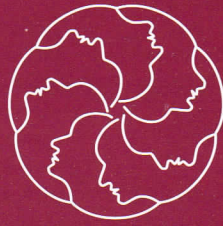
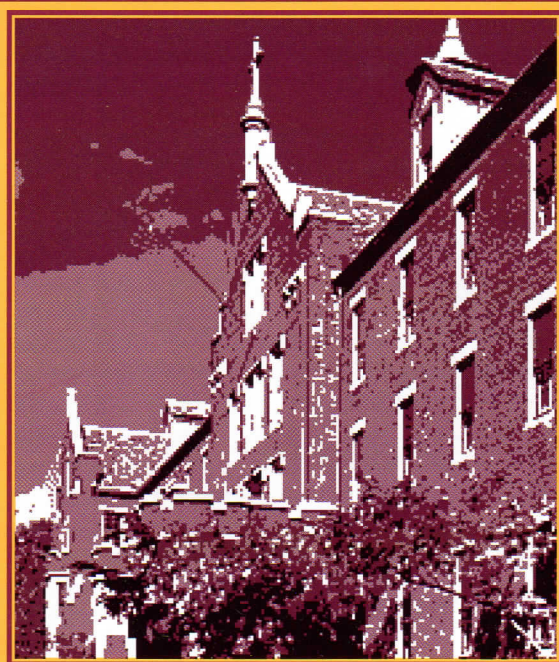


**The Role of Mental Training
in Investigating the Mind**



MIND & LIFE
SUMMER
RESEARCH
INSTITUTE



June 21-27, 2004

Program Information and
Faculty Biographies

GARRISON INSTITUTE, GARRISON, NEW YORK



MIND & LIFE
INSTITUTE

Dear Faculty, Senior Investigators, Research Fellows, Mind and Life Board Members, Sponsors, and Guests,

It is with great joy that I welcome you to our Mind and Life Summer Research Institute (MLSRI). After these last months of countless meetings and hours of planning, what a pleasure it is to have us all together for this groundbreaking event. We are pioneers in the truest sense, as we share our knowledge and experience with each other in totally new and innovative ways by participating in the day-to-day sessions of the MLSRI.

I would like to take a moment to thank the wonderful sponsors of the MLSRI. The John Templeton Foundation, the Garrison Institute, the Mental Insight Foundation, and several anonymous donors have made this incredible concept a reality. We are most grateful. Our Mind and Life Board members, who gave so generously of their time in providing their expertise and guidance as we moved forward with MLSRI, are simply the best. We are deeply indebted to our MLSRI Faculty, who enthusiastically stepped up to the plate when invited to participate.

And to our Senior Investigators and Research Fellows, thank you for joining us. Our attendee roster includes participants from Australia, Belgium, Canada, Germany, Israel, Mexico and Switzerland. Welcome, all.

With warmest regards,

A handwritten signature in black ink that reads "R. A. Engle". The signature is written in a cursive, flowing style.

Adam Engle
Chairman & CEO
Mind and Life Institute

The 2004 Mind & Life Summer Research Institute

The purpose of the Mind and Life Summer Research Institute is to advance collaborative research among cognitive and affective neuroscientists and contemplative practitioners and scholars. The long-term objective is to advance the training of a new generation of cognitive/affective neuroscientists interested in exploring the influence of contemplative practice on mind, behavior, and brain function, including the potential role of contemplative methods for characterizing human experience and consciousness, and a new generation of contemplative scholars interested in expanding their knowledge of the modern mind sciences.

This exploration will include experiential engagement in the practices via periods each day devoted to meditation instruction and practice, and a day-long "mini retreat" that faculty and participants will engage in together.

The specific goals of this program are several:

1) to elicit strategic discussion between experimental psychologists, neuroscientists, cognitive scientists on the one hand, and contemplative scholars on the other, in order to develop research protocols to enhance investigation of human mental activity;

2) to have a cadre of nascent scientists (graduate students and post-docs), and some emerging contemplative scholars, participate in these discussions in an effort to develop the next generation interested in innovation at the mind-brain interface;

3) to advance a collaborative research program to study the influence of contemplative practices on mind, behavior, and brain function, by informed use of highly trained subjects in human neuroscience protocols; and

4) to explore ways in which the first-person examination of mental phenomena, by means of refining attention skills, may be raised to a level of rigor comparable to the third-person methodologies of the cognitive sciences.

The overriding theme of the meeting will be to foster a meaningful dialogue between modern cognitive/affective neuroscience and contemplative practice. For such dialogue to occur, it is

important for the participants to appreciate the theoretical commonalities and differences between contemplative and modern scientific perspectives. Hence attention will be given to identifying and challenging underlying assumptions that influence the empirical and theoretical study of the mind.

The scientific emphasis will be given to developing rigorous experimental designs to evaluate both state- and trait-effects of contemplative practice and potential experimental designs for incorporating "first-person" contemplative methods into cognitive/affective neuroscience research on consciousness. We will encourage the active collaboration of scientists and contemplative scholars in all phases of research. Examples of early findings from such collaborations will be provided.

Examples of the possible themes to be addressed include:

- Functional neuroimaging research on relations between changes in subjective experience during meditation and alterations in brain function.
- Neuroplasticity and its implications for understanding transformations in brain and behavior produced by contemplative practice.
- Integration of first-person methods in research on brain function, meditation, and consciousness.
- Affective and cognitive trait effects of meditation and methods to investigate these changes in brain and behavior.
- Longitudinal research with meditation practitioners.
- Epistemological and methodological issues concerning introspection and meta-cognition, as seen from the perspectives of Buddhist psychology and modern cognitive science.

