

WORKSHOP SCHEDULE

February 24 to 28, 2009 Eindhoven / Netherlands

F= Fundamental Workshop (basic) **U** = Universal (fits all needs) **A** = Advanced Workshop (basic knowledge required)

Click on the title to view the abstract. Click on the presenter name to view the biographical sketch.

Time	Tuesday Feb.24	Wednesday Feb. 25	Thursday Feb.26	Friday Feb.27	Saturday Feb.28
9 am - 5 pm	<p>Reg. code 24-03 Lehrer HRV – Background and Theory F</p>	<p>Reg. code 25-03 Lehrer HRV –Protocols and Hands-On Practicing F</p>	<p>S C I E N T I F I C P R O G R A M</p>	<p>Reg. code 27-01 Gunkelman QEEG: Brain Mechanism and Systems F</p>	<p>Reg. code 28-01 Gunkelman QEEG: Interpretation Issues in EEG/QEEG A</p>
9 am - 5 pm	<p>Reg. code 24-04 Diamantidis Biofeedback for Work related Stress Control and Management U</p>	<p>Reg. code 25-04 van Dixhoorn Manual Assessment of Respiratory Movement U</p>		<p>Reg. code 27-02 Mes The Mirror of Self-Awareness: Learning to control the Trapezius Part 1 U</p>	<p>Reg. code 28-02 Mes The Mirror of Self-Awareness: Advanced Skills Part 2 U</p>
9 am - 5 pm	<p>Reg. code 24-05 Saab Introduction to EEG Fundamentals and Signal Processing Methods for Non-Technical NF Practitioner F</p>	<p>Reg. code 25-05 Sürmeli QEEG Guided Neurotherapy A</p>		<p>Reg. code 27-03 Moss Resp. Training and HRV for Anxiety and Functional Medical Disorders A</p>	<p>Reg. code 28-03 Moss and Gevirtz Psychophysiological Interventions for Common Medical and Psychological Disorders A</p>
9 am - 5 pm	<p>Reg. code 24-06 Peper / Fuhs Stress management: how to Escape Hurry-up Sickness with Biofeedback U/A</p>	<p>Reg. code 25-06 Fuhs / Peper Burn Out/PTSD/Trauma: New Perspectives and Treatment Protocols A</p>		<p>Reg. code 27-04 Gevirtz Psychophysiological Approaches to Chronic Pain U</p>	<p>Reg. code 28-04 Blase Resilience with HRV Self – control Therapeutic Work A</p>
9 am - 5 pm				<p>Reg. code 27-05 Thompson Effective ADHD Intervention with Adults&Children U</p>	<p>Reg. code 28-05 Thompson Effective ADHD Intervention with Adults&Children U</p>
9 am - 5 pm				<p>Reg. code 27-07 Cluitmans When heart and brain are teaming up, do things get more efficient? A</p>	

Workshop Abstracts

All workshops are in English and scheduled from 9 a.m. to 5 p.m.

TUESDAY, February 24th 2009

HRV – Background and Theory

Paul Lehrer, Ph.D.

Reg. code 24-03 / Intermediate workshop / English language

Heart rate variability biofeedback has become a major new technology in the biofeedback field over the past 10 years. Our laboratory has been involved in studying the clinical effects and mechanisms for this method, and ways that it modulates autonomic reactivity and thereby stabilizes autonomic function, emotional reactivity, and various disorders affected by emotional or autonomic imbalance or hyper reactivity.

This part of the workshop will cover:

1. The meaning of heart rate variability: what it represents in the body. Autonomic pathways and as a representation of general adaptability
2. Heart rate variability biofeedback
 - a. The history of the method
 - b. Physiological effects
 - c. The concept of "resonance" and how it explains HRV biofeedback effects
 - d. Outcome research with HRV biofeedback: applications to respiratory, emotional, cardiovascular, gastrointestinal, and psychoneurological diseases and disorders; applications to sports and peak performance

Some knowledge of the autonomic nervous system will be necessary to fully understand this workshop.

Keywords: Heart rate variability, Respiratory psychophysiology, Resonance

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Biofeedback for Work Related Stress Control and Management

Spiro Diamantidis, MD.

Reg. code 24-04 / Universal workshop / English language

This workshop explores the influence of work related stressors and social engagement behaviors in the workplace environment to the physiology of the organism and the social costs. The aim of the workshop is to increase the participants' understanding of the "seesaw" balance autonomous nervous system mechanism through the exploration of different explanations and conclusions regarding autonomic function of the behavioral processes. The use biofeedback such as surface electromyography (sEMG), electrodermal biofeedback (EDR), respiration biofeedback, heart rate variability (HRV) and temperature biofeedback (THERMAL) will be explained in association with work related stressors. Discussed will be complicated and difficult cases of treating people who have functional high blood pressure while claiming to be living normal and happy family lives, high cholesterol not related to bad eating habits, muscle and joint problems not related to abusive life style, chronic fatigue or other stress related syndromes combined with a loathing of work accompanied by work absenteeism or unbalanced social behavior. Other situations include severe accidents due to human error, the disguised antisocial behavior of a manager, the passive aggressive attitude of an employee, the mind-body catatonia of a student during examination and uncontrolled school violence. Discussed are how work-related stress reactions which create a vicious circle in the work or school environment can be treated with selected biofeedback strategies and techniques. References will be included during the seminar.

