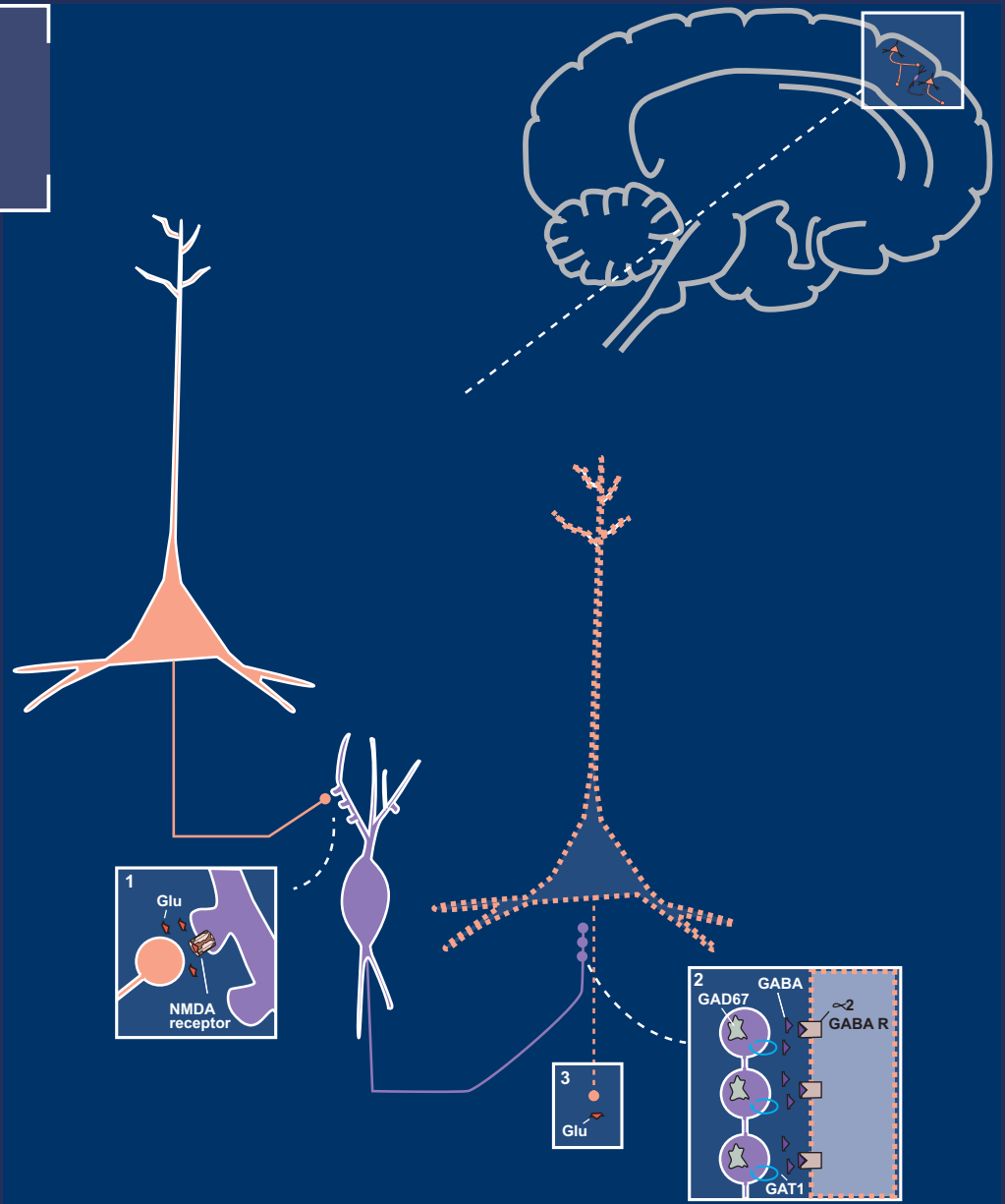


VOLUME 19 | ISSUE 2

April 2014

ISSN: 1092-8529



journals.cambridge.org/cns

CNS SPECTRUMS

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



The journal of the
**Neuroscience
Education Institute**



**CAMBRIDGE
UNIVERSITY PRESS**



NEUROSCIENCE
EDUCATION INSTITUTE

REGISTER
NOW FOR
EARLY-BIRD
RATES!

