










Oral Program

Sunday, 24 February, 2019

12:00-17:00	Early Registration and Industry-Sponsored Workshops Room: East Convention Level Lobby	Registration Desk Sponsored by:	
09:00-13:00	Sponsored Workshop Room 8 High-Definition tES: Individualized and optimized brain targeting		
14:00-18:00	Sponsored Workshop Room 7 Towards Personalised Brain Therapy: combining EEG with patient specific multichannel Tdcs		
14:00-18:00	Sponsored Workshop Room 16 TMS, rTMS, tDCS in Clinical Environment: Workshop and Live Demo		
15:00-18:00	Sponsored Workshop Room 8 Transcranial Magnetic Stimulation (TMS) – From Genesis to Clinical Applications		

Monday, 25 February, 2019

07:30-08:30	Registration Room: East Convention Level Lobby Registration Desk Sponsored by: 					
07.30-8.30	Sponsored Workshop Room 1 Therapeutic Indication Discovery based on Brain/Nerve Stimulation Platform 					
08:30-09:00	Opening Remarks, Harold A. Sackeim, PhD Room: East Ballroom A/B/C					
09:00-10:30	Plenary Lectures Room: East Ballroom A/B/C					
09:00-09:45	[PL01] Noninvasive neuromodulation with nanoparticle-mediated ultrasonic drug uncaging Raag Airan, MD PhD, <i>Stanford University, USA</i>					
09:45-10:30	[PL02] Can stimulation improve muscle force through plasticity in the spinal cord? Janet Taylor, MD, <i>Edith Cowan University (ECU), Australia</i>					
10:30-11:00	Refreshment break Room: Exhibitor Hall B					
11:00-12:45	Plenary Lectures Room: East Ballroom A/B/C					
11:00-11:45	[PL03] Tools for Noninvasively Controlling and Observing Neural Circuits Ed Boyden, PhD, <i>Massachusetts Institute of Technology, Cambridge, USA</i>					
11:45-12:45	[PL04] International Brain Stimulation Award Plenary Lecture: How to move an individual finger Mark Hallett, MD, <i>National Institute of Neurological Disorders and Stroke, USA</i>					
12:45-13:45	Lunch and Poster session 1 Room: Exhibitor Hall B Poster Session Sponsored by:  Lunch Sponsored by: 					
Room	East Ballroom A	East Ballroom B	East Ballroom C	Meeting Room East 1	Meeting Room East 2/3	Meeting Room East 11/12
13:45-15:45	Symposium session 1a: Targeting prefrontal cortical-subcortical circuitry with non-invasive neuromodulation and invasive stimulation in Bipolar Disorder and OCD: toward novel therapeutic interventions	Symposium session 1b: Non-invasive brain stimulation targeting neural drive to the lower limb	Symposium session 1c: Multimodal neuroimaging informs mechanisms of action for rTMS in depression	Symposium session 1d: Advanced tACS	Symposium session 4b: Noninvasive brain stimulation in dementia: from emerging biomarkers to novel therapeutic strategies	Symposium session 1f: Advances in Paired Non-Invasive Vagus Nerve Stimulation Ther

Chair	Mary Phillips, University of Pittsburgh, USA	Sangeetha Madhavan, University of Illinois at Chicago, USA	Michael Fox, Berenson-Allen Center for Noninvasive Brain Stimulation Boston, USA	Alexander Opitz, University of Minnesota, USA	Giacomo Koch, Santa Lucia Foundation IRCCS, Italy	Bashar Badran, The City College of New York, USA
13:45-14:15	<p>[S1a.01] Reward circuitry-targeted transcranial direct current stimulation impacts underlying reward circuitry function and affect: A promising intervention for bipolar disorder</p> <p>M Phillips*¹, H. Chase¹, M. Bertocci¹, S. Graur¹, R. Stiffler¹, B. Greenberg², ¹University of Pittsburgh, USA, ²Brown University, USA</p>	<p>[S1b.01] Use of TMS to evaluate cortical excitability of lower limb muscles: Effects of post-stroke gait retraining</p> <p>T Kesar*, J. Xu, Emory University, USA</p>	<p>[S1c.01] Effects of transcranial magnetic stimulation on the human brain revealed by intracranial electrocorticography</p> <p>A Boes*, N. Trapp, B. Uitermarkt, P. Gander, J. Bruss, M. Howard, H. Oya, University of Iowa, USA</p>	<p>[S1d.01] Does tACS entrain neural oscillations?</p> <p>N Noury*^{1,2}, F. Damiani^{1,2,3}, M. Siegel^{1,2}, ¹Centre for Integrative Neuroscience, Germany, ²MEG center, Germany, ³Graduate training center of Neuroscience, Germany</p>	<p>[S4b.01] Identification of Alzheimer's and mixed Alzheimer's/vascular dementias using electrovestibulography: A pilot study</p> <p>B Lithgow*, Z. Moussavi, University of Manitoba, Canada</p>	<p>[S1f.01] Understanding the underlying mechanisms behind VNS-paired therapies</p> <p>B Badran*, The City College New York, USA</p>
14:15-14:45	<p>[S1a.02] A direct comparison of ventral capsule and anteromedial subthalamic nucleus stimulation in obsessive compulsive disorder: clinical and imaging evidence for dissociable Effects</p> <p>E Joyce*¹, H. Tyagi¹, A. Apergis-Schoute², H. Akram¹, T. Foltynie¹, P. Limousin¹, L. Drummond³, N. Fineberg⁴, K. Matthews⁵, M.</p>	<p>[S1b.02] Understanding and modulating walking recovery post stroke</p> <p>S Madhavan*, University of Illinois, USA</p>	<p>[S1c.02] Structural connectivity between dorsolateral prefrontal cortex and cingulate cortex predicts clinical response to accelerated iTBS in major depression</p> <p>D Klooster*^{1,2,3}, I. Vos¹, K. Caeyenberghs⁴, A. Leemans⁵, S. David⁵, R. Besseling¹, B. Aldenkamp^{1,3}, C. Baeken^{2,6}, ¹Eindhoven University of Technology, Netherlands, ²University Hospital Ghent, Belgium, ³Academic Center for</p>	<p>[S1d.02] Biophysical mechanisms and physiological effects of tACS</p> <p>A Opitz*, University of Minnesota, USA</p>	<p>[S4b.02] Impact of neuromodulation on online and offline learning processes in different age groups</p> <p>F Hummelk*, Defitech Chair of Clinical Neuroengineering Centre of Neuroprosthetics (CNP) and Brain Mind Institute, SV Swiss Federal Institute of Technology (EPFL) Campus Biotech, Switzerland</p>	<p>[S1f.02] A novel pilot study of tavns paired with oral feeding in neonates with brain injury</p> <p>D Jenkins*¹, M. George¹, W. DeVries¹, H. Moss¹, M. Dancy¹, D. Cook¹, G. Mappin¹, B. Badran^{2,1}, ¹Medical University of South Carolina, USA, ²City College of New York, USA</p>