**Mind and Life Summer Research Institute
Daily Schedule, June 21-27, 2004**

<i>Begin</i>	<i>End</i>	<i>Event Description</i>
Monday, June 21		
Afternoon		Arrival and Registration at Garrison Institute
6:00 PM	7:30 PM	Opening Dinner
7:30 PM	9:00 PM	Orientation
9:00 PM	9:30 PM	Alan Wallace, Introductory Meditation
Tuesday, June 22		
7:00 AM	8:00 AM	Jon Kabat-Zinn, Meditation
8:00 AM	9:00 AM	Breakfast
9:00 AM	9:30 AM	Alan Wallace, Three Dimensions of Consciousness: A Buddhist Phenomenology of Mind

ALAN WALLACE

Three Dimensions of Consciousness: A Buddhist Phenomenology of Mind

The Buddhist path entails an integrated pursuit of virtue, genuine happiness, and truth, and the exploration and transformation of the mind is central to this endeavor. Just as Galileo refined and used the telescope to examine celestial phenomena and van Leeuwenhoek refined and used the microscope to examine minute organisms, so did Gautama the Buddha refine and use focused, balanced attention as the instrument for examining mental phenomena. Among the three dimensions of consciousness, the first is the psyche, second is the substrate consciousness, and third is primordial consciousness. Each of these will be explained, together with means for exploring them experientially. The lecture will conclude with a discussion of the role of empiricism and skepticism in science and Buddhism.

9:30 AM	11:00 AM	Discussion
11:00 AM	11:30 AM	Short Meditation
11:30 AM	12:00 PM	Break
12:00 PM	1:30 PM	Lunch
1:30 PM	2:00 PM	Jonathan Cohen, Attention and Cognitive Control

JONATHAN COHEN

Attention and Cognitive Control

Attention is defined as the ability to selectively process one source of information over others. Cognitive control is defined as the ability to act (or think) in accord with an intention. Both of these functions have been the subject of intense study in psychology and neuroscience, and yet our understanding of them, their relationship to one another, and their underlying neural mechanisms is still largely incomplete. Attention and control are also central constructs in Buddhist theory and meditative practice. In this presentation, I will review what scientific research has taught us about attention and cognitive control, and how these are studied in the laboratory using behavioral and neuroscientific methods. I will then pose a series of unanswered questions, that I hope can be usefully informed by a dialogue with Buddhist scholars, and studies of individuals who are adept at meditative practice.

2:00 PM	2:30 PM	Anne Treisman, Attention and Cognitive Control
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ANNE TREISMAN

Attention and Cognitive Control

Meditation is likely to change mental functions in many different ways. My interest is to explore such changes in the domain of attention. Western psychology has developed experimental paradigms to measure different attentional skills and deployments. For example, we can study the ability to focus attention and to suppress irrelevant stimuli, or conversely to spread attention more broadly to take in global properties, semantic gist, and form statistical descriptions. A related skill is the ability to divide attention between different concurrent tasks and/or to shift attention rapidly and flexibly between them. Practice in meditation may also improve the ability to shift the level of processing. Most people are trapped at the level of identified objects and are unable to tap in to earlier sensory representations. In sum, we hope to probe the breadth of focus, the efficiency of focus, the speed and flexibility of switching between tasks, and the ability to move between different levels of processing.

2:30 PM	3:00 PM	David Meyer, Prelude to Probing Basic Cognitive Processes in Samatha Meditation
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DAVID MEYER

Prelude to Probing Basic Cognitive Processes in Samatha Meditation

Samatha meditation, the foundation of Tibetan Buddhist contemplative techniques, is devoted to achieving stability and vividness of the attention (Wallace, 1998). Opposing these objectives, there are several serious hindrances, including attentional laxity and excitation (e.g., wandering thoughts and mental chatter), which must be surmounted in order for attentional stability and vividness to be achieved. Consequently, scientific research on Buddhist meditation should investigate the nature of both the basic cognitive processes that underlie such hindrances and the executive cognitive control processes that may help alleviate them through diligent practice. This investigation can benefit from several sources of empirical and theoretical insight provided by Cognitive Psychology and Cognitive Neuroscience, including: (1) the distinction between procedural and declarative knowledge; (2) the role of verbal working memory in self-programming and self-monitoring; (3) the description of executive cognitive control in terms of modern computer science and computational modeling; and (4) the analysis of human information-processing capacities and limitations based on behavioral data about multi-tasking.

3:00 PM	3:30 PM	Break
3:30 PM	5:00 PM	Discussion

5:00 PM	5:30 PM	Free Time, Discussions with Faculty, Etc.
5:30 PM	7:00 PM	Dinner
7:00 PM	9:00 PM	Tsoknyi Rinpoche, Buddhist Taxonomy of the Mind

TSOKNYI RINPOCHE
Buddhist Taxonomy of the Mind

A Buddhist approach to knowledge of the mind and the way it functions is based on the investigation of what are known as the eight consciousnesses. From the ground consciousness as the basis of all the others, to the direct and simple five sensory consciousnesses, these eight confine cognizance within the limitations of the duality of subject and object, which are then perceived and experienced as truly existing entities. Understanding the way each of these eight consciousnesses functions not only deepens our knowledge of how emotions and dualistic perception occur in the mind, but also provides an effective tool that helps our practice of meditation lead to the realization of the nature of mind.

9:00 PM	9:45 PM	Matthieu Ricard, Meditation
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■ **Wednesday, June 23**

7:00 AM	8:00 AM	Joan Halifax Roshi, Meditation
8:00 AM	9:00 AM	Breakfast
9:00 AM	9:30 AM	Margaret Kemeny, Compassion

MARGARET KEMENY
Compassion

A major thrust of Buddhist practice is the cultivation of compassion for others. Despite the importance of compassion as a response to suffering, there is no agreed upon definition of compassion in psychological science and little work has been done to study the roots of compassion and methods to promote it. In this session, compassion will be conceptualized and considered in the context of other related constructs (e.g., empathy, sympathy). Investigations of the impact of meditation on psychological processes including those related to compassion will be discussed. Conceptual and methodological issues that relate to meditation research generally and to the promotion of compassion more specifically will be emphasized.