Keywords: Work Related Stress, Biofeedback, Social Behavior, Workplace Environment

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An Introduction to EEG Fundamentals and Signal Processing Methods for the Non-Technical Neurofeedback Practitioner

Marc Saab, M.ENG.

Reg. code 24-05 / Fundamental workshop / English language

The practice of neurofeedback requires knowledge in such varied areas as psychology, neurophysiology, electroencephalography (EEG) and digital signal processing. Where signal processing is concerned, often an understanding of complex engineering concepts is required to use the many tools available. This workshop will present the fundamental concepts of both EEG and signal processing theory in a simple, clear manner for the non-technical practitioner to appreciate, retain and apply, with the intention of improving clinical outcomes. Topics will include (among others, and as time permits): a physiological basis of EEG, electrode and measurement fundamentals, surface QEEG characteristics, clinical recommendations, digital filtering, time vs frequency domain, coherence and phase, z-score biofeedback, Gabor JTFA, evoked and slow cortical potentials (EP and SCP).

Keywords: EEG, QEEG, Neurofeedback, Signal Processing, EEG Electrode Placement

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Stress Management: How to Escape the Hurry-up Sickness with Biofeedback

Erik Peper, Ph.D., BCIA, Monika Fuhs, Mag.rer.nat., BCIA

Reg. code 24-06 / Universal and Advanced workshop / English language

Learn how individuals or groups can enhance health and prevent hurry-up sickness. This experiential course focuses on an integrated stress management program. Techniques include biofeedback monitoring and training to change belief structure and monitor the congruence between internal experience and objective physiological data such as respiration and blood volume pulse amplitude. It also includes stress awareness, dynamic regeneration, effortless breathing, peripheral hand warming, cognitive self-management, changing internal dialogue, reducing energy drains and increasing energy gains, problem solving, rewriting of unsuccessful behaviors, and self-healing through imagery. Participants will be able to:

- Describe components of an integrated educational stress management program.
- Demonstrate specific techniques to change participants' mind/body beliefs.
- Know specific instructions and practices for teaching cognitive balance and self-healing through imagery and behavior change exercises.
- Use blood volume pulse amplitude, temperature, electrodermal and respiration to identify risk factors and increase regeneration.
- Integrate somatic and group imagery techniques to reduce pain.

Keywords: Stress management, voluntary control, blood volume pulse

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HRV – Protocols and hands-on practicing

Paul Lehrer, Ph.D.

Reg. code 25-03 / Intermediate workshop / English language

This workshop will cover:

1. A protocol for determining resonance frequency
2. A protocol for doing biofeedback
3. Case material
4. Hands-on experience: finding your own resonance frequency
5. Open mike discussion: issues in procedures and applications of HRV biofeedback

Dr. Lehrer invites participants to bring their own computers and instruments.

Some knowledge of the autonomic nervous system will be necessary to fully understand this workshop.

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Manual Assessment of Respiratory Movement

Jan van Dixhoorn, Ph.D.

Reg. code 25-04 / Universal workshop / English language

One of the aspects of dysfunctional breathing is the quality and distribution of respiratory movement. This course introduces the basic perspective of “whole body breathing,” both theoretically and practically, as well as a technique to assess distribution of movement. Data on its validity will be presented, its clinical utility will be discussed and the technique will be practiced.

Keywords: Dysfunctional breathing, Breathing movement, Measurement

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QEEG Guided Neurotherapy

Tanju Sürmeli, MD, BCIAC-EEG

Reg. code 25-05 / advanced workshop / English language

Neurometric databases differential sensitivity to a number of developmental, neurological and psychiatric disorders has repeatedly been reported by numerous psychiatric groups.

Examinations using Neurometric databases for diagnostic purposes are routinely reimbursed by over a dozen US insurance companies. Further, the NxLink and other qEEG databases are routinely used successfully to guide feedback by the members of the Society of Neuronal Regulation, AAPB, SAN, and BFE with results documented in numerous publications and presented at their annual meetings attended by over a thousand members. In Neurometric qEEG analysis, all qEEG variables are calculated as Z-scores which means $-/+2$ standard deviation for age is normal. The length of the standard deviation represents the severity of the neuropathology and abnormality. On the hypothesis that neurofeedback treatment will most benefit the patients who normalize the Z- score on their qEEG, case studies were presented illustrating that the successful application of neurometric analysis guided NF in patients with a variety of brain dysfunction. Database-guided neurofeedback has been used successfully in numerous cases of attention deficit hyperactivity, depression, and traumatic brain injury. Participants gain the following:

- Knowledge: Learn the fundamentals of qEEG findings in some psychiatric illnesses (LD, ADHD, Schizophrenia, mTBI, Depression, Bipolar Disorder, Dementia, MR, Down Syndrome, Personality disorders and Autism).

