DESCRIPTION

About Brain Stimulation

Brain Stimulation is the premier journal for publishing research in the field of neuromodulation. The journal includes: a) original articles; b) invited and original reviews or commentaries; c) technology and methodological perspectives (reviews of new devices, description of new methods, etc.); and d) letters to the Editor. Special issues of the journal will be considered based on scientific merit.

Brain Stimulation publishes original work across the entire field of brain stimulation, including noninvasive and invasive techniques and technologies that alter brain function using electrical, magnetic, radiowave, sound, light, focally targeted pharmacologic stimulation, or any other physical method to directly alter neural function. This includes investigations that study the effects of brain stimulation on basic processes, such as gene expression and other aspects of molecular biology, neurochemical regulation, functional brain activity, sensorimotor function, and cognitive and affective processes at the systems level. As an equal partner with this basic emphasis, the journal has strong representation of research on the therapeutic potential and adverse effects of the stimulation technologies. Research in therapeutics includes not only clinical trials, but also conceptual pieces, discussions of ethics as they pertain to this field, services research, and epidemiology.

The journal also publishes the highest level of research on the biophysics and biopsychophysics of stimulation paradigms, as well as the use of these techniques as a probe to outline patterns of neural connectivity. The journal will consider any form of neuromodulation that impacts on brain processes. Spinal cord stimulation or peripheral nerve stimulation will be considered only if behavioral effects are mediated by a central brain mechanism. The journal scope does not include psychological manipulations, such as visual or auditory presentation, nor are routine pharmacology studies appropriate for this journal. Studies of imaging correlates of brain states that do not involve brain stimulation are also not within the purview of the journal.

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Psychiatrists, neuroscientists, neurologists, surgical neurologists
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GUIDE FOR AUTHORS

INTRODUCTION

BRAIN STIMULATION aims to be the premiere journal for publication of original research in the field of neuromodulation. The purview extends across the entire field of brain stimulation, including noninvasive and invasive techniques, and technologies that alter brain function through the use of electrical, magnetic, radiowave, or focally targeted pharmacological stimulation. BRAIN STIMULATION encourages manuscripts describing the effects of brain stimulation on basic processes, such as gene expression and other aspects of molecular biology, neurochemical regulation, functional brain activity, sensorimotor function, or cognitive and affective processes at the systems level. Likewise, BRAIN STIMULATION seeks the highest level of research on the biophysics and biopsychophysics of stimulation paradigms, as well as the use of these techniques as a probe to outline patterns of neural connectivity. As an equal partner with this basic emphasis, the journal encourages a strong representation of research on the therapeutic potential and adverse effects of the stimulation technologies. The Editors encourage clinical manuscripts not only describing clinical trials, but also conceptual pieces, discussions of ethics as they pertain to this field, or services research.

Article types

All manuscripts considered suitable for the Journal are strictly refereed. BRAIN STIMULATION can only accept about 10% of submitted manuscripts, and we strive for quick, competent reviews. Therefore all manuscripts are first reviewed in-house by senior editors and about 70% of submissions are rejected, usually within 7-10 days of submission. The others are sent out for review, with comments back to authors averaging 30 days from submission. Articles are accepted with the understanding that they are original contributions submitted solely to BRAIN STIMULATION and are not under consideration for publication elsewhere. Prior presentation of the research at meetings is acceptable, but the meeting presentations should be noted on the title page. Original research (including clinical reports and review articles), techniques and methods, and letters to the editor may be submitted. Prior posting of the research on a pre-print server is also acceptable but the pre-print should be disclosed in the cover letter as well as on the title page of the manuscript. Due to increased competition for space within the journal, we encourage all case series and case reports to be submitted as letters to the editor. Once published, letters are fully citable and are identified on search engines such as Medline. Please conform to the following guidelines for each article type (word limits include only the body text and do not include the abstract or references): Original Research (includes clinical reports, review articles) • 4,000 word limit (not including abstract/references/title page)

• Abstract of up to 250 words (not including abstract/references/title page)(see formatting requirement for abstracts below)

Techniques and Methods (feature new, improved, or noteworthy comments about brain stimulation techniques or methods) • 1,500 word limit (not including abstract/references/title page)

• 150 word abstract
• maximum 2 figures or tables (one of each is acceptable)

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It is important to report fully the characteristics of the sham and other comparison conditions used as contrasts with the active brain stimulation conditions being studied.

**Other brain region comparison conditions.** To make strong causal inferences about brain-behavior relationships, one should stimulate at least one brain region other than the region hypothesized to mediate the key behavioral effects in order to support the claim that the effects of stimulation are regionally specific. We encourage descriptions of where and how different brain sites were targeted, and especially value evidence of the regional specificity of target engagement. We encourage use of photographs or pictograms of the methods used, as well as e-field modelling of the regional distributions of stimulation intensity. We discourage the use of the terms 'cathodal' or 'anodal' tDCS, as the neurobiological effects result from current flow between the electrodes and the source of peak effects is often between the electrodes (Caulfield and George, 2022).

**Sham Conditions.** Placebo effects and clinical observer bias can influence the outcomes of clinical trials. The methodologically strongest studies use sham conditions that mimic all aspects of the active brain stimulation method. For example, with TMS the sham condition should mimic the noise, muscle twitching, and pain of the active condition. Studies using the TMS coil rotated 90 degrees on end will not be accepted due both to lack of fidelity to the active condition in positioning and sensory experience, as well as induction of some current in brain, undercutting its role as a sham. (Lisanby et al, 2001) Similarly, in a rigorous, double-blind RCT no one with knowledge of the randomization should come in contact with the patient or process the data. That is, an operator who applies the brain stimulation procedure should also be blind to the condition. For all clinical studies, it is important the assess whether the blind was successful; that is, subjects, operators, and raters should all be asked their guess about the patient's treatment condition. Studies that do not report on the integrity of the blind will not be rated highly.

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**Reporting sex- and gender-based analyses**

**Reporting guidance**

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solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

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Results should be clear and concise.

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This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

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The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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A structured abstract, by means of appropriate headings, should provide the context or background for the research and should state its purpose, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific effect sizes and their statistical significance, if possible), and principal conclusions. It should emphasize new and important aspects of the study or observations.

**Format for abstracts**

Abstracts should be written in the form of:

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