

The Mind & Life Institute and  
Emory University Present  
Mind & Life XV



MIND & LIFE  
INSTITUTE



EMORY  
UNIVERSITY



Investigating the Mind  
**Mindfulness,  
Compassion,**  
and the  
**Treatment of Depression**

WITH HIS HOLINESS  
THE DALAI LAMA

Saturday, October 20, 2007  
Emory University, Atlanta, Georgia



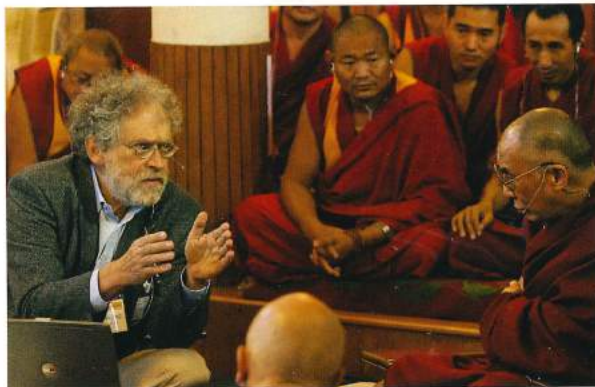
## Introduction to The Mind and Life Dialogues

**The Mind and Life Dialogues were started in 1987 as an experiment to determine whether a rigorous scientific exchange could occur between modern scientists and the Dalai Lama. The experiment was successful and over the ensuing decade, the Mind and Life Institute (MLI) was formed and six additional intimate dialogues were organized among world-renowned scientists, the Dalai Lama and other contemplatives. The proceedings of each dialogue were published in a book to share the extraordinary event with a wider audience.**

In 1998, the Dalai Lama and Mind and Life scientists recognized that it was critical to complement the Mind and Life dialogues with a collaborative scientific research program between contemplatives and scientists studying the effects of meditation and mental training on brain and behavior. This research was begun in 2000.

In 2003, MLI held its first public Mind and Life Dialogue entitled *Investigating the Mind: Exchanges between Buddhism and the Bio-Behavioral Sciences on How the Mind Works*. This meeting, co-sponsored by MIT and held on their campus, examined the desirability and efficacy of collaborative scientific research between contemplatives and scientists. The meeting resoundingly endorsed this research effort.

In 2004, recognizing the growing interest in the scientific community in collaborative research on meditation, MLI inaugurated the Mind and Life Summer Research Institute and the Mind and Life Francisco J. Varela Research Grant Program. The ML Summer Research Institute is an annual, week-long residential “science retreat” among basic and clinical scientists, contemplative scholars and practitioners, and philosophers to catalyze the creation of new fields of science: Contemplative Neuroscience and Contemplative Clinical Science. The Varela Research Grant Program provides research grants to graduate students and post docs to investigate hypotheses developed at the ML Summer Research Institute.



In 2005, MLI held its second public meeting in Washington D.C., entitled *The Science and Clinical Applications of Meditation*. This meeting was co-sponsored by the Johns Hopkins Medical University and the Georgetown University Medical Center.

In 2006, MLI began the Mind and Life Education Research Network, a series of multi-disciplinary research meetings with supporting pilot studies, to investigate how contemplative-based practices can be developed to cultivate mental states of clarity, calmness, kindness and happiness in children.

Today, on the 20th anniversary of our first Mind and Life Dialogue, MLI is happy to be joining with Emory University in presenting Mind and Life XV. With this meeting we extend our investigation of the mind and address the critically important question of how meditation on mindfulness and compassion might assist in the treatment of depression, a disease that affects millions around the world.



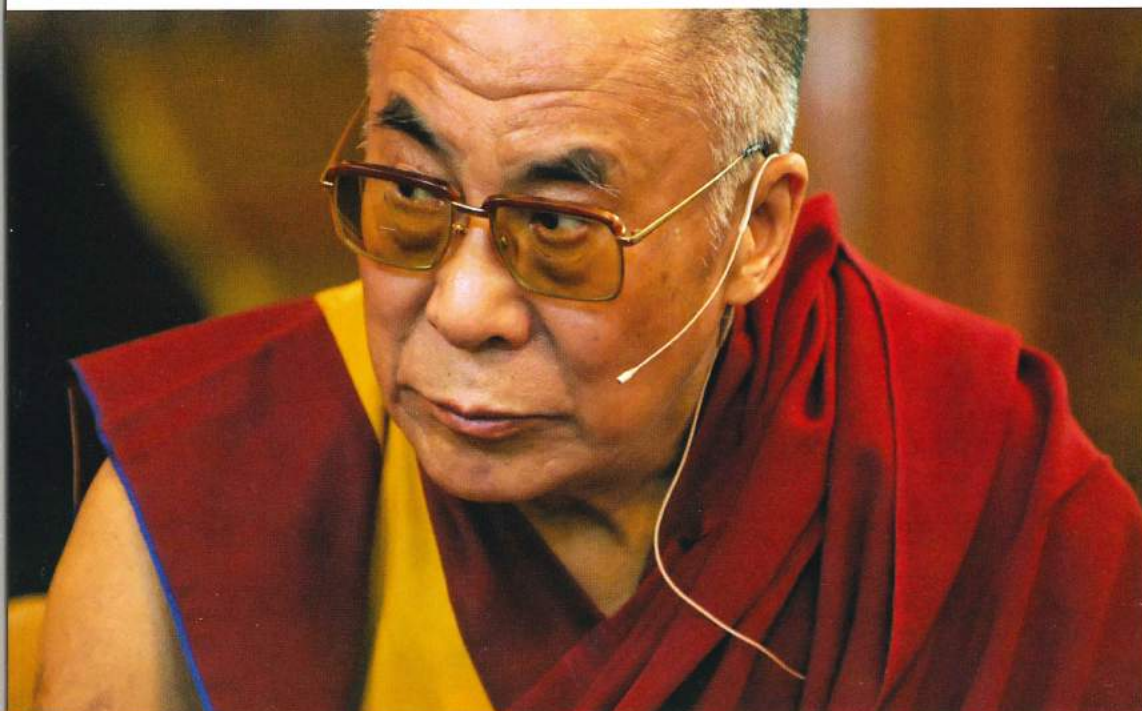
### Mindfulness, Compassion, and the Treatment of Depression

In contemporary behavioral science, the general term “depression” covers a wide range of some of the most striking and prevalent forms of mental suffering in the world today. Within the broad spectrum of depression, some forms are relatively well understood. This meeting will build on that understanding to further examine the nature of depression and explore the possibility that some meditative practices may be helpful in its treatment or prevention.

