## DESCRIPTION

*Brain Stimulation* aims to be the premier journal for publication of original research in the field of **neuromodulation**. The journal includes: a) Original articles; b) Short Communications; c) Invited and original reviews; d) Technology and methodological perspectives (reviews of new devices, description of new methods, etc.); and e) Letters to the Editor. Special issues of the journal will be considered based on scientific merit.

The scope of *Brain Stimulation* 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 **pharmacologic stimulation**. 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.

The journal 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 will have strong representation of research on the therapeutic potential and adverse effects of the stimulation technologies. The inclusion of research in therapeutics will represent not only clinical trials, but also conceptual pieces, discussions of ethics as they pertain to this field, services research, etc.

## AUDIENCE

Psychiatrists, neuroscientists, neurologists, surgical neurologists

## IMPACT FACTOR

2018: 6.919 © Clarivate Analytics Journal Citation Reports 2019
ABSTRACTING AND INDEXING

- Science Citation Index
- Current Contents - Clinical Medicine
- Neuroscience Citation Index
- Journal Citation Reports - Science Edition
- Biological Abstracts
- BIOSIS Citation Index
- PsycINFO
- PubMed/Medline
- Scopus
- BIOSIS Previews

EDITORIAL BOARD

**Editor-in-Chief**
Mark S. George, MD, Medical University of South Carolina, Charleston, SC

**Founding Editor**
Harold A. Sackeim, PhD, Columbia University, New York, NY

**Deputy Editors**

*Clinical Neurophysiology*
John Rothwell, PhD, University College London, Queen Square, London, UK

*Cognitive Neuroscience*
Shirley Fecteau, Université Laval, Quebec City, Quebec, Canada

*Neurology*
Josep Valls-Solé, MD, Hospital Clinic, Barcelona, Spain

*Pharmacology*
Ulf Ziemann, MD, Johann Wolfgang Goethe-University, Frankfurt, Germany

*Psychiatry*
Paul B. Fitzgerald, MBBS, PhD, Monash Alfred Psychiatry Research Centre, The Alfred and Monash University Central Clinical School, Melbourne, Victoria, Australia

*Technology and Modeling*
Marom Bikson, PhD, The City College of New York, New York

*Neurosurgery*
Zelma Kiss, MD, PhD, University of Calgary, Calgary, Alberta, Canada

*Basic Science*
Randolph J. Nudo, PhD, University of Kansas Medical Center, Kansas City, KS

**Editorial Board**

Chittaranjan Andrade, Department of Psychopharmacology, National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, India

Andrea Antal, PhD, Universitätsmedizin Göttingen, Gottingen, Germany

Jeffrey Borckardt, PhD, Medical University of South Carolina, Charleston, SC, USA

Jeong-Ho Chae, MD, PhD, Department of Psychiatry, St. Mary’s Hospital, The Catholic University of Korea, Seoul, South Korea

Vincent P. Clark, PhD, Department of Psychology, University of New Mexico, Albuquerque, NM, USA

Joseph Classen, MD, Department of Neurology, University of Leipzig, Leipzig, Germany

Volker A. Coenen, MD, Uniklinikum Freiburg, Neurozentrum, Klinik für Neurochirurgie, Frieiberg, Germany

Vincenzo Di Lazzaro, PhD, Institute of Neurology, Università Campus Bio-Medico, Rome, Italy

Dominique M. Durand, PhD, Department of Biomedical Engineering, Neural Engineering Center, Case Western Reserve University, Cleveland, OH, USA

Felipe Fregni, MD, PhD, Department of Physical Medicine & Rehabilitation, Spaulding Rehabilitation Hospital and Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA

Warren M. Grill, PhD, Department of Biomedical Engineering, Duke University, Durham, NC, USA