9:30 AM	10:00 AM	Dacher Keltner, Cultivating Compassion
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DACHER KELTNER
Cultivating Compassion

Compassion — the feeling of profound concern for another, and the desire to enhance that person's welfare — is an end of most spiritual/religious traditions and source of altruism and cooperation. In this talk I will review the latest scientific findings attesting to the promise and merits of compassion-based mediation. First, I will talk about the themes that trigger compassion — harm, human goodness, vulnerability. I then will talk about the physical expression of compassion through touch and voice and facial expression. I will conclude by considering the downstream effects of compassion, including a sense of beauty, diminished self-interest, and interconnectedness, that point to the gains of cultivating compassion.

10:00 AM	10:30 AM	Break
10:30 AM	12:00 PM	Discussion
12:00 PM	1:30 PM	Lunch
1:30 PM	2:00 PM	Matthieu Ricard, Compassion and Bodhicitta
2:00 PM	3:30 PM	Discussion
3:30 PM	5:30 PM	Free Time, Discussions with Faculty, Etc.
5:30 PM	7:00 PM	Dinner
7:00 PM	9:00 PM	Tsoknyi Rinpoche, Buddhist Taxonomy of the Mind (continued)
9:00 PM	9:45 PM	Alan Wallace, Meditation

■ **Thursday, June 24**

7:00 AM	8:00 AM	Jane Carpenter-Cohn, Meditation
8:00 AM	9:00 AM	Breakfast
9:00 AM	9:30 AM	Steve Kosslyn, Mental Imagery

STEVE KOSSLYN
Mental Imagery

Many Buddhist practices rely on mental imagery, and as a result practitioners may develop particularly effective imagery processes or become particularly adept at using imagery in specific ways. In this session we will discuss three general topics: imagery and perception (especially ways that facility with imagery may transfer to perception), imagery processing (such as the possible development of "hyper-acute" images, the ability to form complex images very easily, the ability to suppress or "let images go," and — conversely — the ability to retain images for long periods of time), and the use of imagery in specific ways (such as in learning). We will discuss specific empirical paradigms for assessing the effects of different forms of mediation in each realm and the possible impact of meditation on the neural substrate of such information processing.

9:30 AM	10:00 AM	Matthieu Ricard, Mental Imagery in Buddhist Practice
10:00 AM	10:30 AM	Break

10:30 AM	12:00 PM	Discussion
12:00 PM	1:30 PM	Lunch
1:30 PM	2:00 PM	Alan Wallace, A Buddhist Ideal of Mental Health

ALAN WALLACE

A Buddhist Ideal of Mental Health: Achieving Conative, Attentional, Cognitive, and Emotional Balance

This lecture will begin by addressing human nature and the pursuit of genuine happiness, a kind of well-being that derives from a balanced mind, rather than from transient, pleasurable stimuli. In Buddhism, mental afflictions are generally seen as the root causes of suffering, and these manifest in four kinds of mental imbalances: conative, attentional, cognitive, and emotional. States of deficit, hyperactivity, and dysfunction that characterize these four types of imbalances will be addressed, as well as their remedies. In light of the previous discussion, human nature is presented as being habitually afflicted, but fundamentally sane.

2:00 PM	3:00 PM	Discussion
3:00 PM	3:30 PM	Sharon Salzberg, Introduction to Metta
3:30 PM	4:15 PM	Metta Meditation Practice Session
4:15 PM	5:30 PM	Free Time, Discussions with Faculty, Etc.
5:30 PM	7:00 PM	Dinner
7:00 PM	9:00 PM	Joan Halifax Roshi, Jane Carpenter-Cohn, Sharon Salzberg Panel Discussion on Zen, Tibetan, Theravada
9:00 PM	9:45 PM	Sharon Salzberg, Meditation

■ **Friday, June 25**

7:00 AM	8:00 AM	Jon Kabat-Zinn, Meditation
8:00 AM	9:00 AM	Breakfast
9:00 AM	9:30 AM	Richard Davidson, Transforming Affective Style: Perspectives from Affective Neuroscience

RICHARD DAVIDSON

Transforming Affective Style: Perspectives from Affective Neuroscience

This presentation will provide an overview of how we think about affective style — individual differences in emotional reactivity and emotion regulation. These differences are central to our understanding of why certain individuals are happy and report very high levels of well-being while others are not. The circuitry in the brain that provides the proximal substrate of such individual differences will be described and paradigms for the study of emotion regulation in the laboratory will be illustrated. These differences among individuals in affective style will be conceptualized as skills that can be trained. The role of meditation in the training of these skills and in the cultivation of more resilient forms of emotional responding will be considered and data will be presented on both naïve and expert meditators to show how brain function can be altered by such practices. The influence of the central circuitry of emotion on peripheral biological systems that may be implicated in health and disease will also be discussed.

9:30 AM	10:00 AM	Daniel Kahneman, Emotion
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DANIEL KAHNEMAN

Emotion

The question of how to describe affective experience (mood, emotion) has attracted much attention among psychologists. A crude but useful description involves two major dimensions: (1) Evaluation, which ranges from Very Good to Very Bad; (2) Arousal, which ranges from very high (Agitated) to very low. This crude structure identifies two major positive states: Joy and Contentment are both Good, but differ in arousal. It also distinguishes two major negative states: Anxiety and Depression. This scheme is useful, but far from perfect. We will discuss together some ways to go beyond it.