The physiological, cognitive and affective features of depression may manifest in active states of depression, but they may also appear as traits that make one susceptible to depression. In terms of the physiology involved, recent research reveals that, in many cases, a complex interaction of genetics and the early life environment may make some people especially susceptible to depression. At the same time, studies of mindfulness-based interventions, including recent work on the mindful cultivation of compassion, suggest that these interventions may be associated with physiological changes that could be adapted as therapies for those who are especially susceptible.

Beyond the question of physiology, it is also clear that some cognitive and affective styles make one susceptible to depression, or even constitute many of its symptoms. Here as well, recent research suggests that some forms of cognitive therapy are critical to the successful treatment or prevention of depression. It also appears that the effectiveness of cognitive therapies can be enhanced by combining them with mindfulness-based techniques. Finally, the range of cognitive styles that serve to mitigate depression may also relate closely to a compassionate stance toward the world, and these styles may thus be reinforced by techniques for the deliberate cultivation of compassion.

Drawing on a wide range of expertise within both behavioral sciences and the Buddhist contemplative traditions, this dialogue seeks to understand depression in physiological and cognitive terms so as to explore the possibility that mindfulness-based therapies, along with techniques to enhance compassion, may prove especially useful in the treatment of depression.



# PROGRAM SCHEDULE and SESSION INFORMATION

## MLXV: Investigating the Mind — Mindfulness

### MORNING SESSIONS

9:30 am to 12:00 pm — October 20, 2007

#### SPEAKERS & TOPICS

- ***Formal Opening of MLXV***  
Adam Engle J.D., M.B.A., CEO and Chairman, Mind & Life Institute
- ***Introduction of His Holiness The Dalai Lama***  
James W. Wagner, Ph.D., President of Emory University
- ***Opening Remarks***  
His Holiness The Dalai Lama
- ***Introduction of the Morning Participants***  
Robert A. Paul, Ph.D., Dean, Emory College

### SESSION ONE, SATURDAY MORNING

#### SPEAKERS & PRESENTATION TITLES

- The Dalai Lama
- ***Early Life Factors in Depression***  
Charles B. Nemeroff, M.D., Ph.D.
- ***Neurophysiological and Cognitive Aspects of Depression***  
Helen S. Mayberg, M.D.
- ***Understanding Depression from a Buddhist Perspective***  
John D. Dunne, Ph.D.

*Panel discussions will follow each presentation*

#### PANELISTS

The Dalai Lama	Richard J. Davidson, Ph.D.
John D. Dunne, Ph.D.	Geshe Lobsang Tenzin Negi, Ph.D.
Charles B. Nemeroff, M.D., Ph.D.	Helen S. Mayberg, M.D.

#### MODERATOR

Robert A. Paul, Ph.D.,  
Dean, Emory College

#### INTERPRETER

Geshe Thupten Jinpa, Ph.D.

### LUNCH

12:00 pm to 1:30 pm — Lunch Break

*Campus dining & concessions available*





# PROGRAM SCHEDULE and SESSION INFORMATION

## Compassion, and the Treatment of Depression

### AFTERNOON SESSIONS

1:30 pm to 4:00 pm — October 20, 2007

- *Introduction of the Afternoon Participants*  
Robert A. Paul, Ph.D., Dean, Emory College

### SESSION TWO, SATURDAY AFTERNOON

#### SPEAKERS & PRESENTATION TITLES

- The Dalai Lama
- *Mindfulness, Compassion and the Psychological Treatment of Depression*  
Zindel V. Segal, Ph.D.
- *Changing the Brain by Transforming the Mind: The Impact of Compassion Training on the Neural Systems of Emotion*  
Richard J. Davidson, Ph.D.
- *Compassion Meditation: a Cognitive Strategy for Enhancing Social Empathy*  
Geshe Lobsang Tenzin Negi, Ph.D.
- *Compassion Training as a Path to Emotional and Physical Wellbeing*  
Charles L. Raison, M.D.

*Panel discussions will follow each presentation*

- Closing by Robert A. Paul, Ph.D., Dean, Emory College

#### PANELISTS

The Dalai Lama	Richard J. Davidson, Ph.D.
John D. Dunne, Ph.D.	Geshe Lobsang Tenzin Negi, Ph.D.
Charles L. Raison, M.D.	Zindel V. Segal, Ph.D.

#### MODERATOR

Robert A. Paul, Ph.D.,  
Dean, Emory College

#### INTERPRETER

Geshe Thupten Jinpa, Ph.D.

### SUMMATION AND CLOSING

- *Summation of Meeting*  
Richard J. Davidson, Ph.D.
- *Final Remarks*  
The Dalai Lama
- *MLXV Closing Remarks*  
Adam Engle, J.D., M.B.A., CEO and Chairman,  
Mind & Life Institute



## Morning Presentation Abstracts

### Early Life Factors in Depression

**Charles B. Nemeroff, M.D., Ph.D.**

Studies in animals and humans have revealed that trauma and/or lack of parental care early in life (child abuse or neglect) can produce life-long adverse effects on the brain and body. Indeed, child abuse and neglect have been shown to greatly increase the risk of developing a host of health problems in adulthood, including major depression, coronary artery disease and substance abuse. Research suggests that childhood abuse and neglect adversely impact the developing brain, resulting in persistent alterations in neural, neuroendocrine and immune inflammatory pathways in adulthood. For example, in the cerebrospinal fluid (CSF) of such adults, concentrations of corticotropin-releasing factor (CRF), which plays a key role in the response to stress, are markedly increased, resulting in sensitivity to the effects of stress. Conversely, reductions are seen in CSF concentrations of oxytocin, which plays a key role in social biology, and also in promoting interpersonal bonding and maternal behaviors.