- Assessment: be able to recognize characteristic qEEG neurometric analysis power patterns (absolute power, relative power, asymmetry, coherence) before neurofeedback treatment and during neurofeedback treatment.
- Intervention: develop a rationale intervention based on this assessment data which develops baseline qEEG guided neurofeedback treatment protocols for personalized medicine treatment model in some psychiatric illnesses.

Keywords: QEEG, Databases, Neurofeedback

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Burnout / PTSD/ Trauma: New Perspectives and Treatment Protocols

Monika Fuhs, Mag.rer.nat., BCIAC, Erik Peper, Ph.D., BCIAC,

Reg. code 25-06 / Universal and Advanced workshop / English language

Burnout is an underestimated health risk that affects many people: children in schools, adults with excessive workplace stress, and elderly people with reduced social networks. Burnout is a major factor in workplace stress and costs more than \$300 billion each year in health care and work absences in the USA. Although symptoms of burnout may differ in gender, they can range from exhaustion, depression, decrease in social contact, sleep disorders, cynicism, ineffectiveness, and many physical complaints such as headache, stomach-ache, and irritable bowel syndrome. Burnout is partially the conflict between what people would like to do and what they have to do. It represents erosion in values, dignity, spirit, and will—the erosion of the human soul. It is a malady that spreads gradually and continuously over time, putting people into a downward spiral from which it is difficult to recover. Burnout is a destruction of motivation and purpose and caused by feelings of powerlessness, helplessness, and hopelessness. A sense of uncontrollability or helplessness is the final stage of burnout and is accompanied by depression and feelings of futility. The workshop teaches strategies and buffers to avoid and reverse burnout. Participants will:

- Learn psychophysiological indicators that identify people at risk for burnout.
- Understand individual's vicious circle stress which contributes to burnout.
- Understand gender specific responses and treatment strategies.
- Master strategies that increase clients sense of control and choice.
- Integrate body and soul as a pathway to creativity and health through control over the individual physiology.
- Practice biofeedback interventions to reverse the downward stress spiral for children and adults.
- Overview detailed clinical training procedures.

Keywords: Stress models, Biofeedback, Self Control, Psychophysiological Patterns, Helplessness

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FRIDAY, February 27th 2009

QEEG: Brain Mechanism and System

(Day 1 of 2, can also be taken as a one day workshop)

Jay Gunkelman, Ph.D.

Reg. code 27-01 / Fundamental workshop / English language

The focus will be on brain mechanism and systems, and the level will be appropriate for those entering the field to those with intermediate levels of experience. We will begin the day with a review of the EEG's rhythm generators, from direct current and slow cortical potentials through the traditional bands of delta, theta, alpha and beta, to gamma. This will be based on the IFCN position paper on rhythm generators. To understand the EEG, we will also cover artifacts and de-artifacting techniques. To gain an understanding of the brain's cortical

function, we will focus on published studies showing the correlation between cortical perfusion and EEG frequencies. To keep a clinical focus, we will do a full review of the pathophysiology of ADHD, including the common co-morbidities seen clinically, such as OCD, ODD, Tourette's syndrome. Emerging applications for NF in PDD/Autism and other areas such as the affective disorders will be covered. The normal cortical functional distributions will be reviewed, including topographic specialization of function, and the EEG correlates of neuroplasticity. The day will finish with a focus of the brain's DC systems: from measuring cortical excitability to Transcranial DC stimulation.

Keywords: QEEG, Neuroplasticity, EEG

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The Mirror of Self-Awareness: Learning to Control the Trapezius Part 1 (Day 1 of 2)

Servaas Mes, Ph.D.

Reg. code 27-02 / Universal workshop / English language

This experiential as well as hands-on workshop will teach you complementary techniques used in the field of stress-reduction to immediately regain control over the stress response by teaching the trapezius muscle to return to its original state. As a major key muscle involved in the relaxation response, you will gain insight in why this muscle is over activated, which other muscles are overly activated in that same pattern and what you can do to teach your client to normalize this muscular tension. The emotional component that complements every motion will be addressed as well. These exciting immediate changes from a first person perspective are measurable with biofeedback in real time and are taught in a format that is easily understandable for your clients.

Keywords: Stress-Reduction, Emotions, Muscles

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Respiratory Training and Heart Rate Variability Biofeedback for Anxiety Disorders and Functional Medical Disorders

Don Moss, Ph.D., BCIAC

Reg. code 27-03 / Advanced workshop / English language

This workshop provides a psychophysiological framework for the assessment and treatment of anxiety disorders and functional medical disorders, integrating general biofeedback, respiratory psychophysiology, capnometry, and heart rate variability (HRV). Research confirms the role of maladaptive breathing in anxiety. Biofeedback technology enables general (CNS and ANS) relaxation, respiratory retraining and the training of heart rate variability. The workshop reviews relevant respiratory and cardiovascular physiology, and presents a psychophysiological assessment process for anxiety, utilizing capnometry, autonomic baseline measures, and heart rate variability. Therapeutic measures include patient education, general biofeedback, respiration training with biofeedback, and heart rate variability biofeedback. The presenter will demonstrate HRV biofeedback training, using the Infiniti software system.

