BRAIN STIMULATION

Basic, Translational, and Clinical Research in Neuromodulation

Table of Contents

Volume 17, Number 3, May/June 2024

Review Articles

Transcranial Pulsed Ultrasound

607 ITRUSST Consensus on Standardised Reporting for Transcranial Ultrasound Stimulation Eleanor Martin, Jean-François Aubry, Mark Schafer, Lennart Verhagen, Bradley Treeby, and Kim Butts Pauly

Original Articles

Deep Brain Stimulation (DBS)

- 501 Auditory Cues Modulate the Short Timescale
 Dynamics of STN Activity During Stepping in
 Parkinson's Disease
 Chien-Hung Yeh, Yifan Xu, Wenbin Shi,
 James J. Fitzgerald, Alexander L. Green,
 Petra Fischer, Huiling Tan, and Ashwini Oswal
- 687 Electrical Stimulation of the Ventral Tegmental Area Restores Consciousness From Sevoflurane-, Dexmedetomidine-, and Fentanylinduced Unconsciousness in Rats Kathleen F. Vincent, Edlyn R. Zhang, Angel J. Cho, Risako Kato-Miyabe, Olivia G. Mallari, Olivia A. Moody, David P. Obert, Gwi H. Park, and Ken Solt

New Approaches

668 Thresholds and Mechanisms of Human Magnetophosphene Perception Induced by Low Frequency Sinusoidal Magnetic Fields Alexandre Legros, Janita Nissi, Ilkka Laakso, Joan Duprez, Robert Kavet, and Julien Modolo

Transcranial Pulsed Ultrasound

636 Sustained Reduction of Essential Tremor With Low-power Non-thermal Transcranial Focused Ultrasound Stimulations in Humans Thomas Bancel, Benoît Béranger, Maxime Daniel, Mélanie Didier, Mathieu Santin, Itay Rachmilevitch, Yeruham Shapira, Mickael Tanter, Eric Bardinet, Sara Fernandez Vidal, David Attali, Cécile Galléa, Alexandre Dizeux, Marie Vidailhet, Stéphane Lehéricy, David Grabli, Nadya Pyatigorskaya, Carine Karachi, Elodie Hainque, and Jean-François Aubry

Table of Contents continued on page iv

On the Cover: (A) Hematoxilin-eosin staining of a human right cVN cross-section. The cVN consists of serval nerve fascicles each surrounded by epineurium, and the whole nerve is surrounded by a layer of perineurium.

From: Characterization, number, and spatial organization of nerve fibers in the human cervical vagus nerve and its superior cardiac branch, page 510

Cervical VNS / Auricular VNS / Vestibular

510 Characterization, Number, and Spatial

Organization of Nerve Fibers in the Human
Cervical Vagus Nerve and Its Superior Cardiac
Branch
Bettina Kronsteiner, Genova Carrero-Rojas,
Lukas F. Reissig, Atieh Seyedian Moghaddam,
Karoline M. Schwendt, Sylvia Gerges,
Udo Maierhofer, Oskar C. Aszmann,
Angel M. Pastor, Attila Kiss, Bruno K. Podesser,
Wolfgang Birkfellner, Francesco Moscato,

Roland Blumer, and Wolfgang J. Weninger

- 543 Noninvasive Vagus Nerve Stimulation in Spontaneous Subarachnoid Hemorrhage (VANQUISH): A Randomized Safety and Feasibility Study
 Tania Rebeiz, Tagir Sabirov, Timothy G. White, David Ledoux, Jung-min Kim, Donna Kerner, Betsy Moclair, Amanda Lin,
 Shahab Khazanehdari, Aashish Patel, Heustein Sy, Marc S. Ayoub, Bensam Benziger, Kenia Samuel, Krista Lim-hing,
 Celine Rahman DeMatteo, and
 Richard E. Temes
- 575 Vagus Nerve Stimulation Enhances
 Remyelination and Decreases Innate
 Neuroinflammation in Lysolecithin-induced
 Demyelination
 Helen Bachmann, Boris Vandemoortele,
 Vanessa Vermeirssen, Evelien Carrette,
 Kristl Vonck, Paul Boon, Robrecht Raedt, and
 Guy Laureys