Major depression exemplifies the role of both genetic and environmental influences in disease development. We have begun to identify which forms of several genes (e.g., serotonin transporter, CRF1 receptor) tend to protect against, or predispose toward, the development of depression in individuals exposed to early trauma. Recent data also demonstrate that the provision of social support to genetically at-risk children can protect them from the depressogenic effects of exposure to an adverse environment. These findings highlight the value of social and psychological interventions for reversing the effects of early adversity. Finally, adults with chronic depression and a past history of early abuse/neglect are more likely to attain remission of their illness through treatment with a form of psychotherapy than with an antidepressant, emphasizing the promise of psychosocial treatments.

### Neurophysiological and Cognitive Aspects of Depression

**Helen S. Mayberg, M.D.**

Recent advances in functional neuroimaging, genetics and molecular biology are providing an increasingly coherent understanding of physiological changes in the brain that promote the development and persistence of major depression. These findings have launched a novel treatment for patients with very severe depression who have failed other currently available treatment options. Procedures that utilize deep brain stimulation (DBS) of the subgenual anterior cingulate cortex (ACC) have shown great initial promise in a small group of these severely ill patients.

However, our experience has also exposed a paradox inherent to the mind-body nature of depression itself. Prior to DBS our patients are so disabled by their depression that they are no longer able to function in the world. The effects of DBS are so rapid and frequently striking that patients rapidly awaken to the world around them, and are again faced with all the environmental risk factors which are primary catalysts to the relapse of their depressive illnesses. DBS appears capable of putting some previously untreatable patients "back on the cliff", but without psychotherapeutic interventions to help these patients reorganize their habitual cognitive patterns, emotional reactions and psychosocial interactions, they appear to be vulnerable to stress-induced relapses of their depression.

### Understanding Depression from a Buddhist Perspective

**John D. Dunne, Ph.D.**

This talk examines how Buddhist theory and practice relate to cognitive vulnerability and emotional reactivity in depression. In brief, Buddhist practice aims to relieve suffering by undoing its causes. Those causes consist in cognitive schemas that involve excessive self-focus, exaggerated self-representation and a rigid interpretation of the world. These schemas underlie dysfunctional emotional patterns that, in turn, further elaborate and reinforce those schemas. All this is perpetuated by the deeply seated tendency to take one's thoughts about self and world to be the actual self and world, rather than mere representations.



According to Buddhist theory, by undoing dysfunctional cognitive schemas one will eliminate the dysfunctional emotional habits that lead to psychological suffering. Buddhist practice, however, recognizes that access to cognitive schemas is often inhibited by the dysfunctional emotions themselves, and two types of techniques help one to move beyond this blockage. Some techniques, described as "mindfulness meditation," enable practitioners to engage non-reactively with experiences in a way that lessens the tendency to equate one's thoughts about self and world with the actual self and world. Other techniques, consisting in "positive affect training," engender states of loving kindness and compassion. By shifting focus from self to other, these methods inhibit the excessive self-focus of dysfunctional cognitive schemas and undermine the exaggerated self-representations perpetuated by them.

### Afternoon Presentation Abstracts

#### **Mindfulness, Compassion and the Psychological Treatment of Depression**

**Zindel V. Segal, Ph.D.**

Psychological treatments for depression help patients develop metacognitive skills for tolerating and approaching negative affect from a wider attentional frame. Sparked by the observation that metacognitive awareness can be trained directly through the practice of mindfulness, clinical protocols integrating mindfulness meditation into the treatment of depressive disorders have recently been developed. In these approaches, working more wisely with the sadness and critical thinking that are emblematic of an affective disorder requires learning to shift between different modes of mind when these mental contents appear. Mindfulness, because it involves directed attention, allows patients to shuttle between modes that instantiate automatic, maladaptive responses, and an alternative mode that allows compassionate befriending of emotions and troubling thoughts.

Recent neuroimaging data support this dual mode conceptualization. Mindfulness novices show activations in medial prefrontal regions when watching sad films - regions that are active when the self is at the forefront of information processing. Following mindfulness training, the activations shift to a ventral prefrontal network when the same material is viewed - regions that provide interoceptive feedback about the state of the body. Mindfulness permits access to a distinct experiential mode that is associated with decreased self-focus. Reducing the reliance on self as the conceptual pivot in understanding the world is consistent with the traditional Buddhist account of how compassion develops.

#### **Changing the Brain by Transforming the Mind: The Impact of Compassion Training on the Neural Systems of Emotion**

**Richard J. Davidson, Ph.D.**

This talk will present an overview of the neural circuitry that underlies the regulation of emotion. The possibility of transforming emotion regulation and affective style will be introduced and the role of mental training in promoting such transformation will be highlighted. Contemplative practices designed to cultivate compassion have been available for centuries but only within the past decade have they begun to be taken seriously by the scientific community. Evidence in support of the idea that mental training in compassion produced demonstrable neural and behavioral consequences will be described.

The possible utility of these methods as interventions at various stages of affective disorders will be considered, particularly in light of new evidence on the role of specific deficits in the activation of circuitry associated with positive affect, particularly by positive social stimuli. Strategies for studying these questions will be discussed.