10:00 AM	10:30 AM	Break
10:30 AM	12:00 PM	Discussion
12:00 PM	1:30 PM	Lunch
1:30 PM	2:00 PM	Matthieu Ricard, Emotions and Mind Training
2:00 PM	2:30 PM	Georges Dreyfus, Buddhist Investigation of Mental Events
2:30 PM	3:00 PM	Break
3:00 PM	5:00 PM	Discussion
5:00 PM	5:30 PM	Free Time, Discussions with Faculty, Etc.
5:30 PM	7:00 PM	Dinner
7:00 PM	9:00 PM	Gehlek Rinpoche on Meditation
9:00 PM	9:45 PM	Matthieu Ricard, Meditation
9:45 PM	10:00 PM	Jon Kabat-Zinn, Guidelines for Day of Meditation

■ **Saturday, June 26**

6:00 AM	9:45 PM	All Contemplative Faculty, Day of Meditation Practice (including some dialogue)
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■ **Sunday, June 27**

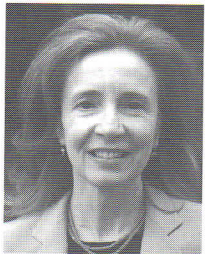
7:00 AM	8:00 AM	All Faculty, Meditation
8:00 AM	9:00 AM	Breakfast
9:00 AM	9:15 AM	Daniel Kahneman, Integration and Reflections
9:15 AM	9:30 AM	Richard Davidson, Integration and Reflections
9:30 AM	11:00 AM	Discussion led by MLI Board
11:00 AM	12:00 PM	Silent Meditation
12:00 PM		Lunch and Departure

Summer Research Institute Faculty Biographies

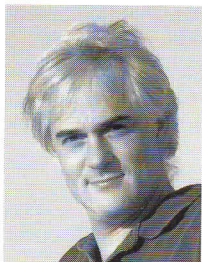


Gerardo Abboud is President of Dongyuling Buddhist Center, established in Argentina by Dorzong Rinpoche and Choegyal Rinpoche in 1986. Born in Argentina in 1945, in 1969 he graduated as Industrial Engineer at the University of Buenos Aires. In 1970 he traveled to Nepal and India, where he stayed until 1985, studying and practicing Buddhism.

He has been translating from Tibetan into English and Spanish for many lamas from his days in the Himalayan region, and since 1992 is the Spanish interpreter in Latin America for His Holiness the Dalai Lama. When not traveling abroad as one of Tsoknyi Rinpoche's main translators, he teaches Buddhism and Tibetan language at Dongyuling.



Jane Carpenter-Cohn chairs the BA Contemplative Psychology department and teaches for the Religious Studies department at Naropa University in Boulder, Colorado. Jane became a student of the Venerable Chogyam Trungpa Rinpoche in 1975, and has taught and coordinated programs for Shambhala and Buddhist centers for twenty years. For Naropa, Jane teaches psychology, meditation and the Maitri Space Awareness practices. She is also an accomplished Ikebana, Japanese flower arranging, instructor, and a teacher of Dharma art. She is trained in marriage and family therapy and has worked with families and children of all ages.



Jonathan Cohen is Professor of Psychology, Director of the Center for the Study of Brain, Mind and Behavior and Director of the Program in Neuroscience at Princeton University. He is also Associate Professor of Psychiatry at the University of Pittsburgh School of Medicine. He received a B.A. from Yale University, an M.D. from the University of Pennsylvania, and a Ph.D. from Carnegie

Mellon University. He has received the NIMH Training Award in Psychiatry; the Annual Resident Research Award, Northern California Psychiatric Society; the Miller Foundation Prize for Research in Psychiatry and Behavioral Sciences; the NIMH Physician Scientist Award; the NIMH First Award; the Joseph Zubin Memorial Fund Award for Research in Psychopathology; and the Kempf Fund Award.

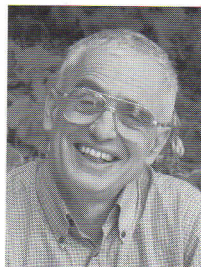
Recent publications include: Nystrom LE, Braver TS, Sabb FW, Delgado MR, Noll DC & Cohen JD (2000). Working memory for letters, shapes and locations: fMRI evidence against stimulus-based regional organization of human prefrontal cortex. *Neuroimage*, 11, 424-446. Barch DM, Carter CS, Braver TS, MacDonald A, Noll DC & Cohen JD (2001). Selective deficits in prefrontal cortex function in medication naïve patients with schizophrenia. *Archives of General Psychiatry*, 58, 280-8. And Botvinick, MM, Braver TS, Carter CS, Barch DM & Cohen JD (2001). Conflict monitoring and cognitive control. *Psychological Review*. 108(3) 624-652.



Richard J. Davidson 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 nine books, the most recent being *Anxiety, Depression and Emotion*, and *Visions of Compassion: Western Scientists and Tibetan Buddhists Examine Human Nature*.

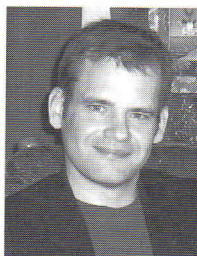
Professor Davidson has also written more than 150 chapters and journal articles. He is the recipient of numerous awards for his work, including the Research Scientist Award from the National Institute of Mental Health and the Distinguished Scientific Contribution Award from the American Psychological Association. He is a member of the Board of Scientific Counselors of the National Institute of Mental Health. 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.



