



## **Using Neurofeedback and Biofeedback for Developmental (Complex Childhood) Trauma: A comprehensive approach**

June 10-11, 2023  
Boston, MA  
8:30am - 5:45pm ET

Developmental trauma (DT) is arguably one of the costliest public health challenges in the USA and defined as a chronic early childhood exposure to neglect and abuse by their caregiver. DT has been shown to have a long-lasting adverse pervasive impact on mental, physical functioning as well as neurophysiological development. This impact includes shorter lifespans, interference with adequate daily functioning, and compromises the ability for an individual to benefit from other treatments.

DT alters the neurophysiological activities (e.g. EEG). State-of-the-art treatment options, such as neurofeedback and biofeedback, are promising treatment modalities that effectively regulate these neurophysiological activities. Research has shown that neurofeedback effectively reduces PTSD symptoms and improves executive functioning. A holistic approach, including a combination of neurofeedback, biofeedback, and talk therapy, can be incredibly effective for working with people with developmental trauma.

This course begins with a short background of the impact of DT on the neurophysiological pathways. The majority of the course focuses on the clinical aspects of integrating neurofeedback and a variety of biofeedback techniques to help regulate these neurophysiological activities through a variety of examples, replay sessions, case presentations and conducting biofeedback sessions. We discuss using these neurophysiological activities as assessments as well as related research, and dissociation. At the end of the course, we conclude with overcoming challenges and future directions.



### **Faculty**

The training is designed by and will be taught by Ainat Rogel, PhD, MSW, Diana Martinez, MD, PhD, and Leon Morales-Quezada, MD, PhD. They are MDs, PhDs and licensed clinicians with more than 15 years of experience. In addition to doing clinical work, the instructors supervise clinicians as BCIA approved supervisors), offer professional training/courses, and actively conduct research. You can read more about them at the end of this document. For their full bio's, you can find it on our website: [www.bostonneurodynamics.com/our-team](http://www.bostonneurodynamics.com/our-team)

### **Logistics**

**Date:** Saturday, June 10 - Sunday, June 11, 2023

**Time:** 8:30 am - 5:45 pm EDT

Virtual Training hours are from 8:30 am - 3:30 pm EDT

\*see [detailed agenda document](#) for daily schedule

**Location:** Hampton Inn & Suites Watertown Boston 25 Bond St, Watertown, MA 02472  
or virtual over ZOOM

**In Person Training Cost:** \$820 standard / \$720 early bird if paid in full by April 24, 2023

-10% discount for past BND training participants\*

-20% discount available if taken with the Protocol Development training\*

-Additional discount pricing available for students and participants from Latin America\*

\*only one discount can be applied

**Virtual Training Cost:** \$620 standard / \$570 early bird if paid in full by April 24, 2023

-10% discount for past BND training participants\*

-Additional discount pricing available for participants from Latin America\*

\*only one discount can be applied

**Registration:** To register, please fill out this form <https://forms.gle/S4nZs7TxDSK3iLqv9>

**Prerequisite:** This is an intermediate neurofeedback course. A prerequisite of a BCIA approved 36-hour Introduction to Neurofeedback Didactic Training or equivalent training is required.



**Target Audience:** Neurofeedback clinicians and technicians (includes Psychologists, Psychoanalysts, Psychiatrists, Social Workers, MFTs, Counselors, Substance Abuse Counselors, Occupational Therapists, Nurses, MD, chiropractic and other degrees in healthcare that have been pre-approved by BND and BCIA)

**Contact Information:** For questions or concerns, please contact us at [info@bostonneurodynamics.com](mailto:info@bostonneurodynamics.com) / (617) 855-9295

### **Learning Objectives**

The goals of this course are to:

- A. Describe the neurophysiological impact of developmental trauma on the brain
- B. Integrate neurofeedback and a variety of biofeedback modalities to treat people with developmental
- C. Utilize neurophysiological activities as assessment tools to assess the impact of developmental trauma, develop an effective treatment plan, and to track the impact of the neurofeedback/biofeedback treatment
- D. Practice using a variety of biofeedback modalities to understand how they can change different physiological aspects of the body

\*see the end of the document for a detailed list of learning objectives

### **Certification Information**

**BCIA Credits:** We are currently in the process of applying for 9.5 continuing education credits through BCIA

**CE Credits:** We are currently in the process of applying for 16 CE credits through R. Cassidy.

### **COVID-19 Precautions**

We will be in close contact during the training and want everyone to feel safe throughout the training. Depending on the situation in June, additional precautions (such as wearing masks) may be put in place to keep us all safe.

