

Vanderbilt University Curriculum Vitae

David R. Vago, Ph.D.

Updated 4/27/2017

OFFICE ADDRESS

Vanderbilt University School of Medicine
Osher Center for Integrative Medicine
3401 West End Ave., Suite 380 (3rd floor)
Nashville, TN 37203

Office phone: **(615) 875-9555**
Home Phone: (801) 647-5906
Email: david.vago@vanderbilt.edu

EDUCATION

- 1997 B.A. (Brain & Cognitive Sciences)
University of Rochester (Rochester, NY)
- 2002 M.S. (Cognition & Neural Sciences)
University of Utah (Salt Lake City, UT),
(Thesis: Nicotinic acetylcholine and contextual learning and memory, Laboratory of Gene Wallenstein, Ph.D. and Raymond Kesner, Ph.D.)
- 2005 Ph.D.(Cognition & Neural Sciences)
University of Utah (Salt Lake City, UT)
(Dissertation: Functional characterization of the direct cortical input to the CA1 subregion of the hippocampus: Electrophysiological and behavioral modulation of the temporoammonic pathway by a non-selective dopamine agonist, Laboratory of Raymond Kesner)

POST-DOCTORAL TRAINING

- 2005-2007 University of Utah (Salt Lake City, UT), Utah Center for Exploring Mind-Body Interactions (UCEMBI), Department of Anesthesiology, [Pain Research Center](#)
- 2007-2008 Weill Cornell Medical College (New York, NY), Department of Psychiatry, Functional Neuroimaging Laboratory, (mentors: David Silbersweig and Emily Stern)
- 2008-2009 Harvard Medical School–Brigham & Women’s Hospital (Boston, MA), Department of Psychiatry, Functional Neuroimaging Laboratory, Boston, MA, (David Silbersweig and Emily Stern)

POST-DOCTORAL FELLOWSHIP

- 2009 Functional Magnetic Resonance Imaging visiting fellowship, Martinos Center for biomedical imaging, Massachusetts General Hospital, Boston, MA
- 2010-2011 [The Stuart T. Hauser Research Training Program in Biological and Social Psychiatry](#). T32 Clinical Research Training Program-Audit; Harvard Medical School (Boston, MA), co-directed by Robert McCarley, M.D., Martha Shenton, Ph.D. and Grace Chang, M.D

ACADEMIC APPOINTMENTS

- Research Associate, Department of Anesthesiology, Pain Research Center, University of Utah Medical School, December, 2005 – November, 2007
- Adjunct Faculty in Psychology, Department of Psychology, Westminster College, September, 2005 – May, 2007
- Research Associate of Psychology in Psychiatry, Department of Psychiatry, Weill Cornell Medical College, November, 2007 – December, 2008
- Instructor, Department of Psychiatry, Harvard Medical School, January, 2010 – September, 2016
- Associate Professor of Physical Medicine & Rehabilitation, Osher Center for Integrative Medicine, Vanderbilt University Medical Center, September, 2016 to present
- Associate Professor of Psychiatry & Behavioral Sciences, Vanderbilt University Medical Center, September, 2016 to present

HOSPITAL APPOINTMENTS

- Research Associate, Department of Anesthesiology, University of Utah Hospital, December, 2005 – November, 2007
- Research Associate of Psychology in Psychiatry, Department of Psychiatry, New York Presbyterian Hospital, November, 2007 – December, 2009
- Associate Psychologist, Department of Psychiatry, Brigham & Women's Hospital, January, 2010 – present

EMPLOYMENT

- Polysomnograph Technologist, Sleep Disorders Institute, St. Lukes Roosevelt Hospital, Columbia University, January, 1998 – August, 1999
- Senior Research Coordinator, Mind and Life Institute, Boulder, CO, March, 2007 – December, 2010
- Research Director, Osher Center for Integrative Medicine, Vanderbilt University Medical Center, September, 2016 to present

PROFESSIONAL ORGANIZATIONS

- Society for Neuroscience, 2001 – present
- Cognitive Neuroscience Society, 2007 – present
- New York Academy of Sciences 2008 – present
- National Postdoctoral Association, 2009 – 2011
- Social & Affective Neuroscience Society, 2010 – present
- American Psychological Association, 2012 – present
- American Mindfulness Research Association, 2013 – present

PROFESSIONAL ACTIVITIES

- **Intramural:**
 - Cognition & Neural Sciences Area Student Representative, University of Utah, 2002-2003
 - Academic Misconduct and Appeals Committee, University of Utah, College of Social and Behavioral Science, 2003-2004
 - Faculty member, Lee Kum Sheung Center for Health and Happiness, Harvard School of Public Health, 2016
 - Senior Training Faculty, Vanderbilt Brain Institute, Vanderbilt University, January, 2017 to present
 - Principal Investigator, Vanderbilt University Institute of Imaging Science, January, 2017 to present