Georges Dreyfus is Professor of Religion and Chair of the Department of Religion at Williams College. He received an M.A. and Ph.D. in the history of religion from the University of Virginia. His dissertation, *Ontology, Philosophy of Language, and Epistemology in Buddhist Tradition*, was done under the direction of Paul Jeffrey Hopkins. He serves as the co-chair for the Tibetan and Himalayan Religions Group

at the American Academy of Religion and is also a member of their Steering Committee. His languages of specialization include Tibetan, Sanskrit, and Pali.

He has published 5 books, including *Tibetan Interpretations* (1997) and *The Sound of Two Hands Clapping: the Education of a Tibetan Buddhist Monk* (2002), and many articles. He was the recipient of a Foreign Language Area Study Fellowship in 1988-89, a Fulbright Fellowship to India in 1989-90, and a National Endowment for the Humanities award in 1994-95.



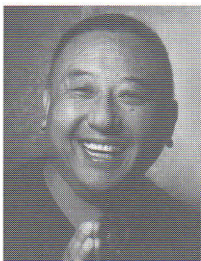
John Dunne is an assistant professor in the Department of Languages and Cultures of Asia at the University of Wisconsin-Madison. He was educated at the Amherst College and Harvard University, where he received his Ph.D. from the Committee on the Study of Religion in 1999. Before joining the faculty of the University of Wisconsin in 1999, he 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, especially epistemology, philosophy of language and notions of identity. In *Foundations of Dharmakirti's Philosophy* (2004), he examines the most prominent Buddhist theories of perception, language, inference and justification. His current research includes a study and transla-

tion of Candrakirti's *Prasannapada*, which is funded through a Collaborative Research Grant from the National Endowment for the Humanities.

He frequently serves as a translator for Tibetan scholars, and as a consultant, he assists Dr. Richard J. Davidson of the University of Wisconsin-Madison in his neuropsychological study of Tibetan contemplative practices.



Gehlek Rinpoche was born in Lhasa, Tibet. He is a fully accomplished meditation master, and an incarnate lama of Drepung Monastic University. Carefully tutored by some of Tibet's greatest living masters, he gained renown at a very young age for his powers of memory, intellectual judgement and penetrating insight.

In 1959, he was among those forced into exile, fleeing the Communist Chinese who

had occupied Tibet since 1951. While in India, Rinpoche as a member of a group of sixteen monks, was chosen to continue specific studies with the great masters who had escaped Tibet, including the Dalai Lama's personal tutors.

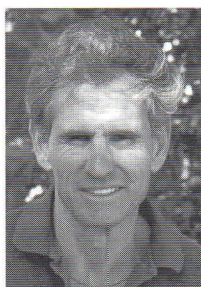
At the age of twenty-five, Rinpoche gave up monastic life, allowing him to better serve the lay community of Tibetan Buddhist practitioners. In the mid-70's, Gehlek Rinpoche was encouraged by Ling Rinpoche and Trijang Rinpoche (senior and junior tutors of the Dalai Lama, respectively) to begin teaching in English. Since that time he has gained a large following throughout the world. Coming to the U.S. in the mid-80's, Rinpoche later moved to Ann Arbor, MI and in 1988 founded Jewel Heart, an organization dedicated to the preservation of Tibetan culture and Buddhism. Today, Jewel Heart has chapters throughout the U.S. and in Malaysia, Singapore and the Netherlands.

A member of the last generation of lamas to be born and fully educated in Tibet, Gehlek Rinpoche is particularly distinguished for his knowledge of English, his understanding of contemporary society, and his skill as a teacher of Buddhism in the West.



Joan Halifax received a Ph.D. in medical anthropology/psychology from University of Miami, 1968. Since then, she has held diverse positions, including researcher of Ethnomusicology, Columbia University, NIMH, and head of the Ojai Foundation, CA. Currently, she is president of the Upaya Foundation in New Mexico, which includes a community facility for the dying.

Dr. Halifax is the author of several articles and books including *The Human Encounter with Death* (with S. Grof) (Norton, 1973), *Shamanism* (Cross Roads, 1984), and *Fruitful Darkness* (Harper and Row, 1994). She has carried out extensive cross-cultural studies of various topics and pioneered studies on death and dying. She is also a Buddhist practitioner and a lineage holder in the Tiep Order of Thich Nhat Hanh.



Jon Kabat-Zinn is founder and former executive director of the Center for Mindfulness in Medicine, Health Care, and Society and Professor of Medicine Emeritus at the University of Massachusetts Medical School. He is also the founder and former director of the Stress Reduction Clinic. He is the author of *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain and Illness; Wherever You Go,*

There You Are: Mindfulness Meditation in Everyday Life; co-author, with his wife Myla, of *Everyday Blessings: The Inner Work of Mindful Parenting*; and author of *Coming to Our Senses: Healing Ourselves and the World Through Mindfulness*. He received his Ph.D. in molecular biology from MIT in 1971.

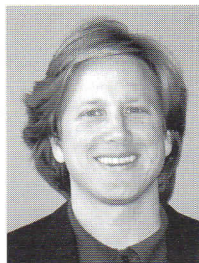
His research since 1979 has focused on mind/body interactions for healing and on the clinical applications and cost-effectiveness of mindfulness meditation training for people with chronic pain and stress-related disorders, including a work-site study of the effects of mindfulness-based stress reduction (MBSR) on the brain and how it processes emotions, particularly under stress, and on the immune system (in collaboration with Dr. Richard Davidson). He has trained groups of judges, business leaders, lawyers, Catholic priests, and Olympic athletes (the 1984 Olympic Men's Rowing Team) in mindfulness, as well as directed multi-year programs in the inner city and in the Massachusetts state prison system.