## Afternoon Presentation Abstracts (cont'd)

### **Compassion Meditation: a Cognitive Strategy for Enhancing Social Empathy** *Geshe Lobsang Tenzin Negi, Ph.D.*

People who lack positive social connections are at significantly increased risk for developing depression and other stress-related illnesses. This suggests that techniques designed to improve social connectivity might also improve emotional and physical health. Most studies that have examined potential health benefits of meditation have focused on techniques that highlight the development of attentional abilities and/or a general sense of mindfulness. Implicit in these practices is the notion that empathy for others arises spontaneously as a result of stabilizing the mind. More recently, however, researchers at Emory and other academic centers have begun to examine the potential health benefits of more analytically-oriented meditation practices designed to actively generate empathy and compassion.

Tibetan Buddhist *lojong* practices provide a systematic, cognitively-based, approach for enhancing and extending one's feelings of empathy for others regardless of personal likes or dislikes. In step-wise fashion, these practices start with the attempt to develop equanimity, move to cultivating a deep appreciation for all other beings, and then extend this appreciation into a sense of affection/endearament, which gives rise to spontaneous empathy and then to feelings of love/compassion that tend toward expression in prosocial, supportive behavior toward others. This talk presents the essential features of this practice and discusses the challenges researchers faced in adapting compassion meditation techniques for use in a study of Emory freshman students.

### **Compassion Training as a Path to Emotional and Physical Wellbeing** *Charles L. Raison, M.D.*

Recent data demonstrate that vulnerability to depression is associated with dysregulation of the body's stress response system, as well as with heightened activity in inflammatory pathways, both of which contribute to the link between psychosocial stress and the development of depression. Inflammatory processes are especially interesting in this regard, given increasing evidence linking them to the pathogenesis of depression, as well as to many medical illnesses for which depression is a risk factor, including cardiovascular disease, stroke, diabetes, cancer and Alzheimer's disease.

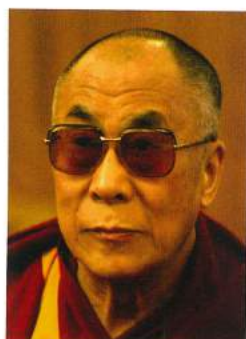
We theorized that meditation might improve emotional and physical health by optimizing how the body responds to psychosocial stress. Given that positive social support is associated with reduced inflammatory activity, we suspected that a meditative technique specifically designed to improve one's felt sense of social connectivity might be especially likely to protect against depressive symptoms by attenuating stress-induced inflammatory responses. To test this hypothesis, we randomized freshmen college students at Emory to six weeks of training in compassion meditation or to a health education discussion group control condition. Following this, a standardized laboratory psychosocial stress test was administered to evaluate whether exposure to, and/or practice of, compassion meditation would be associated with reductions in autonomic, neuroendocrine and inflammatory responses to stress. Results from this study will be presented in this talk.

Attendees participate at the annual Mind and Life Summer Research Institute





## SPEAKER and PANELIST BIOGRAPHIES



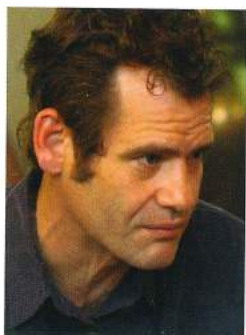
**Tenzin Gyatso, the XIVth Dalai Lama**, is the leader of Tibetan Buddhism, the head of the Tibetan government-in-exile, and a spiritual leader revered worldwide. He was born on July 6, 1935 in a small village called Taktser in northeastern Tibet. Born to a peasant family, he was recognized at the age of two, in accordance with Tibetan tradition, as the reincarnation of his predecessor, the XIIIth Dalai Lama. The Dalai Lamas are manifestations of the Buddha of Compassion, who choose to reincarnate for the purpose of serving human beings. Winner of the Nobel Prize for Peace in 1989, he is universally respected as a spokesman for the compassionate and peaceful resolution of human conflict.

He has traveled extensively, speaking on subjects including universal responsibility, love, compassion and kindness. Less well known is his intense personal interest in the sciences; he has said that if he were not a monk, he would have liked to be an engineer. As a youth in Lhasa it was he who was called on to fix broken machinery in the Potola Palace, be it a clock or a car. He has a vigorous interest in learning the newest developments in science, and brings to bear both a voice for the humanistic implications of the findings, and a high degree of intuitive methodological sophistication.



**Richard J. Davidson, Ph.D.**, is the Director of the Laboratory for Affective Neuroscience and the W.M. Keck Laboratory for Functional Brain Imaging and Behavior at the University of Wisconsin at Madison. He was educated at New York University and Harvard University, where he received his B.A. and Ph.D., respectively, in psychology. Over the course of his research career he has focused on the relationship between brain and emotion. He is currently the William James Professor and Vilas Research Professor of Psychology and Psychiatry at the University of Wisconsin. He is co-author or editor of thirteen books, including *Visions of Compassion: Western Scientists and Tibetan Buddhists Examine Human Nature* and *The Handbook of Affective Science*. Professor Davidson has also written more than 250 chapters and journal articles.

He is the recipient of numerous awards for his work, including the Research Scientist Award from the National Institute of Mental Health, the Distinguished Scientific Contribution Award from the American Psychological Association and election to the American Academy of Arts and Sciences. He was a member of the Board of Scientific Counselors of the National Institute of Mental Health. He was named one of the 100 most influential people in the world by Time Magazine in May, 2006 and in November, 2006 he received the first Mani Bhaumik Award from UCLA for advances in the understanding of the brain and the conscious mind in healing. In 1992, as a follow-up from previous Mind and Life meetings, he was a member of a scientific team doing neuroscientific investigations of exceptional mental abilities in advanced Tibetan monks.  
<http://psychz.psych.wisc.edu>; (W.M. Keck Laboratory): <http://tezpur.keck.waisman.wisc.edu>



**John D. Dunne, Ph.D.**, is an assistant professor in the Department of Religion at Emory University, where he is Co-Director of the Encyclopedia of Contemplative Practices and the Emory Collaborative for Contemplative Studies. He was educated at the Amherst College and Harvard University, where he received his Ph.D. from the Committee on the Study of Religion in 1999. Before joining Emory's faculty in 2005, he taught at the University of Wisconsin-Madison and held a research position at the University of Lausanne, Switzerland. Support from the American Institute of Indian Studies sustained two years of his doctoral research at the Central Institute for Higher Tibetan Studies in Sarnath, India.

