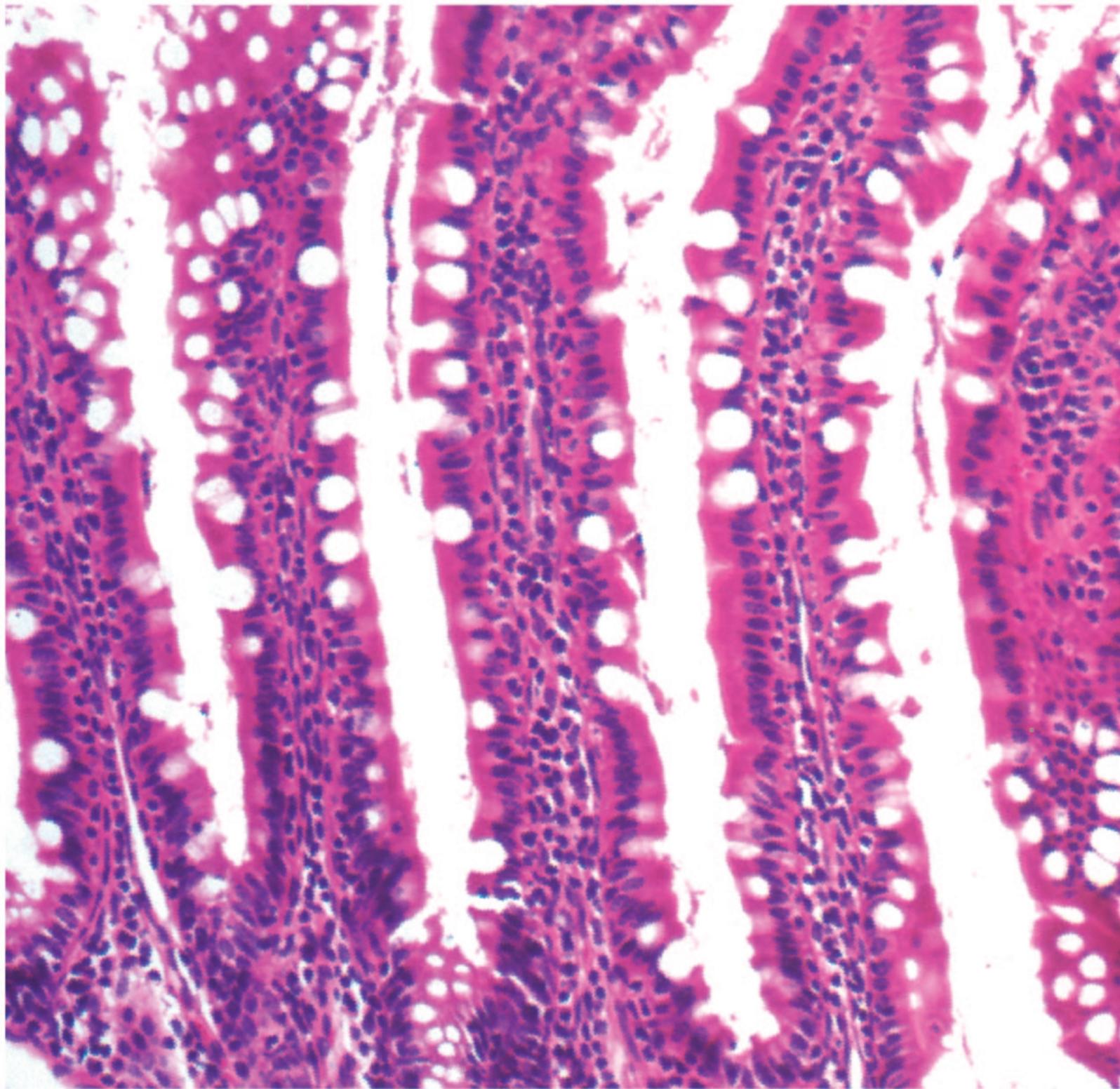


# AMERICAN JOURNAL OF PHYSIOLOGY- REGULATORY, INTEGRATIVE AND COMPARATIVE PHYSIOLOGY

volume 64

no. 2

august 2008



**PUBLISHED BY THE AMERICAN PHYSIOLOGICAL SOCIETY**  
**ALSO PUBLISHED IN AJP (CONSOLIDATED), vol. 295, no. 2**  
[ajpregu.org](http://ajpregu.org)

**PAGES R371-R718**

**AJP - REGULATORY, INTEGRATIVE AND COMPARATIVE PHYSIOLOGY**

**august 2008**

**no. 2**

**volume 64**

*American Journal of Physiology-  
Regulatory, Integrative and Comparative Physiology*