He also conducts professional training retreat programs in MBSR for health professionals around the world. He has received several awards from educational and medical centers for his work. He is a Founding Fellow of the Fetzer Institute, a Fellow of the Society of Behavioral Medicine, and the founding convener of the Consortium of Academic Health Centers for Integrative Medicine. He was a participant and presenter at Mind and Life III.



Daniel Kahneman is Eugene Higgins Professor of Psychology and Professor of Public Affairs at the Woodrow Wilson School, Princeton University. His research has ranged widely. He has studied basic processes of vision, including masking and apparent motion, pupillary measures of effort, and the role of grouping factors in visual attention. In collaboration with Amos Tversky he initiated the study of judgmental heuristics and developed prospect theory and a treatment of framing effects in decision making. He has also studied fairness in economic decision making, the valuation of public goods and the psychology of juries.

His main current interest is in hedonic psychology and the development of measures of well-being that could serve as indicators of human welfare for purposes of policy evaluation. He has written one book, edited three others, and published over 120 articles. He is the recipient of several honors, including the Distinguished Scientific Contribution Award of the American Psychological Association, and the Hilgard Award for Career Contribution to General Psychology, and an Honorary doctorate from the University of Pennsylvania. He is a member of the American Academy of Arts and Sciences, the National Academy of Sciences and the Econometric Society.



Dacher Keltner is Professor of Psychology at UC Berkeley, and director of the Berkeley Center for the Development of Peace and Well-Being. He received his B.A. from UC Santa Barbara in 1984, his Ph.D. from Stanford University in 1989, and then completed a 3 year post doctoral fellowship in affective science with Paul Ekman at UC San Francisco. He has conducted empirical studies in three areas of

inquiry. A first looks at the determinants and effects of power, hierarchy, and social class.

A second is concerned with the morality of everyday life,

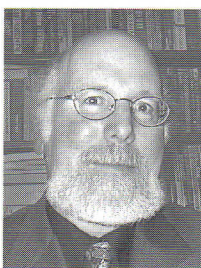
and how we negotiate moral truths in teasing, gossip, and other reputational matters. A third and primary focus is on the biological and evolutionary basis of the benevolent affects, including compassion, awe, love, gratitude, and laughter and modesty. He is the author of over 65 articles on these topics. He has received several awards, including the 2001 Positive Psychology prize for research excellence, the 2002 Western Psychological Association prize for outstanding research for an investigator under 40, and the UC Berkeley Letters and Science Distinguished Teaching award. His research has been supported by several private foundations and the NIH.



Margaret E. Kemeny is Professor of Psychiatry and the Director of the Graduate Academic Program in Psychology at the University of California San Francisco. After spending her undergraduate years at UC Berkeley, she received her Ph.D. in health psychology from UCSF and completed a four-year post-doctoral fellowship in immunology at UCLA. She directs a joint Ph.D. program in

Health Psychology and Behavioral Neuroscience between the UCSF and UC Berkeley campuses. Dr. Kemeny's research has focused on identifying the links between psychological factors, the immune system and health and illness. She has made important contributions to our understanding of the ways in which the mind — one's thoughts and feelings — shapes biological responses to stress and trauma.

Over the past 15 years she has investigated the role that specific psychological responses play in predicting the course of HIV infection, as well as the immunological mediators of these effects. More recently, she has begun to focus on the inflammatory processes relevant to the course of certain autoimmune diseases. She has demonstrated, for example, that patients with more pessimistic expectations about their future health show more immune alterations and a poorer prognosis than their optimistic counterparts. This research has led to her current interest in the psychobiology of the placebo response.



Steve Kosslyn is John Lindsley Professor of Psychology at Harvard University and Associate Psychologist in the Department of Neurology at the Massachusetts General Hospital. He received a B.A. from UCLA and a Ph.D. from Stanford University, both in psychology. His research has focused primarily on the nature of visual mental imagery, visual perception, and visual communication; he

has published 7 books and over 225 papers on these topics. Many of these papers focus on testing a neurologically plausible theory of mental imagery he and his group have developed over the past 30 years.

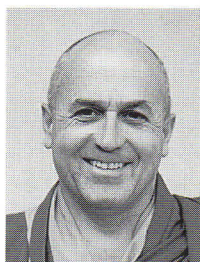
He has conducted empirical research using a variety of techniques, including measuring response-times, collecting judgments to perform multidimensional scaling, characterizing deficits following brain damage, measuring regional cerebral blood flow (via positron emission tomography and functional magnetic resonance imaging), and implementing computational models. He has received the APA's Boyd R. McCandless Young Scientist Award, the National Academy of Sciences Initiatives in Research Award, the Cattell Award, the J-L. Signoret Prize (France), and election to *Accademia Rodinensis pro Remediatione* (Switzerland), the American Academy of Arts and Sciences, and the Society of Experimental Psychologists.



David Meyer is a faculty member of the Cognition and Perception Program in the Department of Psychology at the University of Michigan, Ann Arbor. A mathematical psychologist and cognitive scientist, he received his Ph. D. from Michigan and subsequently worked for almost a decade as a Member of Technical Staff in the Human Information Processing Research Department at the

Bell Telephone Laboratories before returning to academe. His teaching and research — sponsored by the National Science Foundation, National Institute of Mental Health, and Office of Naval Research — have dealt with fundamental aspects of human perception, attention, learning, memory, language, movement production, multitasking, executive mental control, human-computer interaction, personality and cognitive style, cognitive aging, cognitive neuroscience, mathematical models, and unified computational theories.