	Marjan Jahanshahi ¹ , T. Robbins ² , B. Sahakian ² , L. Zrinzo ¹ , M. Hariz ¹ , ¹ UCL Queen Square Institute of Neurology, United Kingdom, ² University of Cambridge, United Kingdom, ³ SW London and St George's NHS Trust, United Kingdom, ⁴ University of Hertfordshire, United Kingdom, ⁵ University of Dundee, United Kingdom		Epileptology Kempenhaghe, Netherlands, ⁴ Australian Catholic University, Australia, ⁵ Utrecht University, Netherlands, ⁶ University Hospital Brussels, Belgium			
14:45-15:15	[S1a.03] Neurosurgeries for intractable OCD: Deep brain stimulation and gamma ventral capsulotomy compared B Greenberg* ^{1,2,3} , N. McLaughlin ^{1,3} , S. Rasmussen ^{1,3} , ¹ Butler Hospital, USA, ² Providence VAMC, USA, ³ Brown University, USA	[S1b.03] The use of rTMS to augment walking recovery after stroke M Bowden*, Medical University of South Carolina, USA	[S1c.03] Accelerated neurostimulation in major depression: Insights from brain imaging C Baeken*, Ghent University, Belgium, VUB, Belgium	[S1d.03] Exploring tACS effects on physiology and cognitive function through simultaneous imaging and Bayesian optimization approaches Violante*, University of Surrey, United Kingdom	[S4b.03] Operator exposure limits for transcranial magnetic stimulation G Rutherford*, B. Lithgow, Z. Moussavi, University of Manitoba, Canada	[S1f.03] Non-invasive Vagal Nerve Stimulation Paired with Stress Exposure in Posttraumatic Stress Disorder (PTSD) J Bremner* ¹ , N. Gurel ² , M. Wittbrodt ¹ , J. Nye ¹ , Z. Alam ¹ , I. Herring ¹ , S. Ladd ¹ , L. Shallenberger ¹ , A. Haffer ¹ , O. Levantsevych ¹ , N. Murrach ¹ , M. Huang ¹ , Y. Ko ¹ , B. Pearce ¹ , M. Shandhi ² , A. Shah ¹ , V. Vaccarino ¹ , O. Inan ² , ¹ Emory University, USA, ² Georgia Institute of Technology, USA
15:15-15:45	[S1a.04] Prefrontal cortical-cortical and subcortical circuits: White matter vs. grey	[S1b.04] Corticospinal contributions to lower-limb muscle activity after spinal cord injury	[S1c.04] Using the human brain connectome to optimize TMS targets for depression	[S1d.04] Does tACS entrain neural oscillations? Causal account of brain network computations driving	[S4b.04] The impact of TMS on the differential diagnosis and progression of dementia. A Benussi* ¹ , V. Dell'Era ¹ ,	[S1f.04] Enhancing rehabilitative therapies with vagus and trigeminal nerve stimulation to treat neurological disease. Lessons learned from


	matter stimulation targets S Haber*, <i>University of Rochester School of Medicine, USA, Harvard Medical School, USA</i>	M Perez*, <i>University of Miami, USA</i>	M Fox*, <i>Harvard University, USA</i>	value-based decisions R Polania* ^{1,2} , M. Moisa ² , M. Grueschow ² , Z. Nagy ² , Y. Lee ² , C. Ruff ² , ¹ ETH Zurich, Switzerland, ² University of Zurich, Switzerland	V. Cantoni ^{1,2} , A. Padovani ¹ , B. Borroni ¹ , ¹ University of Brescia, Italy, ² University of Florence, Italy	finnitus research S Vanneste*, <i>University of Texas, USA</i>		
					[S4b.05] Transcranial magnetic stimulation: a novel biomarker to predict cognitive decline and response to therapy in Alzheimer's disease patients. G Koch*, <i>Santa Lucia Foundation IRCCS, Italy</i>			
15:45-16:15	Refreshment break Room: Exhibitor Hall B							
Room	East Ballroom A	East Ballroom B	East Ballroom C	Meeting Room East 1	Meeting Room East 2/3	Meeting Room East 11/12		
16:15-18:15	Symposium session 2a: New targets for rTMS: promising evidences in impulsive compulsive disorders	Symposium session 2b: Frontoparietal Electrophysiological Network and Neuromodulation	Symposium session 2c: ECT Now and Aiming Toward 2038: Recent Advancements and Speculations for the Centennial of the Bini-Cerletti Brain-Child	Symposium session 2d: Biomarkers for Invasive Stimulation of Focal Epilepsy: Theory, Modeling, and Results	Fast Track Symposium session 2e: Brain stimulation using depth and transcranial electrodes: Use in neuropsychiatry, modeling and validation	Fast Track Symposium session 2f: Advances in Pediatric and Neurodevelopmental Brain Stimulation		
Chair	Giovanni Martinotti, <i>University G.d'Annunzio Chieti, Italy</i>	Yuping Wang, <i>Capital Medical University Beijing, China</i>	Peter Rosenquist, <i>Augusta University, USA</i>	Brian Lundstrom, <i>Mayo Clinic, USA</i>	Lee Wei Lim, <i>The University of Hong Kong, Hong Kong and Pratik Yashvant Chhatbar, Medical University of South Carolina, USA</i>	Derrick Matthew Buchanan, <i>Children's Hospital of Eastern Ontario, Canada and Paul E. Croarkin, Mayo Clinic, USA</i>		
16:15-16:45	[S2a.01] Exploiting the hypodopaminergic state with transcranial magnetic stimulation in addiction M. Diana, A Sanna*, <i>University of Sassari, Italy</i>	[S2b.01] Frontal prestimulation on parietal connectivity and application in neurological disorders modulation Y Lin* ¹ , T. Han ¹ , P. Chen ¹ , S. Guo ¹ , Y. Wang ^{1,2,1} , ¹ Capital Medical University, China, ² The Beijing	[S2c.01] ECT: Too good to keep ignoring, now and in the future C Kellner*, <i>New York Community Hospital, USA, Icahn School of Medicine at Mount Sinai, USA</i>	[S2d.01] Trial stimulation and chronic subthreshold cortical stimulation to treat focal epilepsy B Lundstrom* ¹ , J. Van Gompel ¹ , F. Khadjevand ² , G. Worrell ¹ , M. Stead ¹ , ¹ Mayo Clinic, USA,	16:15-16:30	[FS2e.01] The electrophysiological effects of DBS in animal models of Parkinson's disease A Benazzouz*, <i>University of</i>	16:15-16:30	[FS2f.01] Potentials of rTMS for neurodevelopmental disorders and road to clarification of TMS neuropathology F Masuda*, <i>Keio University,</i>