- **Extramural:**
 - Reviewer: Mind and Life Summer Research Institute Fellowship, June 2009 – present
 - Research Fellow, Mind and Life Institute, 2009 – present
 - Member, Research & Program Evaluation Committee, Prison Mindfulness Institute, 2012 – present
 - Consulting Scientist, Effortless Mindfulness Research Center, 2012 – present
 - Advisor, Journey Meditation, 2016 – present
 - Member, Research Committee, American Mindfulness Research Association, 2013 – present
 - Reviewer: International Symposium for Contemplative Studies, 2014 – present
 - Member, Science of Behavior Change Research Network, National Institutes of Health, January 2015 – present
 - Founding Member, Mindfulness Research Collaborative (MRC), January 2015 – present
 - Member, Presidential search committee, Mind and Life Institute, November, 2014 – June, 2015
 - **Ad-hoc Reviewer:**
 - American Journal of Psychiatry, Annals of the New York Academy of Sciences, BMC Psychiatry, BMC Complementary and Alternative Medicine, Cognition & Emotion, Cognitive Therapy and Research, Comprehensive Psychiatry, Frontiers in Consciousness Research, Frontiers in Human Neuroscience, Frontiers in Psychiatry, Frontiers in Psychology, Hippocampus, International Journal of Psychology, Neuropsychologia, Perspectives on Psychological Science, Psychological Review, Psychological Science, Psychology & Neuroscience, Psychoneuroendocrinology, Sage, Social, Cognitive, and Affective Neuroscience, Social and Personality Psychology Compass, Mindfulness, Consciousness & Cognition, Brain Sciences, PLOS ONE, Neuroimage, Review of General Psychology
 - **Grant Reviewer:**
 - Mind & Life Francisco J. Varela Grant program
 - John Templeton Foundation
 - San Francisco State University, small grant program for research and creative activities
 - Wellcome Trust
 - Samuel B. Hanser Visionary Award (Kripalu Yoga Center)
 - Mitacs-Elevate Canadian Fellowship
 - **Textbook Reviewer:**
 - Cognition, 1st ed., Willingham, Prentice Hall, 2002
 - Biological Psychology, 3rd ed., Rosenzweig, Breedlove, & Leiman, Sinauer, 2003
 - Cognitive Psychology: Mind and Brain, Smith & Kosslyn, Prentice Hall, 2003
 - Biological Psychology CD-Rom & instructor's manual, 3rd ed., Rosenzweig, Breedlove, & Leiman, Sinauer, 2004
 - Cognition: The thinking animal, 2nd ed., Willingham, 2004
 - Biological Psychology, 4th ed., Rosenzweig, Breedlove, & Watson, Sinauer, 2007
 - Biological Psychology, 6th ed., Breedlove, Watson, & Rosenzweig, Sinauer, 2010
 - The Mind's Machine, 1st ed., Sinauer, 2012
 - **Editorial appointments**
 - Review Editor, Frontiers in Psychoanalysis & Neuropsychology, Frontiers in Psychology, 2012 – present
 - Review Editor, Frontiers in Auditory Cognitive Neuroscience, Frontiers in Neuroscience, 2014 – present
 - Review Editor, Cognition, Frontiers in Psychology, 2014 – present
- **Other professional activities:**
 - **Participation in the Organization of Scholarly Meetings (2008-present)**
 - 2008
 - Mind and Life Summer Research Institute: Scientific and Contemplative Perspectives on Attention and Emotion Regulation (Garrison Institute, Garrison, NY; Mind and Life Institute)
 - Mind and Life, The Self, Mental Causation and Free Will: Exchanges Between Science and Buddhism on the Human Mind (Berlin, Germany with HH Dalai Lama and Mind and Life Institute)

- 2009
 - Mind and Life 18, Attention, Memory and the Mind: A Synergy of Psychological, Neuroscientific and Contemplative Perspectives (Dharamsala, India with HH Dalai Lama and Mind and Life Institute)
 - Mind and Life Summer Research Institute: Scientific and Contemplative Perspectives on Self (Garrison Institute, Garrison, NY; Mind and Life Institute)
 - Mind and Life 19, Educating World Citizens for the 21st Century: Educators, Scientists, and Contemplatives Dialogue on Cultivating a Healthy Mind, Brain and Heart (Constitution Hall, Washington DC with HH Dalai Lama and Mind and Life Institute)
- 2010
 - Mind and Life Summer Research Institute: Education, Developmental Neuroscience and Contemplative Practices: Questions, Challenges, and Opportunities (Garrison Institute, Garrison, NY with Mind and Life Institute)
- 2013
 - Advances in Meditation Research, NY Academy of Sciences
- 2015
 - Advances in Meditation Research, Memorial Sloan Kettering; NY Academy of Sciences
- 2016
 - Theoretical and Methodological Challenges in Mindfulness Research: Setting an Agenda for a Programmatic Research Initiative to Study the Neurobiological, Clinical and Real-life Changes Associated with Mindfulness-based Contemplative Practice. (Harvard Radcliffe Institute Exploratory Seminar, Cambridge, MA)
- 2017
 - Mind and Life Think Tank: Embodiment, Contemplative Practice, and Equality: Developing a programmatic and research agenda for reducing in-group bias through embodied inquiry and contemplative practice, Osher Center for Integrative Medicine
- 2018
 - Advances in Meditation Research, NY Academy of Sciences; Memorial Sloan Kettering
- **Special awards or recognition for professional activities**
 - University of Utah, Department of Psychology—Research Assistantship, 1999 – 2005
 - University of Utah, Department of Psychology—Commendation for Excellence in Research, 2001
 - University of Utah—Graduate Research Student Travel Award, 2002 – 2004
 - University of Utah—Psi Chi Honor Society Award for Excellence in Teaching, 2003
 - University of Utah, Department of Psychology—Commendation for Excellence in Teaching, 2003
 - University of Utah, Department of Psychology—Kevin Hawley Memorial Award, 2004
 - Mind & life Summer Research Institute Fellowship, 2005 – 2007
 - [TransTech 200](#) Class of 2016
 - Mind & Life Think Tank Award, 2017, \$10,000

TEACHING ACTIVITIES

- **Medical School Courses:**
 - Functional Neuroimaging for Radiology Residents, Brigham & Women’s Hospital, Harvard Medical School, 2-3 lectures, 2009 – 2011
 - Summer Education Program in Psychiatric Neuroimaging, Brigham & Women’s Hospital, Harvard Medical School, 2-3 lectures, 2013
 - Mindfulness and Compassion Training: Science & Clinical Practice, all-day mandatory training for Harvard Longwood Residency Program in Psychiatry, Harvard Medical school, 2 lectures, November, 2015
 - Mind-Body Medicine – A Harvard Medical School elective course, 2 lectures, 2016
 - [Mind Brain Behavior](#) – Interfaculty Initiative, Harvard University, 2015

- **Undergraduate/Graduate School Courses:**
 - Mind and Nature (PSYCH 3130), University of Utah, Fall, 1999
 - Brain and Behavior (PSYCH 3711), University of Utah, Fall, 2000
 - Cognition (PSYCH 3120), University of Utah, Spring, 2001
 - Teaching Experience (PSYCH 4910), University of Utah, Spring, 2001
 - Research Modes of Learning (PSYCH 3900), University of Utah, 2001 – 2004
 - Brain and Behavior (PSY 3711), University of Utah, 2001 – 2005
 - Physiological Psychology (PSYC 406), Westminster College, 2005 - 2007
 - Physiological Psychology Lab (PSYC 407), Westminster College, 2005 - 2007
- **Other Teaching**
 - Summer Educational Program in Neuropsychiatric Functional Neuroimaging, Brigham & Women's Hospital, Harvard Medical School, Summer, 2011-2016
 - [The Science Behind Meditation](#), Psychology Today, Guest Blogger, 2015 – present

