BRAIN, BEHAVIOR, & IMMUNITY - HEALTH

TABLE OF CONTENTS

• Description p.1
• Editorial Board p.2
• Guide for Authors p.8

DESCRIPTION

_Brain, Behavior, and Immunity - Health (BBI - Health)_ is an open access journal and a companion title to _Brain, Behavior, and Immunity_. Both journals are the official journals of the Psychoneuroimmunology Research Society (PNIRS).

_BBI Health_ publishes peer-reviewed basic, experimental, and clinical studies, dealing with behavioral, neural, endocrine, and immune system interactions in humans and animals, with an emphasis on research that has translational impact and clinical implications. The content spans a broad range of research fields, from neuroscience to immunology, from physiology to behavioural sciences, from psychiatry and psychology to clinical medicine, from molecular and cellular models to social and epidemiological observations.

Publications include research articles, reviews, special issues, research protocols, case reports, and viewpoints discussing policy, including ethical, health and cultural implications of research in psychoneuroimmunology.

_Brain, Behavior, and Immunity - Health_ is a Gold Open Access journal with no subscription charges. Instead, an article publishing charge (APC) is payable by the author or research funder to cover the costs associated with publication. Authors who publish in BBI Health will have a choice of license options, retain copyright to their published work, and their work will be immediately, permanently, and freely accessible.

For full information on publishing your paper open access in _Brain, Behavior, and Immunity - Health_, visit the journal’s open access information page and guide for authors.

**Please note: PNIRS members will receive a 15% discount on the full APC.**

Research areas are broadly similar to those of _Brain, Behavior, and Immunity_, but with an emphasis on papers of translational relevance, such as:

• Biomarker analysis in patient samples and longitudinal cohorts.
• Results of clinical trials that examine psychological and psychiatric outcomes following treatment with drugs modulating the immune system.
• Results of clinical trials that examine immunological outcomes following treatment with drugs that affect the brain or psychological intervention.
• Cellular and animal work with compounds that have potential therapeutic applications.
• Protocol for clinical studies and clinical trials in these areas.

EDITORIAL BOARD

Editor-in-Chief
Carmine M. Pariante, King’s College London Institute of Psychiatry Psychology and Neuroscience The Maurice Wohl Clinical Neuroscience Institute, London, United Kingdom
Psychiatry, Neuroscience

Associate Editors
Annamaria Cattaneo, Hospital Saint Giovanni Calibita Fatebenefratelli, Rome, Italy
Stress, depression and neurobiological mechanisms
Lauren M. Osborne, Johns Hopkins University School of Medicine, Baltimore, Maryland, United States of America
Pregnancy, Postpartum, Cytokines, T cells, Neurosteroids
Kuan-Pin Su, China Medical University, Taichung City, Taiwan
Translational Brain Research, Depression, Immunopsychiatry, Nutritional Psychiatry, Omega-3 fatty acids, Biological Psychiatry

Social Media Editor
Melisa Kose, Institute of Psychiatry Psychology and Neuroscience, London, United Kingdom

Editorial Board
Stuart Allan, The University of Manchester, Manchester, United Kingdom
Neuroinflammation, cytokines, immunology, stroke, neurodegeneration, cerebrovascular disease, preclinical models
Paul Ashwood, University of California Davis MIND Institute, Sacramento, California, United States of America
Neurodevelopment, autism, gastroenterology, mucosal immunology
Michael Bailey, OHIO STATE UNIVERSITY, Columbus, Ohio, United States of America
Gut microbiome, brain-gut axis, stress physiology, innate immunity, bacterial infection, mucosal inflammation
William Banks, University of Washington, Seattle, Washington, United States of America
Blood-brain barrier
Ruth Barrientos, OHIO STATE UNIVERSITY, Columbus, Ohio, United States of America
Aging, Neuroinflammation, Learning and Memory, High fat diet, Microglia, Surgery, Exercise
Moises Evandro Bauer, Pontifical Catholic University of Rio Grande do Sul, School of Health and Life Sciences, PORTO ALEGRE, Brazil
Neuroimmunology, immunopsychiatry, immunosenescence, T cells, chronic stress, bipolar disorder, major depression, aging
Shamgar Ben-Eliyahu, Tel Aviv University Sagol School of Neuroscience, Tel Aviv, Israel
Stress and cancer progression
Rommy von Bernhardi, Pontifical Catholic University of Chile, Santiago de Chile, Chile
Aging, Alzheimer's disease, bioethics, glial cells, human research ethics, Neurodegenerative disease, Neuroinflammation, signaling pathways
Staci D. Bilbo, Duke University, Durham, North Carolina, United States of America
Microglia, Neurodevelopment, Cytokines
Alessandra Borsini, Institute of Psychiatry Psychology and Neuroscience, London, United Kingdom
Neuroinflammation, Neurogenesis, Nutrition, Depression, Stress, Neurodegeneration
Julienne Bower, University of California Los Angeles, Los Angeles, California, United States of America
Focuses broadly on mind-body interactions among individuals diagnosed with life-threatening illnesses such as cancer
Elisa Brietzke, Queen's University Department of Psychology, Kingston, Ontario, Canada
Neurobiology and innovative interventions on mood disorders
Lena Brundin, Van Andel Research Institute, Grand Rapids, Michigan, United States of America
Neuroinflammation, suicide, depression
Claudia Buss, Charite University Hospital Berlin Institute of Clinical Psychology, Berlin, Germany
fetal/developmental programming, stress, brain development
JANE PEI-CHEN CHANG, China Medical University Hospital, Taichung, Taiwan
ADHD, Child and adolescent, Depression, Nutritional psychiatry, Omega-3
Lucile Capuron, Nutrition and Integrated Neurobiology, Bordeaux, France
Psychoneuroimmunology; Immunopsychiatry; Mood Disorders; Inflammation; Translational and clinical research
Monica Carson, University of California Riverside, Riverside, California, United States of America
Exploring usage of Microglia as Biosensors and Bioeffectors of Brain Health
Livia Carvalho, Queen Mary University of London, London, United Kingdom
Depression, inflammation, epidemiology, drug development, clinical translational sciences

