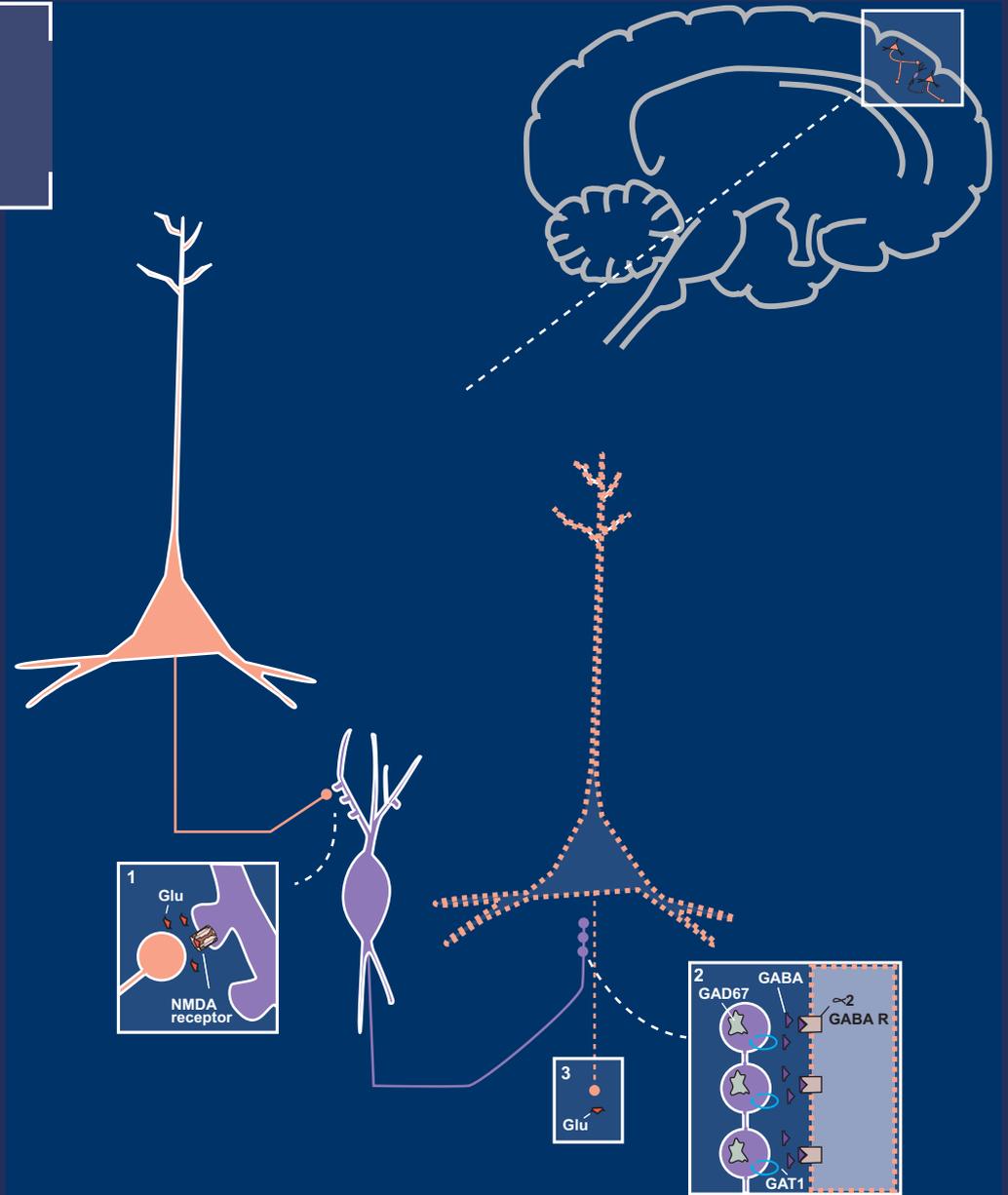


VOLUME 17 | ISSUE 2

June 2012

ISSN: 1092-8529



[journals.cambridge.org/cns](http://journals.cambridge.org/cns)

# CNS SPECTRUMS

EDITOR-IN-CHIEF: **STEPHEN M. STAHL**



The journal of the  
**Neuroscience  
Education Institute**



**CAMBRIDGE  
UNIVERSITY PRESS**

Join us in **San Diego** for the  
**2012 NEI GLOBAL  
PSYCHOPHARMACOLOGY CONGRESS**

**October 18 - 21, 2012**

**LEARN** about advances in diagnosis and treatment.

**EXPLORE** the latest scientific evidence.

**ENJOY** interactive presentations and case-based sessions.

Mention promo code **2012EVENTS**  
and get **10% off** early-bird rates.\*

\* Available until June 31, 2012. Cannot be used in combination  
with other sales or promotions.