Numerous reports of this research have appeared in books and journals such as *Science*, *Psychological Review*, *Cognitive Psychology*, *Memory & Cognition*, *Journal of Experimental Psychology*, *Journal of Memory and Language*, and volumes of the *Attention and Performance* symposium series. After completing their doctoral degrees, Professor Meyer's many graduate students have taken professional positions at major universities and research institutions throughout the U.S. and abroad. For his diverse scientific contributions, Prof. Meyer has been elected as a Fellow in the Society of Experimental Psychologists, American Psychological Society, American Psychological Association, and American Association for The Advancement of Science. The American Psychological Association has honored him with its Distinguished Scientific Contribution Award. His professional activities have also included extensive service on journal editorial boards, government review panels, and international administrative committees. More information about Professor Meyer may be obtained at his laboratory website, www.umich.edu/~bcalab.



Matthieu Ricard is a Buddhist monk at Shechen Monastery in Kathmandu and French interpreter since 1989 for His Holiness the Dalai Lama. Born in France, he received a Ph.D. in Cellular Genetics at the Institut Pasteur under Nobel Laureate Francois Jacob. As a hobby, he wrote *Animal Migrations* (Hill and Wang, 1969). He first traveled to the Himalayas in 1967 and has lived there since 1972.

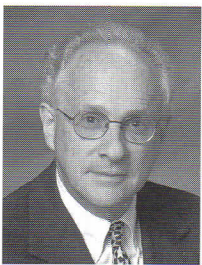
For fifteen years he studied with Dilgo Khyentse Rinpoche, one of the most eminent Tibetan teachers of our times.

With his father, the French thinker Jean-François Revel, he is the author of *The Monk and the Philosopher* (Schocken, New York, 1999), and of *The Quantum and the Lotus* with the astrophysicist Trinh Xuan Thuan (Crown, New York, 2001). He has translated several books from Tibetan into English and French. As a photographer, he has published several albums, including *The Spirit of Tibet* (Aperture, New York) and *Buddhist Himalayas* (Abrams, New York).



Sharon Salzberg has been teaching meditation retreats worldwide for almost 30 years. She is a co-founder of the Insight Meditation Society in Barre, Massachusetts, The Barre Center for Buddhist Studies and The Forest Refuge, a new center for long term meditation practice. She is the author of *Faith: Trusting Your Own Deepest Experience*, published

by Riverhead Books, *Lovingkindness: The Revolutionary Art of Happiness* and *A Heart as Wide as the World*, both published by Shambhala Publications.



Bennett Shapiro is a consultant in biotechnology. He was previously Executive Vice President, Worldwide Licensing and External Research, where he directed Merck's research relationships with the academic and industrial biomedical research community. He joined Merck Research Laboratories in September of 1990 as Executive Vice President, Basic Research, Merck Research Laboratories. In this position he was responsible for all the basic and preclinical research activities at Merck worldwide.

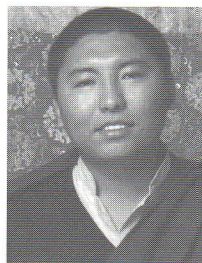
Earlier, he was Professor and Chairman of the Department of Biochemistry at the University of Washington. He is the author of over 120 papers on the molecular regulation of cellular behavior and the biochemical events that integrate the cascade of cellular activations at fertilization.

Shapiro received his bachelor's degree in chemistry from Dickinson College and his doctor's degree in medicine from Jefferson Medical College. Following an Internship in Medicine at the University of Pennsylvania Hospital, he was a Research Associate at the NIH, then a Visiting Scientist at the Institut Pasteur in Paris and returned to the NIH as Chief-Section on Cellular Differentiation in the Laboratory of Biochemistry, prior to joining the University of Washington. Dr. Shapiro has been a Guggenheim Fellow, a Fellow of the Japan Society for the Promotion of Science and a Visiting Professor at the University of Nice.



Anne Treisman is the James S. McDonnell Distinguished University Professor at Princeton University. She has two B.A. degrees from Cambridge, England, in Modern Languages and in Natural Sciences, Psychology, and a D.Phil. degree in Psychology from Oxford. Her main area of research has been on selective attention, starting with studies of selective listening, ("the cocktail party problem" or how we can focus on one voice among two or more), and then turning to visual attention and object perception, particularly the "binding problem". Other interests have been in the integration of information in the perception of moving objects; perceptual learning; visual memory for objects and events; and in the brain mechanisms underlying these perceptual, attentional and memory functions.

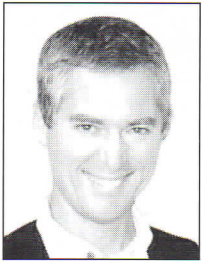
She has been elected to the Royal Society, London, the National Academy, USA, the American Academy of Arts and Sciences, the Society of Experimental Psychologists, and has received the following awards: Killam Senior Fellowship, James McKeen Cattell Sabbatical Award; Howard Crosby Warren Medal of the Society of Experimental Psychologists; Distinguished Scientific Contribution Award of the American Psychological Association; Fellow of American Psychological Society; Golden Brain award of the Minerva Foundation (for "fundamental breakthroughs that extend our knowledge of vision and the brain"). Recent publications include: Treisman, A. & DeSchepper, B. 1996. "Object Tokens, Attention, and Visual Memory". In T. Inui and J. McClelland (Eds.) *Attention and Performance XVI*, Cambridge, MA: MIT Press, 15-46. And Treisman, A. 1998. "Feature Binding, Attention and Object Perception", *Philosophical Transactions of the Royal Society*, Series B, 353, 1295-1306.



Tsoknyi Rinpoche the third is an important lama of both the Drukpa Kagyu and Nyingma lineages. He was born in Kathmandu, Nepal. Tsoknyi Rinpoche's great-great grandfather was the treasure revealer Chokgyur Lingpa and Rinpoche has been trained in that family tradition by his father since an early age. Tsoknyi Rinpoche was recognised by H. H. Karmapa XVI at the age of eight. When he

was thirteen he was brought to Khampagar Monastery at Tashi Jong in India, the seat of Khamtrul Rinpoche. Tsoknyi Rinpoche's principal teachers have been the 8th Khamtrul Rinpoche, Döngyu Nyima, H. H. Dilgo Khyentse Rinpoche, and his father Tulku Urygen Rinpoche.