Jonathan Cavanagh, University of Glasgow, Glasgow, United Kingdom
Preclinical and clinical research. Preclinical: mouse studies on mechanisms of sickness behaviour (especially chemokines and leukocyte biology); Clinical: Neuroimaging of chronic inflammatory diseases e.g. rheumatoid and related conditions, peripheral inflammatory biomarkers

Lisa Christian, OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER, Columbus, Ohio, United States of America
Studying use of psychoneuroimmunology (PNI) research approaches to examine how stress “gets under the skin” to impact health by affecting the neuroendocrine and immune systems.

Christopher Coe, University of Wisconsin-Madison Harlow Center for Biological Psychology, Madison, Wisconsin, United States of America
Pregnancy development, Stress, Nutrient deficiency, Biomarkers, Aging

Bruno Conti, Scripps Research Institute, La Jolla, California, United States of America
Neuroinflammation, Neurodegeneration, Cytokines, Temperature regulation, Aging

Erin Costanzo, University of Wisconsin Madison, Madison, Wisconsin, United States of America
Clinical psychology, Health psychology, Hematology, Oncology, Psychooncology, Women’s health, Quality of life

John Cryan, University College Cork Department of Anatomy and Neuroscience, Cork, Ireland
Stress, Microbiome, Neuroimmunology

Alexis Cullen, Institute of Psychiatry Psychology and Neuroscience, London, United Kingdom
Psychosis, Schizophrenia, Stress, Childhood, Epidemiology

Colm Cunningham, University of Dublin Trinity College School of Biochemistry and Immunology, Dublin, Ireland
Understanding interaction between systemic inflammation in the brain to bring about exacerbation of neurodegenerative disease

Charlotte D’Mello, University of Calgary, Calgary, Alberta, Canada
Neuroimmunology, Sickness Behavior, Fatigue, Periphery-to-brain signaling, Cytokines, Inflammation

Anne-Marie van Dam, Amsterdam UMC Location VUMC Department of Anatomy & Neuroscience, Amsterdam, Netherlands
Neuroimmunology, Glia, post-mortem, in vivo models, in vitro

Andrea Danese, Institute of Psychiatry Psychology and Neuroscience, London, United Kingdom
Child trauma, early life stress

A. Courtney DeVries, Ohio State University, Columbus, Ohio, United States of America
Effects of social stress on the histological and behavioral consequences of experimental stroke

Terrence Deak, Binghamton University Department of Psychology, Binghamton, New York, United States of America
Neuroimmunology, Stress neurobiology, Affective dysfunction, Neurodevelopmental disorder, Aging

Kumlesh Dev, The University of Dublin Trinity College, Dublin, Ireland
Neurosciences and drug development

Bonnie Dittel, Versiti Blood Research Institute, San Diego, California, United States of America
Immunology

Niels Eijkelkamp, University Medical Centre, Utrecht, Netherlands
Pain, neuropathy, neuroimmunology, sensory neurons, macrophages, mitochondria, Cytokines

David Engblom, Linköping University, Linköping, Sweden
Immune-to-brain communication, motivation, aversion, fever, genetic mouse models

Chris Engeland, Pennsylvania State University, University Park, United States of America
How stress, age, gender, and hormones affect immunity, inflammation, and health

Sonja Entinger, Charité University Hospital Institute of Medical Psychology, Berlin, Germany
Prenatal stress, early life adversity, developmental programming of health and disease risk, telomere biology

Jennifer Felger, Emory University School of Medicine, Atlanta, Georgia, United States of America
Behavioral Immunology, Neuroimaging, Animal Models