Call us at 1-888-535-5600 or visit [www.neiglobal.com](http://www.neiglobal.com) today!



**Neuroscience Education Institute**



# CNS SPECTRUMS

## CONTENTS

### REVIEW ARTICLE

- A Horse of a Different Color: How Formulation Influences Medication Effects**  
Meghan M. Grady and Stephen M. Stahl 63

### ORIGINAL RESEARCH ARTICLES

- Amygdalar Volume in Borderline Personality Disorder With and Without Comorbid Post-traumatic Stress Disorder: A Meta-analysis**  
Claudia P. de-Almeida, Amy Wenzel, Camila S. de-Carvalho, Vania B. Powell, César Araújo-Neto, Lucas C. Quarantini and Irismar R. de-Oliveira 70

- Prevalence of MTHFR C677T and MS A2756G Polymorphisms in Major Depressive Disorder, and their Impact on Response to Fluoxetine Treatment**  
David Mischoulon, Stefania Lamon-Fava, Jacob Selhub, Judith Katz, George I. Papakostas, Dan V. Iosifescu, Albert S. Yeung, Christina M. Dording, Amy H. Farabaugh, Alisabet J. Clain, Lee Baer, Jonathan E. Alpert, Andrew A. Nierenberg and Maurizio Fava 76

- Clinical Features of Tic-related Obsessive-compulsive Disorder: results from a Large Multicenter Study**  
Pedro Gomes de Alvarenga, Maria Alice de Mathis, Anna Claudia Dominguez Alves, Maria Conceição do Rosário, Victor Fossaluzza, Ana Gabriela Hounie, Euripedes Constantino Miguel and Albina Rodrigues Torres 87

- The Role of a Lifetime History of Oppositional Defiant and Conduct Disorders in Adults with ADHD: implications for Clinical Practice**  
Eduardo S. Vitola, Carlos A. I. Salgado, Katiane L. Silva, Rafael G. Karam, Marcelo M. Victor, Nina R. Mota, Verônica Contini, Felipe A. Picon, Paula O. Guimarães-da-Silva, Rafael S. Giordani, Luis A. Rohde, Paulo Belmonte-de-Abreu, Claiton H. D. Bau and Eugenio H. Grevet 94

- Meet Our Editors** 100

### Editor-in-Chief

Stephen M. Stahl, MD, PhD, Adjunct Professor of Psychiatry at the University of California San Diego, USA;  
Honorary Visiting Senior Fellow at the University of Cambridge, UK.

### Field Editors

Terence Arthur Ketter, MD, Stanford University, USA  
Gerard Sanacora, MD, PhD, Yale University School of Medicine, USA  
Carlos A. Zarate, Jr., MD, National Institute of Mental Health, USA