### **Cancellation Policy**

All payments will be fully refunded if the cancellation is made 4 weeks prior to the training, with



a \$50 processing fee. Cancellations made less than 4 weeks, but more than 5 days before the training can be refunded at 50% or fully credited towards the next workshop. Cancellations made 5 days or fewer before class cannot be refunded or credited. In the situation that you are sick or test positive for COVID-19, you can either (a) defer your tuition to attend the next training and receive a complementary 1 hour mentoring session or (b) be refunded the tuition cost minus the \$50 needed to secure the meeting space.

Boston NeuroDynamics reserves the right to cancel. Should it be necessary, we will reschedule the training for a future date. If you would like to defer your tuition to attend the next training you will receive a complementary 1 hour mentoring session, otherwise all payments will be fully refunded. We cannot be held responsible for restricted or non-refundable airfares.

Due to the uncertain nature of in-person trainings since COVID-19, we **highly recommend to make refundable / changeable travel arrangements.**

### **Disclosure Statement**

There is no conflict of interest or commercial support for this program.

\*For questions or concerns, please email us at [info@bostonneurodynamics.com](mailto:info@bostonneurodynamics.com) or call/text at (617) 855-9295

### **Faculty Bio's**

Ainat Rogel, PhD, MSW, BCN, LICSW

Ainat is the co-founder and co-director of Boston Neurodynamics where she practices neurofeedback, performs and analyzes brain mapping (qEEG) and trains and supervises neurofeedback practitioners. She currently serves as the ISNR (International Society of Neurofeedback and Research) Board of Directors Secretary. Aina has a PhD in Computer Science and Neurobiology, a licensed independent clinical social worker, and a BCIA certified neurofeedback provider and supervisor.

Ainat advocates incorporating neurofeedback and biofeedback as part of therapy in general, and in her practice specifically focuses on developmental trauma. She also believes in fundamental and large-scale research studies. Therefore, in addition to seeing clients, Aina gives international presentations and trainings, supervises students and conducts evidence-based research.

Ainat received her Ph.D. in Computer-Science and Neurobiology from The Hebrew University in Jerusalem, Israel, received her MSW from Simmons College in 2014 and her LICSW in 2017.



She has worked in brain research at various institutions including Massachusetts Institute of Technology, the Martinos Center for Biomedical Imaging at MGH-Harvard, and Hebrew University in Jerusalem, Israel. Since 2010, she has focused on neurofeedback research and clinical work at the Mental Health Center in Beer-Sheva, Israel and at Ben-Gurion University. Ainat also worked as a clinician and group intake coordinator at Arbour Outpatient Clinic in Jamaica Plain, Boston. She has been on the staff at the Trauma Center at JRI since 2012 as a chief scientist of neurofeedback and a senior affiliate at the neurofeedback clinic. She also trains and supervises NFB clinicians. She coordinated the child Neurofeedback Study and was part of the adult NFB study.

Ainat is fluent in English and Hebrew and uses the pronouns she/her

#### Diana Martinez, MD, MSc, PhD, BNC

Diana is the co-founder and co-director of Boston Neurodynamics where she provides neurofeedback, biofeedback and other non-invasive brain stimulation as well as offering high quality training and consulting for neurophysiological evaluations. She is a medical doctor with a specialty in Neurorehabilitation and a licensed mental health counselor, she is certified as a Neurofeedback clinician and supervisor by Biofeedback Certification Alliance.

She developed an integrative intervention to rehabilitate neurological conditions including neurofeedback and other non-invasive brain stimulation techniques. She has experience treating patients with epilepsy, learning disorders, behavioral disorder, mood disorders, sleep disorders, TBI and CP. Her doctoral thesis gave her great expertise as she studied the effect of neurofeedback in epilepsy. She has extensive experience in neurophysiology, EEG/qEEG/ERP interpretation. She is an international consultant for Neurofeedback professionals. She is a recognized instructor and lecturer in the field.

She received her medical degree from University of Aguascalientes, Mexico in 2002, Fellowship in Neurological Rehabilitation from IAHP, Philadelphia, USA in 2006; M.Sc in Neurological Rehabilitation in 2009, Fellowship in Neurophysiology from University Hospital, Cleveland, USA in 2012 and PhD from De Montfort University from Leicester, UK in 2018. She is founder of Neocemod (Neuromodulation Center), Mexico City and Aguascalientes, Mexico and was the Neurofeedback Clinical director at the Trauma Center (JRI) in Massachusetts. She was the former president of the Mexican Bio and Neurofeedback Society and currently she is part of the board of directors of the International Society of Neuro Regulation and Research.