His work focuses on various aspects of Buddhist philosophy and contemplative practice. In *Foundations of Dharmakirti's Philosophy* (2004), he examines the most prominent Buddhist theories of perception, language, inference and justification. His current research includes an inquiry into the notion of "mindfulness" in both classical Buddhist and contemporary contexts, and he is also engaged in a study of Candrakirti's "Prasannapada", a major Buddhist philosophical work on the metaphysics of "emptiness." His recently published work includes an essay on neuroscience and meditation co-authored with Richard J. Davidson and Antoine Lutz. He frequently serves as a translator for Tibetan scholars, and as a consultant, he has assisted Drs. Davidson and Lutz in their neuro-psychological studies of Tibetan contemplative practices.



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**R. Adam Engle, J.D., M.B.A.**, is the Chairman, CEO and co-founder of the Mind and Life Institute. He is a lawyer, businessman, and entrepreneur who has divided his professional life between the for-profit and non-profit sectors. In the for-profit sector, he began his career as a lawyer, practicing for 10 years in Beverly Hills, Albuquerque, Santa Barbara, and Teheran. After leaving the practice of law, he formed an investment management firm, focusing on global portfolio management on behalf of individual clients. He also started several business ventures in the United States and Australia. Mr. Engle co-founded the Mind and Life Institute in 1987 with Francisco Varela and the Dalai Lama. In 1993, he co-founded the Colorado Friends of Tibet, a statewide Tibetan support group based in Boulder. He also founded a speakers' series at the Stanford Business School entitled "Integrity and Compassion in Business." He was a founding member of the Social Venture Network, and a member of the World Business Academy. He received his A.B. in Economics from the University of Colorado; his J.D. degree from the Harvard Law School; and his M.B.A. from the Stanford Graduate School of Business.



**Geshe Thupten Jinpa, Ph.D.**, was educated at the Shartse College of Ganden Monastic University, South India, where he received the Geshe Lharam degree. In addition, Jinpa holds a B.A. Honors in philosophy and a Ph.D. in religious studies, both from Cambridge University. He taught for five years at Ganden and worked as a research fellow in Eastern religions at Girton College, Cambridge University.

Jinpa has been a principal English translator to H.H. the Dalai Lama for over two decades and has translated and edited numerous books by the Dalai Lama including *Ethics for the New Millennium*, *Transforming the Mind*, *The World of Tibetan Buddhism* and *The Universe in a Single Atom: Convergence of Science and Spirituality*. His own publications include works in both Tibetan

and English, the most recent book being *Self, Reality and Reason in Tibetan Philosophy* and *Mind Training: The Great Collection*, *The Library of Tibetan Classics*.

Jinpa teaches as an adjunct professor at the Faculty of Religious Studies at McGill University, Montreal. He is currently the president of the Institute of Tibetan Classics and heads its project of critical editing, translation and publication of key classical Tibetan texts aimed at creating a definitive reference series entitled *The Library of Tibetan Classics*.



**Helen S. Mayberg, M.D.**, is Professor of Psychiatry and Neurology at Emory University School of Medicine. She received her B.A. in Psychobiology from the University of California, Los Angeles and the M.D. degree from the University of Southern California. Following an internship in Internal Medicine at the Los Angeles County-USC Medical Center, and a residency in Neurology at the Neurological Institute, Columbia University College of Physicians and Surgeons in New York, she completed a post-doctoral fellowship in Nuclear Medicine at Johns Hopkins. Dr. Mayberg has held academic positions at Johns Hopkins, the University of Texas Health Sciences Center in San Antonio, and was the first Sandra Rotman Chair in Neuropsychiatry at the Rotman

Research Institute and the University of Toronto.

The central theme of her research program is the use of functional neuroimaging methods to define critical neural pathways mediating normal and abnormal mood states in health and disease. Converging findings from a series of studies has led to a neural systems model of major depression. This model provides the foundation for ongoing experiments examining mechanisms of standard antidepressant treatments such as cognitive behavioral therapy and pharmacotherapy as well as development of novel surgical interventions for treatment resistant patients. Since her move in 2004 to Atlanta, these studies have been expanded to further address neurobiological markers predicting treatment response, relapse and resistance as well as depression vulnerability, with a goal towards developing imaging-based algorithms that will discriminate patient subgroups and optimize treatment selection in individual patients.



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**Geshe Lobsang Tenzin Negi, Ph.D.**, was born in Kinnaur, a small Himalayan region adjoining Tibet. At age 14 he joined the Institute of Buddhist Dialectics in Dharamsala and continued his training at Drepung Loseling Monastery in south India, where he was awarded the degree of Geshe Lharampa, the highest degree of learning in the Tibetan Buddhist educational system. In 1991 he came to Atlanta to serve as Spiritual Director of Drepung Loseling Monastery, Inc., the North American seat of Drepung Loseling Monastery, and to pursue doctoral work at Emory University's Institute of Liberal Arts. He received his Ph.D. from Emory in 1999 with a dissertation that focused on traditional Buddhist and contemporary Western approaches to emotions and their impact on wellness. In addition to continuing to serve as Spiritual Director for Drepung Loseling

Monastery, Inc., he now teaches as a Senior Lecturer at Emory, where he also directs the Emory-Tibet Partnership and co-directs the Emory Tibet Science Initiative alongside Dean Preetha Ram. He serves as Principal Contemplative Investigator for Emory's ongoing research study on the benefits of compassion meditation for reducing depression.