Experience four
days of interactive
presentations with
real-life
applications.

Call us at
1-888-535-5600
or visit
www.neiglobal.com
today!

2014 NEI PSYCHOPHARMACOLOGY CONGRESS

NOVEMBER 13 - 16, 2014
COLORADO SPRINGS, CO

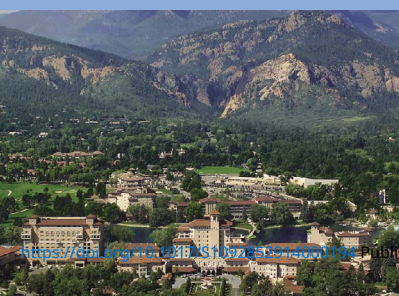
» Where every session is a keynote presentation!

Exceptional
education for
superior patient
care

Inspiring
content from
elite speakers

The latest
treatment
strategies

Social
networking
opportunities



CNS SPECTRUMS

CONTENTS

BRAINSTORMS

- Mechanism of action of the SPARI vilazodone: serotonin 1A partial agonist and reuptake inhibitor**
Stephen M. Stahl 105

EDITORIALS

- No news without new scientific ideas**
Anton J. M. Loonen 110

- Current drug development for antidepressants and ideas addressing downstream glutamate: the ketamine example**
William Z. Potter and Linda S. Brady 112

REVIEW ARTICLES

- Integrating psychopharmacology and cognitive remediation to treat cognitive dysfunction in the psychotic disorders**
Alice Medalia, Lewis A. Opler and Alice M. Saperstein 115

- Serotonergic modulation of glutamate neurotransmission as a strategy for treating depression and cognitive dysfunction**
Alan L. Pehrson and Connie Sanchez 121

- Are antidepressants effective in quality of life improvement among children and adolescents? A systematic review**
Dejan Stevanovic, Ivana Tadic and Rajna Knez 134

- Pharmacotherapy of cognitive deficits in schizophrenia**
Lewis A. Opler, Alice Medalia, Mark G. Opler and Stephen M. Stahl 142

- Clinical features, developmental course, and psychiatric comorbidity of adult autism spectrum disorders**
Giulia Vannucchi, Gabriele Masi, Cristina Toni, Liliana Dell'Osso, Donatella Marazziti and Giulio Perugi 157

ORIGINAL RESEARCH

- The clinical application of ABCB1 genotyping in antidepressant treatment: a pilot study**
Barbara Breitenstein, Sandra Scheuer, Hildegard Pfister, Manfred Uhr, Susanne Lucae, Florian Holsboer, Marcus Ising and Tanja M. Brückl 165

- D₂ receptor occupancy following lurasidone treatment in patients with schizophrenia or schizoaffective disorder**
Steven G. Potkin, David B. Keator, Marilyn L. Kesler-West, Dana D. Nguyen, Theo. G. M. van Erp, Jogeshwar Mukherjee, Nikunj Shah and Adrian Preda 176

- Sexual functioning in patients with major depressive disorder in randomized placebo-controlled studies of extended release quetiapine fumarate**
Anita H. Clayton, Julie C. Locklear, Henrik Svedsäter and Roger S. McIntyre 182

- Daytime sleepiness associated with lurasidone and quetiapine XR: results from a randomized double-blind, placebo-controlled trial in patients with schizophrenia**
Antony D. Loebel, Cynthia O. Siu, Josephine B. Cucchiaro, Andrei A. Pikalov and Phillip D. Harvey 197

Editor-in-Chief

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

Field Editors

Joseph F. Goldberg, Icahn School of Medicine at Mount Sinai, USA
Terence Arthur Ketter, Stanford University, USA
Thomas E. Schlaepfer, University Hospital Bonn, Germany
Carlos A. Zarate, National Institute of Mental Health, USA

Deputy Editor

Thomas L. Schwartz, SUNY Upstate Medical University at Syracuse, USA

Editorial Board

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

Content Editor

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

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 © 2014 Stephen M. Stahl. Reproduced with permission.

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, 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: £511/\$810; Institutional electronic only: £383/\$612.

© Cambridge University Press 2014. 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.

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 bimonthly 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 changes 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

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



CAMBRIDGE
UNIVERSITY PRESS