RESEARCH SUPERVISION

- **Ph.D. Dissertation Committee**
 - Condon, P. Cultivating virtue: The effects of mindfulness and compassion-based meditation on mental states and behavior. Department of Psychology, Northeastern University, Boston, MA, 2014
 - Hadash, Y. Mindfulness, self-referential processing and equanimity: Behavioral measurements and mechanisms of action., University of Haifa, Israel, 2016
- **MDiv Thesis Committee**
 - Parameshwaran, K. Scriptural Studies vs. Experiencing God: My Thoughts on the Art of Practical Exegesis and Embodied Care of Clinical Patients and How it can Complement Scriptural Studies, Harvard Divinity School, Harvard University, 2016
- **Medical Residents**
 - David Fischer, 2010 – 2011, Resident Physician, Brigham & Women's Hospital, Harvard Medical School, Research Fellow, Berenson-Allen Center for Noninvasive Brain Stimulation
 - Jessica Harder, June 2012 – March, 2014, Instructor in behavioral neurology and neuropsychiatry, Brigham & Women's Hospital, Harvard Medical School
- **Undergraduate/Post-graduate students**
 - Haiwen Chen, June, 2009 – June, 2010,
 - Elisa Nabel, February, 2010 – April, 2010
 - Erica Greenberg, June, 2009 – June, 2010
 - Courtney Haley, June, 2011 – June, 2013
 - Benjamin Fuchs, June, 2011 – June, 2013
 - Eva Catenaccio, May, 2012 – May, 2013
 - Laurel Morris, September, 2012 – August, 2013
 - Emily Epstein, April, 2012 – April, 2013
 - Rachel Cohn, June, 2013 – May, 2014
 - Lorene Leung, May, 2013 – May, 2015
 - Daniel Millstein, June, 2013 – August, 2013
 - Andrea Poile, January, 2015 – July, 2015,
 - Emily Feeney, June, 2014 – March, 2015
- **Graduate Students**
 - Resh Gupta, May, 2017 – present

RESEARCH PROGRAM

Ongoing Research Support

UH2/UH3 (RFA-RM-14-020)

King, Britton, Loucks (PI)

9/01/2015-08/31/2020

NIH

Mindfulness Influences on Self-Regulation: Mental and Physical Health Implications.

This multi-site study will focus on modifying and refining mindfulness-based interventions (MBIs) by identifying self-regulatory mechanisms (Cognitive, Emotional, and Self-specifying) through existing and novel data sets in order to predict clinical outcomes and medical adherence. This project offers the opportunity to clarify which self-regulation measures are of greatest clinical use related to MBI and clinical behavior change outcomes. Furthermore, this study should identify which MBI elements may be most efficacious at engaging self-regulation, with resulting impacts on clinical behavior change outcomes including medical regimen adherence. This should help contribute to population health by producing implementable and effective treatment and prevention interventions.

Role: Co-Investigator/Site-PI, 5% FTE

Total: \$4,903,282 (\$913,454 – 2015)

Yoga Science Foundation/University of Toronto

Vago, Farb (PI)

2/01/2016-1/31/19

Mindful Yoga for Interoceptive Awareness

This multi-site 3-arm randomized controlled study plans to test a mindful yoga intervention vs. power yoga and cardiovascular exercise control in a population of out-patients with moderate levels of depression to determine whether the mindfulness component can improve interoception through 1st person, 2nd person, and 3rd person perspectives.

Role: Co-Investigator/Site-PI, 5% FTE

Total: \$10,000

Mind and Life Institute

Vago, Forbes, Farb, Wilson-Mendenhall (PIs) 09/14/2017-09/16/2017

Think Tank Award

Embodiment, Contemplative Practice, and Equality: Developing a programmatic and research agenda for reducing implicit bias through embodied inquiry and contemplative practice

This award will support the meeting of a working group to investigate implicit bias and associated prejudice. This Think Tank will investigate the triggers of implicit bias and prejudice, with a focus on identifying conditions that mitigate the effects of such bias in social settings. Focusing on reducing implicit bias for racial and ethnic minorities, we aim to explore how mindfulness-based practices can create prosocial processing goals and shift non-conscious perceptual habits to hinder automatic activation. The deliverables will include the development of an integrated theoretical model that specifies promising new measures of implicit bias and candidate techniques for the resolution of such bias.

Role: Principal Investigator

Total: \$10,000

Pending Research Support

R41/42 STTR

Dixit, Vago (PIs)

7/01/2017-6/31/2020

NIH

Wearable ECG Biofeedback Technology for Regulating Heart Rate Variability

This study aims to validate the efficacy of wearable HR/RR technology in terms of: 1) generating significantly increased HRV pre-post biofeedback, 2) completion of 8 week HRV training protocols leading to significant increases in resting state HRV pre-post study period, and 3) completion of 8 week HRV training protocols leading to significant reduction of psychiatric symptoms of stress and anxiety, and improvements in self-reported mood ratings.

UG3/UH3

Phillips, Vago (PIs)

01/01/2018-12/31/2023

NIH-DOD-VA

Mindfulness-based intervention effectiveness trial: evaluation in a real-world setting (METER)

This study will compare outcomes across three interventions: Mindfulness CBT Face-to-Face (MM-F), involving traditional mindfulness CBT in 8 weekly group sessions with a live interventionist; “Mindfulness Meditation-Application” (MM-A), a self-guided, 8 week program with guided meditations and reminders but no human contact; and usual care. It will address a significant health problem using a scalable model of recruitment and treatment, and assesses outcomes of

importance to patients. This proposal integrates an efficacious, pragmatic intervention into primary care or specialist chronic pain management settings.

IMPACT Foundation/Anon Philanthropic donors Vago (PI) 09/01/2016-12/31/2019

Mindfulness for Depression: Neurobiological Mechanisms for Clinical Change using different modes of delivery

This study aims to investigate differences between responders and non-responders to mindfulness-based augmentation to pharmacotherapy. Using fMRI pre- and post-mindfulness training, we aim to identify the critical neurobiological mechanisms which determine improvements in clinical outcomes among a group of patients diagnosed with major depressive disorder and with mild to moderate severity of residual symptoms. The study will be randomized controlled design comparing the effectiveness between in-person group and electronic formats.

Role: Principal Investigator

Total: \$500,000

Chopra Foundation Vago (PI) 9/01/2017-8/31/2020

Mapping the Mind-Body Connection: Exploring the Neurobiological and Physiological Substrates Underlying the Relationship between Mind and the Inflammatory Response.

This multi-phase study proposes to identify the neurobiological and physiological substrates supporting volitional control over the inflammatory reflex in response to physical and emotional stress.

Completed Research Support

IMPACT Foundation/Anon Philanthropic donors Vago (PI) 1/01/2012-12/31/2016

Neurobiological Substrates Underlying Varieties of Restful Experience and Modalities of Awareness in Mindfulness Practice: Contemplative Research Perspectives and Therapeutic Relevance

This study aims to investigate expert practitioners of mindfulness-based meditation practice and subjects who have only brief exposure to the training. The study aims to identify 1) neurobiological substrates of intrinsic brain activity in the context of distinct resting state networks; 2) capacity for iconic memory, an incidental measure of non-conscious visual memory. We will look at 5 specific states of modality-specific restful experience that replace mental imagery, internal talk, viscerosomatic and emotional sensations with restful analogues.

