

THURSDAY, APRIL 28, 2011

7:30 am–8:30 am	REGISTRATION & CONTINENTAL BREAKFAST
8:30 am–8:45 am	Welcome and Forum Introduction – William Linton
Session One:	Rediscovering Knowledge from Ancestral Cultures
8:45 am–9:45 am	Intelligence in Nature – Jeremy Narby, Ph.D.
9:45 am–10:45 am	Dream or Reality? Exploring the Edge of a Garden of Visions Kathleen Harrison
10:45 am–11:00 am	BREAK
11:00 am–12:00 pm	Why Ancient Wisdom Matters in the Modern World Wade Davis, Ph.D.
12:00 pm–1:00 pm	LUNCH
Session Two:	The Capacity to Evolve and Change
1:00 pm–2:00 pm	Panel Discussion: How World Perspectives Inform Us About Who We Are Moderator: Steve Paulson. Panel: Wade Davis, Ph.D., Kathleen Harrison and Jeremy Narby, Ph.D.
2:00 pm–3:00 pm	Extraordinary People: The Savant Syndrome Darold A. Treffert, M.D.
3:00 pm–3:15 pm	BREAK
3:15 pm–4:15 pm	The Sleeping Brain and the Enchanted Loom of Consciousness Giulio Tononi, M.D., Ph.D.
4:15 pm–5:15 pm	Mind, Brain and Consciousness in Cardiac Arrest: Emerging Lessons from the Front Line Sam Parnia, M.D., Ph.D.
5:15 pm–6:15 pm	RECEPTION
6:30 pm–8:00 pm	Hosted Dinner Conversations <i>Pre-registration and payment required</i>

FRIDAY, APRIL 29, 2011

7:30 am–8:30 am	REGISTRATION & CONTINENTAL BREAKFAST
8:30 am–8:45 am	Day Two Overview – William Linton
Session Three:	Mechanisms of the Mind-Brain Phenomenon
8:45 am–9:45 am	A Reductionist’s Foundation for Understanding Brain Function David E. Nichols, Ph.D.
9:45 am–10:00 am	BREAK
10:00 am–11:00 am	The Neurobiology of Psychedelic Drugs: Implications for the Treatment of Mood Disorders – Franz X. Vollenweider, M.D.
11:00 am–12:00 pm	The Action of Mind on Brain – Henry Stapp, Ph.D.
12:00 pm– 1:00 pm	LUNCH
Session Four:	Community and Self -- Bringing It Home
1:00 pm–2:00 pm	Psilocybin, Mystical-type Experience, and Quantum Behavioral Change – Roland Griffiths, Ph.D.
2:00 pm–3:00 pm	Easing the Transition at the End of Life with Psychedelics Stephen Ross, M.D.
3:00 pm–3:15 pm	BREAK
3:15 pm–4:15 pm	Panel Discussion: The Next Decade -- Where Can We Go? Moderator: Steve Paulson. Panel: Roland Griffiths, Ph.D., David E. Nichols, Ph.D., Stephen Ross, M.D., Henry Stapp, Ph.D., and Franz X. Vollenweider, M.D.
4:15 pm–5:00 pm	The Emergence of Contemplative Neuroscience: Closing Meditation – Richard J. Davidson, Ph.D.
5:00 pm–5:30 pm	RECEPTION

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10TH ANNUAL INTERNATIONAL BIOETHICS FORUM

Manifesting the Mind

April 28-29, 2011

BioPharmaceutical Technology Center
Madison, WI

Manifesting the Mind is designed to explore the Mind-Brain phenomenon and how this relates to human consciousness.

A characteristic of humans is the desire to reach beyond ourselves to ponder the question of purpose and the higher meaning of our existence. The ability to question -- and perhaps the source of this questioning -- lies within the brain, but defining consciousness is no easy task.