Rafael Fernandez-Botran, University of Louisville, Louisville, Kentucky, United States of America
Understanding the mechanisms that control the activity of cytokines in vivo and developing novel immunotherapeutic approaches to the treatment of disease

Laura Fonken, The University of Texas at Austin Department of Pharmacology and Toxicology, Austin, Texas, United States of America
Aging; Microglia Priming, Circadian Rhythms

Jane Foster, McMaster University Department of Psychiatry and Behavioural Neurosciences, Hamilton, Ontario, Canada
Behavioural Neuroscience, microbiome, neurodevelopment, immune-brain, animal models, depression, inflammatory mediators

Matthew Frank, University of Colorado Boulder Department of Psychology and Neuroscience, Boulder, Colorado, United States of America
Neuroimmunology

**Gregory Freund**, University of Illinois at Chicago Department of Pathology, Chicago, Illinois, United States of America

Mouse behavior testing

**Ian Galea**, University of Southampton Faculty of Medicine, Southampton, United Kingdom

Blood-brain barrier, central nervous system effects of systemic inflammation, brain haemorrhage

**Doina Ganea**, Temple University, Philadelphia, Pennsylvania, United States of America

Immune system, chronic inflammatory response and the development of autoimmune disorders

**Alban Gaultier**, University of Virginia, Charlottesville, Virginia, United States of America

Glia, Depression, neuroinflammation, myelin

**Jonathan P. Godbout**, Ohio State University, Columbus, Ohio, United States of America

Aging and neuroimmunology, brain injury and intervention project, stress and immunology

**David Goldsmith**, Emory University School of Medicine, Atlanta, Georgia, United States of America

Impact of inflammation on the brain in patients with psychiatric illness

**Reginald Gorczynski**, University of Toronto, Toronto, Ontario, Canada

Immunology; Autoimmune and allergic disease; Immunoregulation; Tolerance; Cytokines

**Peter Grace**, UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER, Houston, Texas, United States of America

Pain, glia, cytokines

**Lois Harden**, University of the Witwatersrand, School of Physiology, Parktown, South Africa

Fever, Sickness behaviour, Neuroinflammation

**Andrew Harkin**, Trinity College Institute of Neuroscience, Dublin, Ireland

Pharmacology, psychotrophic drugs, antidepressants, recreational drugs, neuropsychiatric disorders, cell and animal models, biomarkers

**Ebrahim Haroon**, Emory University, Atlanta, Georgia, United States of America

Stress, Depression, Neurobiological mechanisms

**Neil Harrison**, Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom

Psychoneuroimmunology, Psychiatry, Immunopsychiatry, Depression, Neuroimaging, MRI, PET, Neuroimmunology

**Kenji Hashimoto**, Chiba University Center for Forensic Mental Health, Division of Clinical Neuroscience, Chiba Chuo Ward, Japan

Psychiatric disorders, Antidepressant, D-Amino acids, Depression, Psychosis, Neuropsychopharmacology, Ketamine, NMDA Receptor

**Cobi Heijnen**, The University of Texas MD Anderson Cancer Center Department of Symptom Research, Houston, Texas, United States of America

Psychoneuroimmunology, human and preclinical animal research, neuroprotectants

**Suzi Hong**, University of California San Diego Department of Family Medicine and Public Health, La Jolla, California, United States of America

Neuroendocrine pathways in brain-immune interactions; leukocyte trafficking; inflammation underlying CNS and behavioral symptoms and outcomes

**Mark Hutchinson**, The University of Adelaide Adelaide Medical School, Adelaide, South Australia, Australia

Neuroimmunopharmacology, pain, addiction, biophotonics, sensing, drug development, clinical trials

**Michael Irwin**, UCLA Jane and Terry Semel Institute for Neuroscience and Human Behavior, Los Angeles, California, United States of America

Psychiatry/Psychoneuroimmunology

**Linda Janusek**, Loyola University Chicago Marcella Niehoff School of Nursing, Maywood, Illinois, United States of America

Clinical Studies; Breast Cancer and Stress; Inflammation and Health Disparity; Stress and HPA axis; Childhood Adversity

**David Jessop**, University of Bristol, Bristol, United Kingdom

Neuroimmunology, Cortisol, Stress

**Chun-Lei Jiang**, Second Military Medical University, Shanghai, China

Stress Medicine and Psychoneuroimmunology

**John Johnson**, Kent State University, Kent, Ohio, United States of America

Nervous and immune systems, behavior and cognitive functioning.