Suzanne Haber, PhD, University of Rochester School of Medicine and Dentistry, Rochester, NY, USA
Mark Hallett, MD, National Institute of Health (NIH), Bethesda, MD, USA
Masashi Hamada, MD, PhD, Department of Neurology, The University of Tokyo, Tokyo, Japan
Ritsuko Hanajima, MD, PhD, Department of Neurology, The University of Tokyo, Tokyo, Japan
Michal Lavidor, PhD, Cognitive Neuroscience Laboratory, The Gonda Multidisciplinary Brain Research Center, Bar-Ilan University, Ramat-Gan, Israel
Yongjie Li, Department of Neurology, Beijing Kuangwuju Hospital, Beijing, China
Colleen Loo, MB BS UNSW MD, FRANZCP, The Black Dog Institute, Randwick, New South Wales, Australia
Andres Lozano, MD, PhD, Toronto Western Hospital, Toronto, Canada
Helen S. Mayberg, MD, Department of Psychiatry, Emory University School of Medicine, Atlanta, GA, USA
Cameron C. McIntyre, PhD, Case Western Reserve University School of Medicine, Cleveland, OH, USA
Michael Nitsche, MD, Department of Clinical Neurophysiology, Gottingen, Germany
Alexander Opitz, PhD, University of Minnesota, Minneapolis, Minnesota, USA
Walter Paulus, MD, Department of Clinical Neurophysiology, Gottingen, Germany
Angel V. Peterchev, PhD, Department of Psychiatry and Behavioral Sciences, Duke University, Durham, NC, USA
Simone Rossi, MD, PhD, Department of Neuroscience, Section of Neurology, University of Siena, Siena, Italy
Andre Russowsky Brunoni, MD, PhD, Universidade de São Paulo (USP), São Paulo, Brazil
Hartwig Siebner, MD, PhD, Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark
Charlotte Stagg, BSc, MBChB, MRCP, DPhil, University of Oxford, Oxford, UK
A.P. Strafella, MD, PhD, Toronto Western Hospital, Research Institute, University of Toronto, Toronto, Ontario, Canada
Peter Tass, MD, PhD, Institute of Neuroscience and Biophysics Medicine Research Center Jülich, Jülich, Germany
Gregor Thut, Inst. of Neuroscience and Psychology, University of Glasgow, Glasgow, Scotland, UK
Yoshikazu Ugawa, School of Medicine, Fukushima Medical University, Fukushima, Japan
Christine Winter, PhD, Department of Psychiatry and Psychotherapy, Technical University of Dresden, Dresden, Germany
Abraham Zangen, PhD, Ben-Gurion University, Beer-Sheva, Israel
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 20% of submitted manuscripts, and we strive for quick, competent reviews. Therefore all manuscripts are first reviewed in-house by senior editors and about 50% 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, short communications (including relevant preliminary research reports) and letters to the editor may be submitted. 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

Short Communication • 1,000 word limit (not including abstract/references/title page)
• 150 word abstract
• 1 figure or table

Letter to the editor • 1,000 word limit
• maximum of 10 references
• maximum 1 table or figure
• Subject to editing according to space limitations
• Supplemental online only content (videos) are possible as well
Editorials are written by invitation only. Please contact the Editorial Office directly if you want to write an editorial.

Editorial changes necessary to improve clarity and conformity to journal style may be made without prior consultation with authors. Any editorial changes, however, will be subject to author’s review prior to publication.

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-blind) or the manuscript file (if single-blind). 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.

Conflict-of-interest policies specific for Brain Stimulation
This is a field where collaboration with industry is often part-and-parcel of research. Research in device-based technologies often cannot proceed without the involvement of device manufacturers, or the individuals responsible for device invention, design, fabrication, etc. The journal is thus developing a set of written conflict-of-interest policies for primary or senior authors (first and last positions), co-authors, reviewers, and editors. The general rules follow the principles that: 1) all financial involvements pertaining to the research should be disclosed by authors (see above); 2) reviewers should also disclose any financial or other conflict-of-interest, and recuse themselves when such conflicts are of sufficient magnitude as to lend the appearance of potential bias in review; and 3) a similar policy applies to editors.

Conflict / Declaration of Interest form
The 'Declaration / Conflict of Interest' form can be downloaded from https://www.elsevier.com/__data/promis_misc/BRS declaration of interest form.pdf.

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. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

Authorship

All authors should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

Changes to authorship

Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

Author rights

As an author you (or your employer or institution) have certain rights to reuse your work. More information.

Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.

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.
**Funding body agreements and policies**
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online. After acceptance, open access papers will be published under a noncommercial license. For authors requiring a commercial CC BY license, you can apply after your manuscript is accepted for publication.

