

Biological Psychiatry

A Journal of Psychiatric Neuroscience and Therapeutics

Editor

John H. Krystal, MD
Yale University School of Medicine
VA Connecticut Healthcare System
West Haven, Connecticut

Deputy Editors

Anissa Abi-Dargham, MD
New York, New York

Deanna M. Barch, PhD
St. Louis, Missouri

Edward T. Bullmore, MB, PhD,
FMedSci
Cambridge, United Kingdom

Cameron S. Carter, MD
Sacramento, California

Daniel Geschwind, MD, PhD
Los Angeles, California

Paul J. Harrison, DM, FRCPsych
Oxford, United Kingdom

Eric J. Nestler, MD, PhD
New York, New York

Murray B. Stein, MD, MPH
La Jolla, California

Editorial Committee

Dennis S. Charney, MD
New York, New York

David Goldman, MD
Rockville, Maryland

Raquel E. Gur, MD, PhD
Philadelphia, Pennsylvania

K. Ranga Rama Krishnan, MD
Chicago, Illinois

Ex Officio

Kerry Ressler, MD, PhD

Stephen M. Strakowski, MD

Trey Sunderland, MD

Editorial Board

Schahram Akbarian, MD, PhD
New York, NY

Anthony A. Grace, PhD
Pittsburgh, PA

Lisa M. Monteggia, PhD
Dallas, TX

Scott J. Russo, PhD
New York, NY

Kazufumi Akiyama, MD, PhD
Tochigi, Japan

Christian Grillon, PhD
Bethesda, MD

Rajesh Narendran, MD
Pittsburgh, PA

Gerard Sanacora, MD, PhD
New Haven, CT

Amy F.T. Arnsten, PhD
New Haven, CT

Ralitza Gueorgieva, PhD
New Haven, CT

Alexander Neumeister, MD
New York, NY

Akira Sawa, MD, PhD
Baltimore, MD

Mark Baxter, PhD
New York, NY

Ahmad R. Hariri, PhD
Durham, NC

Charles P. O'Brien, MD, PhD
Philadelphia, PA

Alan F. Schatzberg, MD
Stanford, CA

Carrie E. Bearden, PhD
Los Angeles, CA

Catherine J. Harmer, DPhil
Oxford, United Kingdom

Michael C. O'Donovan, PhD
Cardiff, United Kingdom

Geoffrey Schoenbaum, MD, PhD
Baltimore, MD

James Blair, PhD
Bethesda, MD

Markus A. Heilig, MD, PhD
Linköping, Sweden

Dost Öngür, MD, PhD
Belmont, MA

Yavin Shaham, PhD
Baltimore, MD

Antonello Bonci, MD
Baltimore, MD

Noboru Hiroi, PhD
Bronx, NY

Carmine M. Pariante, MD, PhD,
MRCPsych

Simone Shamay-Tsoory, PhD
Haifa, Israel

David L. Braff, MD
La Jolla, CA

Paul J. Kenny, PhD
New York, NY

London, United Kingdom

Pamela Sklar, MD, PhD
New York, NY

E. Sherwood Brown, MD, PhD
Dallas, TX

Joel E. Kleinman, MD, PhD
Baltimore, MD

Martin P. Paulus, MD
La Jolla, CA

Dana Small, PhD
Baltimore, MD

William A. Carlezon, Jr., PhD
Belmont, MA

George F. Koob, PhD
Rockville, MD

Godfrey Pearlson, MD
Hartford, CT

Matthew W. State, MD, PhD
San Francisco, CA

Edwin H. Cook, Jr., MD
Chicago, IL

Andrew D. Krystal, MD, MS
Durham, NC

Mary L. Phillips, MD
Pittsburgh, PA

Stephen M. Strakowski, MD
Austin, TX

Zafiris Jeff Daskalakis,
MD, PhD, FRCPC(C)
Ontario, Canada

Ellen Leibenluft, MD
Bethesda, MD

Daniel S. Pine, MD
Bethesda, MD

Trey Sunderland, MD
Chevy Chase, MD

Karl Deisseroth, MD, PhD
Stanford, CA

David A. Lewis, MD
Pittsburgh, PA

Diego A. Pizzagalli, PhD
Belmont, MA

Stephan F. Taylor, MD
Ann Arbor, MI

Harriet de Wit, PhD
