

# Inside the Plastic Brain

## Citation for published version (APA):

Schilberg, L. (2019). *Inside the Plastic Brain: Measuring and modulating cortical excitability for the study of neuroplasticity*. Gildeprint Drukkerijen. <https://doi.org/10.26481/dis.20190628ls>

## Document status and date:

Published: 01/01/2019

## DOI:

[10.26481/dis.20190628ls](https://doi.org/10.26481/dis.20190628ls)

## Document Version:

Publisher's PDF, also known as Version of record

## Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

## General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

[www.umlib.nl/taverne-license](http://www.umlib.nl/taverne-license)

## Take down policy

If you believe that this document breaches copyright please contact us at:

[repository@maastrichtuniversity.nl](mailto:repository@maastrichtuniversity.nl)

providing details and we will investigate your claim.

# PROPOSITIONS OF THE THESIS

## INSIDE THE PLASTIC BRAIN

Measuring and Modulating Cortical Excitability with Transcranial Brain  
Stimulation for the Study of Neuroplasticity

Lukas Schilberg

1. Corticospinal excitability measures of TMS are dependent on the phase of cortical neural oscillations at the time of stimulation
2. Time and site specific frequency and phase of neuronal rhythms influence the efficacy of TMS
3. Controlling the properties of individual neuronal rhythms allows for specified applications of TMS
4. Closed-loop TMS will improve TMS efficacy for applications on the individual level
5. For scientific progress it is crucial to thoroughly study and understand the most fundamental processes first, before jumping to premature conclusions based on faulty assumptions
6. The discovery of fundamental processes that are reliable on an individual level is preferable to findings that are merely generalizable to a certain population
7. Not only a significant result, but also the absence of a significant finding can provide meaningful information
8. The greatest excitement comes from the discovery of something unexpected
9. Individualizing the measurement and modulation of neuroplasticity mechanisms allows for more specified and more effective therapeutic application options, which will provide social and economic value
10. The valorization is in the pudding
11. Everyone benefits from science