Emory-Tibet Partnership: [www.tibet.emory.edu](http://www.tibet.emory.edu)

Drepung Loseling Institute: [www.drepung.org](http://www.drepung.org)



**Charles B. Nemeroff, M.D., Ph.D.**, was born in New York City in 1949. After graduating from the City College of New York in 1970, he enrolled in graduate school at Northeastern University and received a Master's degree in Biology in 1973. He received his M.D. and Ph.D. (Neurobiology) from the University of North Carolina at Chapel Hill. His residency training in psychiatry was conducted at both the University of North Carolina and at Duke University, after which he joined the faculty of Duke University. At Duke he was Professor of Psychiatry and Pharmacology and Chief of the Division of Biological Psychiatry before relocating in 1991 to Emory University School of Medicine in Atlanta, where he is the Reunette W. Harris Professor and Chairman of the Department of Psychiatry and Behavioral Sciences. His research

has concentrated on the biological basis of the major neuropsychiatric disorders. His clinical research is focused on understanding the pathophysiology of depression. In recent years he has uncovered the neurobiological mechanisms that mediate the increased risk for depression in victims of child abuse.

In 1998, he was the recipient of the Research Award in Mood Disorders from the American College of Psychiatrists. He was awarded the Menninger Prize in 2000 from the American College of Physicians, the Research Award from the American Foundation for Suicide Prevention in 2001, and the Burlingame Prize from the Institute of Living in 2002. In 2006 he received the American Psychiatric Association Research Mentoring Award and Vestermark Award. With Alan F. Schatzberg, M.D., he is co-editor of the *Textbook of Psychopharmacology* published by the American Psychiatric Association Press. He has served on the Mental Health Advisory Council of the National Institutes of Mental Health. He is past President of the American College of Neuropsychopharmacology and the American College of Psychiatrists. He is currently a member of the Board of Directors of the American Foundation for Suicide Prevention and President of its Scientific Council. He is chair of the APA Committee on Research Training. In 2002, he was elected as a member of the Institute of Medicine of the National Academy of Sciences. He is currently the recipient of several research grants from the NIH, including a Conte Center for the Neurobiology of Major Mental Disorders, and has published more than 850 research reports and reviews.

He is currently the recipient of several research grants from the NIH, including a Conte Center for the Neurobiology of Major Mental Disorders, and has published more than 850 research reports and reviews.



**Charles L. Raison, M.D.**, is a tenure-track assistant professor in the Department of Psychiatry and Behavioral Sciences at Emory University School of Medicine and serves as a co-director of the Emory Collaborative for Contemplative Studies. His research focuses on explicating pathways by which innate immune system activation contributes to the development of depression in response to both illness and stress. Recently, he has begun an attempt to identify and test clinically-effective interventions



## SPEAKER and PANELIST BIOGRAPHIES

based on findings regarding mechanisms that link inflammation to mood disturbance. In this context, he serves as a principal investigator in an ongoing study of compassion meditation in freshman college students at Emory.

This study examines whether training individuals to re-envision their social embeddedness (via compassion meditation) will: 1) enhance personality domains related to optimal emotional health; 2) protect against the development of depressive symptoms in response to the stress of college life; and 3) optimize neuroendocrine and inflammatory responses to psychosocial stress. In addition to his research work, he takes an active role in other university-based activities in areas related to science and spirituality, serving as one of the founding members of a group of scientists developing and implementing a curriculum designed to teach science to Tibetan Buddhist monks in India.



**Zindel V. Segal, Ph.D.**, is the Morgan Firestone Chair in Psychotherapy in the Department of Psychiatry at the University of Toronto. He is Head of the Cognitive Behaviour Therapy Unit at the Centre for Addiction and Mental Health and is a Professor in the Departments of Psychiatry and Psychology at the University of Toronto. He received his undergraduate training in Psychology at McGill University and completed his graduate work at Queen's University.

Dr. Segal's research focuses on cognitive mechanisms of relapse vulnerability in affective disorder, especially the way in which transient dysphoria can (re)evolve depressive knowledge structures in semantic memory. He is currently conducting a 5 year NIMH funded study to evaluate the sequencing of pharmacological remission in depression with mindfulness-based prophylaxis for the prevention of depressive relapse and recurrence. Dr. Segal is a member of the NIMH Interventions Review Committee and has served as an associate editor for *Cognitive Therapy and Research*. He has published over 150 scientific articles and 7 books including: *Mindfulness-Based Cognitive Therapy for Depression* (with Williams and Teasdale) which advocates for the relevance of mindfulness-based clinical care in psychiatry and mental health.



**Robert A. Paul, Ph.D., Dean, Emory College**, was educated at Harvard College and at the University of Chicago, where he earned his M.A. in 1966 and his Ph.D. in 1970 in the field of cultural anthropology. His professional interests within anthropology include psychological anthropology, comparative religion, myth and ritual, and the ethnography of Nepal, Tibet, the Himalayas, and South and Central Asia. After teaching appointments in anthropology at C.C.N.Y. and Queens College in the City University of New York, he came to Emory University in 1977 as associate professor in the Graduate Institute of Liberal Arts (I.L.A.), where he has now been a faculty member for twenty-four years. He helped establish Emory's Anthropology Department in 1979 and served as its first acting chair. He

holds a joint appointment in that department. He has also served two separate terms as director of the I.L.A. In 1986, he was named Charles Howard Candler Professor of Anthropology and Interdisciplinary Studies.

