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Program of the 4-day BCIA accredited Neurofeedback course

This course will be presented by Dr. Martijn Arns (BCN, QEEG-D) and Drs. Vera Kruiver (BCN). Martijn Arns is Chief Scientific Officer at the neuroCare Group, director at Research Institute Brainclinics and affiliated with Utrecht University, Dept. of Experimental Psychology and Vera Kruiver is therapist, EMDR, rTMS and Neurofeedback specialist at the neuroCare clinic in Nijmegen (the Netherlands).

Below you can find a recommended reading list, which serves as a good preparation to the course. Most of these can be obtained via the neuroCare Group Community (http://www.neurocaregroup.com/scientific-publications.html). These articles are also included in the course binder, which will be handed out at the beginning of the course. The course is intended for academics or researchers in human sciences, specifically psychologists, psychiatrists, pediatricians and neurologists who would like to apply Neurofeedback in clinical practice or apply this technique in research settings. In addition to hands-on practice of Neurofeedback, there will also be hands on practice with sleep diagnostics and actigraphy, and various types of neurofeedback hardware will be used (MindMedia Nexus, Brainquiry PET-EEG and neuroConn TheraPrax).

Suggested reading material

Arns, M., & Kenemans, J. L. (2012). Neurofeedback in ADHD and insomnia: Vigilance stabilization through sleep spindles and circadian networks. Neuroscience and Biobehavioral Reviews. doi:10.1016/j.neubiorev.2012.10.006 *

Arns, M., Conners, C. K., & Kraemer, H. C. (2012). A decade of EEG theta/beta ratio research in ADHD: A meta-analysis. Journal of Attention Disorders. doi:10.1177/1087054712460087

Arns, M., Heinrich, H., & Strehl, U. (2014). Evaluation of neurofeedback in ADHD: The long and winding road. Biological Psychology, 95, 108-15. doi:10.1016/j.biopsycho.2013.11.013 *

Arns, M., de Ridder, S., Strehl, U., Breteler, M., & Coenen, A. (2009). Efficacy of neurofeedback treatment in ADHD: The effects on inattention, impulsivity and hyperactivity: A meta-analysis. Clinical EEG and Neuroscience, 40(3), 180-9. *

Arns, M., Drinkenburg, W., & Leon Kenemans, J. (2012). The effects of QEEG-informed neurofeedback in ADHD: An open-label pilot study. Applied Psychophysiology and Biofeedback, 37(3), 171-80.

Mayer, K., Blume, F. Wyckoff, S. N., Brokmeier, L.L. & Strehl, U. (2016) Neurofeedback of slow cortical potentials as a treatment for adults with Attention Deficit-/Hyperactivity Disorder. Clinical Neurophysiology, 127, 1374-1386.

Mayer, K., Wyckoff, S. N., & Strehl, U. (2013). One size fits all? Slow cortical potentials neurofeedback: A review. Journal of Attention Disorders, 17(5), 393-409. doi:10.1177/1087054712468053 *

Sherlin, L., Arns, M., Lubar, J., Heinrich, H., Kerson, C., Strehl, U., & Sterman, M. B. (2011). Neurofeedback and basic learning theory: Implications for research and practice. Journal of Neurotherapy, 15(4), 292-304.

Strehl, U., Aggensteiner, P., Wachtlin, D., Brandeis, D., Albrecht, B., Arana, M., . . . Holtmann, M. (2017). Neurofeedback of slow cortical potentials in children with attention-deficit/hyperactivity disorder: A multicenter randomized trial controlling for unspecific effects. *Frontiers in Human Neuroscience*, *11*. doi:10.3389/fnhum.2017.00135 *

* reflect the most recommended articles

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Program

Day 1	
9.00 - 9.30 hr	Welcome and introduction
9.30 – 11.00 hr	Neurophysiological basis of the EEG
11.00 – 11.15 hr	Coffee break
11.15 – 11.45 hr	Learning theory: operant and classical conditioning
11.45 – 12.30 hr	History and basic technical aspects of neurofeedback and EEG
12.30 – 13.30 hr	Lunch
13.30 – 14.00 hr	Neurofeedback in ADHD: evidence based and long term effects
14.00 – 16.00 hr	Neurofeedback hands-on practice and demonstration SMR/SCP, NF/QEEG, sleep and actigraphy practice
16.00 – 16.15 hr	Coffee break
16.15 – 18.00 hr	Neurofeedback hands-on practice and demonstration SMR/SCP, NF/QEEG, sleep and actigraphy practice
18.00 hr	Questions and closing of the day
Day 2	
9.00 – 10.15 hr	QEEG and neurofeedback in ADHD: from diagnosis to prognosis…
10.30 – 10.45 hr	Coffee break
10.45 – 12.30 hr	QEEG and neurofeedback in ADHD: from prognosis to treatment… to prevention…?
12.30 – 13.30 hr	Lunch
13.30 – 15.00 hr	Interpretation of the QEEG and EEG: EEG Phenotype and EEG Vigilance model
15.00 – 15.15 hr	Coffee break
15.15 – 18.00 hr	Practice and demonstration: QEEG and examples

Day 3	
9.00 – 10.30 hr	Slow Cortical Potentials and research background
10.30 – 10.45 hr	Coffee break
10.45 – 12.30 hr	Technical aspects of neurofeedback and SCP neurofeedback
12.30 – 13.30 hr	Lunch
13.30 – 15.00 hr	New developments and other applications in neurofeedback and neuromodulation
15.00 – 15.15 hr	Coffee break
14.45 – 15.30 hr	Neurofeedback: hands-on practice: SCP-NF / Actigraphy: scoring and interpretation
15.30 – 15.45 hr	Coffee break
15.45 – 18.00 hr	Neurofeedback: hands-on practice: SCP-NF / Actigraphy: scoring and interpretation
Day 4	
9.00 – 11.00 hr	Clinical embedding of neurofeedback and case examples: ADHD and sleep I
11.00 – 11.15 hr	Coffee break
11.00 – 12.30 hr	Clinical embedding of neurofeedback and case examples: ADHD and sleep II
12.30 – 13.30 hr	Lunch
13.00 – 14.00 hr	QEEG in ADHD: review and application
14.00 – 15.30 hr	Hands-on practicum: QEEG interpretation: part 1
15.30 – 15.45 hr	Coffee break
15.45 – 18.00 hr	Hands-on practicum: QEEG interpretation: part 2
18.00 hr	Evaluation, exam and closing