Transcranial Direct Current Stimulation (tDCS) / Transcranial Alternating Current Stimulation (tACS) / Transcranial Random Noise Stimulation (tRNS)

553 Intensity-dependent Effects of TDCS on Motor Learning Are Related to Dopamine Li-Ann Leow, Jiaqin Jiang, Samantha Bowers, Yuhan Zhang, Paul E. Dux, and Hannah L. Filmer

- 561 Transcranial Electric Stimulation Modulates Firing Rate at Clinically Relevant Intensities Forouzan Farahani, Niranjan Khadka, Lucas C. Parra, Marom Bikson, and Mihály Vöröslakos
- 594 The Effect of TDCS on Inhibitory Control and Its Transfer Effect on Sustained Attention in Children With Autism Spectrum Disorder: An FNIRS Study
 Liu Chen, Bang Du, Ke Li, Kaiyun Li,
 TingTing Hou, Fanlu Jia, and Li Li
- 620 Transcranial Direct Current Stimulation Alters Cerebrospinal Fluid-interstitial Fluid Exchange in Mouse Brain Yan Wang, and Hiromu Monai
- 648 Trigeminal Nerve Direct Current Stimulation
 Causes Sustained Increase in Neural Activity in
 the Rat Hippocampus
 Liyi Chen, Zhengdao Deng, Boateng Asamoah,
 and Myles Mc Laughlin
- 660 Single Session Cross-frequency Bifocal TACS
 Modulates Visual Motion Network Activity in
 Young Healthy Population and Stroke Patients
 Michele Bevilacqua, Sarah Feroldi,
 Fabienne Windel, Pauline Menoud,
 Roberto F. Salamanca-Giron,
 Sarah B. Zandvliet, Lisa Fleury,
 Friedhelm C. Hummel, and Estelle Raffin

Transcranial Magnetic Stimulation (TMS)

- 525 Depressive Symptom Trajectories With Prolonged RTMS Treatment Xiao Chen, Daniel M. Blumberger, Jonathan Downar, Victoria J. Middleton, Naima Monira, Jennifer Bowman, Joseph Kriske, John Kriske, Nancy Donachie, and Tyler S. Kaster
- 533 Breakdown of Effective Information Flow in Disorders of Consciousness: Insights From TMS-EEG

Yang Bai, Li Yang, Xiangqiang Meng, Ying Huang, Qijun Wang, Anjuan Gong, Zhen Feng, and Ulf Ziemann

Table of Contents continued on page v

BRAIN STIMULATION • Table of Contents (continued)

- 698 TMS Provokes Target-dependent Intracranial Rhythms Across Human Cortical and Subcortical Sites

 Ethan A. Solomon, Jeffrey B. Wang,
 Hiroyuki Oya, Matthew A. Howard,
 Nicholas T. Trapp, Brandt D. Uitermarkt,
 Aaron D. Boes, and Corey J. Keller
- 713 Divergent Roles of Early Visual Cortex and Inferior Frontal Junction in Visual Working Memory Yi-Jie Zhao, Xinying Zhang, and Yixuan Ku

Letters to the Editor

Deep Brain Stimulation (DBS)

726 Effective Connectivity of Functional Brain
Regions Through Concurrent Intracerebral
Electrical Stimulation and Frequency-tagged
Visual Presentation
Luna Angelini, Angélique Volfart,
Corentin Jacques, Sophie Colnat-Coulbois,
Louis Maillard, Bruno Rossion, and
Jacques Jonas

Electroconvulsive Therapy (ECT)