Chicago, IL

Barbara K. Lipska, PhD
Bethesda, MD

Mikhail Pletnikov, MD, PhD
Baltimore, MD

Gustavo Turecki, MD, PhD
Quebec, Canada

Ralph J. DiLeone, PhD
New Haven, CT

Stephen R. Marder, MD
Los Angeles, CA

J. Daniel Ragland, PhD
Sacramento, CA

Bruce I. Turetsky, MD
Philadelphia, PA

Yan Dong, PhD
Pittsburgh, PA

Athina Markou, PhD
La Jolla, CA

Judith L. Rapoport, MD
Bethesda, MD

Myrna M. Weissman, PhD
New York, NY

Ronald S. Duman, PhD
New Haven, CT

Graeme F. Mason, PhD
New Haven, CT

Kerry Ressler, MD, PhD
Belmont, MA

Rachel Yehuda, PhD
Bronx, NY

Klaus P. Ebmeier, MD
Oxford, United Kingdom

Daniel H. Mathalon, MD, PhD
San Francisco, CA

Charles F. Reynolds, III, MD
Pittsburgh, PA

Takeo Yoshikawa, MD, PhD
Saitama, Japan

Stephen V. Faraone, PhD
Syracuse, NY

Colleen A. McClung, PhD
Pittsburgh, PA

Trevor W. Robbins, PhD
Cambridge, United Kingdom

Larry J. Young, PhD
Atlanta, GA

Alex Fornito, PhD
Victoria, Australia

Christopher J. McDougale, MD
Lexington, MA

David R. Rosenberg, MD
Detroit, MI

Venetia Zachariou, PhD
New York, NY

Karl J. Friston, MBBS, MA, MRCPsych
London, United Kingdom

Andrew Mark McIntosh,
MD, MRCPsych
Edinburgh, United Kingdom

Peter Roy-Byrne, MD
Seattle, WA

Carlos A. Zarate, Jr., MD
Bethesda, MD

John D.E. Gabrieli, PhD
Cambridge, MA

Francis J. McMahon, MD
Bethesda, MD

Katya Rubia, PhD
London, United Kingdom

Jon-Kar Zubieta, MD, PhD
Salt Lake City, UT

Joel Gelernter, MD
West Haven, CT

Károly Mirnics, MD
Nashville, TN

David R. Rubinow, MD
Chapel Hill, NC

Editorial Office

Department of Psychiatry
UT Southwestern Medical Center
6363 Forest Park Road, Suite 651
Dallas, Texas 75235-5435 USA
Tel: (214) 648-0880
e-mail: biol.psych@UTSouthwestern.edu
www.sobp.org/journal

Aims and Scope

This international rapid-publication journal is the official journal of the Society of Biological Psychiatry. It covers a broad range of topics in psychiatric neuroscience and therapeutics. Both basic and clinical contributions are encouraged from all disciplines and research areas relevant to the pathophysiology and treatment of major neuropsychiatric disorders. Novel results of original research, in addition to Commentaries and Correspondence judged to be of high impact to the field are published, particularly those addressing genetic and environmental risk factors, neural circuitry and neurochemistry, and important new therapeutic approaches. Concise Reviews and Editorials that focus on topics of current research and interest are also published rapidly.

Published since 1969

Administrative Editor Carol A. Tamminga, MD
Managing Editor Rhiannon M. Bugno
Publication Coordinator Rosa Garces
Publication Coordinator Glenda Stroud
Editorial Assistant Kelly Schappert

Founding Editor
Joseph Wortis, MD, 1969-1992

Editor Emeriti
Wagner H. Bridger, MD, 1992-1997
Richard C. Josiassen, PhD, 1997
Dennis S. Charney, MD, 1998-2006