In 1987, Dean Paul began clinical training at the Emory University Psychoanalytic Institute, located in the Psychiatry Department of Emory's School of Medicine. He graduated in 1992 and was certified by the Board on Professional Standards of the American Psychoanalytic Association in 1997. He maintains a private clinical practice and holds an appointment as associate professor in the Department of Psychiatry and Behavioral Sciences. In 1997, he established Emory's widely recognized Psychoanalytic Studies Program and, in 2000, received Emory's Crystal Apple Award for his graduate teaching in that program. In the fall of 2000, Robert A. Paul was selected, after a national search, to be dean of the Graduate School of Arts and Sciences at Emory, and, in the spring of 2001, after an internal search, he was selected as interim dean of Emory College for a two-year term beginning in June 2001. After a national search, he was selected as dean of Emory College in May 2003.



## SPEAKER and PANELIST BIOGRAPHIES



**James W. Wagner, Ph.D.**, president of Emory University and an award-winning teacher and scientist, earned his bachelor's degree in electrical engineering in 1975 from the University of Delaware and a master's degree in clinical engineering in 1978 from The Johns Hopkins University School of Medicine. In 1984, he completed his Ph.D. degree in materials science and engineering from Johns Hopkins.

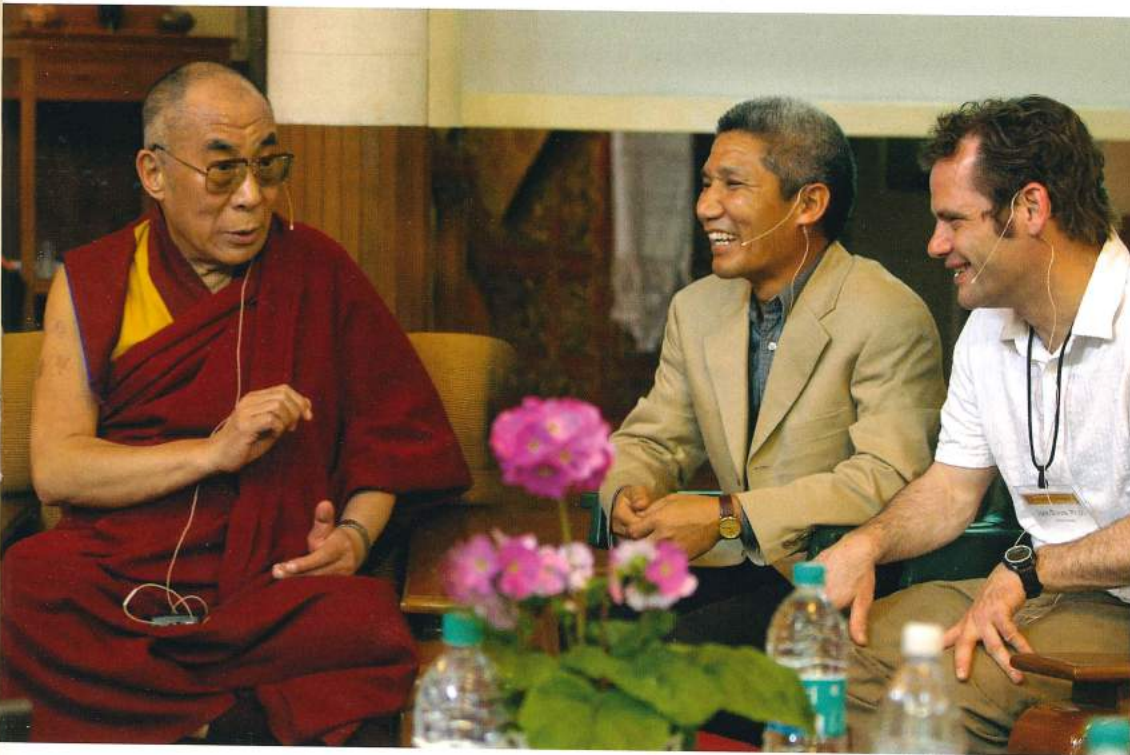
Dr. Wagner has authored more than 115 publications and has served as editor or editorial board member for several serial publications. His research interests and activities have stemmed in part from his early employment with the U.S. Food and Drug Administration, where he developed quality-assurance methods and performed failure analyses on medical devices. At Johns Hopkins

his research focused on optical and microwave methods for sensing strains and displacements in materials and structures.

Before assuming office at Emory on September 1, 2003, he had served as dean, provost, and interim president of Case Western Reserve University, following a distinguished tenure on the faculty of The Johns Hopkins University.

Throughout his administrative career, Dr. Wagner has worked closely with faculty, students, alumni, and staff to enhance the undergraduate educational experience, grow research, and foster more effective partnership between the academy and local institutions, including government and industry. Out of a firm devotion to the ancient university mission of liberal education—which he defines as mastering a discipline and developing a thirst for new knowledge—Dr. Wagner has been able to forge collaborations among a diverse array of schools and programs, ranging from the arts and sciences to the professional schools. He also has had significant experience in raising funds from private philanthropic sources.

**His Holiness the Dalai Lama, Thupten Jinpa, and John Dunne discuss "The Universe in a Single Atom" at Mind and Life XIV in Dharamsala, India in April, 2007**





### About The Mind & Life Institute

The Mind and Life Institute (MLI) was co-founded in 1987 by the Dalai Lama, neuroscientist Francisco J. Varela, and entrepreneur Adam Engle for the purpose of creating a rigorous dialogue and research collaboration between modern science, Buddhism, and other contemplative traditions as a joint quest for a more complete understanding of the nature of reality, for investigating the mind, and for promoting well-being on the planet.