**Rodney Johnson**, University of Illinois at Urbana-Champaign, Champaign, Illinois, United States of America

Neuroimmunology, Behavior, Microglia, Aging, Development

**Ian Johnston**, The University of Sydney, Sydney, New South Wales, Australia

Psychoneuroimmunology, Human and non-human spatial cognition, The effects of food and exercise on the brain and behaviour

**Annemieke Kavelaars**, UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER, Houston, Texas, United States of America

Pain and Neuroimmunology

**Amanda Kentner**, Massachusetts College of Pharmacy and Health Sciences, Boston, Massachusetts, United States of America
Animal Models; Neuroinflammation; Early life adversity; Environmental Enrichment; Neuroendocrinology; Neuroprotection; Neurorehabilitation; Maternal Care; Sex difference

Golam Khandaker, University of Cambridge Department of Psychiatry, Cambridge, United Kingdom
Depression, schizophrenia, epidemiology, cohort studies, RCT, Mendelian randomization, meta-analysis

Marcy Kingsbury, MASSACHUSETTS GENERAL HOSPITAL, Boston, Massachusetts, United States of America
Oxytocin, autism spectrum disorder, microglia, gut-brain axis, microbiota, neurodevelopmental disorders

Edouard Kouassi, University of Montreal Department of Medicine and Medical specialties, Montréal, Quebec, Canada
Molecular mechanisms of brain-immune connections, Role of inflammatory cytokines in psychiatric disorders, Serotonin and the immuno-hematological system

Alexander Kusnecov, Rutgers University Department of Psychology, Piscataway, New Jersey, United States of America
Stress, cytokines, behavior, neuroimmunological disease, depression, schizophrenia

Julie Lasselin, Stockholm University, Stockholm, Sweden
Psychoneuroimmunology, Behavioral neuroscience

David A. Lawrence, Wadsworth Center, Albany, New York, United States of America
Immunotoxicology Neuroimmunology

Sophie Layé, University of Bordeaux, Bordeaux, France
Nutrition and Integrated Neurobiology

Yong Li, Shanghai Jiao Tong University School of Medicine, Shanghai, China
Neuroscience

Quentin Qiang Liu, Dalian University of Technology, Dalian, China
Biochemistry and Molecular Biology

David Loane, University of Maryland School of Medicine, Baltimore, Maryland, United States of America
The complexities of TBI, neuroinflammation and tissue repair

Francis Lotrich, University of Pittsburgh, Pittsburgh, Pennsylvania, United States of America
focusing on major depressive disorder (MDD), understanding the interaction between genetic vulnerability and inflammatory cytokines

Amy Lovett-Racke, The Ohio State University Department Cancer Biology and Genetics, Columbus, Ohio, United States of America
Neurotoxins, Neuroparalysis and Regeneration

Christopher Lowry, University of Colorado Boulder, Boulder, Colorado, United States of America
Microbiome-gut-brain axis

John Lukens, University of Virginia, Charlottesville, Virginia, United States of America
Multiple sclerosis, mental illness, neuroimmunology, innate immunology, anxiety, cognitive deficits, inflammasomes

Susan Lutgendorf, The University of Iowa, Iowa City, Iowa, United States of America
Psycho-oncology, Inflammation, Behavioral, Interventions, Cytokines, PNI in cancer and aging

Marina Lynch, The University of Dublin Trinity College, Dublin, Ireland
Neuroinflammation, Ageing, Alzheimer’s disease, Glial (particularly microglial) biology

Kellely Madden, University of Rochester, Rochester, New York, United States of America
Stress, Sympathetic Activation and Breast Tumor Growth and Metastasis

Steven Maier, University of Colorado Boulder Department of Psychology and Neuroscience, Boulder, Colorado, United States of America
Neurochemistry and neuropharmacology of stress, drug addiction, bi-directional communication between the brain and the immune system, psychoneuroimmunology

Anna Marsland, University of Pittsburgh Department of Psychology, Pittsburgh, Pennsylvania, United States of America
Psychoneuroimmunology; human research; acute and chronic stress; clinical trials; inflammation; asthma

Herbert Mathews, Loyola University Chicago Stritch School of Medicine, Maywood, Illinois, United States of America
Immunology, Microbiology, Epigenetics

Urs Meyer, University of Zurich, Zurich, Switzerland
Behavioral Neuroscience and Neuroimmunology

Andrew Miller, Emory University School of Medicine, Atlanta, Georgia, United States of America
Psychiatry, Neuroscience, Pharmacology, Immunology, Neuroendocrinology

Gregory Miller, Northwestern University, Evanston, Illinois, United States of America
Behavioral and biomedical sciences, stress and health connections

Paul Mills, University of California San Diego Department of Family Medicine and Public Health, La Jolla, California, United States of America
Integrative medicine, Psychoneuroimmunology, Heart failure, Cardiovascular disease

Valeria Mondelli, King's College London, London, United Kingdom
Stress and Psychosis

Dwight Nance, University of California Irvine Susan Samuell Integrative Health Institute, Santa Ana, California, United States of America
Long-term immunological and behavioral effects of metabolic and physical challenges