- In this spirit, this year’s Bioethics Forum covers a wide range of topics:
- ethnobotany and indigenous cultures
 - the savant syndrome
 - sleep, dream and wakefulness states
 - near death experiences
 - neurotransmitters
 - quantum perspectives
 - recent clinical studies of the therapeutic effects of entheogens
 - mindfulness and meditation

Manifesting the Mind brings together world leaders in these fields. They will assist us in exploring these diverse topics in order to enhance our understanding of human potential and our conceptualization of the next step in the evolution of consciousness on this planet.

Presenters

Richard J. Davidson, Ph.D. (Director, Waisman Laboratory for Brain Imaging and Behavior; Director, Laboratory for Affective Neuroscience; William James and Vilas Research Professor of Psychology and Psychiatry, University of Wisconsin-Madison)

Wade Davis, Ph.D. (Anthropologist/Ethnobotanist; Explorer-in-Residence, National Geographic)

Roland Griffiths, Ph.D. (Professor of Behavioral Biology, Departments of Psychiatry and Neuroscience, Johns Hopkins University School of Medicine)

Kathleen Harrison (President & Project Director, Botanical Dimensions; Ethnobotanist)

William Linton (Chairman & CEO, Promega Corporation)

Jeremy Narby, Ph.D. (Anthropologist/Writer, Nouvelle Planète)

David E. Nichols, Ph.D. (Robert C. and Charlotte P. Anderson Distinguished Chair, Department of Medicinal Chemistry and Molecular Pharmacology, Purdue University)

Sam Parnia, M.D., Ph.D., MRCP (Founder & Director, Human Consciousness Project, University of Southampton, U.K.; Fellow, Pulmonary and Critical Care Medicine, Weill Cornell Medical Center in New York)

Steve Paulson (Executive Producer, *To The Best of Our Knowledge*, Wisconsin Public Radio and Public Radio International)

Stephen Ross, M.D. (Assistant Professor of Psychiatry & Oral and Maxillofacial Pathology, Radiology and Medicine; Director, Division of Alcoholism & Drug Abuse, Bellevue Hospital; Clinical Director, NYU Langone Center of Excellence on Addiction; Associate Director of Addiction Education and Principal Investigator of NYU Psilocybin Cancer Project; Department of Psychiatry, NYU Langone School of Medicine & NYU College of Dentistry)

Henry Stapp, Ph.D. (Researcher, Physics Division, Lawrence Berkeley National Laboratory)

Giulio Tononi, M.D., Ph.D. (Professor of Psychiatry, University of Wisconsin- Madison)

Darold A. Treffert, M.D. (Clinical Professor of Psychiatry, University of Wisconsin School of Medicine and Public Health)

Franz X. Vollenweider, M.D. (Professor, University Hospital of Psychiatry; Director, Neuropsychopharmacology and Brain Imaging & Heffter Research Center Zurich)

Abstracts in order of presentation

Intelligence in Nature

Jeremy Narby, Ph.D.

An anthropologist explores some of the ideas associated with indigenous Amazonian systems of knowledge (plants as teachers, intelligent nature, shamans as interlocutors of plants and animals), contrasted to objectified nature, and including a critique of our words and concepts such as “nature” (which is opposed by definition to culture) and of “intelligence” (most of the definitions of which exclude non-humans), so that as people speaking Western languages, when we think about a subject like “bio-ethics,” the words that are available to us to do so are skewed for starters. And once one has finished with self-critique, and accepts that other species are better conceived as beings and not just objects, then how does one engage a conversation with them, particularly considering the real kinship between all species that genetics has revealed? “Intelligence in nature,” yes, and science confirms decision-making at the cellular level in all beings. But rolling up our sleeves and dealing with the full consequences of what we now know, thanks to science and thanks to taking indigenous knowledge more seriously, is the task at hand, when it comes to “bio-ethics.” And in this process, psychedelics like ayahuasca can help one try on new perspectives, and transform old points of view, and perhaps even, according to Amazonian shamans, communicate with other species.