Role: Principal Investigator, 5-10% FTE

Total: \$185,000

Harvard Radcliffe Institute Vago, Stern (PIs) 01/21/2016

Exploratory Seminar Award

Theoretical and Methodological Challenges in Mindfulness Research

This exploratory seminar assembled researchers and scholars from across disciplines to begin a discussion for the creation of a comprehensive research initiative that focuses on Contemplative and investigating the clinical efficacy and basic mechanisms of very specific forms of mental training that involve meditation. The seminar also attempted to address theoretical and methodological challenges emerging in the new field.

1440 Foundation/Mindfulness Connections Vago (PI) 01/01/2012- 6/30/15

/Hope Lab

Health & Stress Evaluation of Young Adults – A Long-term, Opportunistic Follow-Up Assessment of Mindfulness Training in School Children

This study aims to investigate the potential long-term effects of exposure to mindfulness training during elementary school, on subsequent health attitudes, resilience to stress, and well-being as adults, and to provide pilot data for contemporary curriculum development aimed at integrating contemplative practices and skills development into K-12 education.

Role: Principal Investigator

Total: \$125,835, 5-10% FTE

Starr Foundation Ahles, Silbersweig (PI) 07/01/2008 –06/30/2012

Translational studies of neural mechanisms of chemotherapy induced cognitive changes

The goal of this project is to test regionally and mechanistically specific hypotheses concerning chemotherapy induced cognitive changes, as well as to identify potential biomarkers and strategies for therapeutics.

Role: Co-Investigator

Total: 5-10% FTE

MLI-FJVRF-08-001

Vago (PI)

1/01/2006-12/01/2011

Mind and Life Institute/Francisco J. Varela Grant Award for Contemplative Science Research

The Effects of Mindfulness Meditative Training on Impairments in Affect Regulation Associated with the Experience and Anticipation of Pain in Fibromyalgia Patients.

The goal of this project has been to investigate whether mindfulness meditative techniques are able to significantly decrease perceptual and cognitive biases and the dysregulation of affective states (i.e., anxiety, catastrophizing) associated with the experience and anticipation of pain in Fibromyalgia patients. (\$10,000)

Role: Principle Investigator

Total: \$10,000

Univ. Utah Magnetic Source Imaging Award Vago (PI)

11/01/2006-11/01/2011

Neural Basis of Cognitive and Emotional Processing in Fibromyalgia.

The goal of this project has been to investigate the effects of mindfulness training on attention and emotion regulation processes using a fear-potentiated startle paradigm with Magnetoencephalography (MEG).

Role: Principle Investigator

Total: \$25,000

5-R21AT002209-02

Nakamura (PI)

08/01/2005-07/31/2010

NCCAM

Establish an exploratory mind-body research program (Utah Center for Exploring Mind-Body Interactions, UCEMBI) within the Pain Research Center at the University of Utah.

This program facilitated transdisciplinary and translational approaches to investigating mind-body interactions and their relationship to health. The major goal of this project has been to evaluate the cognitive and affective processes associated with mindfulness meditation training in Fibromyalgia patients.

Role: Contributing Investigator

Total: \$900,000

PUBLICATIONS AND PRESENTATIONS

Articles in refereed journals:

In Preparation

1. **Vago, D. R.**, Pan, H., Young, S., Silbersweig, D., Stern, E. Fronto-striatal-limbic and Modality-specific Markers of Clarity in Novice and Advanced Meditators During Open Monitoring and Concentrative Meditative States of Tranquility.
2. **Vago, D. R.***, Root, J.*, Pan, H., Perez, D. L., Weisholtz, D., Butler, T., Epstein, J., Silbersweig, D. A., Stern, E. Engaging Threat of 9/11 Imagery with Cognitive Control: Frontolimbic Neural Circuit Activity is Dependent on Direct Versus Indirect Exposure to Trauma of 9/11 Attacks on World Trade Center.
3. **Vago, D.R.**, Nakamura, Y. Anticipation and experience of pain in Fibromyalgia: Preliminary functional brain imaging evidence for modulatory effects of mindfulness meditation training.
4. Davis, J.H., Analayo, B., Van Dam, N.T., **Vago, D.R.**, Brewer, J.A., Britton, W.B. Attentive and Balanced: Empirical Operationalization of an Early Buddhist Model of Mindfulness
5. Simmons, A., O'Toole, L., **Vago, D.R.**, Dennis, T. Changing Minds: A Pilot Feasibility Study of Mindfulness Training for At-Risk Adolescents.

Published

1. Wallenstein, G.V. and **Vago, D.R.** (2001) Intrahippocampal Scopolamine Impairs Both Acquisition and Consolidation of Contextual Fear Conditioning. *Neurobiology of Learning and Memory*. **75**, 245-252.
2. Wallenstein, G.V., **Vago, D.R.**, Walberer, A.M. (2002) Time-dependent involvement of PKA/PKC in contextual memory consolidation. *Behavioural Brain Research*. **133**, 159-164.
3. **Vago, D.R.**, Kesner, R.P. (2007) Cholinergic modulation of Pavlovian fear conditioning in rats: Differential effects of intrahippocampal infusion of mecamylamine and methyllycaconitine. *Neurobiology of Learning and Memory*. **87**, 441-9.