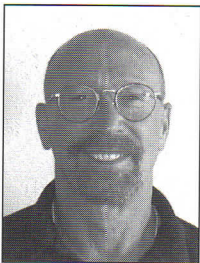
Tsoknyi Rinpoche completed his formal studies and returned from India to Nepal in 1990. He established his seat in Kathmandu at Ngesdön Ösel Ling Monastery which he planned and built in consultation with his father, Tulku Urygen Rinpoche. Ngesdön Ösel Ling is the site of on-going, traditional, Tibetan three-year retreats and an International Buddhist Meditation Centre. It is headquarters for the Drupa Kagyu Heritage Foundation which is working to preserve the written texts of the Drupa Kagyu lineage, and the Pema Karpo Translation Committee which is translating Tibetan texts into English. In addition Tsoknyi Rinpoche is currently president of Tashi Jong; abbot of the largest nunnery in Tibet which is located in Kham in Eastern Tibet; and abbot of Chumig Gyatsa Abbey, a nunnery in Western Nepal at Muktinath. He is widely recognized as a brilliant meditation teacher and is the author of *Carefree Dignity* published by Rangjung Yeshe Publications.



B. Alan Wallace is president of The Santa Barbara Institute for Consciousness Studies. He trained for many years as a monk in Buddhist monasteries in India and Switzerland. He has taught Buddhist theory and practice in Europe and America since 1976 and has served as interpreter for numerous Tibetan scholars and contemplatives, including H. H. the Dalai Lama. After graduating summa cum laude from Amherst College, where he studied physics and the philosophy of science, he earned his M.A. and Ph.D. in religious studies at Stanford University. He has edited, translated, authored, and contributed to more than thirty books on Tibetan Buddhism, medicine, language, and culture, and the interface between science and religion.

His published works include *Choosing Reality: A Buddhist View of Physics and the Mind* (Snow Lion, 1996), *The Bridge of Quiescence: Experiencing Buddhist Meditation* (Open Court, 1998), *The Taboo of Subjectivity: Toward a New Science of Consciousness* (Oxford, 2000), and *Buddhism and Science: Breaking New Ground* (Columbia University Press 2003).

Summer Research Institute Staff Biographies



R. Adam Engle, MLI Chairman and CEO, 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 dialogues in 1983 with Francisco Varela, and formed the Mind and Life Institute in 1990. 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 is a member of the World Business Academy. He received his J.D. degree from the Harvard Law School and his M.B.A. from the Stanford Graduate School of Business.



Nancy Mayer, MLI Administrative Director, manages the operational activities of the Institute, and works closely with staff, scientists, contemplative scholars, The Dalai Lama's private office, sponsors and donors. She has provided executive administration support for CEOs, chairs, boards, COOs and presidents of Fortune 500 companies, consulting companies, educational and research organizations, and law firms. She has over 20 years' experience in building executive-level personal and corporate relationships, managing executive calendars, and planning and managing executive events, retreats, and conferences. She also has extensive experience in human relations, staff supervision, and management of communications, proposals and reports.



Sydney Prince, MLI Production Manager, is the founder and CEO of Events Unleashed Inc., an events company focusing on the academic industry. Sydney has spent the last 14 years organizing conferences on community services along with science & spirituality. Before becoming event coordinator for The Mind and Life Institute, Sydney was part of The Center for Theology and Natural Sciences in Berkeley, California as a conference coordinator for Science and The Spiritual Quest. At Stanford University, she organized conferences on machine learning and artificial intelligence for The Institute for the Study of Language and Information. Sydney enjoys her home by the ocean in Maine, sailing, jewelry making, and playing the violin.

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R. Adam Engle, Chairman and CEO
Nancy Mayer, General Manager
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Sydney Prince, Production Manager-Garrison
Sue Salinger, Audio and Video Coordinator
Kristin Kotellos, Event Administrator
David Robbins, Event Administrator

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Mind & Life Conferences

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.

- **2004: Neuroplasticity: The Neuronal Substrates of Learning and Transformation**
- **2003: Investigating the Mind: Exchanges between Buddhism and the Biobehavioral Sciences on How the Mind Works**
- **2002: The Nature of Matter, The Nature of Life**
- **2001: Transformations of Mind, Brain and Emotion**
- **2000: Destructive Emotions**
- **1998: Epistemological Questions in Quantum Physics and Eastern Contemplative Sciences**
- **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**

Books Published by the Mind and Life Institute

The following books describe discussions between the Dalai Lama and Western scientists. All are in print and can be obtained from booksellers. For more information about each title, please go to www.mindandlife.org.

- ***The New Physics and Cosmology: Dialogues with the Dalai Lama***, from the 1997 conference
- ***Destructive Emotions: A Scientific Dialogue With the Dalai Lama***, from the 2002 conference
- ***Visions of Compassion: Western Scientists and Tibetan Buddhists***, from the 1995 conference
- ***Sleeping, Dreaming, and Dying: An Exploration of Consciousness with the Dalai Lama***, from the 1992 conference
- ***Healing Emotions: Conversations With the Dalai Lama on Mindfulness, Emotions, and Health***, from the 1990 conference
- ***Consciousness at the Crossroads: Conversations with the Dalai Lama on Brain Science and Buddhism***, from the 1989 conference
- ***Gentle Bridges: Conversations with the Dalai Lama on the Sciences of Mind***, from the 1987 conference



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