		Key Laboratory of Neuromodulation, China		² Tufts School of Medicine, USA		Bordeaux, France		Japan, Shiga University of Medical Science, Japan
					16:30 - 16:45	[FS2e.02] Translational aspects of DBS for depression C Hamani*, Sunnybrook Research Institute, Canada	16:30 -16:45	[FS2f.02] Harnessing plasticity in the atypical developing brain using neurostimulation R Cohen Kadosh* ¹ , J. Márquez Ruiz ² , C. Looi ¹ , O. Dakwar-Kawar ³ , S. Westwood ⁴ , M. Nahum ³ , P. Asherson ⁴ , B. Wexler ⁵ , I. Berger ⁶ , K. Rubia ⁴ , ¹ University of Oxford, United Kingdom, ² Pablo de Olavide University, Spain, ³ The Hebrew University, Israel, ⁴ King's College London, United Kingdom, ⁵ Yale University, USA, ⁶ Hadassah Medical Center, Israel





16:45-17:15	<p>[S2a.02] rTMS and cognitive control in gambling disorder M Pettoruso*, C. Montemitto, G. Martinotti, M. Di Giannantonio, G. d'Annunzio, University of Chieti, Italy</p>	<p>[S2b.02] Frontoparietal tms-eeg: transcranially versus peripherally induced brain responses H Siebner*^{1,2}, V. Conde^{3,2}, A. Thielscher^{4,2}, T. Bergmann⁵, G. Saturnino^{1,4}, L. Tomasevic², ¹Copenhagen University Hospital, Denmark, ²Copenhagen University Hospital, Denmark, ³Norwegian University of Science and Technology, Norway, ⁴Technical University of Denmark, Denmark, ⁵Eberhard Karls University of Tübingen, Germany</p>	<p>[S2c.02] Don't hold your breath-it's time to stimulate! R Taylor*^{1,2,3}, H. Wark^{1,4,5,6}, J. Leyden^{4,7}, S. Harper^{4,8,1}, B. Simpson^{4,8,1}, J. McGoldrick⁴, D. Hadzi-Pavlovic^{1,9}, S. Nikolin^{1,9}, C. Loo^{1,9,4,8}, ¹University of New South Wales, Australia, ²Concord Centre for Mental Health, Australia, ³Health & Education Training Institute, Australia, ⁴The Wesley Hospital, Australia, ⁵The Sydney Clinic, Australia, ⁶Children's Hospital Westmead, Australia, ⁷Royal North Shore Hospital, Australia, ⁸St George Hospital, Australia, ⁹Black Dog Institute, Australia</p>	<p>[S2d.02] Linking stimulation-evoked cortical activity and ongoing, intrinsic activity: Towards measures of intrinsic cortical excitability C Meisel*, University of Dresden, Germany</p>	16:45 - 17:00	<p>[FS2e.03] High frequency stimulation of the subthalamic nucleus: linking mood and motor effects at the level of the basal ganglia and 5-HT system Y. Temel, A. Jahanshahi*, Maastricht University Medical Center, Netherlands</p>	16:45 -17:00	<p>[FS2f.03] Making transcranial direct current stimulation treatment in atypical child and adolescent neurodevelopment a reality: Translating safety tolerability and acceptability evidence from the laboratory into the doctors office, the classroom, and home. D Buchanan*^{1,2}, A. D'Angiulli^{3,2}, A. Samson⁴, S. Amare^{1,2}, G. Gaumont^{1,2,4}, P. Robaey^{1,4,5}, ¹Children's Hospital of Eastern Ontario, Canada, ²Carleton University, Canada, ³Carleton University, Canada, ⁴University of Ottawa, Canada, ⁵University of Montreal, Canada</p>
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					17:00 - 17:15	[FS2e.04] Pacemaker in the aged brain: From molecular profiling to memory enhancement J. Koh ¹ , W. Lim ¹ , J. Neoh ¹ , S. Heschem ² , A. Blokland ² , Y. Chan ¹ , Y. Temel ² , L. Lim ^{*1} , E. Wu ¹ , ¹ The University of Hong Kong, Hong Kong, ² Maastricht University, Netherlands	17:00 - 17:15	[FS2f.04] Effectiveness of the prefrontal rTMS on cognitive functions in depression, schizophrenia, and Alzheimer's disease and investigation of the impaired prefrontal neuroplasticity in treatment-resistant depression using combined TMS-EEG Y Noda*, Keio University School of Medicine, Japan
17:15-17:45	[S2a.03] A Pilot Study of Transcranial Magnetic Stimulation of the Medial Prefrontal Cortices and Cocaine Self-Administration. D Martinez ^{*1} , M. Hu ² , A. Zangen ³ , F. Levin ¹ , R. Foltin ¹ , E. Nunes ¹ , ¹ CUMC NYSPI, USA, ² CUMC, USA, ³ Ben-Gurion University of the Negev, Israel	[S2b.03] Can combined TMS-EEG to the dorsolateral prefrontal cortex help guide therapeutic rTMS? D Blumberger*, Centre for Addiction and Mental Health, Canada	[S2c.03] Precision Seizure Therapy: Towards safer and personalized depression care for the future S Lisanby*, National Institute of Mental Health, USA, Duke University, USA	[S2d.03] Electrographic correlates of clinical seizures S Arcot Desai ^{*1} , T. Tcheng ¹ , M. Morrell ^{1,2} , ¹ NeuroPace, USA, ² Stanford University School of Medicine, USA	17:15 - 17:30	[FS2e.05] Individualizing tES dose and montage from non-invasive EEG monitoring P Chhatbar ^{*1} , J. Halford ¹ , W. Vandergriff ¹ , Y. Zhang ² , W. Feng ¹ , M. George ^{1,3} , S. Kautz ^{1,3} , ¹ Medical University of South Carolina, USA, ² University of Houston, USA,	17:15 - 17:30	[FS2f.05] A clinical trial comparing intermittent theta burst stimulation to dorsomedial prefrontal cortex and right temporoparietal junction in autism spectrum disorder P Donaldson*, P. Enticott, N. Albein-Urios, M. Kirkovski, K. Hoy, B. Fitzgibbon, D. Elliot, L. Wambeek, P. Fitzgerald,

						³ Ralph H. Johnson VA Medical Center, USA		Deakin University, Australia
					17:30 - 17:45	[FS2e.06] ROAST: a fully-automated, open-source, Realistic vOlumetric-Approach-based Simulator for TES Y Huang* ^{1,2} , A. Datta ¹ , M. Bikson ² , L. Parra ² , ¹ Soterix Medical Inc., USA, ² The City College of New York, USA	17:30 -17:45	[FS2f.06] Modulating the developing motor system toward better outcomes for disabled children A Kirton*, University of Calgary, Canada
17:45-18:15	[S2a.04] Empirical development of TMS as a treatment tool for disorders of impulsivity and cue-reactivity: where we have been and where we need to go C Hanlon*, Medical University of South Carolina, USA	[S2b.04] Combined TMS-EEG-fMRI. The level of TMS-evoked activation in anterior cingulate cortex depends on timing of TMS delivery relative to frontal alpha phase M George* ^{1,2} , G. Saber ¹ , J. McIntosh ¹ , J. Doose ¹ , J. Faller ³ , Y. Lin ³ , H. Moss ¹ , R. Goldman ⁴ , P. Sajda ³ , T. Brown ¹ , ¹ Medical	[S2c.04] Principles of Brain Stimulation and the Future of ECT H Sackeim*, Columbia University, USA	[S2d.04] Model-based approaches to controlling brain networks A. Widge ¹ , I Basu* ² , M. Lo ³ , E. Blackwood ³ , ¹ university of minnesota, USA, ² Massachusetts General Hospital, USA, ³ University of Minnesota, USA	17:45 - 18:00	[FS2e.07] Deep brain areas can be reached by transcranial electric stimulation with multiple electrodes Y Huang*, L. Parra, The City College of New York, USA	17:45 -18:00	[FS2f.07] Reduced motor cortex modulation during response inhibition task correlates with worse performance more severe clinical and motor impairment in children with