Workshop Objectives

The objective of the workshop is to provide participants with a basic orientation to the use of general biofeedback modalities, breathing training, and HRV biofeedback for anxiety disorders. Part 1 covers general biofeedback, respiratory physiology, and breathing training. Part 1 also covers assessment procedures including a multi-modal psychophysiological baseline, and a capnometric evaluation of respiration with a hyperventilation trial. Part 2 covers cardiovascular physiology, HRV biofeedback, and hands on training with

HRV instrumentation and automated HRV training scripts, as applied to managing stress and anxiety disorders. Classroom demonstrations will display specific respiratory and HRV biofeedback training strategies.

Keywords: HRV, Anxiety Disorders, Biofeedback

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Psychophysiological Approaches to Chronic Pain

Richard Gevirtz, Ph.D.

Reg. code 27-04 / Universal workshop / English language

Although there has been an emphasis on treatment models for chronic pain in recent years, most clinicians do not emphasize the source of the pain. Differential modelling for different pain syndromes greatly enhances treatment efficacy. In this workshop, a meditational model for pain will be presented that allows the clinician to tailor treatment methods to the specific syndrome being treated. Thus, myofascial pain, abdominal pain, fibromyalgia, complex regional pain syndrome, and headache pain are all formulated with a unique treatment model using various psychophysiological modalities (HRV, sEMG, Respiration, Skin Conductance, Temp, etc.) and Acceptance and Commitment Therapy (ACT) principles. The models emphasize the difference between peripheral and central mechanisms. This differentiation can greatly affect the treatment planning and procedures. Participants should be able to apply the protocols to these pain populations.

Keywords: Pain, HRV, Respiration

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Effective ADHD Intervention with Adults & Children Part 1 (Day 1 of 2)

Lynda Thompson, Ph.D., BCIAC-EEG, Michael Thompson, MD

Reg. code 27-05 / Universal workshop / English language

Distinct EEG patterns in the raw EEG, augmented by QEEG analysis that includes LORETA imaging, can distinguish different sub-types of ADHD in adults compared to children and identify comorbidities including children with Asperger's Syndrome, Learning Disabilities, previously undiagnosed seizure disorders and adults with anxiety (even panic) or depression. Adults show two main patterns: high amplitude theta (like children) and high beta, including spindling beta. The EEG patterns lead to both corrective interventions and individualized optimal performance protocols. Positives of ADHD are noted.

This course is suitable for clinical biofeedback practitioners, especially those doing EEG biofeedback, of any disciplinary background (psychologists, physicians, nurses, teachers, etc.). They should have basic knowledge and skills concerning EEG frequencies and measurement plus an interest in using applied psychophysiology in working with clients who wish to optimize their performance through self-regulation at school, work or in extracurricular activities.

Participants will gain the following:

- Knowledge: (1a) Learn the key symptom patterns to assist in the differential diagnosis of ADHD (child and adult), and comorbid conditions including Tourette's, Asperger's, LD, anxiety, panic, depression, TBI, memory dysfunction, and Seizure Disorders. (1b) Learn the diverse connections of the anterior cingulate and its role in attention and in affective and cognitive dysfunction in ADHD clients.
- Assessment: (2) Be able to recognize characteristic EEG power patterns in the frequency range 2 to 61 Hz which may be observed in ADHD and comorbid conditions in addition to learning how to assess

the psychophysiological patterns that reflect stress which is such a common problem with ADHD adults.

- Intervention: (3) Develop a rational intervention based on this assessment data, which combines elements of neurofeedback, biofeedback and cognitive strategies for an individualized mind-body training program; discuss the application of this knowledge during a demonstration of a one (or two) channel EEG assessment combined with a stress assessment.

Keywords: ADHD, Asperger`s, Tourette`s

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When the heart and the brain are teaming up, do things get more efficient?

Pierre Cluitmans, Ph.D.

Reg. code 27-07 / Advanced workshop / English language

This 1-day workshop, organized by the departments of Industrial Design and Electrical Engineering (TU/e) and Advanced Neuro Technology (ANT BV, Enschede), is intended for experienced professionals. It shows how a multi-modal and model-based approach can be used to improve the quality and efficiency of a biofeedback therapy. During the first part of the workshop, we demonstrate how multimodal measurements, such as multi-channel EEG and heart rate variability, can be used to evaluate stress relaxation and the startle response. During the second part of the workshop, different feedback strategies will be compared: EEG, biofeedback and a combined approach.

A startle reflex is the natural defensive response of the brain and body to a sudden stimulus such as a loud sound or a flash of light. A typical expression of this startle reflex is a current contraction of the muscles, an increased heart rate, eye blinks and a change in specific EEG frequency oscillations. These responses are associated with stress mechanisms and their expression has been investigated in various studies.

In the first part of the workshop, the effect of stress and the startle reflex on various electrophysiological parameters will be explained. After this, we demonstrate how to measure this response by using the ANT ASA-lab software. Electrophysiological measurements from different modalities are combined to increase the sensitivity and specificity of stress assessment (i.e. brain potentials, heart rate variability, skin resistance, the activity in the orbicularis oculi muscles).