**Director of Publications/Executive Editor,**  
Margaret Reich (301) 634-7070

**Editorial Manager,** Mark L. Goodwin (301) 634-7072

**Submitted and Accepted Manuscripts:**  
Jami Jones (301) 634-7187

**Copyediting and Production:**  
Journal Supervisor, Beverly A. Rude (301) 634-7184

**Editorial Art Manager,**  
Eric Pesanelli (301) 634-7973

**Permissions:** Penny Ripka (301) 634-7251

**Reprints:** Carolyn Villemez (301) 634-7964  
E-Mail: [publicat@the-aps.org](mailto:publicat@the-aps.org)

**Publication FAX: (301) 634-7243**

**Executive Director,** Martin Frank, PhD (301) 634-7118

**Director of Education Programs,**  
Marsha Matyas, PhD (301) 634-7132

**Director of Finance,** Robert T. Price (301) 634-7160

**Subscriptions:** Lucia Tayiel (301) 634-7191

**Science Policy:** Alice Ra'anan (301) 634-7105

**Marketing:** Sue Sabur (301) 634-7015

**Meetings/Confs:** Linda Allen (301) 634-7967

**Membership:** Georgia Stine (301) 634-7171

**Communications (media inquiries):** Donna Krupa  
(301) 634-7209

**Administration FAX: (301) 634-7241**

**APS Home Page: <http://www.the-aps.org>**

For instructions on how to prepare your manuscript to conform to APS style, please see  
<http://www.the-aps.org/publications/f4a/index.htm>

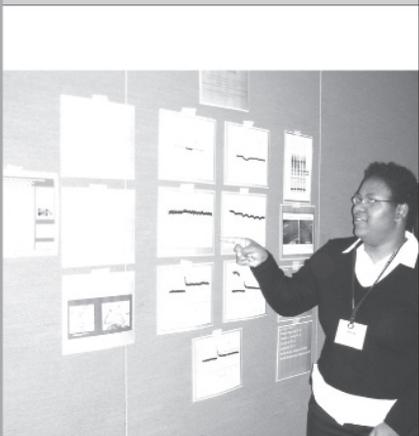
**Manuscripts to *AJP-Regulatory, Integrative and Comparative Physiology* are submitted online through  
[www.apscentral.org](http://www.apscentral.org).**

Mandatory Submission Forms and Fee Forms customized to your manuscript become available on completion of the submission process. For extra copies of blank forms, see <http://www.the-aps.org/publications/journals/index.htm>  
If you use a blank form, please write the manuscript number, title, and author's name **CLEARLY** on the form.

PROFESSIONAL SKILLS  
*Training*

Interested in...**improving your  
manuscript writing** or **improving your  
poster presentation?**

Hear what a past participant had to say:  
**"Writing the paper and being able to hear critics from the whole group is an experience to remember. So many good ideas and critics in so little time...wow!"**



**Who should apply:** graduate students and post docs in all areas of physiology

**What:** Course in writing and reviewing for scientific journals and poster presentation skills

**Where:** Disney World, Lake Buena Vista, Florida

**When:** Every January

**Why:** The programs give students the opportunity to learn critical skills: how to network, give a formal introduction, and present effectively. The courses also aim to improve the technical aspects of student abstracts, manuscripts, and posters.

**Learn more at:**

**[www.the-aps.org/education/profSkills/](http://www.the-aps.org/education/profSkills/)**

**CALL FOR NOMINATIONS**

**for the Editorship of**

*Physiological Genomics*

Nominations are invited for the Editorship of the *Physiological Genomics* to succeed A. W. Cowley, Jr., who will complete his term as Editor on June 30, 2009. The Publications Committee plans to interview candidates in the Fall of 2008.

Applications should be received before **August 15, 2008**.

Nominations, accompanied by a curriculum vitae, should be sent to the Chair of the Publications Committee:

Kim E. Barrett, Ph.D.  
9650 Rockville Pike  
Bethesda, MD 20814-3991

**CALL FOR NOMINATIONS**

**for the Editorship of**

*American Journal of Physiology-Gastrointestinal and Liver Physiology*

Nominations are invited for the Editorship of the *American Journal of Physiology-Gastrointestinal and Liver Physiology* to succeed M. Montrose, who will complete his term as Editor on June 30, 2009. The Publications Committee plans to interview candidates in the Fall of 2008.

Applications should be received before **August 15, 2008**.

Nominations, accompanied by a curriculum vitae, should be sent to the Chair of the Publications Committee:

Kim E. Barrett, Ph.D.  
9650 Rockville Pike  
Bethesda, MD 20814-3991

## CALL FOR PROPOSALS

The editors of *AJP: Regulatory, Integrative and Comparative Physiology* are soliciting this “**Call for Proposals**” for Review Articles in Integrative Physiology. Reviews provide synthesis of state-of-the-art knowledge in a defined area highlighting new questions and pointing to future research directions. They encompass examination of biological processes, systems, and models, and technologies for their study. The primary purpose is to educate readers by providing a comprehensive view of completed works presented in a concise, unified format; however, appropriate inclusion of unpublished data is permissible. Utilization of figures is encouraged. All reviews, invited or otherwise are invited and are all peer-reviewed.