4. **Vago, D.R.**, Bevan, A., Kesner, R.P. (2007) The role of the direct perforant path input to the dorsal CA1 subregion in memory retention and retrieval. *Hippocampus*. **17**, 977-987.
5. **Vago, D.R.**, Kesner, R.P. (2008) Disruption of the direct perforant path input to the CA1 subregion of the dorsal hippocampus interferes with spatial working memory and novelty detection. *Behavioural Brain Research*. **189**, 273-83.
6. **Vago, D. R.**, Epstein, J., Cattenacio, E. Stern, E. (2011) Identification of Neural Targets for the Treatment of Psychiatric Disorders: The role of functional neuroimaging. *Neurosurgery Clinics of North America*. **22**, 279-305.
7. Min, B-K, Yang, P. S., Bohlke, M., Park, S., **Vago, D. R.**, Maher, T. J., Yoo, S-S. (2011) Focused ultrasound modulates the level of cortical neurotransmitters: Feasibility for a functional brain mapping technique. *International Journal of Imaging Systems and Technology*. **21**, 232-240.
8. **Vago, D. R.**, Nakamura, Y. (2011) Increased Selective Attention Towards Pain-related Threat in Fibromyalgia: Preliminary Evidence for Effects of Mindfulness Meditation Training. *Cognitive Therapy & Research*. **35**, 581-594.
9. Holzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., **Vago, D. R.**, Ott, U. (2011) How does mindfulness work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science*. **6**, 537-559.
10. Perez, D. L., Root, J., Brown, A., **Vago, D. R.**, Epstein, J., Cloitre, M., Silbersweig, D., Stern, E. (2012) "Frontolimbic Gray-Matter Abnormalities in Childhood Sexual Trauma-Related PTSD." *Journal of Neuropsychiatry and Clinical Neurosciences* **24**(2): 12-12.
11. Mind and Life Education Research Network (listed alphabetically: Davidson, RJ, Dunne, J, Eccles, JS, Engle, A, Greenberg, M, Jennings, P, Jha, A, Jinpa, T, Lantieri, L., Meyer, D., Roeser, RW, **Vago, DR.** (2012) Contemplative practices and mental training: Prospects for American Education. *Child Development Perspectives*. **6** (2), 146-153.
12. **Vago, D. R.**, and Silbersweig, D. A. (2012). Self-Awareness, Self-Regulation, and Self-Transcendence (S-ART): A Framework for Understanding the Neurobiological Mechanisms of Mindfulness. *Frontiers in Human Neuroscience* 6:296.
13. Orringer, D., **Vago, D. R.**, Golby, A.J. (2013) Clinical Applications and Future Directions of Functional MRI. *Seminars in Neurology*. **32**(4), 466-475.
14. **Vago, D. R.** (2013). Mapping modalities of self-awareness in mindfulness practice: A potential mechanism for clarifying habits of mind. *Annals of the New York Academy of Sciences*. 1-15.
15. Davis, J. H. * **Vago, D. R.** * (2013) Can enlightenment be traced to specific neural correlates, cognition, or behavior? No, and (a qualified) Yes. *Frontiers in Human Neuroscience*. 4(870). (* shared first authorship)
16. Desbordes, G.*, Gard, T.*, Hoge, E.*, Holzel, B.*, Kerr, C.*, Lazar, S.*, Olendzski, A.*, **Vago, D.R.*** (2014). Moving beyond Mindfulness: Defining Equanimity as an Outcome Measure in Meditation Research. *Mindfulness*. (* shared first authorship)
17. Kripalu Yoga Research Consortium (listed alphabetically: Gard, T.*, **Vago, D. R.***, Noggle, J., Park, C., Wilson, A. (2014). Potential self-regulatory mechanisms of yoga for psychological health: Directions for future research. *Frontiers in Human Neuroscience*. (* shared first authorship)
18. Perez, D. L., Barsky, A. J., **Vago, D. R.**, Baslet, G., & Silbersweig, D. A. (2015). A neural circuit framework for somatosensory amplification in somatoform disorders. *J Neuropsychiatry Clin Neurosci*, **27**(1), e40-50.
19. Cheek, J., Lipschitz, D.L., Abrams, L., **Vago, D.R.**, Nakamura, Y. (2015). Dynamic reflexivity in action: An armchair walkthrough of a qualitatively driven mixed-method and multiple method study of Mindfulness-Based Skills Training in School Children. *Qualitative Health Research*, **25**(6), 751-762.
20. Perez, D. L. Pan, H., Weisholtz, D., Root, J., Fischer, D., Butler, T., **Vago, D. R.**, Isenberg, N., Epstein, J., Silbersweig, D. A., Stern, E. (2015) Altered threat and safety neural processing linked to persecutory delusions in schizophrenia: a two task functional magnetic resonance imaging study. *Psychiatry Research: Neuroimaging*, **233**(3), 352-366.
21. Perez, D. L.*, **Vago, D. R.***, Pan, H., Root, J. Fuchs, B. H., Epstein, J., Clarkin, J., Lenzenweger, M. F., Kernberg, O., Levy, K., Silbersweig, D. A., Stern, E. (2015). Frontolimbic neural changes associated with clinical improvement following transference-focused psychotherapy in borderline personality disorder. *Psychiatry and Clinical Neurosciences*, **70**(1), 51-61. (* shared first authorship)

22. Hadash, Y., Plonsker, R., **Vago, D. R.**, & Bernstein, A. (2016). Experiential self-referential and selfless processing in mindfulness and mental health: Conceptual model and implicit measurement methodology. *Psychol Assess*, 28(7), 856-869.
23. **Vago, D. R.**, Zeidan, F. (2016). The brain on silent: mind-wandering, mindful awareness, and states of mental tranquility. *New York Academy of Sciences*, 1373(1), 96-113.
24. Zeidan, F., **Vago, D.R.** (2016). Mindfulness meditation-based pain relief: A mechanistic account. *New York Academy of Sciences*, (1373),1: 114-127.
25. Cheek, J., Abrams, E. M., Lipschitz, D. L., **Vago, D. R.**, Nakamura, Y. (in press). Creating novel school-based education programs to cultivate mindfulness in youth: What the letters told us. *Journal of Child and Family Studies*.
26. Yaden, D. B., Haidt, J., Hood Jr., R. W., **Vago, D. R.**, Newberg, A. B. (in press). The Varieties of Self-Transcendent Experience. *Review of General Psychology*.
27. Van Dam, N. T., van Vugt, M. K., **Vago, D. R.**, Schmalzl, L., Saron, C. D., Olendzki, A., Meissner, T., Lazar, S. W., Kerr, C. E., Gorchov, J., Fox, K. C. R., Field, B. A., Britton, W. B., Brefczynski-Lewis, J. A., Meyer, D. E. (in press). Mind the hype: A critical evaluation and prescriptive agenda for mindfulness and meditation research. *Perspectives on Psychological Science*.

Books, book chapters, invited review articles:

1. **Vago, D.R.**, Morris, L.S., Wallenstein, G.V., (2016) Hippocampus. In Encyclopedia of Neurological Sciences, 2nd ed. Academic Press.
2. Roeser, R.W., **Vago, D.R.**, Pinela, C., Morris, L.S., Taylor, C., and Harrison, J. (2013). "Contemplative Education: Cultivating Positive Mental Skills and Social-Emotional Dispositions through Mindfulness Training," in *Handbook of Moral and Character Education*. 2ND ed.
3. **Vago, D.R.**, Morris, L.S., Wallenstein, G.V., (2014) Hippocampus. In Encyclopedia of Neurological Sciences, 2nd ed. Academic Press.
4. Wallenstein, G.V., **Vago, D.R.**, Walberer, A.M. (2001) Hippocampus. In Encyclopedia of Neurological Sciences, Academic Press.

