American Journal of Physiology—Regulatory, Integrative and Comparative Physiology

Editor-in-Chief: Willis K. Samson
Deputy Editor-in-Chief: Wolfgang Langhans

Associate Editors:
Heddwyn Brooks
John Corbett
Craige Crandall
Roger Evans
Alastair Ferguson
Maureen Keller-Wood
Kenneth R. Olson
Jane F. Reckelhoff
Ann Schreihofer

Consulting Editors:
J. Thomas Cunningham
Benedito Honorio Machado
Naoto Minamino
Randy Sprague
Sean D. Stocker
Yoichi Ueta

Editorial Board:
Peter Adhikery
Barbara T. Alexander
Andrew M. Allen
Jose Antunes-Rodrigues
Susan M. Barman
Jill Barnes
Matthias Bartos
Steven L. Bealer
Bradley Jon Behnke
Denise D. Belsham
Sitaibhnya Benyajati
Hans-Rudolf Berthoud
Peter Bie
James E. Blevis
Erica I. Boesen
Aladin M. Botek
Michael W. Brands
Eldon J. Braun
Virginia L. Brooks
Giuseppe Calamita
Joseph G. Cannon
Jason R. Carter
Thomas H. Chapman
Nisha Charkoudian
Thomas L. Clanton
Carmen Clapp
Deborah Colombo
Kathleen S. Curtis
Megan J. Dailey
Roger A. L. Dampney
Derek Daniels
Gerald F. Difilona
Susanne L. Dickson
John A. Donald
Charles A. Dascay
Esther D. Dupont-Vendeged

Publications Committee:
Curt D. Sigmund, Chair
Hershel Raff, Vice Chair
Paul A. Insel
Alicia A. McDonough
Linda C. Samuelson
Susan M. Wall
Loren Wold

Ex officio:
Rita Scheman
Director of Publications and Executive Editor
Patricia E. Molina, President
Jane F. Reckelhoff, President-Elect
David M. Pollock, Past President
Martin Frank, Executive Director

Mark L. Goodwin
Editorial Manager
Kryisia Moore
Journal Supervisor
Leona Kanaskie
Copy Editor

Gil Ehren
Peer Review Manager
Eric Pesunelli
Editorial Art Manager
Henry Samson
Editor’s Assistant

The American Journal of Physiology—Regulatory, Integrative and Comparative Physiology (ISSN-0363-6119) is published online at www.ajpregu.org (ISSN 1522-1490) monthly (two volumes a year) by the American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991. Subscription Prices (postpaid): For institutional print and online pricing, please see, http://www.the-aps.org/publications/subsci/. Non-member individual (online only): $565.00. APS member: 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. Print back issue, when available, through December 2011: Subscribers, $50 each; Non-subscriber, $100 each. Periodicals postage paid at Bethesda, MD, and at additional mailing offices.

Editorial and Business Correspondence: AJP-Regulatory, Integrative and Comparative Physiology, 9650 Rockville Pike, Bethesda, MD 20814-3991.

Disclaimer: The statements and opinions contained in the articles of the American Journal of Physiology—Regulatory, Integrative and Comparative Physiology 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.