JOURNAL OF NEUROPHYSIOLOGY

Founded by John F. Fulton and the Charles C Thomas Family
Published by THE AMERICAN PHYSIOLOGICAL SOCIETY

CHIEF EDITOR
David J. Linden
Dept. of Neuroscience
Johns Hopkins University
School of Medicine
Baltimore, MD 21205
E-mail: dlinden@jhmi.edu

ASSOCIATE EDITORS
Kenneth H. Britten
Center for Neurosciences
UC Davis
Catherine E. Carr
Dept. of Biology
University of Maryland
Kathleen Cullen
Dept. of Physiology
McGill University
Andrew Fuglevand
Dept. of Physiology
University of Arizona
Scott T. Grafton
Dept. of Psychology
University of California, Santa Barbara
John F. Kalaska
Dept. of Physiology
University of Montreal
Paul S. Katz
Neuroscience Institute
Georgia State University
Zoe Kourtzi
Dept. of Behavioural and Brain Sciences
University of Birmingham
Volker Neugebauer
Dept. of Neuroscience and Cell Biology
The University of Texas Medical Branch
Thomas Otis
Dept. of Neurobiology
University of California, Los Angeles

EDITORIAL BOARD
Larry F. Abbott
M. E. Anderson
Dora E. Angelaki
Jaedeep S. Bains
B. Barbour
Michele A. Basso
Bruce P. Bean
Emery N. Brown
Robert M. Brownstone
G. Buzasaki
Ronald L. Calabrese
Carmen C. Canavier
Pablo E. Castillo
Sumantra Chattarji
Leonardo G. Cohen
Barry W. Connors
Diego Contreras
Arthur D. Craig
J. Douglas Crawford
Bruce Cumming
Yang Dan
Alain Destexhe
Allison J. Doupe
Trevor Drew
S. Duan
Sascha du Lac
Ruth Anne Eaton
Daniel E. Feldman
Marla B. Feller
David Ferster
Joseph R. Fetzio
Robert W. Gereau
Joshua I. Gold
Michael E. Goldberg
Mitra J. Hartmann
Charles J. Heckman
Ruth Heidelberger
Steven S. Hsiao
Kimberly M. Huber
Min Whan Jung
Masanobu Kano
Julie A. Kauer
Ole Kiehn
Sang Jeong Kim
Kiyoshi Kurata
Diane Lipscombe
Mary T. Lucero
Minmin Luo
Leonard Maller
Toshiya Manabe
G. G. Matthews
Michael D. Mauk
L. L. McMahon
Lorne M. Mendell
Denis Paré
Paola Pedarzani
Lucas Pozzo-Miller
Indira M. Raman
Jennifer L. Raymond
Gregg H. Recanzone
Angeles B. Ribera
Durlo L. Ringach
John Rinzels
Jeffrey D. Schall
Jackie Schiller
W. Schultz
Terrence J. Sejnowsiki
Reza Shadmehr
Krishna V. Shenoy
Steven A. Siegelbaum
Karen A. Sigvardt
Daniel J. Simons
William J. Spain
Hans Straka
Naweed I. Syed
K. Tanaka
J. Tanji
Gina G. Turrigiano
Klausduiz R. Weiss
Charles J. Wilson
Rachel O. Wong
Tom C. Yin
Lea Ziskind-Conhaim

PUBLICATIONS COMMITTEE

H. Raff, Chair
W. Chilian
S. J. Gunst
A. Malik
J. M. Metzger
D. Pollock
L. Samuelson

R. Scheman, Director of Publications and Executive Editor
K. Barrett, President
M. Frank, Executive Director

R. Scheman, Director of Publications and Executive Editor
K. Barrett, President
M. Frank, Executive Director

E. Pesanelli, Editorial Art Manager
J. Lane, Editor’s Assistant

EX OFFICIO

Daniel E. Feldman
Ruth Anne Eatock
Sascha du Lac

The Journal of Neurophysiology (ISSN 0022-3077) is published twelve times monthly and bound once in print monthly (two volumes a year) by The American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991 and online at www.jn.org (ISSN 1522–1598). Subscription Prices (postpaid). For institutional print and online pricing, please see http://www.the-aps.org/publications/subs/. Individual Pricing: Print and Online: $1,230 US; $1,375 International. Print Only: $1,195 US; $1,340 International. Online Only: $1,015. APS members: Online is free. Subscriptions from outside the United States are payable in US currency or full equivalent. Subscriptions are accepted on a calendar-year basis only. Single copies and back issues: when available, subscriber $80 each; nonsubscriber $160 each postpaid. Periodicals postage paid at Bethesda, MD, and at additional mailing offices. POSTMASTER: send address changes to the Journal of Neurophysiology, 9650 Rockville Pike, Bethesda, MD 20814-3991.

Change of Address: The Journal must be advised of a change of address at least six weeks prior to date of issue, with the subscriber’s old and new address given. Undelivered copies resulting from address change will not be replaced.

Address all business and editorial correspondence to: JOURNAL OF NEUROPHYSIOLOGY, 9650 Rockville Pike, Bethesda, MD 20814-3991.

Disclaimer: The statements and opinions contained in the articles of Journal of Neurophysiology are solely those of the individual authors and contributors and not of the American Physiological Society. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their safety. The American Physiological Society disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.