Yvonne Nolan, University College Cork National University of Ireland, Cork, Ireland
Neuroinflammation, hippocampal neurogenesis, neurodegeneration, memory and mood behaviour in rodent models, exercise, adolescence and ageing

Mark Opp, University of Colorado Boulder, Boulder, Colorado, United States of America
Neuroscience; Sleep; Neuroinflammation

Brandi Ormerod, University of Florida, Gainesville, Florida, United States of America
Neurodegenerative disease and injury by repairing diseased and damaged neural circuits

Thaddeus Pace, University of Arizona, Tucson, Arizona, United States of America
Stress, Inflammation, Meditation, Racial/ ethnic health disparities, Cancer survivorship

Chiun Pae, Catholic University of Korea Bucheon Saint Mary's Hospital Department of Psychiatry, Bucheon, South Korea
Psychopharmacology, mood disorders (bipolar disorder and depression), schizophrenia and insomnia

Marie-Odile Parat, The University of Queensland School of Pharmacy, Woolloongabba, Queensland, Australia
Opioids, analgesia and cancer; caveolae

Regina Pekelmann Markus, University of Sao Paulo Institute of Biosciences, SAO PAULO, Brazil
Chronopharmacolgy, Neuroimmunoendocrine modulation

Yu-Ping Peng, Nantong University, Nantong, China
Neuroimmunology; Neuroinflammation

Quentin Pittman, Hotchkiss Brain Institute, Calgary, Alberta, Canada
Neuroimmune system, Fever, Neurophysiology, Neuropharmacology, Comorbidity, Inflammation

Alan Prossin, The University of Texas Health Science Center at Houston John P and Katherine G McGovern Medical School, Houston, Texas, United States of America
PET imaging of neuroimmune interactions in negative affective states (pain, depression)Psychiatry

Leah Pyter, OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER, Columbus, Ohio, United States of America
Cancer, wound healing, behavior, neuroinflammation, neuroendocrinology

Ning Quan, Florida Atlantic University, Boca Raton, Florida, United States of America
Neuroimmunology, neuroscience, immunology, behavior, cytokines

Charles Raison, Emory University, Atlanta, Georgia, United States of America
Immune system effects on central nervous system as a strategy to reduce inflammatory responses to psychosocial stress

Annabelle Reaux Le Goazigo, Institute of Vision, Paris, France
Pain, trigeminal pain, neuroinflammation, chemokine, opioids

Laura Redwine, University of California San Diego, La Jolla, California, United States of America
Psychosocial, behavioral and neuroimmune factors and cardiovascular disease

Teresa Reyes, University of Cincinnati College of Medicine, Cincinnati, Ohio, United States of America
Early life environment (nutrition, inflammation), brain development and cognition

Justin Rhodes, Beckman Institute for Advanced Science and Technology, Urbana, Illinois, United States of America
Behavioral neuroscience, behavioral genetics, learning and memory, mouse behavior, exercise-brain interactions, drug addiction in mouse models

Nicolas Rohleder, Brandeis University, Waltham, Massachusetts, United States of America
Psychoneuroimmunology, Health Psychology, Psychoneuroendocrinology, Stress, Biological Psychology

Asya Rolls, Technion Israel Institute of Technology The Ruth and Bruce Rappaport Faculty of Medicine, Haifa, Israel
Neuronal networks, peripheral immunity, reward, cancer

Christoph Rummel, University of Giessen, Gießen, Germany
Immune-to-brain communication, adipokines, obesity and neuro-immune interactions, aging and neuro-immune interactions, psychological stress, cytokines, local and systemic inflammation and the brain, prostaglandins, omega 3 fatty acids, fever, sepsis, sickness behavior, hypothalamus, circumventricular organs, inflammatory transcription factors, TLR-Agonists

Jonathan Savitz, Laureate Institute for Brain Research, Tulsa, Oklahoma, United States of America
Psychoneuroimmunology, Major Depressive Disorder, Kynurenine Pathway, Inflammation, Viruses, Vaccines

Paul Sawchenko, Salk Institute for Biological Studies, La Jolla, California, United States of America
Neurobiology, Neuroimmunology, Inflammation, Stress
Manfred Schedlowski, University Hospital Essen Institute of Medical Psychology and Behavioral Immunobiology, Essen, Germany
Behavioral conditioning of immune responses, inflammation, behavior, stress, depression

Steven Schleifer, Rutgers New Jersey Medical School, Newark, New Jersey, United States of America
Psychoneuroimmunology and psychosomatic medicine

John Sheridan, OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER, Columbus, Ohio, United States of America
Immunology and Stress biology

Richard Simpson, University of Arizona, Tucson, Arizona, United States of America
Exercise Immunology; exercise oncology; isolation and confinement stress; cellular therapy; stem cell transplantation

George Slavich, University of California Los Angeles, Los Angeles, California, United States of America
Stress, inflammation, depression, health

