

NEWSLETTER



A happy and prosperous year 2014 to all readers of our newsletter. We would like to thank you for your constant trust and your interest in our work, our products and information about the scientific progress in the field of neuromodulation. This year we will again collect the latest information for you in this newsletter and keep you up to date.

You can read more about neuroConn and our products at www.neuroConn.de. If you would like to contact us, please send an e-mail to: info@neuroConn.de

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Latest news

neuroConn have moved to new premises:

During the past years our company has experienced a stable growth which was primarily due to the trust our customers keep in our work. More space is required to further guarantee the best quality of our products and the high service level for our customers. Therefore we have moved to new premises. From now on our new official address is:

neuroConn GmbH
Albert-Einstein-Straße 3
98693 Ilmenau
Germany

Our phone and fax number as well as e-mail addresses stay the same. The subsidiary in Munich, Germany, has been closed down.

Products & development

Future of neuromodulation: mobile tDCS

At the [NYCneuromodulation 2013](#) in New York neuroConn, [Rogue Resolutions](#) and [Soterix Medical](#) announced the revolutionary [MOBILE neuromodulation platform](#). The product represents yet another collaboration between Soterix Medical Inc. (based in New York City, NY), our UK-based subsidiary Rogue Resolutions and neuroConn.



Leveraging a decade of engineering innovations, the MOBILE neuromodulation system is the first non-invasive brain stimulation device designed for high-throughput clinical trials and potential home use. The MOBILE stimulator is equipped with proprietary tDCS-Limited Total Energy (LTE) technology, which is the only technology optimized for low-energy neuromodulation.

Research & technology: Neurofeedback

Neurofeedback for ADHS: State of research

A new review on the current state of neurofeedback in ADHD [[Arns, M. et al.](#)] demonstrates, that the method has been extensively investigated during the last decades. Especially recent publications allow for neurofeedback to be interpreted as an evidence-based treatment for ADHD in children. The "standard" protocols for SCP, SMR and Beta/Theta training are well-investigated and provide evidence of the clinical efficacy and lasting long-term effects.

Currently several studies are searching for the exact mechanisms of action of neurofeedback to prove the specificity of the treatment.

Two recent publications [[Gevensleben, H., et al.](#)] contribute to the growing general acceptance of neurofeedback as an ethically acceptable treatment module for children with ADHD. In the first study a tomographic analysis over the course of an SCP training showed that the training of the negative potentials in particular, tends to activate deeper regions of the brain and primarily leads to improved attention. The second study found that a tic disorder in children with ADHD can be treated with SCP training that focuses on behavioral inhibition. The tic frequency reduced after the training while the children's behavior showed a clinically relevant improvement of hyperactive and impulsive behavior.

Transcranial electrical stimulation (tDCS)

Brain stimulation affects compliance with social norms

Christian Ruff, Giuseppe Ugazio and Ernst Fehr from the University of Zurich, Switzerland, localized a specific brain region that regulates how an individual complies with social norms (altruism and fairness).



They found that being aware of a social norm is independent from complying with it and that stimulation of the rDLPFC [[Ruff C. et al.](#)] with electrical direct current influences the level of compliance. The neurologists at the University of Zurich have been working with neuroConn's 16-channel [DC-STIMULATOR MC](#) since 2009.

tDCS helps to quit smoking

The Ambulance for Tobacco Addiction (Spezialambulanz für Tabakabhängigkeit) of the Ludwig-Maximilians-University in Munich, Germany, is running a trial using [tDCS to support withdrawal from smoking](#). The aim of the study is to find out if tDCS can reduce the desire for cigarettes in habitual smokers. Complete results are expected in spring 2014. According to a preview of the results presented by the Munich scientists at DGPPN 2013, 83% of the participants in the verum group managed to quit smoking. In the placebo group only 60% were successful.

Post-stroke rehabilitation with tDCS

tDCS is considered a promising method to treat the loss of neurological functions due to stroke. Many scientific centers worldwide are currently investigating the opportunities tDCS can provide in stroke recovery.

[Marquez et al.](#) presented promising outcomes in their meta analysis of 15 randomized controlled trials on motor rehabilitation. Primarily patients with mild-to-moderate motor impairments as a result of chronic stroke showed statistically significant short-term improvements in motor performance when treated with tDCS. [Further studies](#) are required to identify the optimal stimulation parameters and to get a clear picture of the long term effects.

Trials on tDCS in acute stroke failed to demonstrate efficacy so far and need to be further investigated.

Ongoing studies (see [Charité in Berlin, Germany](#)), look into making the therapy of aphasia due to stroke more effective with tDCS. Even though a current [Cochrane review](#) with five randomized controlled trials with a total of 54 adult subjects could not yet reveal considerable effects of anodal or cathodal tDCS versus control, the authors concluded that the combination of speech and language therapy with cathodal tDCS over the non-lesioned hemisphere might be the most promising approach. Further studies with higher numbers of subjects are considered necessary [[see also Hartwigsen G. et al.](#)].

The publications reaffirm that tDCS is a safe method with only slight side effects and is usually well-tolerated.

Standardized neurofeedback protocols

We offer all users of our neurofeedback systems detailed operating instructions for the standard protocols integrated in the software. The document is free of charge and can be ordered in German and English language. Please send an e-mail to info@neuroConn.de and indicate the type and serial number of your system.

Workshop: Neuronavigation

Our colleagues from Rogue Resolutions and we cordially invite you to attend the free of charge workshop on the neuronavigation system [Brainsight TMS](#). The workshop will be held in Berlin around this year's ICCN / DGKN congress [[read more](#)] and in Hamburg during the OHBM conference [[read more](#)].

International Workshops / Symposia Q1 2014

Feb. 8, 2014: Workshop Neurofeedback, University of Zurich, Switzerland

Feb. 11 – 12, 2014: Workshop Neurofeedback, BfE Annual Meeting, Venice, Italy [[read more](#)]

Mar. 17 – 19, 2014: Transcranial electrical stimulation and TMS, University of Göttingen, Germany [[read more](#)]

Mar. 17 – 28, 2014: Workshop and Roadshow on the neuronavigation system [Brainsight TMS](#) [[read more](#)]

International Congresses Q1 2014

Mar. 8 – 9, 2014: 2nd [Asian Congress on ADHD](#), Tokyo, Japan [[read more](#)]

Mar. 15 – 23, 2014: [DGKN / ICCN](#), Berlin, Germany [[read more](#)]

Visitors to these congresses from German-speaking countries may ask for a discount on the Brainsight systems.

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