		University of South Carolina, USA, ² Ralph H. Johnson VA Medical Center, USA, ³ Columbia University, USA, ⁴ University of Wisconsin, Madison, USA						ADHD D Gilbert* ¹ , S. Wu ¹ , P. Horn ¹ , E. Pedapati ¹ , S. Mostofsky ^{2,3} , ¹ Cincinnati Children's Hospital, USA, ² Kennedy Krieger Institute, USA, ³ Johns Hopkins Medical Institutions, USA
							18:00 -18:15	[FS2f.08] Monitoring and modulating adolescent depression and suicidality. P Croarkin* ¹ , C. Lewis ¹ , I. Sonmez ¹ , D. Doruk Camsari ¹ , Z. Daskalakis ² , ¹ Mayo Clinic, USA, ² University of Toronto, Canada
18:15-20:00	Welcome Reception and Poster Session 1 Room: Exhibitor Hall B		Welcome Reception Sponsored by:					
								 Advanced Therapy

Tuesday, 26 February, 2019

08:30-10:00	Plenary Lectures Room: East Ballroom A/B/C					
07.30–8.30	Sponsored Workshop Room 2/3 Presenting PoNS™ Portable Neuromodulation Stimulator: Advancing Treatment for Chronic Balance Deficit Due to Mild to Moderate Traumatic Brain Injury					
07.30–8.30	Sponsored Workshop Room 1 Advanced TMS techniques: QPS and Thetaburst					
08:30 – 09:15	[PL05] tDCS boosts Hebbian Plasticity Lucas Parra, PhD, <i>City University of New York, USA</i>					
09:15 – 10:00	[PL06] Using brain stimulation and neuroimaging to understand human motor plasticity in health and disease Charlotte Stagg, <i>University of Oxford, UK</i>					
10:00-10:30	Refreshment break Room: Exhibitor Hall B					
10:30-11:15	[PL07] Transcranial Brain Stimulation to Understand Neuronal Oscillations Til Ole Bergmann, PhD, <i>University Hospital Tübingen, Germany</i>					
11:15-12:00	[PL08] Imaging TMS-induced plasticity in animal models Dirk Jancke, PhD, <i>Ruhr-University Bochum, Germany</i>					
12:00-13:30	Lunch and Poster session 2 Room: Exhibitor Hall B		Poster Session Sponsored by:  Rogue Research Inc.		Lunch Sponsored by: 	
13:30-15:30	Workshops (Hands on Demonstrations and Round Table Discussions with Experts)					
Room	East Ballroom A	East Ballroom B	East Ballroom C	Meeting Room East 1	Meeting Room East 2/3	
13:30-15:30	Workshop 1: Center and At-Home Methods of tDCS, Marom Bikson, PhD & Adam Woods, PhD	Workshop 2: Advanced TMS Methods – PAS, Theta Burst TMS, John Rothwell, PhD & Ulf Ziemann, MD	Workshop 3: Clinical Use of ECT, Peter Rosenquist, MD & Harold A. Sackeim, PhD	Workshop 4: Clinical Use of TMS, Paul Fitzgerald, MBBS, PhD, Mark S. George, MD & Jonathan Downar, MD, PhD, FRCPC	Workshop 5: Deep Brain Stimulation: Hot Topics and Demonstration, Zelma Kiss, MD, PhD & Claudio Pollo, MD	
15:30-16:00	Refreshment break Room: Exhibitor Hall B					
Room	East Ballroom A	East Ballroom B	East Ballroom C	Meeting Room East 1	Meeting Room East 2/3	Meeting Room East 11/12
16:00-18:00	Symposium session 3a: Transdiagnostic Theta Burst Stimulation – The Future is Now	Symposium session 3b: Individualized Brain Stimulation: Addressing	Symposium session 3c: Induction of seizure-like events by brain stimulation	Symposium session 3d: Noninvasive Brain Stimulation in Addiction Medicine	Symposium session 3e: Improving the outcome of deep brain stimulation	Fast Track Symposium session 5e: New insights into precision medicine and target engagement in brain

		Heterogeneity Across Modalities				stimulation treatments: Electrophysiology, imaging and clinical predictors	
Chair	Noah Philip, Brown University, USA	Joan Camprodon, Massachusetts General Hospital, USA	Josep Valls-Sole, University of Barcelona, Spain	Elliot Stein, NIDA-IRP/NIH, USA	Esmée Verwijk, Amsterdam UMC, University of Amsterdam, The Netherlands	Martijn Arns, Research Institute Brainclinics, Netherlands and Abraham Zangen, Ben-Gurion University, Israel	
16:00-16:30	<p>[S3a.01] Modulating cue-reactivity with continuous theta burst stimulation to the frontal pole: a novel target with transdiagnostic relevance</p> <p>C Hanlon*¹, L. Dowdle¹, D. Lench¹, T. Kearney Ramos¹, S. Hamilton¹, I. Contreras¹, J. Imperatore¹, S. Snieder², W. Bickel², S. Book¹, J. Smith¹, ¹Medical University of South Carolina, USA, ²Virginia Tech Carilion Research Institute, USA</p>	<p>[S3b.01] Closed loop deep brain stimulation enhances cognitive control</p> <p>A Widge*¹, I. Basu², S. Zorowitz², A. Yousefi², R. Zelman², A. Paulk², T. Deckersbach², E. Eskandar³, S. Cash², E. Miller⁴, D. Dougherty², ¹University of Minnesota, USA, ²Massachusetts General Hospital, USA, ³Montefiore Medical Center, USA, ⁴Massachusetts Institute of Technology, USA</p>	<p>[S3c.01] Transient loss of consciousness with brain stimulation</p> <p>J Valls Sole*, Hospital Clinic, Spain</p>	<p>[S3d.01] High-frequency repetitive transcranial magnetic stimulation (rTMS) in alcohol dependence: Effects on emotion processing and reappraisal and neural mechanisms: An fMRI study</p> <p>A Goudriaan*¹, J. Jansen¹, R. Schluter¹, O. van den Heuvel², Y. van der Werf², D. Veltman², R. van Holst¹, ¹University of Amsterdam, Netherlands, ²Vrije Universiteit, Netherlands</p>	<p>[S3e.01] Long-term efficacy and quality of life in patients with treatment-resistant depression following deep brain stimulation</p> <p>I Bergfeld*¹, M. Mantione², J. Van der Wal¹, A. Lok¹, P. Notten³, J. Van Laarhoven³, G. Beute³, F. Horst³, P. Van den Munckhof¹, R. Schuurman¹, D. Denys^{1,4}, ¹University of Amsterdam, Netherlands, ²UMC Utrecht, Netherlands, ³ETZ Elisabeth, Netherlands, ⁴Netherlands Institute for Neuroscience, an Institute of the Royal Netherlands Academy of Arts and Sciences, Netherlands</p>	16:00-16:15	<p>[FS5e.01] The heart-brain pathway in depression: Optimizing TMS treatment for depression using cardiac response (Neuro-Cardiac-Guided-TMS).</p> <p>T Iseger*^{1,2}, F. Vila-Rodriguez³, F. Padberg⁴, J. Downar^{5,6}, Z. Daskalakis⁷, D. Blumberger⁷, L. Kenemans¹, M. Arns^{8,1,9}, ¹Utrecht University, Netherlands, ²Research Institute Brainclinic,</p>