Cai Song, Dalhousie University, Halifax, Nova Scotia, Canada
Psychoneuroimmunology

Sarah J. Spencer, RMIT University, Melbourne, Victoria, Australia
Stress, hypothalamic-pituitary-adrenal axis, obesity, metabolism, microglia, neuroinflammation, development

Amit K. Srivastava, The University of Texas Health Science Center at Houston Department of Pediatrics, Houston, Texas, United States of America
Neuroscience, Regenerative medicine

Huanxing Su, University of Macau, Taipa, Macao
Brain glymphatic pathways; dementia; neurodegenerative disease

Kuan-Pin Su, China Medical University, Taichung City, Taiwan
Translational Brain Research, Depression, Immunopsychiatry, Nutritional Psychiatry, Omega-3 fatty acids, Biological Psychiatry

Jessica Teeling, Southampton General Hospital, Southampton, United Kingdom
Antibody mediated inflammation in the CNS, and how these responses may contribute to the pathogenesis of neuroinflammatory and neurodegenerative diseases

Federico Turkheimer, King's College London, London, United Kingdom
Neuroimaging Analysis & Statistics

Judy Van De Water, University of California Davis, Davis, California, United States of America
Immunobiology of autism spectrum disorders

Charles V. Vorhees, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, United States of America
Developmental neurotoxicity, perinatal effects of antidepressants & amphetamines, pyrethroids, manganese, cognitive assessment, behavioral phenotyping

Jian Wang, Johns Hopkins University School of Medicine, Baltimore, Maryland, United States of America
Protein and RNA Homeostasis in Neurodegeneration

Linda Watkins, University of Colorado Boulder, Boulder, Colorado, United States of America
Psychology and Neuroscience

Zachary Weil, OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER, Columbus, Ohio, United States of America
Basic biology and long-term consequences of traumatic brain injuries

Eric Wohleb, University of Cincinnati College of Medicine, Cincinnati, Ohio, United States of America
Neuroimmunology, Neurobiology of Disease, Neuropharmacology

Jeffrey Woods, University of Illinois at Urbana-Champaign, Champaign, Illinois, United States of America
Exercise Physiology with Expertise in Immunology, Gut Microbiome and Aging

Long-Jun Wu, Mayo Clinic, Rochester, Minnesota, United States of America
Neuroimmunology, Microglia, Pain, Epilepsy, Neurodegeneration

Raz Yirmiya, Hebrew University of Jerusalem Department of Psychology, Jerusalem, Israel
Brain microglia and inflammatory cytokines in cognition, emotion, neuroplasticity, and neurogenesis

Tifei Yuan, Shanghai Mental Health Center, Shanghai, China
Brain stimulation; Synaptic Plasticity; Stress; Microglia; Drug addiction

Patricia Zunszain, Institute of Psychiatry Psychology and Neuroscience, London, United Kingdom
Immunity and mental health, Molecular biology, Education
GUIDE FOR AUTHORS

Your Paper Your Way
We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article. To find out more, please visit the Preparation section below.

Introduction

Brain, Behavior, and Immunity Health (BBI Health), founded in 2019, is one of the two official journals of the Psychoneuroimmunology Research Society (PNIRS). BBI health is a sister journal to the more established Brain, Behavior, and Immunity, which was founded in 1987.

BBI Health is a Gold OA journal that publishes peer-reviewed basic, experimental, and clinical studies dealing with behavioral, neural, endocrine, and immune system interactions in humans and animals, with an emphasis on research that has translational impact and clinical implications. The content spans a broad range of research fields, from neuroscience to immunology, from physiology to behavioural sciences, from psychiatry and psychology to clinical medicine, from molecular and cellular models to social and epidemiological observations.

Publications include research articles, reviews, special issues, research protocols, case reports, and viewpoints discussing policy, including ethical, health and cultural implications of research in psychoneuroimmunology. We would like to particularly highlight that BBI Health will publish paper formats not accepted in its sister journal BBI, including research protocols, e.g. of clinical trials testing immunological interventions for mental health outcomes, or testing mental health interventions for immunological outcomes case reports of interest to the psychoneuroimmunology research community, spanning medical, psychiatric and neurological disorders realist reviews, illustrating the method for implementation research papers discussing policy, including ethical, health and cultural implications of research in psychoneuroimmunology

This innovative journal publishes peer-reviewed basic, experimental, and clinical studies dealing with behavioral, neural, endocrine, and immune system interactions in humans and animals, but with a clear translation angle. It is an international, interdisciplinary journal devoted to original research in neuroscience, immunology, integrative physiology, behavioral biology, psychiatry, psychology, and clinical medicine and is inclusive of research at the molecular, cellular, social, and whole organism level.

The journal features online submission and review. Manuscripts are typically peer-reviewed and returned to authors within 30 days of submission, leading to timely publication of experimental results.