During the second part of the workshop, we discuss how a model-based approach can facilitate the design of a biofeedback system. We will cover that a good model combines 1) knowledge about the (open loop) relationship between electrophysiological responses and the state of the client, which was measured in the first part of the workshop; but also that it incorporates 2) information about the biofeedback software itself. Theories from game design can guide us here. In a hands-on experiment we will explore different settings for a biofeedback signal. Both uni- and multimodal feedback approaches will be created. The ANT Neurofeedback module is used to facilitate a quick & easy implementation of the game.

Keywords: Biofeedback, Stress, Electrophysiological measurements

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SATURDAY, February 28th 2009

**QEEG: Interpretation Issues in EEG/QEEG Part 2
(Day 2 of 2, can also be taken as a one day workshop)**

Jay Gunkelman, Ph.D.

Reg. code 28-01 / Advanced workshop / English language

The focus will be on interpretation issues in EEG/qEEG oriented to intermediate to advanced levels of practice. The phenotype model will be introduced, which will shift the focus away from the DSM and diagnosis, and toward prognosis and treatment outcome prediction for medications and NF. Advanced topics such as EEG phase and coherence will be discussed, including Phase and phase reset in EEG/qEEG, as well as a clarification of the concept of Connectivity, including Co-modulation and Coherence. A special focus on the so-called "Mirror neuron system" and the EEG will include in-depth discussion about central Mu, including the frontal origin of the waveform and current work in PDD/Autism on Mu.

Advanced topics such as nested rhythms, Cross-Spectral analysis and a brief discussion of the ERP data's implications for consciousness will be included in a final section regarding mind/brain and consciousness.

Keywords: EEG, QEEG, ERP data's

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**The Mirror of Self-Awareness: Advanced Skills Part 2
(Day 2 of 2)**

Servaas Mes, Ph.D.

Reg. code 28-02 / Universal workshop / English language

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Psychophysiological Interventions for Common Medical and Psychological Disorders

Don Moss, Ph.D., BCIAC, Richard Gevirtz, Ph.D., BCIAC

Reg. code 28-03 / Advanced workshop / English language

This workshop presents a mediational model showing the psychophysiological and behavioral pathways contributing to the onset and maintenance of many common medical problems, including: hypertension, fibromyalgia, chronic pain, anxiety, irritable bowel syndrome/recurrent abdominal pain, migraine, and cardiovascular rehabilitation. The workshop will include a brief overview and demonstration of heart rate variability biofeedback, a tool with practical applications for each of these medical problems. Attendees will learn to assess resonant frequency, and learn to conduct an HRV training session. Heart rate variability biofeedback is effective both as an autonomous intervention, and as an adjunctive therapy in combination with cognitive behavior therapy, graduated exposure, and such approaches as Acceptance and Commitment Therapy. The workshop will present detailed guidelines for treating two disorders: irritable bowel syndrome and hypertension. Irritable bowel syndrome in children is labeled as recurrent abdominal pain. In addition, the presenters will provide a brief overview showing how a similar model can be utilized in the treatment of disorders ranging from migraine to fibromyalgia.

Keywords: HRV, Behavior Therapy, Medical Problems

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Resilience with HRV Self-control Therapeutic Work

Kees Blase, Ph.D.

Reg. code 28-04 / Advanced workshop / English language

In the morning you will learn basic and advanced techniques to facilitate a coherent HRV-rhythm:

- resonance between breathing rhythm and heart rate rhythm
- activate grateful emotions and bring emotions in movement

You also will experience new ways:

- heart focus movement exercises
- heart coherence facilitating music

You will become familiar with using the HRV-frequency spectre in the therapeutic context. How to use different biofeedback instruments and coherence coaches?

Successes have been realized in psychiatric disorders of the autism spectre, panic disorders, trauma healing, depression and in coaching in personal transition. In addition

HRV is assessing moment-to moment changes in the autonomic function and balance due to changes in mental or emotional states.

With digesting pain from the past, in transition processes, in making steps into new pathways you will meet deep emotions and you come in processes, where you meet inner sources and also resistance, pain and road blocks in the learning process.

You will learn:

- to sustain heart coherence for a longer period and build resilience
- to use the frequency spectre of HRV in monitoring the emotional state of the body to process your therapy more profound
- to integrate heart coherence in your own therapy
- to discuss the protocol for trauma healing
- to use heart coherence in processes of choice

Learn how to develop a therapy environment where clients feel safe and feel invited to meet their stuck emotions.

Keywords: HeartMath, HRV, Movement Exercises

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Effective ADHD Intervention with Adults & Children Part 2 (Day 2 of 2)

Lynda Thompson, Ph.D., BCIAC-EEG, Michael Thompson, MD

Reg. code 28-05 / Universal workshop / English language

Abstract: [see Friday](#)

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FACULTY (in alphabetical order)

Blase Kees, Ph.D.

Kees Blase PhD is a therapist, physicist and coach in authentic leadership. He combined in 1970 the University of Utrecht both studies of Medical Physics and Psychology. He wrote a few books on vitality, authentic leadership and personal development. He was founder of the National Centre of Stressmanagement in the Netherlands in 1993.