Abstracts:

1. **Vago, D.R.**, Hone, A., Barrett, C., Kesner, R. P., Wallenstein, G. V. (2002). Intrahippocampal blockade of $\alpha 7$, $\alpha 3\beta 2$, $\alpha 2\beta 4$, and $\alpha 4\beta 4$ nicotinic acetylcholine receptors disrupts early consolidation and acquisition of contextual fear. *Society for Neuroscience Abstracts*, 185.2.
2. **Vago, D.R.**, Calder, A., Kesner, R. P. (2003). Functional characterization of the direct perforant path into the hippocampus. *Society for Neuroscience Abstracts*, 835.2.
3. **Vago, D.R.**, Kesner, R. P. (2004). The role of the direct perforant path in retrieval and detection of spatial change. *Society for Neuroscience Abstracts*, 434.3.
4. **Vago, D.R.**, Kesner, R. P. (2005). An electrophysiological and behavioral characterization of the temporoammonic pathway: Disruption produces deficits in retrieval and spatial mismatch. *Society for Neuroscience Abstracts*, 647.5.
5. Nakamura Y., **Vago, D.R.**, Volinn, E. (2007). *Mindfulness Meditation Training for Fibromyalgia (Chronic Pain Condition)*. Abstract published in the Proceedings of the meeting, "Toward a Science of Consciousness", Budapest, Hungary.
6. Roeser RW, Sims, JM, Mills, KLM, Carlson, BR, **Vago D.R** (2011) Pilot Study of a Music-based Mindfulness Training (MBMT) for Stress-Reduction Among College-Attending Adults. Biennial Meeting of the Society for Research on Child Development, Montreal, Canada.
7. Brown A, Root J, Perez DL, **Vago, D.R.**, Teuscher O, Pan H, Cloitre M, LeDoux J, Silbersweig D, Stern E. (2011) Functional and Structural Abnormalities in Childhood Sexual Abuse-Treated PTSD: Implications for Characterization and Treatment. *International Society for Traumatic Stress Studies*.
8. **Vago, D. R.**, Pan, H., Stern, E., & Silbersweig, D. A. (2013). Neural Substrates Underlying Modalities of Awareness in Mindfulness Practice. Abstract published in *J Neuropsychiatry Clin Neurosci*, 25(2), 102.

Presentations at Scientific Meetings:

1995

- **Poster presentation.** “Immunocytochemical localization of selective glutamate receptor subunits in kainic acid treated rats. Society for Neuroscience Abstracts, 650.7.

2001

- **Oral presentation.** “PKA/PKC inhibition produces a time-dependent retrograde deficit of contextual fear conditioning”, Society for Neuroscience

2002

- **Poster Presentation.** “Intrahippocampal blockade of $\alpha 7$, $\alpha 3\beta 2$, $\alpha 2\beta 4$, and $\alpha 4\beta 4$ nicotinic acetylcholine receptors disrupts early consolidation and acquisition of contextual fear”. Society for Neuroscience

2003

- **Poster presentation.** “Functional characterization of the direct perforant path into the hippocampus” Society for Neuroscience

2004

- **Poster presentation.** “The role of the direct perforant path in retrieval and detection of spatial change”. Society for Neuroscience

2005

- **Poster presentation.** “An electrophysiological and behavioral characterization of the temporoammonic pathway: Disruption produces deficits in retrieval and spatial mismatch” Society for Neuroscience

2006

- **Oral presentation.** “The effects of mindfulness meditation training on cognitive and emotional biases associated with the perception of pain in fibromyalgia”. Mind & Life Summer Research Institute.

2008

- **Oral presentation.** “Mindfulness Training for Fibromyalgia: Changes in General Symptoms, Perception of Pain, and Associated Brain Correlates. 6th Annual Conference: Integrating Mindfulness-Based Interventions into Medicine, Health Care, and Society for Clinicians, Researchers, and Educators, Center for Mindfulness, Worcester, MA.

2010

- **Oral presentation.** “Mindfulness Meditation Training for Fibromyalgia: A Preliminary Study Investigating Attention-related Bias on a Dot-Probe Task. American Psychosomatic Society Workshop: Meditation Research and Psychosomatic Medicine – Evidence for Efficacy, Research Design – Challenges and Lessons Learned.
- **Poster presentation.** “Mindfulness Meditation Training for Fibromyalgia: A Preliminary Study Investigating Attention-related Bias on a Dot-Probe Task. American Psychosomatic Society. Stress & Health. Abstract 1453.
- **Poster presentation.** “Effects of mindfulness meditation on perceived symptoms of fibromyalgia: A qualitative approach to understanding clinical changes. Center for Mindfulness, Worcester, MA.

2012

- **Oral presentation.** “But why is paying attention to the present moment good for you? Neuro-Pscho-Behavioral processes underlying the salutary effects of mindfulness”. Bernstein, A. (Chair), 46th annual Association for Behavioral and Cognitive Therapies convention, National Harbor, MD.
- **Oral presentation.** “[Self-Awareness, Self-Regulation, and Self-Transcendence: A Framework for Understanding the Neurobiological Mechanisms of Mindfulness](#)”, Bessel A. van der Kolk’s 23rd Annual International Trauma Conference.
- **Oral presentation.** “Mindfulness Meditation Training for Depression Targeting Specific Mechanisms for Predicting Treatment Response”, Brigham & Women’s Hospital – Depression Center.
- **Poster presentation.** “The Effects of Mindfulness on Iconic Memory”, in: Mind & Life Summer Research Institute: The Situated and Embodied Mind.
- **Oral presentation.** “Mechanisms of Mindfulness: Integrating Neurobiological, Clinical, and Buddhist Models with Standards for Measurement”, Lazar, S., (Chair), International Symposia for Contemplative Studies.
- **Oral presentation.** “Aligning the Goals of Contemplative Science with the Funding Priorities of NIMH”, Fresco, D. (Chair), International Symposia for Contemplative Studies.