Detailed instructions for authors can be found here

Research areas include: Pharmacological and therapeutic manipulation of mechanisms that convey messages between the immune and nervous systems and regulate their functions. Interventions to modulate the link between stress and immunity, including through the effects of stress-related hormones and neurotransmitters on the immune system. Therapeutic changes of cytokines, growth factors and PAMP activation on neuronal and glial cells that regulate behavior, learning, memory and neurogenesis. Role of hormones, growth factors and cytokines in the immune and central or peripheral nervous systems Interactions between the immune system and brain that are involved in development of neurological, psychiatric, and mental health disorders Role of immunological processes in neurodegenerative disorders. The effects of psychotropic medications on immunological mechanisms and their potential relevance to therapeutic interventions. Neuroimaging studies examining how...
immunological mechanisms affect brain structure and function. Clinical trials and experimental studies testing the effects on both immune stimulation and immune suppression on brain and behaviour. The role of microglia in pain, psychological processes and in psychiatric disorders. Immunological me

Types of Article

Original full-length research reports, full-length review articles, short communications (which also includes case reports and case series), brief commentaries invited by the editors, research and study protocols, and letters to the editor will be considered for publication.

Publications include research articles, reviews, special issues, research protocols, case reports, and viewpoints discussing policy, including ethical, health and cultural implications of research in psychoneuroimmunology. We would like to particularly highlight that BBI Health will publish paper formats not accepted in its sister journal BBI, including research protocols, e.g. of clinical trials testing immunological interventions for mental health outcomes, or testing mental health interventions for immunological outcomes. Case reports of interest to the psychoneuroimmunology research community, spanning medical, psychiatric and neurological disorders, realist reviews, illustrating the method for implementation research papers discussing policy, including ethical, health and cultural implications of research in psychoneuroimmunology.

Full-length research reports: The chief criteria for the acceptance of submitted papers are the quality, originality, and clarity of the work reported, addressing one or more of the research areas reported above with a clear translational angle. However, research and study protocols (for example, relevant to clinical trials) are also included in this format. There is no word limit on full length research reports, but papers should be consisely written and most should be able to articulate their findings within approximately 6,000 words.

Reviews: The journal publishes invited or unsolicited reviews on a contemporary topic, discussed authoritatively with the aim of providing a solid, and often novel, interpretation of research evidence that is clinically relevant. Reviews consist of approximately 6,000 words of text and no more than 100 scientific references. Reviews must contain at least one figure highlighting the key aspects of the article, complete with explanatory figure legends. If appropriate, a color version of the figure can be published in the online publication, with a black-and-white figure in the print version. If the author chooses this option, the figure legend must be self-explanatory in the absence of color-coding.

Short communications: Manuscripts published as short communications are, primarily, reports of novel, solid, important findings on contemporary, fast-moving topics. Small replication studies or incomplete data that do not move the field forward, and descriptions of methods and techniques, are not appropriate for this format. Papers will be considered short communications if the text, references, and a maximum of two tables or figures (or one of each) are limited to 3,500 words. Authors may elect to include additional illustrations, but the limitation to 3,500 words will remain.

Commentaries: These are short pieces written to accompany the publication of impactful full-length research reports. Invited by the Editor, they are limited to 900-1000 words and 5-10 references (including a reference to the relevant published report).

Viewpoints: These are opinion pieces that provide a personal view on broad, contemporary topics relevant to the interaction between health, brain, behaviour and immunity. Invited by the Editor, they are limited to 900-1000 words and 5-10 references, and will generally be immediately 'open-access' at no costs to the authors.

Letters to the editor: These should be of high scientific quality, contain less than 500 words, and cite no more than 5 scientific references. If the letter is directed to a paper published in Brain, Behavior, and
Submission checklist
You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:
• E-mail address
• Full postal address

All necessary files have been uploaded:
Manuscript:
• Include keywords
• All figures (include relevant captions)
• All tables (including titles, description, footnotes)
• Ensure all figure and table citations in the text match the files provided
• Indicate clearly if color should be used for any figures in print
Graphical Abstracts / Highlights files (where applicable)
Supplemental files (where applicable)

Further considerations
• Manuscript has been ‘spell checked’ and ‘grammar checked’
• All references mentioned in the Reference List are cited in the text, and vice versa
• Permission has been obtained for use of copyrighted material from other sources (including the Internet)
• A competing interests statement is provided, even if the authors have no competing interests to declare
• Journal policies detailed in this guide have been reviewed
• Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

BEFORE YOU BEGIN
Ethics in publishing
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

Studies in humans and animals
If the work involves the use of human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans. The manuscript should be in line with the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals and aim for the inclusion of representative human populations (sex, age and ethnicity) as per those recommendations. The terms sex and gender should be used correctly.

Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.