**Open access**
This journal offers authors a choice in publishing their research:

**Subscription**
- Articles are made available to subscribers as well as developing countries and patient groups through our [universal access programs](https://www.elsevier.com/locate/brs).
- No open access publication fee payable by authors.
- The Author is entitled to post the **accepted manuscript** in their institution's repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

**Gold open access**
- Articles are freely available to both subscribers and the wider public with permitted reuse.
- A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For [gold open access articles](https://www.elsevier.com/openaccesspricing), permitted third party (re)use is defined by the following [Creative Commons user licenses](https://www.creativecommons.org/licenses/):

**Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)**
For non-commercial purposes, others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is **USD 2750**, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

**Green open access**
Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our [open access page](https://www.elsevier.com/openaccesspage) for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. Find out more.

This journal has an embargo period of 12 months.

**Elsevier Researcher Academy**
[Researcher Academy](https://www.elsevier.com/researcher-academy) is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

**Language (usage and editing services)**
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the [English Language Editing service](https://www.elsevier.com/author-services/editing) available from Elsevier’s Author Services.
Informed consent and patient details

Studies on patients or volunteers require ethics committee approval and informed consent, which should be documented in the paper. Appropriate consents, permissions and releases must be obtained where an author wishes to include case details or other personal information or images of patients and any other individuals in an Elsevier publication. Written consents must be retained by the author but copies should not be provided to the journal. Only if specifically requested by the journal in exceptional circumstances (for example if a legal issue arises) the author must provide copies of the consents or evidence that such consents have been obtained. For more information, please review the Elsevier Policy on the Use of Images or Personal Information of Patients or other Individuals. Unless you have written permission from the patient (or, where applicable, the next of kin), the personal details of any patient included in any part of the article and in any supplementary materials (including all illustrations and videos) must be removed before submission.

Submission

Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor’s decision and requests for revision, is sent by e-mail.

Submit your article

Please submit your article via http://ees.elsevier.com/brs/.

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.

PREPARATION

Peer review

This journal operates a single blind 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. More information on types of peer review.

Use of word processing software

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. 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 - unnumbered sections

Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

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.

Discussion
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.

Conclusions
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.

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.

Essential title page information

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Highlights
Highlights are optional yet highly encouraged for this journal, as they 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).

Structured abstract
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:

Background: This is a concise statement of why this research was done, placing it in the context of current knowledge or controversies.
Objective/Hypothesis: This is a clear statement of the precise objective or question addressed in the paper. If a hypothesis was tested, it should be stated.

Methods: The basic design of the study and its duration should be described. The methods used should be stated and the statistical data/methods provided.

Results: The main results of the study should be given in narrative form. Any measurements or other information that may require explanation should be defined. Any important information not included in the presentation of results should be declared. Levels of statistical significance should be indicated, as well as any other factors crucial to the outcome of the study.

Conclusion(s): of the study that are directly supported by the evidence reported should be given along with the clinical application, and speculation about the potential impact on current thinking.

Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site. Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images and in accordance with all technical requirements.

HIGHLIGHTS
Highlights are a short collection of bullet points that convey the core findings and provide readers with a quick textual overview of the article. These three to five bullet points describe the essence of the research (e.g. results or conclusions) and highlight what is distinctive about it. Highlights will be displayed in everything (online search results, the contents list and in the online article) but the PDF file or print versions.

Author instructions: Highlights should be submitted as a separate source file in EES (i.e. Microsoft Word not PDF) by selecting "Highlights" from the drop-down list when uploading files. Please adhere to the specifications below

Specifications: Include 3 to 5 highlights. There should be a maximum of 85 characters, including spaces, per highlight. Only the core results of the paper should be covered.

Examples
Biochimica et Biophysica Acta (BBA), Bioenergetics, Volume 1807, Issue 10, October 2011, 1364-1369

Highlights A conformational two-state mechanism for proton pumping complex I is proposed. The mechanism relies on stabilization changes of anionic ubiquinone intermediates. Electron-transfer and protonation should be strictly controlled during turnover.

Learning and Instruction, Volume 21, Issue 6, December 2011, 746-756

Highlights Fading of a script alone does not foster domain-general strategy knowledge. Performance of the strategy declines during the fading of a script. Monitoring by a peer keeps performance of the strategy up during script fading. Performance of a strategy after fading fosters domain-general strategy knowledge. Fading and monitoring by a peer combined foster domain-general strategy knowledge.

Keywords
Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.
**Abbreviations**  
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

**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.

**Units**  
Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI.

**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 can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

**Artwork**  
**Electronic artwork**

**General points**
- Make sure you use uniform lettering and sizing of your original artwork.
- Embed the used fonts if the application provides that option.
- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the published version.
- Submit each illustration as a separate file.