Kees Blase introduced the HeartFocus method in the Netherlands in 2002, first in education, later as director of HeartMathNL in health, therapy and stressmanagement. He gave keynotes, trainings and workshops in New Zealand, Germany, US, Austria, Albania, England and organized the World Conference on Emotional Intelligence in 2005, with Daniel Goleman. He organised in 2007 a conference with Stephen Porges based on the polyvagal theory and practice in psychiatry.

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Cluitmans, Pierre, Ph.D.

Finished his Master's degree on Medical Electrical Engineering at Eindhoven University of Technology (TU/e) in 1983. His PhD (1990) on Neurophysiological Monitoring of Anesthetic Depth was, a.o., carried out at the Departments of Anesthesiology of University of Florida, Gainesville, Fla and Radboud University, Nijmegen, Netherlands. In 1992, Cluitmans was appointed as Associate Professor on Clinical Automation and was Chair of the Division of Medical Electrical Engineering of TU/e from 1993-1999. During and after this period he participated in numerous European projects on biosignal interpretation.

He founded the Center for Electrophysiology and Diagnostics (CED) in which specialised services are offered for neurometric diagnostic support of development disorders and multimodal biofeedback treatment of chronic stress and concomitant health complaints. Cluitmans teaches courses on Electrophysiology and Neuromonitoring and is in charge of the TU/e research in these areas including: model-based heart rate variability analysis; (multimodal) neurometric diagnostics in development disorders; seizure detection in refractory epilepsy and model-based multimodal biofeedback.

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Diamantidis Spiro, MD.

He is a Medical Doctor graduated from Athens University Medical School, specializing in GP and homeopathic medicine in Hellas, Austria, Great Britain and USA. Founder and president of the Medical Institute for Homeopathic Research and Applications (M.I.H.R.A), founded in 1985 in Athens, educating over 3.500 medical doctors, pharmacists, dentists and veterinarians. Founder and president of the Pan-Hellenic Biofeedback Center founded in Athens 1983. Former General Secretary of the Homeopathic Committee of the Central Health Council of the Ministry of Health, Welfare and Social Security, Founding member of the European Council for Integrated Medicines-E.C.I.M (European committee for the promotion of alternative medical systems in the countries of the E.U, seated in Brussels). With the "Diamantidis medical team" today totaling 43 Medical Doctors, he runs 22 homeopathy and biofeedback clinics in Greece, Cyprus, and abroad on line through video conference. He has carried out and presented with his collaborators in international and pan-Hellenic congresses 93 scientific medical studies and clinical researches on homeopathic treatment for a multitude of pathological issues from fertility to cancer and on biofeedback regarding many psychological entities. Since 1983 he has been the general director of biofeedback programs which are utilized in Hellas and worldwide, and since 2003 on approval and subsidization from the E.U. through the Organization for Employment, and in Cyprus subsidized from the E.U. through the Human Resource Development Authority. He is a pioneering physician who implements biofeedback into his work and has given numerous workshops on this topic.

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Fuhs Monika, Mag.rer.nat., BCIAC

Studied Psychology at the University of Vienna, worked at the Neuropsychiatric station for children of the Vienna AKH for many years as well as doing a study about kids and development of language for the Vienna Academy of Science. Board member of the ÖBfP (Österreichische Gesellschaft für Biofeedback und Psychophysiologie), editor of the new BFE Journal 'Psychophysiology Today', author of articles with Erik Peper, Co- Director and project manager of Work solutions for the "Healthy Computing and prevention at the worksite" program, lecturing at numerous workshops in the fields of Biofeedback in Europe, Founder and Director of the Holistic Learning Institute. Monika Fuhs is a licensed teacher and trainer for dyslexia and perception problems (ReLeMaKo®) and brain friendly learning, Energy healing, Therapeutic touch and orthomolecular nutrition. She teaches workshops in the fields of stress management, holistic health, "Healthy Computing" and "Optimum Human Functioning" with Erik Peper and "Brain Management" and "Brain Friendly Teaching and Learning" in different schools, workshops for stress management and success for kids as well as leading a private practice for kids and adults. Her main interests focus on mind body medicine and what it takes to make people change and how biofeedback and related therapies can help to make this process as successful as possible.

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Gevirtz Richard, Ph.D., BCIAC

Richard N. Gevirtz, is a Professor of Psychology at the California School of Professional Psychology at Alliant International University in San Diego. His research and practice in recent years has focused on psychophysiological mechanisms and treatment of disorders affected by the autonomic nervous system, such as IBS, Non-Cardiac Chest Pain, TMD, Headache, and other muscle pain syndromes. He is the author of numerous articles and chapters.

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Gunkelman Jay, QEEGD

Jay entered the field of biofeedback in 1972, co-founding the first state hospital based biofeedback lab in the USA. Jay is an executive officer of the Board of Directors of AAPB, and is a past president of iSNR. He is currently the Executive Vice President of Q-Metrx.com, a company which specializes in EEG/qEEG analysis, as well as Polysomnography. He has lectured on the brain's anatomy and physiology, and the EEG/qEEG world-wide.

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Lehrer Paul, Ph.D.