All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Institutes of Health guide for the care and use of Laboratory animals (NIH Publications No. 8023, revised 1978) and the authors should clearly indicate in the manuscript that such guidelines have been followed. The sex of animals must be indicated, and where appropriate, the influence (or association) of sex on the results of the study.

Declaration of interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double anonymized) or the manuscript file (if single anonymized). If there are no interests to declare then please state this:
'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

**Submission declaration and verification**
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

**Preprints**
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

**Use of inclusive language**
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns ("clinicians, patients/clients") as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

**Reporting clinical trials**
Randomized controlled trials should be presented according to the CONSORT guidelines. At manuscript submission, authors must provide the CONSORT checklist accompanied by a flow diagram that illustrates the progress of patients through the trial, including recruitment, enrollment, randomization, withdrawal and completion, and a detailed description of the randomization procedure. The CONSORT checklist and template flow diagram are available online.

**Registration of clinical trials**
Registration in a public trials registry is a condition for publication of clinical trials in this journal in accordance with International Committee of Medical Journal Editors recommendations. Trials must register at or before the onset of patient enrolment. The clinical trial registration number should be included at the end of the abstract of the article. A clinical trial is defined as any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects of health outcomes. Health-related interventions include any intervention used to modify a biomedical or health-related outcome (for example drugs, surgical procedures, devices, behavioural treatments, dietary interventions, and process-of-care changes). Health outcomes include any biomedical or health-related measures obtained in patients or participants, including pharmacokinetic measures and adverse events. Purely observational studies (those in which the assignment of the medical intervention is not at the discretion of the investigator) will not require registration.

**Article transfer service**
This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. More information.
Role of the funding source
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

Open access
Please visit our Open Access page for more information.

Referees
Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our Support site. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

Additional information

PREPARATION

NEW SUBMISSIONS
Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.
As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

References
There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

Formatting requirements
There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.
If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.
Divide the article into clearly defined sections.

Figures and tables embedded in text
Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

Peer review
This journal operates a single anonymized review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

REVISED SUBMISSIONS
Use of word processing software
Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). See also the section on Electronic artwork.
To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Article structure
Subdivision - numbered sections
Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

Introduction
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Material and methods
Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

Results
Results should be clear and concise.

Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Highlights
Highlights are mandatory for this journal as they help increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract
A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources
List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].
It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Math formulae**

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

**Footnotes**

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

**Electronic artwork**

**General points**

- Make sure you use uniform lettering and sizing of your original artwork.
- Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Indicate per figure if it is a single, 1.5 or 2-column fitting image.
- For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
- Please note that individual figure files larger than 10 MB must be provided in separate source files.

A detailed guide on electronic artwork is available. **You are urged to visit this site; some excerpts from the detailed information are given here.**

**Formats**

Regardless of the application used, when your electronic artwork is finalized, please 'save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

- EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.
- TIFF (or JPEG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.
- TIFF (or JPEG): Bitmapped line drawings: use a minimum of 1000 dpi.
- TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

**Please do not:**

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

**Color artwork**

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article.** Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.
**Illustration services**

*Elsevier's Author Services* offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier's expert illustrators can produce scientific, technical and medical-style images, as well as a full range of charts, tables and graphs. Image 'polishing' is also available, where our illustrators take your image(s) and improve them to a professional standard. Please visit the website to find out more.

**Figure captions**

Ensure that each illustration has a caption. A caption should comprise a brief title ([not on the figure itself]) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

**Tables**

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

**References**

**Citation in text**

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

**Web references**

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

**Data references**

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

**References in a special issue**

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

**Reference management software**

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

**Reference formatting**

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by
the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

Reference style
Text: All citations in the text should refer to:
1. Single author: the author's name (without initials, unless there is ambiguity) and the year of publication;
2. Two authors: both authors' names and the year of publication;
3. Three or more authors: first author's name followed by 'et al.' and the year of publication.

Citations may be made directly (or parenthetically). Groups of references can be listed either first alphabetically, then chronologically, or vice versa.

Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999).... Or, as demonstrated (Jones, 1999; Allan, 2000)... Kramer et al. (2010) have recently shown....'

List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Examples:
Reference to a journal publication:
Reference to a journal publication with an article number:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:
Reference to a dataset:

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.
Supplementary material
Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research data
This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

Data linking
If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

Mendeley Data
This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

Data in Brief
You have the option of converting any or all parts of your supplementary or additional raw data into a data article published in Data in Brief. A data article is a new kind of article that ensures that your data are actively reviewed, curated, formatted, indexed, given a DOI and made publicly available to all upon publication (watch this video describing the benefits of publishing your data in Data in Brief). You are encouraged to submit your data article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed, published open access and linked to your research article on ScienceDirect. Please note an open access fee is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief data article.
Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

AFTER ACCEPTANCE

Online proof correction
To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.

If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints
The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Author Services. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

Additional information

AUTHOR INQUIRIES
Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.

You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com