							<p>Netherlands, ³University of British Columbia, Vancouver, Canada, ⁴University Munich, Germany, ⁵MRI-Guided rTMS Clinic, Toronto Western Hospital, Toronto, Canada, ⁶University of Toronto, Canada, ⁷Centre for Addiction and Mental Health (CAMH), Canada, ⁸neuroCare Group, Munich, Germany, ⁹Research Institute Brainclinics, Netherlands</p>
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						<p>16:15-16:30</p> <p>[FS5e.02] Clinical and neurophysiological predictors of rTMS response in major depressive disorder: Robustness and clinical relevance</p> <p>N Krepel^{*1,2}, A. Sack¹, A. Rush^{3,4,5}, M. Arns^{2,6,7},</p> <p>¹Maastricht University, Netherlands, ²Research Institute Brainclinics, Netherlands, ³Duke-National University of Singapore, Singapore, ⁴Duke Medical School, USA, ⁵Texas Tech University Healthy Sciences Center, USA, ⁶Utrecht University, Netherlands, ⁷neuroCare Group Netherlands, Netherlands</p>
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16:30-17:00	<p>[S3a.02] Theta-burst stimulation in major depression: Clinical and neuroimaging results J Downar*, <i>University of Toronto, Canada</i></p>	<p>[S3b.02] Individualized electroconvulsive therapy for treatment of depression Z Deng*, <i>NIMH, USA</i></p>	<p>[S3c.02] The dynamics of TMS-induced seizures and epileptiform discharges V Kimiskidis*, <i>Aristotle University of Thessaloniki, Greece</i></p>	<p>[S3d.02] Small- and large-scale network modulation as mechanistic and predictive biomarkers for tdc; Randomized clinical trials among methamphetamine users H Ekhtiari*, <i>Laureate Institute for Brain Research, USA</i></p>	<p>[S3e.02] Personalized prediction of response to deep brain stimulation in obsessive-compulsive disorder using structural MRI data L Liebrand*¹, E. Tolmeijer², M. Caan³, P. van den Munckhof², P. Schuurman², D. Denys^{2,4}, G. van Wingen², ¹<i>Amsterdam UMC, University of Amsterdam, Department of Psychiatry, Amsterdam Neuroscience, Amsterdam, Netherlands,</i> ²<i>University of Amsterdam, Netherlands,</i> ³<i>Amsterdam UMC, University of Amsterdam, Department of Biomedical Engineering and Physics, Amsterdam Neuroscience, Amsterdam, Netherlands,</i> ⁴<i>Netherlands Institute for Neuroscience, Royal Academy of Arts and Sciences, Netherlands</i></p>	16:30-16:45	<p>[FS5e.03] Accelerated intermittent theta burst stimulation rapidly attenuates suicide ideation in major depression: Insights from brain perfusion and functional connectivity C Baeken*, <i>VUB, Belgium, Ghent University, Belgium</i></p>
						16:45-17:00	<p>[FS5e.04] Towards a personalized approach to rTMS target selection in depression J Downar*, <i>University of Toronto, Canada</i></p>
						17:00-17:15	

						17:15-17:30	[FS5e.06] EEG and fMRI network-based predictors of response to rTMS in depression. P Fitzgerald*, Epworth Centre for Innovation in Mental Health, Australia, Monash Alfred Psychiatry Research Centre, Australia, Monash University, Australia
17:00-17:30	[S3a.03] Accelerated intermittent theta burst stimulation for acute suicidality in an inpatient setting N Williams*, <i>Stanford University, USA</i>	[S3b.03] Individualized TMS target selection for MDD: Clinical outcomes, mechanisms of action and predictors of response. T. Barbour, E. Lee, K. Ellard, J Camprodon*, <i>Harvard Medical School, USA</i>	[S3c.03] Syncope or seizure or even other types of transient loss of consciousness ? A differential-diagnostic challenge M Hilz*, <i>University of Erlangen-Nuremberg, Germany</i>	[S3d.03] Can prefrontal TMS Help smokers stop smoking? A summary of recent small trials and new data from a large pivotal industry sponsored study M George* ^{1,2} , A. Zangen ³ , ¹ Medical University of South Carolina, USA, ² Ralph H. Johnson VA Medical Center, USA, ³ Ben-Gurion University of the Negev, Israel	[S3e.03] Association between ventral subthalamic deep brain stimulation and apathy in Parkinson's disease M Figuee* ¹ , T. Zoon ² , L. Boon ² , W. Potters ² , F. van Rootselaar ² , R. de Bie ² , ¹ Icahn Medical School at Mount Sinai, USA, ² Amsterdam UMC, Netherlands	17:30-17:45	[FS5e.07] Transcranial magnetic stimulation and electroencephalography predictors of response to rTMS in youth depression F Farzan*, <i>Simon Fraser University, Canada</i>
17:30-18:00	[S3a.04] Theta burst transcranial magnetic stimulation for posttraumatic stress disorder	[S3b.04] Downloading Personalized Brain Stimulation M Bikson*, <i>The City</i>	[S3c.04] Therapy-oriented induction of seizures J Daskalakis*,	[S3d.04] RTMS of the left dorsolateral prefrontal cortex in individuals with cocaine use	[S3e.04] Deep brain stimulation for Parkinson's disease: Cognitive outcome three years after	17:45-18:00	[FS5e.08] Resting-state and stimulation train induced

	N Philip*, J. Barredo, R. Jones, M. Shea, B. Greenberg, M. van 't Wout-Frank, Brown University, USA	College of New York, USA	University of Toronto, Canada	disorder: preliminary findings G Martinotti*, University "G.d'Annunzio", Italy	surgery and the relation between preoperative cognitive status, functional health and quality of life after surgery J Boel*, V. Odekerken, B. Schmand, G. Geurtsen, P. van den Munckhof, R. de Haan, P. Schuurman, R. de Bie, Amsterdam UMC, University of Amsterdam, Netherlands	EEG activity predict alleviation of ADHD symptoms following deep TMS treatment A Zangen*, Ben Gurion University, Israel
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18:45 **Buses to depart convention centre**

19:30-22:00 **Conference Dinner**

Wednesday, 27 February, 2019

07.30–8.30 **Sponsored Workshop | Room 1**
Impactful and Easy Brain Stimulation with Photobiomodulation by Vielight



