

1st Expert Workshop - Controversies in Brain Stimulation: *Targeting Variability in Transcranial Stimulation Research*

Munich, October 6-8, 2023



Location: Dept. of Psychiatry and Psychotherapy, University Hospital LMU Munich
Nußbaumstraße 7, 80336 München

Date: Friday, 6th October: 17:30 – 19:30
Saturday, 7th October: 08:30 – 18:15
Sunday, 8th October: 08:30 – 18:00

Free Wifi: eduroam; BayernWLAN

**The Expert Workshop is organised
by the UMG and LMU**

UNIVERSITÄTSMEDIZIN : UMG
GÖTTINGEN



Program

Friday, October 6, 2023 17:30-19:30, Auditorium, 1 st Floor			
Opening Symposium		Welcome: A. Antal, P. Falkai, F. Padberg, W. Paulus	
		Chair: A. Antal; F. Padberg	
Differential variability in Transcranial Stimulation Research			
	rTMS	U. Ziemann	
	tDCS	M. Nitsche	
	tACS / tRNS	A. Antal	
	Neurology	M. Hallett	
	Psychiatry	S. Lisanby	

19:30 – 22:00: Get-Together in Alois Alzheimer's Former Lab, A-301, 3rd floor

The workshop is partially funded by:

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Saturday October 7, 2023

Plenary Sessions, Auditorium

Early morning 8.30-10.30		MEP variability 1
		Chair: R. Chen; J. Rothwell
08.30	W Paulus	Welcome
08.35	V. Moliadze	Single pulse variability in non-primate stimulation studies
08.50	N. Focke	Single pulse variability in invasive human stimulation studies
09.05	S. Ille	Stimulation variability during neurosurgery
09.20	J. Rothwell	TMS - MEP variability
09.55	V. Di Lazzaro	Double pulse (SICI, SICF, LICI) and silent period
10.10	Discussion	
Coffee break: 10.30-11.00		
Late Morning 11.00-13.00		MEP variability 2
		Chair: V. Di Lazzaro; M. Sommer
11.00	R. Chen	rTMS
11.20	G. Koch	Theta burst
11.40	Y. Ugawa	Quadripulse
12.00	A. Suppa	Combinations of brain stimulation methods
12:20	S. Goetz	Technical approaches to reduce MEP variability
12.40	Discussion	
LUNCH 13:00-14.00 in the exhibition area		
Early afternoon 14.00-16.00		Anatomical and physiological factors influencing variability
		Chair: U. Ziemann; P.M. Rossini
14.00	A. Thielscher	How individual anatomy impacts the stimulation effects
14.15	A. Opitz	Measurement of variability factors in monkey and human brain
14.30	P. Rossini	EEG characteristics and TMS variability
14:45	C. Grefkes Herman	Connectome - MRI
15.00	T.O. Bergmann	TMS-MRI (fMRI)
15.15	M. Wilke	Variability in tACS – fMRI studies
15.30	D. Keiser	To which extent does multimodal imaging reduce variability in psychiatric outcomes?
15:45	Discussion	
Coffee break: 16:00-16:30		
Late afternoon 16.30-18.15		Technical, statistical and “big data” solutions to reduce variability
		Chair: M. Nitsche; A. Peterchev
16.30	A. Peterchev	Electric field pulse characteristics
16.45	H. Tankisi	Cortical threshold tracking
17: 00	D. Corp	Large-scale analysis of interindividual variability in single and paired-pulse TMS data
17:15	S. Goerigk	Statistics in transcranial stimulation
17.30	T. Weyh	New technologies to help reducing variability?
17.45	M. Bikson	How biomarkers reduce variability in the past and tentatively in the future by categorizing approaches
18:00	Discussion	

20:00: Speakers and Young Scientists Dinner at the Café am Beethovenplatz “Mariandl”

Sunday October 8, 2023		
Plenary Sessions, Auditorium		
Early morning 8.30-10.15		Cognitive and Theoretical approaches
		Chair: A. Antal; S. Filipović
08.30	S. Filipović	Variability in memory studies
08.45	C. Miniussi	Variability in cognition
09.00	L. Cattaneo	Variability induced by state dependency in cognition
09.15	W. Paulus	Variability induced by state dependency in MEP recordings
09.30	M. Wilson	Modelling intracellular calcium
09.45	Discussion	
Coffee break: 10.15-10.45		
Late Morning 10.45-12.45		Variability in clinical studies
		Chair: M. Hallett; S. Lisanby
10.45	D. Antonenko	Mild cognitive impairment and Dementia
11.00	F.C. Hummel	Stroke
11.15	M. Schecklmann	Tinnitus
11.30	N. Neef	Stuttering
11:45	F. Padberg	How to minimize rTMS/deepTMS variability in depression
12.00	A. Hasan	Multimodal individualization improves success rates of rTMS in schizophrenia
12.15	A. Brunoni	tDCS in depression: how to reduce sources of variability
12.30	Discussion	
LUNCH 13.00-14.00 in the exhibition area		
Early afternoon 14.00-15.30		How to decrease variability
		Chair: H.R. Siebner F.C. Hummel
14.00	J. Bjekic	Individualization of tACS frequencies
14.15	S. Bestmann	Practical and conceptual challenges for individualizing stimulation
14.30	C. Stagg	Individualization by neuroimaging
14.45.	H.R. Siebner	The multiple facets of response variability – implications for personalization of brain stimulation
15.00	M.F. Kuo	Nicotine and caffeine
15.15	Discussion	
Coffee break: 15:30-16:00		
Late afternoon 16.00-18.00		Feed-back to the speakers: A young scientists' panel discussion
		Chair: P. Ramasawmy and J. Rothwell
Statements by		P. Ramasawmy, M. Stankovic, A.F. Jadidi, Z. Soltaninejad, Y. Jiang, T. Nandi, G. Burkhardt
Open Forum		Panellists and Speakers
17.30	W. Paulus, F. Padberg, A. Antal	Closing Remarks

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