### Deputy Editor

Thomas L. Schwartz, MD, SUNY Upstate Medical University in Syracuse, USA

### Editorial Board

Dennis S. Charney, MD, Mount Sinai School of Medicine, USA  
Maria Conceição do Rosario, MD, PhD, University of São Paulo Medical School, Brazil  
Jeffrey L. Cummings, MD, Cleveland Clinic, USA  
Thilo Deckersbach, PhD, Harvard Medical School, USA  
Karen Ersche, Dipl-Psych, MSc, PhD, Psychol, University of Cambridge, UK  
Robert L. Findling, MD, MBA, Case Western Reserve University, USA  
Mark S. George, MD, Medical University of South Carolina, USA  
Eric Hollander, MD, Albert Einstein College of Medicine and Montefiore Medical Center, USA  
Daphne Holt, MD, PhD, Harvard Medical School, USA  
Peter B. Jones, MD, PhD, FRCP, FRCPsych, FMedSci, University of Cambridge, UK  
Andres M. Kanner, MD, Rush University, USA  
Terence Arthur Ketter, MD, Stanford University, USA  
Anthony D. Loebel, MD, New York University School of Medicine, USA  
Donatella Marazziti, MD, University of Pisa, Italy  
Herbert Y. Meltzer, MD, Northwestern University, USA  
Mario F. Mendez, MD, PhD, University of California, Los Angeles, USA  
Philip Mitchell, AM, MB BS (Syd), MD (UNSW), FRANZCP, FRCPsych, University of New South Wales, Australia  
Jun Nakamura, MD, PhD, University of Occupational and Environmental Health, Japan  
Humberto Nicolini, MD, PhD, National Mexican Institute of Psychiatry, Mexico  
Andrew A. Nierenberg, MD, Harvard Medical School, USA  
Stefano Pallanti, MD, PhD, University of Florence, Italy  
Katharine A. Phillips, MD, Brown University, USA  
Diego A. Pizzagalli, PhD, Harvard Medical School, USA  
Mark H. Pollack, MD, Rush University Medical Center, USA  
Mark H. Rapaport, MD, Emory University, USA  
Irismar Reis de Oliveira, MD, PhD, Universidade Federal da Bahia, Brazil  
Trevor W. Robbins, CBE FRS FMedSci, University of Cambridge, UK  
Peter P. Roy-Byrne, MD, University of Washington School of Medicine, USA  
Barbara J. Sahakian, PhD, University of Cambridge, UK  
Gerard Sanacora, MD, PhD, Yale University School of Medicine, USA  
Alan F. Schatzberg, MD, Stanford University School of Medicine, USA  
Thomas E. Schlaepfer, MD, University Hospital Bonn, Germany  
Thomas L. Schwartz, MD, SUNY Upstate Medical University in Syracuse, USA  
Jordan W. Smoller, MD, ScD, Harvard Medical School, USA  
Dan J. Stein, MD, PhD, University of Cape Town (UCT), South Africa  
Stephen Strakowski, MD, University of Cincinnati, USA  
T. Scott Stroup, MD, MPH, Columbia University, USA  
Michael E. Thase, MD, University of Pennsylvania, USA  
Michael Trimble, MD, FRCP, FRCPsych, National Hospital for Neurology, USA  
Madhukar H. Trivedi, MD, University of Texas Southwestern Medical Center, USA  
Karen Dineen Wagner, MD, PhD, The University of Texas Medical Branch, USA  
Stephen R. Wisniewski, PhD, University of Pittsburgh, USA  
Shigeto Yamawaki, MD, PhD, Hiroshima University, Japan  
Carlos A. Zarate, Jr., MD, National Institute of Mental Health, USA  
Joseph Zohar, MD, Tel Aviv University, Israel

### Content Editor

Lisa Arrington, Cambridge University Press (larrington@cambridge.org)

### Aims and Scope

*CNS Spectrums* aims to be the premiere journal covering all aspects of clinical neurosciences, neurotherapeutics and neuropsychopharmacology. From 2012 the journal will primarily focus on the publication of authoritative, cross-disciplinary review and opinion material publishing advances and controversial issues with pertinence to the clinician. In particular we aim to publish reviews and articles in translational neuroscience, biological psychiatry and neuropsychopharmacology that explain clinically relevant neuroscience discoveries in a way that makes these findings accessible and understandable to clinicians and clinical investigators. We will emphasize new therapeutics of all types in clinical neurosciences, mental health,

---

**Cover Image:** The image on the cover shows a hypothetical model whereby glutamate is released from an intracortical pyramidal neuron and binds to an NMDA receptor on a GABA-ergic interneuron. GABA is then released and binds to receptors on the axon of another glutamate pyramidal neuron. This inhibits the neuron, thus reducing the release of cortical glutamate. The GABA interneuron and its NMDA synapse from the first neuron to the second is the hypothetical site of glutamate dysfunction in schizophrenia.

Stahl's Essential Psychopharmacology, 4th edition, by Stephen M. Stahl

Copyright © 2012 Stephen M. Stahl. Reproduced with permission.

psychiatry, and neurology, especially first in man studies and proof of concept studies. Our focus will be not just drugs, but novel psychotherapies and neurostimulation therapeutics as well. *CNS Spectrums* will in addition, continue to publish original research and commentaries that focus on emergent areas of research. Subject coverage shall span the full spectrum of neuropsychiatry focusing on translational issues and those crossing traditional boundaries between neurology and psychiatry.

#### **Submitting Manuscripts to CNS Spectrums**

All submissions to *CNS Spectrums*, should be prepared in accordance with the instructions for authors and in the style of the Journal. Manuscripts should be submitted through the dedicated *CNS Spectrums* ScholarOne Manuscripts website: <http://mc.manuscriptcentral.com/cnsspectr>

*CNS Spectrums* will consider and encourage the following types of articles for publication: **Review Article**—Comprehensive article summarizing and synthesizing the literature on various topics presented in a scholarly and clinically relevant fashion; **Original Research**—Reports the results of a clinical study and contains original research; **Opinion**—Address a current topic of high interest, which has substantial evidence but has not yet been established; **Commentary**—An article that is written in reaction to previously published articles; usually encouraging a level of debate; the journal will also include **Brainstorms** and **Editorials** that shall be commissioned or written by the Editor in Chief.