Paul Lehrer, Ph.D. is Professor of Psychiatry, at the University of Medicine & Dentistry of New Jersey (UMDNJ) Robert Wood Johnson Medical School, and Director, UMDNJ Center for Stress Management and Behavioral Medicine. He is Past President of the Section for Applied Respiratory Psychophysiology, of the AAPB and of the Biofeedback Society of New Jersey and Past Member of the Board of Trustees, AAPB and BCIA. Dr. Lehrer has over 90 publications in the fields of psychophysiology, biofeedback, and behavior therapy. He is co-editor of the widely used text, Principles and Practice of Stress Management. Dr. Lehrer has been studying HRV and HRV biofeedback for the past 15 years. He currently is the recipient of a grant to perform a controlled trial of HRV biofeedback for treatment of asthma, from the National Institutes of Health, Heart Lung and Blood Institute. He has given previous lectures and workshops on this topic throughout the world, including recent presentations at the Association for Applied Psychophysiology and Biofeedback, the American Thoracic Society, and the International Society for Applied Respiratory Psychophysiology.

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Mes Servaas, Ph.D.

Servaas Mes is the Director of The Somatic Health Center in St. Helena, California. He received his training as a Physical Therapist / Physiotherapist in the Netherlands before moving to Northern British Columbia, Canada

in 1989. After being injured himself, Servaas tried many different 'experts' and treatment techniques for over five years, resulting only in temporary relief. In 1996 he experienced his first hands-on session in Hanna Somatic Education®, which not only gave him long term relief, but also strengthened his belief that we have to learn to take responsibility for our own healing. Following the Hanna Somatic Education® training program in California, Servaas opened his own clinic in Somatic Rehabilitation. In October 1999, Servaas moved back to the Netherlands, where he was invited by Dr. Andry Vleeming (founder and organizer of the 'World Congress on Low Back and Pelvic Pain'; Director of the Spine & Joint Center The Netherlands). He introduced Somatics to his new colleagues in Rotterdam and participated in a research project on awareness and movement. One year later, Servaas returned to the Westcoast of Canada and resumed his practice in Smithers, BC. In March 2003, he got married to Beverly Davies. They joined forces and together they founded The Somatic Health Center of St. Helena, California in Beverly's hometown. His knowledge, skill and experience of working with injured clients and being able to relate to injuries himself, give him a definite advantage in the field of bringing relief to the people who need it. He is the only Physical Therapist among all certified Hanna Somatic Educators worldwide. Being dually trained, he has seen and experienced the advantages of bridging modern medicine with complementary medicine. To develop a better understanding and better treatment methods for the people who need it, he promotes 'Somatic Physiotherapy' and 'Somatic Rehabilitation'. Over the years, he has followed many continuing education workshops and studies, both in the field of Physical Therapy (orthopaedic manual therapy, Sahrman's Muscle Imbalances, McKenzie, PNF, Butler's Neural Mobilization Techniques) as well in the field of Somatics (Hanna Somatic Education®, Harriet Goslins' Cortical Field Re-Education®, Charlotte Selver's Sensory Awareness). He has also experienced work in 'Feldenkrais®', 'Pilates', Zero-Balancing®, Somatic Yoga™, Aston Patterning®, Cranio-Sacral Therapy, BioFeedback and several other somatic modalities.

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Moss Donald, Ph.D., BCIAC

Donald Moss, PhD, is adjunct graduate faculty in Health Psychology at Saybrook Graduate School in San Francisco, and a partner in the Psychological Services Center in Grand Haven, Michigan. He is Editor of the Biofeedback Magazine and Consulting Editor for the journals Applied Psychophysiology and Biofeedback, Journal of Neurotherapy and the Journal of Phenomenological Psychology. Dr. Moss has over 50 publications in the fields of psychophysiology, biofeedback, and mind-body therapies, including an edited book (Handbook of Mind Body Medicine for Primary Care, Sage, 2003). He has given lectures and workshops on these topics throughout the world, including recent presentations at the Association for Applied Psychophysiology and Biofeedback, the International Association for Cognitive Psychotherapy, the National Autonomous University of Mexico, and the Biofeedback Foundation of Europe. He is also past-president of AAPB.

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Peper Erik, Ph.D., BCIAC

Erik Peper, Ph.D. is an international authority on biofeedback and self-regulation. He is Professor at the Institute for Holistic Health Studies / Department of Health Education at San Francisco State University. He is President of the Biofeedback Foundation of Europe and past President of the Association for Applied Psychophysiology and Biofeedback. He holds Senior Fellow (Biofeedback) certification from the Biofeedback Certification Institute of America He was the behavioral scientist (sport psychologist) for the United States Rhythmic Gymnastic team. He received the 2004 California Governor's Safety Award for his work on Healthy Computing and the 2005 Sheila Adler Award from AAPB for his efforts to support and encourage student participation. He is an author of numerous scientific articles and books. His most recent co-authored books are *Biofeedback Mastery*, *Muscle Biofeedback at the Computer*, *Make Health Happen Training: Yourself to Create Wellness* and *De Computermens*. He is also the co-producer of weekly *Healthy Computing Email Tips*. His research interests focus on psychophysiology of healing, illness prevention, voluntary self-regulation, holistic health, healthy computing, respiratory psychophysiology and optimizing health with biofeedback.