Diana is fluent in English and Spanish and uses the pronouns she/her

#### Leon Morales-Quezada, MD



Dr. Leon Morales-Quezada is a physician-scientist with experience in neurocognitive rehabilitation, noninvasive neuromodulation, applied psychophysiology, and technology development for neurological rehabilitation. Dr. Morales-Quezada received his MD degree from Universidad Autonoma de Aguascalientes and completed clinical training in emergency medicine and intensive care. He also completed a fellowship and Masters in Neuropsychology Rehabilitation at Touro College, a PhD in Cognitive Neurosciences from De Montfort University in Leicester UK, and a Master’s in Public Health from Harvard School of Public Health.

Dr. Morales-Quezada was awarded with the prestigious Fellowship in Integrative Medicine from the Harvard-NIH program, Division of General Medicine, Beth Israel Deaconess Medical Center, and the Nacional Center for Complementary and Integrative Health. He is currently a Research Faculty from Spaulding Rehabilitation Research Institute and fellow from the Ellen R. and Melvin J. Gordon Center for the Cure and Treatment of Paralysis. Dr. Morales-Quezada research interests focus on noninvasive neuromodulation, the placebo effect, and technology development applied in rehabilitation and behavioral medicine.

Leon is fluent in English and Spanish and uses the pronouns he/his

### **Detailed Agenda**

Day I - June 10, 2023

Time	Section
8:30-9:00	Introduction
9:00-10:30	Developmental trauma: Definition, outcome and impact
10:30-10:45	Break
10:45-12:45	Neurofeedback: in the clinic (overview, case presentation and replay session)
12:45-1:30	Lunch
1:30-2:30	Neurofeedback: in the clinic (continued)
2:30-3:00	Biofeedback overview
3:00-3:30	Biofeedback Theory and Practicum: Temperature, skin conductivity, and EMG
3:30-3:45	Break



3:45-5:45	Biofeedback Theory and Practicum: Temperature, skin conductivity, and EMG (continued)
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Day II - June 11, 2023

Time	Section
8:30-9:30	NFB research and DT
9:30-10:30	Dissociation
10:30-10:45	Break
10:45-12:45	Assessments and case presentation
12:45-1:30	Lunch
1:30-2:00	Future directions and challenges
2:00-3:30	Biofeedback Theory and Practicum: Heart Rate Variability
3:30-3:45	Break
3:45-5:15	Biofeedback Theory and Practicum: Respiration
5:15-5:45	Final Wrap Up



## Detailed Learning Objectives

Based on the content of this presentation, participants will be able to:

Developmental trauma: Definition, outcome and impact

1. Define developmental trauma (DT) and its impact on a person's neurophysiology

Neurofeedback: in the clinic

2. Summarize the main factors to consider when developing a protocol when working with people with developmental trauma
3. Describe the main components to focus on when conduct a neurofeedback session for a client with developmental trauma.
4. Demonstrate the impact of neurofeedback on the brain activity of a client with developmental trauma
5. Analyze a case presentation about a client with developmental trauma

Biofeedback Theory and Practice: Temperature, skin conductivity, and EMG

6. Identify the principles and application of three types of biofeedback measures (temperature, skin conductance and muscle tension) to developmental trauma
7. Practice using three types of biofeedback measures (temperature, skin conductance and muscle tension) and integrating them into a client session

NFB research and DT

8. Review two key research papers related to the impact of neurofeedback on people with trauma (PTSD and DT)

Dissociation

9. Define what dissociation is and its neuropsychological impact on the brain
10. Compare the differences in developing a protocol and conduct a neurofeedback session for people with developmental trauma and dissociation.

Assessments

11. Practice using neurophysiological activities as objective assessments to develop a treatment plan and track changes.
12. Name 4 different neurophysiological assessments

Future Directions and Challenges

13. Summarize the current challenges in providing neurofeedback and biofeedback treatment to people with developmental trauma
14. Discuss future uses for neurophysiological markers in treatment for people with developmental trauma



Biofeedback Theory and Practice: Heart Rate Variability

15. Identify the principles and application of the biofeedback measure of heart rate variability to developmental trauma
16. Practice using the biofeedback measure of heart rate variability and integrating it into a client session

Biofeedback Theory and Practice: Respiration

17. Identify the principles and application of the biofeedback measure of respiration to developmental trauma
18. Practice using the biofeedback measure of respiration and integrating it into a client session

**Citations**

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