, DANIEL POSSIN AND ANITA E. HENDRICKSON 473 Foveal cone density shows a rapid postnatal maturation in the marmoset monkey
- SADAHARU MIYAZONO, TOMOKI ISAYAMA, FRANÇOIS C. DELORI AND CLINT L. MAKINO 485 Vitamin A activates rhodopsin and sensitizes it to ultraviolet light
- I.I. PUSHCHIN, T.A. PODUGOLNIKOVA AND S.L. KONDRASHEV 499 A multivariate approach to structural heterogeneity of retinal ganglion cells
- ANA KARLA JANSEN-AMORIM, BRUSS LIMA, MARIO FIORANI AND RICARDO GATTASS 513 GABA inactivation of visual area MT modifies the responsiveness and direction selectivity of V2 neurons in *Cebus* monkeys
- BENOIT MUSEL, RUXANDRA HERA, SYLVIE CHOKRON, DAVID ALLEYSSON, CHRISTOPHE CHIQUET, JEAN-PAUL ROMANET, NATHALIE GUYADER AND CAROLE PEYRIN 529 Residual abilities in age-related macular degeneration to process spatial frequencies during natural scene categorization
- Brief Communication*
- GOLNAZ SHAHABI AND GLEN JEFFERY 543 Glatiramer acetate elevates cell production in the mature retinal pigment epithelium
- Announcement*
- 547 2011 Young Investigator Award
- 549 Acknowledgment to Reviewers
- 553 Author/Keyword Index to Volume 28, 2011
- 557 Contents to Volume 28