## SEGREGATING THE PREFRONTAL CORTEX BY MEANS OF DBS

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### INTRODUCTION

Fronto-subcortical neurocircuits are involved in the **motor**, cognitive, and affective dysfunctions of multiple brain disorders which can be treated by DBS

> To investigate the **functional segregation of the** prefrontal cortex via optimal connectivity profiles from DBS electrodes to the **subthalamic nucleus** (STN) treating 4 different disorders

#### METHODS

**Patients:** 8 DBS patient cohorts from 7 centers – **dystonia** (DYT; N =









# DBS OPENS A WINDOW INTO THE ORGANI-ZATIONAL GRADIENT OF FRONTAL NETWORK (DYS)FUNCTION.



## CONCLUSIONS



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By its impact on distributed networks, DBS is a meaningful tool to functionally segregate the prefrontal cortex.

A functionally selective, caudo-rostral gradient of cortical organization is **mirrored within the subcortex** – in spatially

This "information funnel effect" may explain why DBS to integrator hubs (e.g., the STN) is an effective treatment for a variety of brain disorders of heterogeneous phenomenology.