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Saab Marc, BAsC, MEng

Marc Saab holds a Bachelor of Applied Science from the University of Waterloo, with a major in electrical engineering and a minor in Biology, and a Masters of Biomedical Engineering from McGill University and the Montreal Neurological Institute. His published research includes automatic early detection of epileptic seizures and other neurophysiological events in scalp and depth EEG. Professional work includes research and development, biosignal algorithm design and product development. He is currently a product manager at Thought Technology Ltd in Montreal, Canada. He is also a specialized instructor, lecturing on complex scientific concepts in a simple, easy to understand manner for the layman. He has offered workshops describing the theory and clinical applications of EEG signal processing at several annual conferences, including those of the AAPB and ISNR, for the past several years.

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Sürmeli, Tanju, MD

Tanju Sürmeli, M.D. Psychiatrist after graduating from 9 Eylül Medical School, he had done internship at the Institute of Living/U Conn, residency training in psychiatry at Yale, Postgraduate research fellowship in Electrophysiology and Psychopharmacology at the New York Medical College, and Neurology residency training at the University of Texas, San Antonio. He worked in psychopharmacology research at the Columbia Univ., NYSPI. He was also trained in family therapy at Ackerman Institute for Family Therapy, and hypnosis at Milton Erickson Hypnosis Institute.

He pioneered the use of qEEG-guided neurofeedback treatment and founded the neurobiofeedback foundation in Turkey. He is a member of COST Action B27 (Electric Neuronal Oscillations and Cognition). His pioneering work showing the effectiveness of qEEG-guided neurofeedback in Down Syndrome was published in Journal of Neurotherapy. His another pioneering work showing the effectiveness of qEEG-guided neurofeedback in mental retardation is in review at the Journal of Neurotherapy and his work showing the effectiveness of qEEG-guided neurofeedback in Personality Disorders is going to be published at the special edition of Clinical EEG and Neuroscience soon. He presented his work showing the effectiveness of qEEG-guided neurofeedback in schizophrenia at the ECNS and IPEG (International Pharmacology and EEG Society) meetings this year. He is the member of ISNR, BFE, SAN, ECNS and IPEG. He is BCIA-EEG certified mentor.

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Thompson Lynda, Ph.D., BCIAC-EEG

Lynda Thompson, Ph.D., BCIAC-EEG, is a psychologist with experience in teaching, clinical psychology, school psychology and ownership of learning centers. Since 1993 she has been Executive Director of The ADD Centre in Toronto, a private service devoted to helping people improve behavior and learning. The clinic also deals with clients who have other disorders associated with poor attention including epilepsy, Asperger's Syndrome, learning disabilities, Tourette's Syndrome, closed head injury, autism, mood disorders, and anxiety. Her doctoral dissertation (1979) dealt with self-esteem in hyperactive children treated with methylphenidate. She is co-author with pediatrician William Sears of The ADD Book: New Understandings, New Approaches to Parenting Your Child, and co-author with Michael Thompson of The Neurofeedback Book: an Introduction to Basic Concepts in Applied Psychophysiology. She and her husband have lectured about Neurofeedback on five continents.

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Thompson Michael, MD

Michael Thompson, MD devotes his time to the administration of the Biofeedback Institute and teaching. When formerly practicing medicine he was Associate Professor and head of post-graduate education in Psychiatry, University of Western Ontario, examiner for the Royal College of Physicians (Canada) and chairman of their examinations committee in psychiatry. Numerous professional publications include "A Resident's Guide to Psychiatric Education". While Associate Professor, University of Toronto, he was psychiatric consultant to The Hospital for Sick Children's neurology department.

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Van Dixhoorn Jan, Ph.D., MD

He developed "breath relaxation" and established its positive effects in a clinical trial in myocardial infarction patients in collaboration with Rotterdam University (Dr HJ Duivenvoorden). This was the basis for a PhD thesis (1991) and for the inclusion of relaxation therapy as an independent treatment modality in the Dutch Guidelines for Cardiac Rehabilitation (1996). He has been involved in a number of studies to assess the effects of his method. Three past projects concern its application to patients with hyperventilation complaints, one of them was a three-year follow-up of outcome in cooperation with the Institute of Family Medicine of Rotterdam University. A pilot study was done to compare breath relaxation with applied relaxation in panic patients, at St Joris Hospital, Delft. Recent projects include a study of the effect in rehabilitation patients and in patients with chronic pain, both at Rehabilitation Centre 'Kastanjehof', Apeldoorn. He has been involved in a large multi-center trial, led by Prof A Appels, Maastricht University, to assess the effects in PTCA patients who are vitally exhausted. It has resulted in numerous publications. He developed the concept of dysfunctional breathing to replace the term hyperventilation syndrome. The term HVS relates complaints to hypocapnia, whereas hypocapnia is only a part of the functional disturbance of breathing. He introduced this concept at the conference of the International Society for the Advancement of Respiratory Psychophysiology (ISARP) in 1996. Chairman of the Dutch group of ISARP. He teaches a course on the treatment of complaints of hyperventilation and dysfunctional breathing, organized by the National Paramedic Institute.

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