- **Oral presentation.** “Pain and Mindfulness Meditation”, Nakamura, Y. (Chair), International Symposia for Contemplative Studies.
- “Neurobiological Models for Mindfulness”, [Mind and Life XXIV, Latest Findings in Contemplative Neuroscience](#). A private meeting with His Holiness, The Dalai Lama. April 24th, 2012.
- **Grand Rounds.** “Emerging Neurobiological Models for Mindfulness: Conceptual Clarifications and Opportunities for Clinical Research”, Harvard Longwood Psychiatry Grand Rounds, Beth Israel Deaconess Medical Center

2013

- **Oral presentation.** “*Limbic Neuromodulation through Meditative Practice without Suppression or Appraisal*”, Neurobehavioral Facets of Emotion Regulation in Normative, Disordered, and Treatment Contexts. Chair: D. M. Fresco; Association for Behavioral and Cognitive Therapy.
- **Poster presentation.** “*Neural Substrates Underlying Modalities of Awareness in Mindfulness Practice*”, American Neuropsychiatric Association Annual Meeting, Boston, MA.
- **Poster presentation.** “*Neural Substrates Underlying Modalities of Awareness in Mindfulness Practice*. Brain Research Institute – Neurosciences Research Center, Interdisciplinary mini-retreat and poster session. Brigham & Women’s Hospital, Harvard Medical School, Boston, MA.

2014

- **Invited Keynote.** “*Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness*”, Interdisciplinary Symposium on Empathy, Contemplative Practice and Pedagogy, the Humanities and the Sciences, University of Utah, Department of Languages and Literature
- **Invited Keynote.** “*Self-Awareness, Self-Regulation, & Self-Transcendence: A Systems-based Integrative Framework by which Mindfulness Functions to Reduce Bias and Sustain a Healthy Mind*”, Center for Mindfulness, International Scientific Conference for Clinicians, Researchers and Educators, Kluge Symposium on Mindfulness and Compassion: Mechanisms, Models, and More, Worcester, MA.
- **Oral presentation.** “*Moving beyond Mindfulness: Defining Equanimity as an Outcome Measure in Meditation Research*”, Center for Mindfulness, Worcester, MA.
- **Oral presentation.** “*Moving beyond Mindfulness: Defining Equanimity as an Outcome Measure in Meditation Research*”, International Symposium for Contemplative Studies, Boston, MA.
- **Oral presentation.** “*Health & Stress Evaluation of Young Adults – A Long-term Opportunistic Follow-up Assessment of Mindfulness Training in School Children*, International Symposium for Contemplative Studies, Boston, MA.
- **Oral presentation.** “*Potential Self-regulatory mechanisms of yoga for psychological health*”, International Symposium for Contemplative Studies, Boston, MA.

2015

- **Oral presentation.** “*Foundational Issues in Cognitive Science from Contemporary Scientific and Buddhist Perspectives*”. Mind and Life XXVIII with His Holiness, the Dalai Lama, Serra Monastery, Bylakuppe, India.
- **Workshop Leader.** “*Mindfulness and Compassion Training: Science and Clinical Practice*”, All-day mandatory training workshop for Harvard Longwood Psychiatry residents, with Sonia Matwin, Ph.D., Randal Paulsen, M.D., and Christopher Germer, Ph.D.
- **Oral presentation.** “*Neural Mechanisms and Predictors of Expertise in Open Monitoring Meditation*”, Advances in Meditation Research, Memorial Sloan Kettering and New York Academy of Sciences
- **Invited Keynote.** “*The Resting Brain in Experienced Meditators: Mapping Modalities of Quiescence*”, Consciousness, Mindfulness, & Compassion International Association Conference, San Francisco State University
- **Oral presentation.** “*Brain, Mind & Soul: Advances in Clinical & Scientific Approaches to Brain-Mind Health & Spirituality*”, 4th Annual Conference on Medicine and Spirituality, Cambridge, MA
- **Oral presentation.** “*Mechanisms of Mind-Body Medicine in Cardiovascular Health*”, Osher Center for Integrative Medicine, Mind-Body and Cardiovascular Health
- **Oral presentation.** “*Neurocognitive Substrates and Mechanisms of Mindfulness Meditation*”, Conference on Medicine and Religion, Cambridge, MA

2016

- **Grand Rounds.** “The Neurobiology of Mindfulness and Clinical Implications”. Physical Medicine & Rehabilitation, Vanderbilt University Medical Center

- **Invited Keynote.** “[The Neurobiology of Mindfulness and Clinical Relevance](#)”. Launching SUNY Initiatives in Mindfulness and Health, State University of New York (SUNY) Conversations in the Disciplines Grant, Western New York Contemplative Faculty & Staff Group, Buffalo, NY
- **Invited Keynote.** “Foundational Issues in the Basic Neuroscience and Clinical Science of Mindfulness”. Brigham Young University, Neuroscience Research Program, Provo, UT
- **Invited Keynote.** “[Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness Across the Spectrum of Expertise](#)”, MD Anderson Cancer Center, Houston, TX

2017

- **Invited Keynote.** “[MindfulnessTN symposium](#)”, Knoxville, TN, May, 2017
- **Oral presentation.** “Common Pathways for Fronto-striatal-limbic Functioning: States of Meditation and Psychopathology”. Vanderbilt Institute for Imaging Science, Vanderbilt University Medical Center, February, 2017

Invited Lectures and Talks:

2006

- “Neuroanatomy – Function and Dysfunction”. Dept. of Psychology, Westminster College, Salt Lake City, UT. October, 2006

2007

- “Memory”. Dept. of Psychology, Southern Oregon University. Ashland, OR. February, 2007
- “Neurobiological effects of meditation”. Presbyterian Church, Salt Lake City, UT. May, 2007
- “Mindfulness and Fibromyalgia”. Mind & Life Summer Research Institute, Garrison, NY. June, 2007

2009

- “[Happiness and the Brain](#)”. The Agenda with Steve Paikin, TV Ontario. January, 2009.
- Blogging for Mind and Life XVIII: Attention, Memory & The Mind: A Synergy of Psychological, Neuroscientific, & Contemplative Perspectives with His Holiness the 14th Dalai Lama, Dharamsala, India. April 2009. <http://www.mindandlife.org/blog/dharamsala/>
- “The Contemplative Neurosciences”, Mind & Life Summer Research Institute, Garrison, NY. June 2009
- “The Emerging Field of Contemplative Neuroscience”, Department of Psychiatry, Brigham & Women’s Hospital, Harvard Medical School. September, 2009
- “The Neurobiology of Self”, Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School. December, 2009
- “[The Effects of Meditation & Contemplative Practice on Pain](#)”, National Public Radio, Charlotte affiliate WFAE, December, 2009.