We are requesting presubmission inquiries and a letter of intent. Interested individuals should include (in a single PDF file): 1) a tentative title and abstract outlining the review and its significance, 2) citations of previous reviews on the same topic, 3) a list of publications from the past 5 years by the senior author, 4) a short list of potential peer reviewers, and 5) a brief letter of intent indicating your expertise, names of coauthors, and potential submission deadline. The due date for inquiries is the 1st day of each month with the call terminating on December 1, 2008.

E-mail material (in a single PDF file) to [ajp-regulatory@uiowa.edu](mailto:ajp-regulatory@uiowa.edu). The editors of the journal will review each proposal and the most meritorious will be invited to submit a Review Article. Those chosen will be deemed to be highly significant, timely, and of broad interest to the readers of the journal. All submissions will be rigorously peer reviewed, and, therefore, an invitation to submit is not a guarantee of publication.

# American Journal of Physiology- Regulatory, Integrative and Comparative Physiology

## Editor-in-Chief

Curt D. Sigmund

## Consulting Editor

Pontus Persson

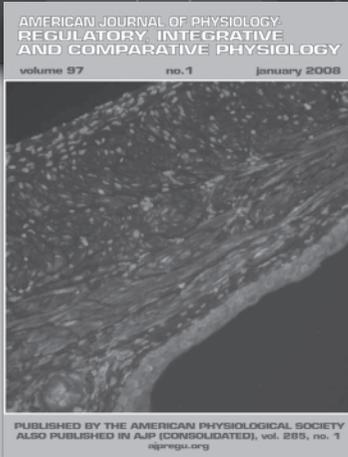
## Medical Consulting

## Editors

Fred Luft  
Allyn Mark

## Associate Editors

Alan Kim Johnson  
Martin Klingenspor  
Ulla Kopp  
Barry E. Levin  
Hiroko Nishimura  
Quentin Pittman  
David Pollock  
Scott K. Powers  
Willis (Rick) K. Samson  
Celia Sladek



full text online at  
***ajpregu.org***

To start your **SUBSCRIPTION**, e-mail: [subscriptions@the-aps.org](mailto:subscriptions@the-aps.org)

To submit your **MANUSCRIPT**, go to: [www.apscentral.org](http://www.apscentral.org)

## Scope of Journal

The *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* publishes original investigations that illuminate normal or abnormal regulation and integration of physiological mechanisms at all levels of biological organization, ranging from molecules to humans, including clinical investigations. Major areas of emphasis include:

- appetite, obesity, digestion, and metabolism
- genetically modified animals and model organisms
- inflammation and cytokines
- renal hemodynamics and cardiorenal integration
- neurohumoral control of cardiovascular function
- developmental physiology and pregnancy
- environmental, exercise and respiratory physiology
- comparative and evolutionary physiology
- sleep and temperature regulation
- water and electrolyte homeostasis

**Authors** are required to submit papers online at [www.apscentral.org](http://www.apscentral.org).

## A Few HOT Articles

**"Drink at least eight glasses of water a day." Really? Is there scientific evidence for "8 x 8"?**

Heinz Valtin

Am. J. Physiol. Regul. Integr. Comp. Physiol.  
Nov 01, 2002; 283: 993-1004

**Biochemistry of exercise-induced metabolic acidosis**

Robert A. Robergs, Farzenah Ghasvand, Daryl Parker  
Am. J. Physiol. Regul. Integr. Comp. Physiol.  
Sep 01, 2004; 287: 502-516

**Maternal and fetal adaptations during pregnancy: lessons in regulatory and integrative physiology**

Joey P. Granger

Am. J. Physiol. Regul. Integr. Comp. Physiol.  
Dec 01, 2002; 283: 1289-1292

**An integrated view of oxidative stress in aging: basic mechanisms, functional effects, and pathological considerations**

Kevin C. Kregel, Hannah J. Zhang

Am. J. Physiol. Regul. Integr. Comp. Physiol.  
Jan 01, 2007; 292: 18-36

**Photic phase response curve in *Octodon degus*: assessment as a function of activity phase preference**

Martien J. H. Kas, Dale M. Edgar

Am. J. Physiol. Regul. Integr. Comp. Physiol.  
May 01, 2000; 278: 1385-1389

## Reader & Author Benefits

- Fully searchable text, including PubMed
- Rich color and sharp resolution of figures
- Editor's Home Page at [www.the-aps.org/publications/ajpregu](http://www.the-aps.org/publications/ajpregu)
- FREE access to the extensive collection of back issues available online 12 months after publication
- FREE e-mail notification of new content as it becomes available
- Manuscripts online within days of acceptance
- Perpetual/Electronic Archiving of the LOCKSS and CLOCKSS systems preserves the electronic content of all APS journals

**AuthorChoice**  
[www.authorchoice.org](http://www.authorchoice.org)

Authors can choose to pay \$2,000 on top of regular author fees and have their article made free immediately.