08:30-10:00 **Plenary Lectures**
Room: East Ballroom A/B/C

08:30-09:15 **[PL09] Do we know how DBS works and does it matter?**
Zelma Kiss, MD PhD, University of Calgary, Canada

09:15-10:00 **[PL10] NIBS in Disorders of Consciousness**
Aurore Thibaut, University of Liège, Belgium

10:00-10:30 **Refreshment break**
Room: Exhibitor Hall B

10:30-11:15 **[PL11] Advancing Brain Stimulation Precision Medicine Through Tech Innovation: space / time / context**
Sarah Hollingsworth Lisanby, MD, NIH, United States

11:15-12:00 **[PL12] What's next for therapeutic rTMS? Highlights from an era of rapid progress**
Jonathan Downar, MD PhD FRCPC, Toronto Western General Hospital, Canada

12:15-13:15 **IFCN Special Interest Group (SIG) on Non-invasive Brain Stimulation | East Meeting Room 1**
Chair: Yoshikazu Igawa, Fukushima Medical University, Japan

12:00-13:30 **Lunch and Poster session 3**
Room: Exhibitor Hall B

Poster Session Sponsored by:



Room	East Ballroom A	East Ballroom C	Meeting Room East 1	Meeting Room East 2/3	Meeting Room East 11/12
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13:30-15:30	Symposium session 4a: New techniques in rTMS for Depression	Symposium session 4c: Enhancing cognition with tDCS combined with cognitive training	Symposium session 4d: How to use controlled TMS (cTMS)	Fast Track Symposium session 4e: Innovative techniques for non-invasive, low-energy, brain stimulation: from models to potential clinical applications		Fast Track Symposium session 4f: The Use Non-invasive Brain Stimulation to Target Cognition and Mood in Special Populations	
Chair	Fidel Vila-Rodriguez, University of British Columbia, Canada	Donel Martin, University of New South Wales, Australia	Yoshikazu Ugawa, Fukushima Medical University, Japan	Lei Sun, The Hong Kong Polytechnic University, Hong Kong and Fioravante Capone, Università Campus Bio-Medico, Italy		Daniel Blumberger, CAMH, Canada and Amer Burhan, Parkwood Institute Mental Health/Lawson Health Research, Canada	
13:30-14:00	[S4a.01] Three target networks for rTMS in depression J Downar* University of Toronto, Canada	[S4c.01] Who, what, where and how much: tDCS and training effects on working memory M Berryhill* ¹ , H. Arciniega ¹ , K. Jones ² , J. Stephens ² , F. Gozenman ¹ , ¹ University of Nevada, USA, ² Colorado State University, USA	[S4d.01] Effects of pulse width on responses to single, double and repetitive TMS of motor cortex J Rothwell* ¹ , R. Hannah ² , ¹ UCL Institute of Neurology, United Kingdom, ² UCSD, USA	13:30-13:45	[FS4e.01] Non-invasive and selective brain stimulation by ultrasound via activation of mechanosensitive ion channels Z Qiu*, S. Kala, J. Guo, Q. Xian, J. Zhu, L. Sun, The Hong Kong Polytechnic University, Hong Kong	13:30-13:45	[FS4f.01] Randomized controlled trial of transcranial magnetic stimulation in pregnant women with major depressive disorder D Kim* ¹ , E. Wang ¹ , B. McGheehan ¹ , J. O'Reardon ² , M. Sammel ¹ , C. Epperson ¹ , ¹ University of Pennsylvania, USA, ² Private practice, USA
				13:45-14:00	[FS4e.02] Neuromodulation of the macaque brain by focused ultrasound with MRI guidance and detection C Caskey*, Vanderbilt University Medical Center, USA	13:45-14:00	[FS4f.02] Transcranial direct current stimulation (tDCS) for depression in pregnancy: A pilot randomized controlled trial S Vigod* ^{1,2} , K. Murphy ^{3,2} , C. Dennis ^{2,4} , T. Oberlander ^{5,6} , J. Ray ^{4,2} , Z. Daskalakis ^{7,2} , D. Blumberger ^{7,2} , ¹ Women's College Hospital, Canada, ² University of Toronto, Canada, ³ Sinai Health System, Canada, ⁴ St.

							Michael's Hospital, Canada, ⁵ University of British Columbia, Canada, ⁶ BC Children's Hospital Research Institute, Canada, ⁷ Centre for Addiction and Mental Health, Canada
14:00-14:30	<p>[S4a.02] Clinical outcomes with intermittent theta burst versus high frequency repetitive transcranial magnetic stimulation in patients with depression: A THREE-D report D Blumberger*¹, F Vila-Rodriguez², K Thorpe³, Z Daskalakis³, J Downar³ ¹Centre for Addiction and Mental Health, Canada, ²University of British Columbia, Canada, ³University of Toronto, Canada</p>	<p>[S4c.02] Clinical effects of transcranial direct current stimulation combined with cognitive emotional training in patients with treatment resistant depression S Nikolin*¹, N. Chand¹, C. Loo¹, B. Iacoviello², M. Hoch², D. Martin¹, ¹University of New South Wales, Australia, ²Icahn School of Medicine at Mount Sinai, USA</p>	<p>[S4d.02] Differential effects on corticospinal excitability and adaptation task by paired associative stimulation (PAS) with distinct pulse width Y Ugawa*¹, T. Sasaki², M. Hamada², Y. Shirota², ¹Fukushima Medical University, Japan, ²Tokyo University, Japan</p>	14:00-14:15	<p>[FS4e.03] Focused ultrasound for modulation of the central and peripheral nervous system E Konofagou*, Columbia University, USA</p>	14:00-14:15	<p>[FS4f.03] Recent developments in non-invasive brain stimulation for adolescents with major depressive disorder P Croarkin*, M. C., USA</p>
				14:15-14:30	<p>[FS4e.04] Transcranial ultrasound selectively biases decision-making in primates J Kubanek*, J. Brown, P. Ye, K. Pauly, T. Moore, W. Newsome, Stanford University School of Medicine, USA</p>	14:15-14:30	<p>[FS4f.04] Bilateral repetitive transcranial magnetic stimulation in older adults with depression D Blumberger*, Centre for Addiction and Mental Health, Canada</p>
14:30-15:00	<p>[S4a.03] Are side effect trajectories during rTMS for depression associated to treatment response? A Humaira¹, S Gao¹, L Wu¹, D Blumberger², J Downar³, Z Daskalakis², F Vila Rodriguez*¹ ¹The University of British</p>	<p>[S4c.03] tDCS combined with cognitive training for improving memory in people with amnesic mild cognitive impairment (aMCI) D Martin*^{1,2}, A. Mohan¹, A. Alonzo^{1,2}, P. Sachdev^{1,3}, H. Brodaty^{1,3}, C. Loo^{1,2}, ¹University of New South Wales, Australia, ²Black Dog</p>	<p>[S4d.03] Longer cTMS pulse width switches 1 Hz inhibitory motor cortex rTMS aftereffects to excitation I. Halawa¹, Y. Shirota¹, A. Neef^{1,2}, M. Sommer¹, W Paulus*¹, ¹UMC Goettingen, Germany, ²Center for Biostructural Imaging of Neurodegeneration (BIN)</p>	14:30-14:45	<p>[FS4e.05] Extremely low frequency magnetic fields as neuroprotective treatment in acute ischemic stroke F Capone*¹, M. Liberti², F. Apollonio², F.</p>	14:30-14:45	<p>[FS4f.05] Effects of transcranial direct current stimulation on cognition in late life depression S Kumar*, Centre of Addiction and Mental Health (CAMH), Canada, University of Toronto, Canada</p>