- 588 Synaptic Density Changes Following
 Electroconvulsive Therapy: A Longitudinal
 Pilot Study With PET-MR ¹¹C-UCB-J Imaging in
 Late-life Depression
 Maarten Laroy, Thomas Vande Casteele,
 Margot Van Cauwenberge, Michel Koole,
 Patrick Dupont, Stefan Sunaert,
 Jan Van den Stock, Pascal Sienaert,
 Koen Van Laere, Mathieu Vandenbulcke,
 Louise Emsell, and Filip Bouckaert
- 619 Author's Reply to Commentary on 'altered in Vivo Early Neurogenesis Traits in Patients With Depression: Evidence From Neuron-derived Extracellular Vesicles and Electroconvulsive Therapy' by Dr. Yakovlev Shu-xian Xu, and Zhongchun Liu

676 Electroconvulsive Therapy in New Onset Refractory Status Epilepticus (NORSE) in a Pediatric Patient Florence Sun, Spencer Eberhard, Amy E. Hanson, Laurence Walsh, Christopher T. Jackman, Danielle Maue, and Susan K. Conroy

New Approaches

678 External Stimulation of the Trigeminal Nerve Causes Pupil Dilation in Healthy Volunteers, Suggesting Locus Coeruleus Modulation Nina Seminck, Ahmad Khatoun, Silke Kerstens, Bart Nuttin, and Myles Mc Laughlin

Transcranial Direct Current Stimulation (tDCS) / Transcranial Alternating Current Stimulation (tACS) / Transcranial Random Noise Stimulation (tRNS)

- 550 Reduced VR Motion Sickness by Applying Random-phase Transcranial Alternating Current Stimulation to the Left Parietal Cortex Gang Li, and Theodore Zanto
- 572 Dietary Tyrosine Consumption Modulates the Effects of TDCS, But Not TRNS, on Planning Behaviour Oliver Buck, Tenielle Found, Rachel Weldon, Lee Wei Lim, and Luca Aquili
- 591 Combining Trauma Script Exposure With TDCS to Alleviate Symptoms of Posttraumatic Stress Disorder: A Two-arm Randomized Shamcontrolled Multicenter Trial Noémie Eyraud, Pierre Poupin, Marc Legrand, Agnès Caille, Anne Sauvaget, Samuel Bulteau, Bénédicte Gohier, Ghina Harika-Germaneau, Dominique Drapier, Nematollah Jaafari, Olivier Bodic, Bruno Brizard, Valérie Gissot, Catherine Belzung, Jean-Baptiste Courtine, and Wissam El-Hage
- 633 Long-term Outcome Safety Assessment After
 Teleneuromodulation in Children With Cerebral
 Palsy
 Daniel H. Lench, Preston Christopher,
 Marissa Gavioli, Gwendolyn Nytes,
 Chrysanthy Ikonomidou, Melissa A. Villegas,
 and Bernadette T. Gillick

Table of Contents continued on page vi

BRAIN STIMULATION • Table of Contents (continued)

- 681 The Potential Compensatory Effect of
 Transcranial Electrical Stimulation on the
 Adverse Impact of White Matter Damage in the
 Aging Brain
 Anna E. Fromm. and Daria Antonenko
- 683 Frontal HD-tACS Enhances Behavioral and EEG Biomarkers of Vigilance in Continuous Attention Task Nigel Gebodh, Vladimir Miskovic, Sarah Laszlo, Abhishek Datta, and Marom Bikson
- 721 Decomposing the Effects of α-tACS on Brain Oscillations and Aperiodic 1/f Activity Florian H. Kasten, René Lattmann, Daniel Strüber, and Christoph S. Herrmann
- 724 Recommendation for the Use and Development of Non-invasive Brain Stimulation— Insights From a Trans-European Participatory Stakeholder Study Perianen Ramasawmy, Andrea Antal, and Moritz Julian Maier

Transcranial Magnetic Stimulation (TMS)

616 TMS-associated Auditory Evoked Potentials Can Be Effectively Masked: Evidence From Intracranial EEG Nicholas T. Trapp, Eric W. Tsang, Joel Bruss, Simone Russo, Phillip E. Gander, Joel I. Berger, Kirill V. Nourski, Mario Rosanova, Corey J. Keller, Hiroyuki Oya, Matthew A. Howard III. and Aaron D. Boes