Today, the Mind and Life Institute is a recognized world leader in the emerging scientific investigation of the effects of contemplative practices and mental training on brain and behavior, and the translation of this data into effective tools to benefit people in all walks of life. We do this through a comprehensive strategy that includes the following programs:

- **Mind and Life Dialogues with the Dalai Lama**
- **Mind and Life Publications that report on the MLI Dialogues**
- **Mind and Life Summer Research Institute**
- **Mind and Life Francisco J. Varela Research Grant Program**
- **Mind and Life Education Research Network**
- **Mind and Life Neuroplasticity of Self Identification Research Project**

To learn more about the work and programs of the Mind and Life Institute, please visit our website at [www.mindandlife.org](http://www.mindandlife.org)

### About Emory University

Emory is recognized as one of the leading centers of study of Tibetan philosophy and religion in the West, primarily due to the university's extraordinary relationship with Tibetan Buddhist institutes of higher learning based in India, including the Drepung Loseling Monastery and the Institute of Buddhist Dialectics.

In 2007 His Holiness the Dalai Lama accepted Emory's invitation to join the faculty as Presidential Distinguished Professor, the latest milestone in the history of a relationship that spans 20 years. The overarching goal of the Emory-Tibet Partnership is to bring together the best of the Western and Tibetan Buddhist intellectual traditions to produce new knowledge that will benefit individuals and society as a whole.

The partnership has culminated in two unprecedented developments: the only university appointment the Dalai Lama has ever accepted; and Emory's commitment to develop and implement a comprehensive science education program for Tibetan monastics.

These steps are an integral part of Emory's commitment to explore the frontiers of new knowledge development; undertake educational initiatives requiring international cooperation and understanding; conduct interfaith dialogue at both global and grassroots levels; and fulfill the highest aspirations in the study and role of religion in conflict resolution and peace building.

As one of the nation's leading private research universities, Emory is known for its demanding academics, outstanding undergraduate college of arts and sciences, highly ranked graduate and professional schools and programs, state-of-the-art research facilities, and as one of the leading healthcare facilities in the Southeast. Through collaboration among its schools, units and centers, as well as with affiliated institutions such as The Carter Center and the U.S. Centers for Disease Control and Prevention, Emory is committed to working for positive transformation in the world.



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# THE MIND & LIFE INSTITUTE

## A TWENTY YEAR HISTORY OF ACCOMPLISHMENT

### Mind and Life Dialogues

The titles of these dialogues between the Dalai Lama and leading scientists show the range of topics that the Mind and Life Institute has explored. For more details on these conferences, please go to [www.mindandlife.org](http://www.mindandlife.org).

- 2007: Mindfulness, Compassion and the Treatment of Depression, co-sponsored by Emory University
- 2007: The Universe in a Single Atom
- 2005: Investigating the Mind: The Science and Clinical Applications of Meditation, co-sponsored by Johns-Hopkins Medical University and Georgetown Medical Center
- 2004: Neuroplasticity: The Neuronal Substrates of Learning and Transformation
- 2003: Investigating the Mind: Exchanges between Buddhism and the Biobehavioral Science on How the Mind Works, co-sponsored by Massachusetts Institute of Technology
- 2002: The Nature of Matter, The Nature of Life
- 2001: Transformations of Mind, Brain and Emotion at the University of Wisconsin
- 2000: Destructive Emotions
- 1998: Epistemological Questions in Quantum Physics and Eastern Contemplative Sciences at Innsbruck University
- 1997: The New Physics and Cosmology
- 1995: Altruism, Ethics, and Compassion
- 1992: Sleeping, Dreaming, and Dying
- 1990: Emotions & Health
- 1989: Dialogues between Buddhism and the Neurosciences
- 1987: Dialogues between Buddhism and the Cognitive Sciences

### Mind and Life Books and DVD Sets

The following books and DVD sets describe discussions between the Dalai Lama and Western scientists. Books in print can be obtained from major booksellers; DVD sets are available directly from the Mind and Life Institute. For more information about each title, please go to [www.mindandlife.org](http://www.mindandlife.org).

- *The Science of a Compassionate Life*, DVD from the Dalai Lama's Denver Public Talk in 2006
- *The Science & Clinical Applications of Meditation*, DVD from Mind and Life XIII in 2005
- *Train your Mind; Change your Brain*, from Mind and Life XII in 2004
- *Investigating the Mind*, DVD from Mind and Life XI in 2003
- *The Dalai Lama at MIT*, from Mind and Life XI in 2003
- *What is Matter, What is Life?*, from Mind and Life X in 2002 (in preparation)
- *Destructive Emotions: A Scientific Dialogue With the Dalai Lama*, from Mind and Life VIII in 2002
- *The New Physics and Cosmology: Dialogues with the Dalai Lama*, from Mind and Life VI in 1997
- *Visions of Compassion: Western Scientists and Tibetan Buddhists*, from Mind and Life V in 1995
- *Sleeping, Dreaming, and Dying: An Exploration of Consciousness with the Dalai Lama*, from Mind and Life IV in 1992
- *Healing Emotions: Conversations with the Dalai Lama on Mindfulness, Emotions, and Health*, from Mind and Life III in 1990
- *Consciousness at the Crossroads: Conversations with the Dalai Lama on Brain Science and Buddhism*, from Mind and Life II in 1989
- *Gentle Bridges: Conversations with the Dalai Lama on the Sciences of Mind*, from Mind and Life I in 1987

### Mind and Life Research Initiatives

- **Mind and Life Summer Research Institute** — A week-long residential science retreat for 185 scientists, clinicians, contemplative scholar/practitioners and philosophers from around the world, working together to develop new fields of science and studies that examine the effects of contemplative practice and mental training on brain, behavior, philosophy, religious studies and the humanities. This is an annual program of the Mind and Life Institute and was begun in June, 2004, and has continued yearly since then.
- **Mind and Life Francisco J. Varela Research Grant Program** — providing small research grants to investigate hypotheses developed at the ML Summer Research Institute. 10 to 15 Varela Awards are given yearly.
- **Mind and Life Education Research Network** — exploring how to bring the benefits of mental training in clarity, calmness and kindness to children.
- **Mind and Life Neuroplasticity of Self Identification Research Studies** — exploring the neural systems that are responsible for the processing of self identification and the neuroplasticity of those neural systems.



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