	<i>Columbia, Canada, ²Centre for Addictions and Mental Health, Canada, ³University Health Network, Canada</i>	<i>Institute, Australia, ³Centre for Healthy Brain Ageing, Australia</i>	<i>University Medical Centre Göttingen, Germany</i>		<i>Camera², C. Quattrocchi², M. Francesco¹, V. Di Lazzaro¹, ¹Università Campus Bio-Medico, Italy, ²Sapienza University of Rome, Italy</i>		
				14:45-15:00	[FS4e.06] Probing brain networks to quantify the consciousness level: Which role for ELF brain stimulation? J Modolo* ^{1,2} , M. Hassan ¹ , A. Legros ^{3,4} , ¹ University Rennes, France, ² Human Threshold Research Group, Lawson Health Research Institute, London (ON), Canada, ³ Lawson Health Research Institute, Canada, ⁴ Western University, Canada	14:45-15:00	[FS4f.06] The potential for bilateral high-frequency repetitive transcranial magnetic stimulation (HF-rTMS) to modulate motoric-cognitive risk syndrome in older adults A Burhan* ^{1,2,3} , A. Srinivasan Naidu ^{2,3} , A. Black ³ , M. Montero-Odasso ^{2,3} , ¹ Parkwood Institute-Mental Health, Canada, ² Western University, Canada, ³ Lawson Health Research Institute, Canada
	[S4a.04] Hyperactivation of the subgenual cingulate in depressed patients that is normalized with rTMS treatment I. Hadas, D. Blumberger, Z Daskalakis*, CAMH, Canada	[S4c.04] Neurophysiological and behavioural effects of tDCS upon memory and learning in schizophrenia N Orlov* ^{1,2} , O. O'daly ² , D. Tracy ² , J. Rothwell ³ , S. Shergill ² , ¹ Mass General Hospital, USA,	[S4d.04] Simulation of controllable pulse parameter transcranial magnetic stimulation in realistic head model with morphologically-accurate cortical neurons A Aberra* ¹ , W. Grill ^{1,2} , A. Peterchev ¹ , ¹ Duke	15:00-15:15	[FS4e.07] Patient Semi-Specific Computational Modeling of Electromagnetic Stimulation M. Colella* ¹ , F. Camera ¹ , F. Capone ^{2,3} , S.	15:00-15:15	[FS4f.07] Improvement of higher brain dysfunction after brain injury with strategic application of repetitive transcranial magnetic stimulation and intensive rehabilitation therapy: a report of three cases.

		<p>²King's College London, United Kingdom, ³University College London, United Kingdom</p>	<p>University, USA, ²Dept. of Neurobiology, School of Medicine, Duke University, NC, USA</p>		<p>Setti⁴, R. Cadossi⁴, V. di Lazzaro^{2,3}, F. Apollonio¹, M. Liberti¹, ¹Department of Information Engineering, Electronics and Telecommunications (DIET), University of Rome "La Sapienza", Rome, Italy, Italy, ²Fondazione Alberto Sordi - Research Institute for Ageing, Rome, Italy., Italy, ³Unit of Neurology, Neurophysiology, Neurobiology, Department of Medicine, Università Campus Bio-Medico di Roma, Rome, Italy, Italy, ⁴IGEA Biophysics Laboratory, Carpi, Italy, Italy</p>		<p>T Hara*¹, A. Burhan^{2,3}, M. Abo¹, S. Watanabe¹, H. Akimoto¹, R. Fukui¹, ¹The Jikei University School of Medicine, Japan, ²Parkwood Institute, Canada, ³Schulich school of medicine & dentistry, Canada</p>
				<p>15:15-15:30</p>	<p>[FS4e.08] Acute neurophysiological response to ELF-MF and magnetophosphene perception A Legros*^{1,2,3}, C. Baker^{1,2}, M. Corbacio¹, D. Goulet⁴, M. Plante⁴, M. Souques⁵, P.</p>	<p>15:15-15:30</p>	<p>[FS4f.08] Using repetitive Paired Associative Stimulation to enhance brain plasticity and working memory in Alzheimer's disease T Rajji*, Centre of Addiction and Mental Health (CAMH), Canada, University of Toronto, Canada</p>

					<p>Cabanes⁵, F. Deschamps⁶, G. Ostiguy⁷, J. Modolo⁸, J. Lambrozo⁵, ¹LHRI, Canada, ²Western University, Canada, ³Universite de Montpellier, Canada, ⁴Hydro- Quebec, Canada, ⁵EDF, France, ⁶RTE, France, ⁷Hydro- Québec, Canada, ⁸Univ Rennes - INSERM, France</p>	
15:30-16:00	Refreshment break Room: Exhibitor Hall B					
Room	East Ballroom A	East Ballroom B	East Ballroom C	Meeting Room East 1	Meeting Room East 2/3	Meeting Room East 11/12
16:00-18:00	Symposium session 5a: Enhancing Rehabilitation with Vagus Nerve Stimulation	Symposium session 5b: What can non-invasive stimulation tell us about concussion/traumatic brain injury? New evidence across the lifespan from children to adults	Symposium session 5c: Multimodal approaches as a key to personalized brain stimulation	Symposium session 5d: Neurophysiologic Biomarkers of Clinical Outcome of Repetitive Transcranial Magnetic Stimulation (rTMS) Treatment of Major Depressive Disorder	Fast Track Symposium session 5f: Novel approaches towards Precision medicine for Stroke recovery from motor and visual deficits	Symposium session 1e: Neuroethics and brain stimulation: open market or restraint?
Chair	Crystal Engineer, The University of Texas at Dallas, USA	Naznin Virji-Babul, University of British Columbia, Canada	Christian Windischberger, Medical University of Vienna, Italy	Andrew Leuchter, Semel Institute of Neuroscience and Human Behavior at UCLA, USA	Friedhelm Hummel, EPFL, Switzerland	Zelma Kiss, University of Calgary, Canada
16:00-16:30	[S5a.01] Vagus nerve stimulation as a strategy to augment stroke rehabilitation	[S5b.01] Exploring the targeted application of transcranial direct current stimulation (tDCS) for cognitive	[S5c.01] Using advanced neuroimaging to increase precision for non-invasive	[S5d.01] Individual alpha frequency proximity to stimulation frequency is	16:00-16:15 [FS5f.01] Motor control in stroke T Kitago*, Burke Neurological	[S1e.01] Ethical considerations for brain recording and stimulating neurotechnologies available in the open marketplace