#### **Instructions for Contributors**

The Instructions for Contributors are available on the Cambridge Journals Online web site at: <http://journals.cambridge.org/CNSifc>

#### **Indexing**

*CNS Spectrums* is indexed by *Index Medicus*/ MEDLINE and Web of Science (Thomson Reuters) as well as appearing in the annual Journal Citation Report. Introduced in 1996, the journal was acquired in whole by Cambridge University Press in November of 2011.

#### **Subscriptions**

Institutional print and electronic: £426/\$660; Institutional electronic only: £355/\$550.

#### **© Cambridge University Press 2012. All rights reserved.**

No part of this publication may be reproduced, in any form or by any means, electronic, photocopying, or otherwise, without permission in writing from Cambridge University Press. Policies, request forms, and contacts are available at: <http://www.cambridge.org/rights/permissions/permission.htm>. Permission to copy (for users in the U.S.A.) is available from Copyright Clearance Center <http://www.copyright.com>, email: [info@copyright.com](mailto:info@copyright.com).

Rights & permissions requests can be applied for online within each article by clicking "Request Permissions" within the table of contents or in the fulltext version of a specific article. Requests will be processed via the CCC Rightslink system and processed immediately.

*CNS Spectrums* (ISSN: Print 1092-8529; eISSN: 2165-6509) is published quarterly by Cambridge University Press.

#### **Postmaster**

Send address changes in the U.S.A., Canada, and Mexico to *CNS Spectrums*, Cambridge University Press, Journals Dept., 100 Brook Hill Drive, West Nyack, NY 10994-2133, U.S.A. Send address change elsewhere to *CNS Spectrums*, Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, England.

#### **Online availability**

*CNS Spectrums* is hosted on the Cambridge Journals Online (CJO) service at <http://journals.cambridge.org/cns>

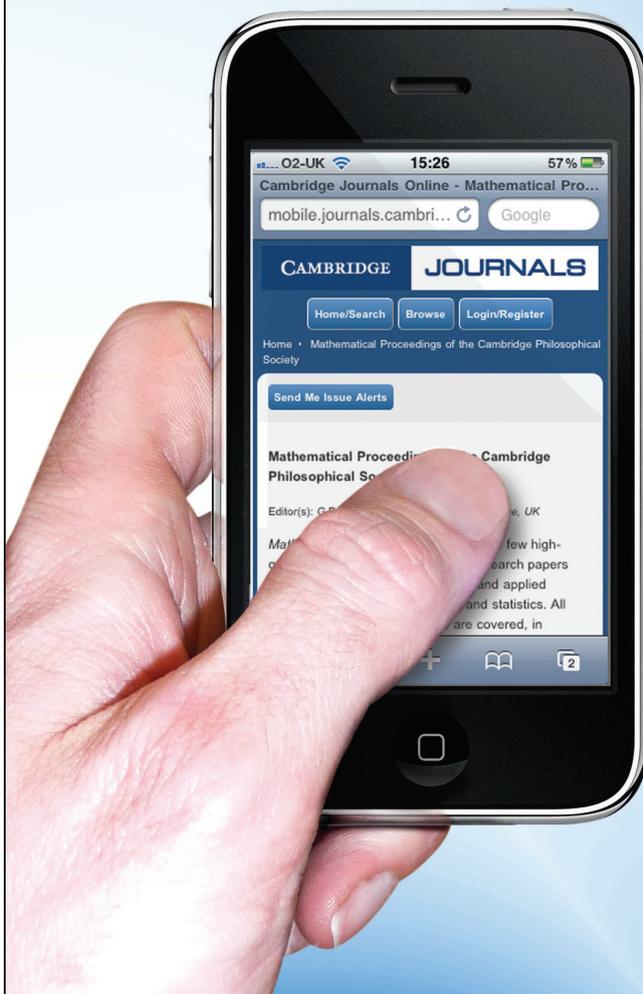
Institutional subscribers: Access to full-text articles online is only granted to subscription options offering an online component. Subscriptions must be activated by the purchasing institution using the instructions provided at the time of purchase; see information for subscribers at: <http://journals.cambridge.org/>

#### **Reprint and Advertising Sales**

Inquiries for bulk reprint sales and placement of advertising should be sent to the Journals Sales Department of Cambridge University Press: [USAdSales@cambridge.org](mailto:USAdSales@cambridge.org)

# Go Mobile

CJO Mobile (CJOm) is a streamlined  
Cambridge Journals Online (CJO)  
for smartphones and other  
small mobile devices



- Use CJOm to access all journal content including *FirstView* articles which are published online ahead of print
- Access quickly and easily thanks to simplified design and low resolution images
- Register for content alerts or save searches and articles – they will be available on both CJO and CJOm
- Your device will be detected and automatically directed to CJOm via: [journals.cambridge.org](http://journals.cambridge.org)



**CAMBRIDGE**  
UNIVERSITY PRESS