2010

- “Effects of Contemplative Practice on Developmental Neuroplasticity”, Department of Psychology, Portland State University. March, 2010
- “The Emerging Field of Contemplative Neuroscience”, Mind & Life Summer Research Institute, Garrison, NY. June 2010.
- “The Neurobiology of Self-representational processes and representation during adolescence and early adulthood: Implications for Contemplative Education”, Mind & Life Summer Research Institute, Garrison, NY. June 2010.
- “[Sustainable Happiness: A dialogue between Science and Contemplative Wisdom](#)”, A public talk with Tibetan Buddhist meditation master, Yongey Mingyur Rinpoche, **David R. Vago, PhD** and Robert Roeser, PhD, Portland, OR. July, 2010.
- “Emerging Neurobiological Models for Mindfulness”, Grand Rounds, Center for Addiction Medicine, Massachusetts General Hospital, Harvard Medical School, November, 2010.

2011

- “[Neurobiological Models for Mindfulness](#)”, Metro-Area Research Group, New York University, January 26, 2012.
- “Mechanisms of Mindfulness in the context of self-awareness and self-regulation”, Workshop on Meditation and Brain Imaging, Depression Clinical Research Program, Boston, MA, April 2011
- “The Neurobiology of Self: Helping to Understand the Meditative Mind”, [Meditation & Psychotherapy: Helping Our Patients, Helping Ourselves](#), Harvard Medical School, Department of Continuing Education, offered by Department of Psychiatry, Cambridge Health Alliance Physicians Organization, May, 2011

- [“Mechanisms of Mindfulness in the context of Self Awareness and Self Regulation”](#), The Trauma Center, Justice Resource Institute, May, 2011
- 2012**
- [“The Emerging Science of Mindfulness Meditation”](#), Buddhist Geeks, June, 2012.
 - What is Mindfulness? How Can it Help Me? & How Does it Affect My Brain? Brigham & Women’s Hospital – Psychiatry Outpatient Clinic, September, 2012.
- 2013**
- “Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness”, Kripalu Center for Yoga and Health, April, 2013
 - “Modalities of Awareness: Neuroscientific and Contemplative Perspectives”, Buddhist Geeks Conference, Boulder, CO, August, 2013.
 - “Mapping the Meditative Mind”, New Dialogues Between Buddhism and Science: Researching the Effects of Meditation and Compassion on Health and Wellbeing, Ligmincha Institute, Virginia, October, 2013
 - “Understanding the Science of Mindfulness”, Harvard Pilgrim Healthcare, November, 2013
- 2014**
- [“The Mogul: Russell Simmons and Cognitive Neuroscientist David Vago”](#), Rubin Museum, Brainwave Series, March, 2014
 - “The Science of Mindfulness: How Mindfulness-based Meditation Practices Affect the Mind-Brain-Body”, Harvard Development and Alumni Association, March, 2014
 - “Meditation: Connecting Your Brain and Your Health: What is meditation, How does it work, Does It Really Impact Health, Should I try it.”, Brookline Public Library, April, 2014.
 - “Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness”, Functional and Molecular Neuroimaging Salon, Brigham & Women’s Hospital, Brain Research Institute, May, 2014
 - “Mindfulness: The Science of Settling the Mind for Optimum Health”, CVG Collaborative Medicine Conference (Medtronic), Newport, RI, August, 2014
 - “The Neuroscience of Mindfulness & the Meditative Experience”, Universal Church, Chelmsford, MA, October, 2014
 - “Practical Neuroscience of Mindfulness for Therapists: Dialogue between a Brain Researcher and a Clinician” with Stefan Zora, MD, Private Practice Colloquium, Salem, MA, November, 2014
 - “The Neurobiology of Mindfulness and its Clinical Relevance”, Cambridge Hospital, November, 2014
- 2015**
- “The Science of Mindfulness”, Harvard Health Speaks, Center for Wellness, Harvard University, Cambridge, MA, March, 2015
 - “Science on Screen: Free the Mind”, panel discussion, Real Art Ways, Hartford, CT, March, 2015
 - [“Tantric Obsession”, with Scott Carney, Rubin Museum](#), Brainwave Series, New York, NY, March, 2015
 - “Mindfulness and Aging”, Aging Successfully, MIT, Cambridge, MA, April, 2015
 - “The Importance of Relating to Self and Others in the Practice of Teaching and Learning”, Mind, Body, Being seminar, Harvard School of Education, Cambridge, MA, April, 2015
 - “Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness”, Brigham & Women’s Hospital, Research Initiatives Meeting, Department of Psychiatry, Boston, MA, September, 2015
 - “Research on Meditation and its Clinical Applications”, Mind-Body Medicine, Harvard Medical School elective course, October, 2015
 - “Mindfulness Programs: Fad or Way of the Future”, U.S. Institute – HR Director’s Forum, Boston, MA, October, 2015
 - “Fatigue and Depression & Mindfulness with Multiple Sclerosis”, Cure Fund, National Patient Education Program with Tarun Singhal, MD, North Attleboro, MA, November, 2015
 - “Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness”, Institute for Noetic Sciences, Future of Meditation Research, Petaluma, CA, November, 2015
 - “Mindfulness: Contextualizing it and the Underlying Neurobiology”, Harvard College Health Advocacy Program, Cambridge, MA, December, 2015

2016

- “Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness Across the Spectrum of Expertise”, Osher Center for Integrative Medicine, Vanderbilt University, Nashville, TN, January, 2016.
- “The Neurobiology of Mindfulness and its Clinical Relevance”, with Sonia Matwin, PhD, Cambridge Hospital, February, 2016
- “[Now and Zen: How Mindfulness Can Change Your Brain and Improve Your Health](#)”, Harvard Medical School Longwood Seminars, March, 2016
- “Mapping the Meditative Mind: Exploring the Neural Substrates of Mindful Awareness Across the Spectrum of Expertise”, Mindfulness TN, Knoxville, TN, April, 2016.
- “Neurobiology of Yoga”, online course, yogamedicine.com, October, 2016
- “Neurobiology of Mindfulness & its Clinical Implications”, Department of Physical Medicine & Rehabilitation Grand Rounds, Vanderbilt University Medical Center, November, 2016
- “Short- and Long-term effects of Meditation Practice on the Brain”, Sivananda Yoga Retreat Center, November, 2016

2017

- “The Science of Mindfulness”, [Mindwell-U](#) webinar, January, 2017
- “Mapping the Meditative Mind – Neural substrates for Modalities of Awareness”, Vanderbilt Institute for Imaging Science Seminar, February, 2017
- “Targeting the Self in the Brain through Mindfulness-based Meditation”, Vanderbilt Volunteer Services, March, 2017
- “Self-Transformation through Mindfulness”, [Ted-X, Nashville](#), March, 2017
- “Mindfulness Research: Past, Present, and Future”, Mindfulness TN, Knoxville, TN, May, 2017