	S Hays*, <i>University of Texas, USA</i>	modulation after brain injury L Li* ¹ , I. Violante ² , K. Zimmerman ¹ , R. Leech ³ , A. Hampshire ¹ , D. Carmichael ³ , D. Sharp ¹ , ¹ <i>Imperial College London, United Kingdom</i> , ² <i>University of Surrey, United Kingdom</i> , ³ <i>King's College London, United Kingdom</i>	brain stimulation C Stagg*, <i>University of Oxford, United Kingdom</i>	associated with clinical outcome during 10 Hz repetitive Transcranial Magnetic Stimulation (rTMS) treatment of Major Depressive Disorder (MDD) L Carpenter* ^{1,2} , E. Tirrell ¹ , P. Gobin ¹ , B. Kavanaugh ¹ , J. Corlier ³ , A. Wilson ³ , ¹ <i>Butler Hospital, USA</i> , ² <i>Brown University, USA</i> , ³ <i>UCLA, USA</i>		<i>Institute, USA, Weill Cornell Medicine, USA</i>	J Illes*, I. Coates McCall, C. Lau, N. Minielly, <i>UBC, Canada</i>
					16:15-16:30	[FS5f.02] Towards multi-focal orhcestrated neuromoduati on to enhance recovery F Hummel*, <i>Defitech Chair of Clinical Neuroengineering Centre of Neuroprosthetics (CNP) and Brain Mind Institute, SV Swiss Federal Institute of Technology (EPFL), Switzerland</i>	
16:30-17:00	[S5a.02] Vagus nerve stimulation as a strategy to augment auditory rehabilitation C Engineer*, <i>The University of Texas, USA</i>	[S5b.02] Exploring tDCS-induced changes in EEG power and network connectivity in youth concussion: Preliminary findings M. Willms ¹ , L. Brucar ¹ , A. Muller ¹ , F. Vila-Rodrigues ¹ , C. Rosenblatt ² , N Virji Babul* ¹ , ¹ <i>University of British Columbia, Canada</i> , ² <i>Advance Concussion Clinic, Canada</i>	[S5c.02] Comparing the results of field modelling to physiological measurements and MR-based current flow measurements A Thielscher*, <i>Technical University of Denmark, Denmark</i>	[S5d.02] Neurophysiological Mechanisms of rTMS Efficacy in Treatment Resistant Depression Z Daskalakis*, <i>University of Toronto, Canada</i>	16:30-16:45	[FS5f.03] Cerebellar rTMS to promote motor recovery in hemiparetic stroke patients: a double blind sham controlled randomized controlled trial G Koch*, S. Bonni, E. Casula, M. Pellicciari, M. Maiella, F. Sallustio, C. Caltagirone, <i>Santa Lucia</i>	[S1e.04] Ethical considerations for brain stimulation: The industry perspective A Maiques* ¹ , J. Illes ² , ¹ <i>Neuroelectrics Corporation, USA</i> , ² <i>UBC, Canada</i>

						Foundation IRCCS, Italy	
					16:45- 17:00	[FS5f.04] Insights from rodent stroke models M Caleo* ^{1,2} , C. Spalletti ¹ , C. Alia ¹ , ¹ CNR Neuroscience Institute, Italy, ² Univ of Padua, Italy	
17:00-17:30	[S5a.03] Clinical translation of VNS therapy for tinnitus patients S Vanneste*, University of Texas, USA	[S5b.03] Evidence of altered inter- hemispheric communication in paediatric mild traumatic brain injury J Schmidt* ^{1,2} , K. Brown ^{1,3} , S. Feldman ¹ , S. Babul ^{1,4,1} , J. Zwicker ^{1,5,1} , L. Boyd ¹ , ¹ University of British Columbia, Canada, ² La Trobe University, Australia, ³ University College London, United Kingdom, ⁴ BC Children's Hospital, Canada, ⁵ BC Children's Hospital Research Institute, Canada	[S5c.03] Targeting cortical oscillations with EEG-informed TMS: Potential and challenges H Siebner* ^{1,1} , A. Karabanov ¹ , L. Krohne ^{2,1} , M. Safeldt ¹ , L. Tomasevic ¹ , K. Madsen ^{2,1} , ¹ Copenhagen University Hospital Hvidovre, Denmark, ² Technical University of Denmark, Denmark	[S5d.03] 10 Hz rTMS- induced Neural Response of Gamma Oscillations in Subgenual Anterior Cingulate Cortex (sgACC) is Anti- correlated with Left Dorsolateral Prefrontal Cortex (DLPFC) in Major Depressive Disorder Q Liu ¹ , H. Wu ¹ , J. Doyle ¹ , A. Wilson ² , J. Corlier* ² , A. Leuchter ² , ¹ California Institute of Technology, USA, ² UCLA, USA	17:00- 17:15	[FS5f.05] Individualized and targeted real-time fMRI neurofeedback applications to the visual cortical system in health and disease T.D. Papageorgiou *, Baylor College of Medicine, USA, Rice University, USA	[S1e.03] Regulatory oversight for DBS: Current framework for device recall in North America P Mc Donald*, J. Illes, C. Lau, I. Coates McCall, UBC, Canada
					17:15- 17:30	[FS5f.06] Mapping the spatial and temporal characteristics of visual perception with transcranial magnetic stimulation T. Ro, K Webster*, CUNY	

						Graduate Center, USA	
17:30-18:00	<p>[S5a.04] Vagus Nerve Stimulation as a Strategy to Augment PTSD Rehabilitation C Mc Intyre*, <i>The University of Texas, USA</i></p>	<p>[S5b.04] Theta-tACS normalizes brain network activity in patients with traumatic brain injury I Violante*¹, L. Li², D. Sharp², ¹<i>University of Surrey, United Kingdom</i>, ²<i>Imperial College London, United Kingdom</i></p>	<p>[S5c.04] Verifying successful brain stimulation by concurrent TMS/fMRI C Windischberger*, <i>Medical University Vienna, Austria</i></p>	<p>[S5d.04] Changes in functional connectivity predict outcome of repetitive transcranial magnetic stimulation treatment of major depressive disorder J Corlier*, A. Wilson, A. Hunter, N. Vince-Cruz, D. Krantz, J. Levitt, M. Minzenberg, N. Ginder, I. Cook, A. Leuchter, <i>UCLA, USA</i></p>	17:30-17:45	<p>[FS5f.07] NIBS to restore visual field deficit E Raffin*, <i>Center for Neuroprosthetics (CNP) and Brain Mind Institute (BMI), Swiss Federal Institute of Technology (EPFL), Switzerland</i></p>	<p>[S1e.02] Patenting brain stimulation: Regions or methods? Z Kiss*¹, D. Roskams-Edris^{1,2,3}, S. Anderson-Redick¹, J. Illes², ¹<i>University of Calgary, Canada</i>, ²<i>UBC, Canada</i>, ³<i>Dalhousie University, Canada</i></p>
18:00-18:15	<p>Closing Remarks, Poster Award and Conference Summary Room: East Ballroom A</p>						