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**
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.
Regardless of the application used other than Microsoft Office, 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 all used fonts.
**TIFF (or JPEG):** Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
**TIFF (or JPEG):** Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
**TIFF (or JPEG):** Combinations bitmapped line/halftone (color or grayscale), keep to a minimum of 500 dpi.

**Please do not:**
- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
- 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. Supply captions separately, not attached to the figure. 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. 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.

**Reference links**
Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.
A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

**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.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link: [http://open.mendeley.com/use-citation-style/brain-stimulation](http://open.mendeley.com/use-citation-style/brain-stimulation)

When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

**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:** Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

**List:** Number the references (numbers in square brackets) in the list in the order in which they appear in the text.

**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:

Note shortened form for last page number. e.g., 51–9, and that for more than 6 authors the first 6 should be listed followed by 'et al.' For further details you are referred to 'Uniform Requirements for Manuscripts submitted to Biomedical Journals' (J Am Med Assoc 1997;277:927–34) (see also Samples of Formatted References).

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.

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 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.

**Full Online Submission**
The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

**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, and contain:
- Keywords
- All figure captions
- All tables (including title, description, footnotes)
Further considerations
- Manuscript has been 'spell-checked' and 'grammar-checked'
- References are in the correct format for this journal
- All references mentioned in the Reference list are cited in the text, and vice versa
- All text is double-spaced throughout
- Pages are numbered
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
Printed version of figures (if applicable) in color or black-and-white
- Indicate clearly whether or not color or black-and-white in print is required.

For any further information please visit our customer support site at https://service.elsevier.com.

**Template and format for letters to the editor regarding TMS-related spells (seizures, syncopal episodes)**
In an effort to encourage full and efficient reporting of all TMS-related seizure events or spells, Brain Stimulation has set up a simple method for publishing these events. Authors should follow the following format, adding in the pertinent information if available. Before preparing the letter to the editor regarding the seizure, we encourage authors to download and view the web-video distinguishing syncope from seizures, available at www.brainstimjrnl.com/content/mmc_library.

Dear Editor:
We report the following TMS-related seizure or spell. The subject was a xx year old man/woman with the following diagnoses (healthy control, xx disease). The patient had the following risk factors (prior closed head injury, loss of consciousness, history of seizures or febrile seizures, family history of epilepsy). He/she was taking the following medications (list generic drugs and doses). On the day of the event, the subject had the following additional risk factors (change in sleep pattern, sleep deprivation, change in medication, occult drug use, high doses of caffeine, etc.).

We were delivering the TMS in the following manner - coil type (round, figure eight), coil location, TMS machine manufacturer, orientation of coil, biphasic or uniphasic pulse, intensity related to motor threshold, method of motor threshold determination (active, resting, EMG, visual), frequency, length of train, intertrain interval, total number of pulses in a session, number of sessions.

The event occurred x minutes into the YY train for this patient on the ZZ day of stimulation. The subject was sitting, standing, seated, upright, supine, etc. The setting was a research lab, clinical delivery suite, other. The TMS operator first noted (describe any movements, where, type, vocalizations, head turning, eye turning). The TMS operator had the following training regarding seizures. The movements lasted for XX minutes. We did the following (passive support, starting IV, administering medications). The subject had urinary, fecal incontinence, post-ictal confusion lasting xx minutes or hours, tongue biting, other physical trauma. The seizure self-terminated or stopped after xx intervention. During the event it was possible/not possible to check pulse and blood pressure, which were XX.

A general neurologic exam and mental status exam was performed by XX, with what type of training, xx minutes after the event and the following was noted. These labs were drawn and were normal/abnormal (electrolytes, calcium, prolactin) or whatever. An EEG was done/not done and revealed the following (...). A brain CT/MRI revealed the following (...). There were/were not sequela. The patient was retreated with TMS (or not).

The clinical diagnosis of this event was TMS-related seizure, TMS-related syncope, other. The specific reasons for favoring this choice among the possible differential diagnoses were XX. This event is also listed in the following publication. This event was also reported to the FDA or other safety body.

Name of investigator and location of where the seizure occurred.

**AFTER ACCEPTANCE**

**Online proof correction**

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, at no cost, will be provided with a PDF file of the article via e-mail (the PDF file is a watermarked version of the published article and includes a cover sheet with the journal cover image and a disclaimer outlining the terms and conditions of use). 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.

**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