Dream or Reality? Exploring the Edge of a Garden of Visions

Kathleen Harrison

In the field of ethnobotany, several paths lead us along the fascinating boundaries between the visible and invisible realms. We can begin to appreciate other, more animated worldviews by glimpsing the natural world through the eyes of indigenous people who are steeped in traditional vision-seeking modalities. Like astrophysicists, such traditional peoples perceive unseen forces in our physical reality. They too believe that such forces exist because they observe their effects. What is real? What is knowledge, then, and how do we acquire knowledge? In cultural contexts, certain plants and fungi offer their personas as allies for humans to learn or to heal.

In a brief effort to hold and examine consciousness, we will explore the utilitarian beauty of metaphor, ways of knowing, soul as moving spark, and folk taxonomies of nature and spirit.

Why Ancient Wisdom Matters in the Modern World

Wade Davis, Ph.D.

The Wayfinders is a celebration of the wonder of the human imagination as expressed in culture. We'll travel to Polynesia and celebrate the art of navigation that allowed the Wayfinders to infuse the entire Pacific Ocean with their imagination and genius. In the Amazon await the descendants of a true Lost Civilization, the People of the Anaconda, a complex of cultures inspired by mythological ancestors who even today dictate how humans must live in the forest. In the Andean Cordillera and the mountains of the Sierra Nevada de Santa Marta of Colombia we'll discover that the Earth really is alive, pulsing, responsive in a thousand ways to the spiritual readiness of humankind. Dreamtime and the Songlines will lead to the melaleuca forests of Arnhem Land, as we seek to understand the subtle philosophy of the first humans to walk out of Africa, the Aboriginal peoples of Australia. In Nepal a stone path will take us to a door opening to reveal the radiant face of a wisdom hero, a Bodhisattva, Tsetsam Ani, a Buddhist nun who forty-five years ago entered lifelong retreat. The flight of a hornbill, like a cursive script of nature, will let us know that we have arrived at last amongst the nomadic Penan in the upland forests of Borneo.

What ultimately we will discover on this journey will be our mission for the next century. There is a fire burning over the Earth, taking with it plants and animals, ancient skills and visionary wisdom. At risk is a vast archive of knowledge and expertise, a catalogue of the imagination, an oral and written language composed of the memories of countless elders and healers, warriors, farmers, fishermen, midwives, poets, and saints. In short, the artistic, intellectual, and spiritual expression of the full complexity and diversity of the human experience. Quelling this flame, and rediscovering a new appreciation for the diversity of the human spirit as expressed by culture, is among the central challenges of our times.

Extraordinary People: The Savant Syndrome

Darold A.Treffert, M.D.

Savant syndrome is the UFO of brain science. How is it possible that spectacular “islands of genius” can exist in jarring juxtaposition to otherwise severe cognitive and other limitations in the same individual? Yet no model of brain function, including memory, will be complete until it can fully incorporate and explain this remarkable condition.

This presentation, via video clips of actual cases, explores savant syndrome, concentrating especially on the “acquired” savant--neurotypical persons with no particular interest or prior special ability in art, music or math who show unexpected, newly surfaced ability in these areas, sometimes at a prodigious level, following head injury, stroke, or other CNS disease. Such “paradoxical functional facilitation” is a “release” phenomenon, hinting at buried potential within us all and exemplifying the best in brain plasticity. The challenge is how to tap that buried reservoir of innate ability without CNS catastrophe.

The presentation will also explore “genetic” or “ancestral” memory which is evidenced by savants, whether congenital or acquired, who clearly “know things they never learned”. Such innate knowledge is part of the reservoir of ability “released” in the acquired savant. That intriguing repository within us all is ancestral memory—the genetic transmission of knowledge. Maybe Carl Jung was right.

The Sleeping Brain and the Enchanted Loom of Consciousness

Giulio Tononi, M.D., Ph.D.

Dreams are a most remarkable experiment in psychology and neuroscience, conducted every night in every sleeping person. They show that our brain, disconnected from the environment, can generate by itself an entire world of conscious experiences. Content analysis and developmental studies have furthered our understanding of dream phenomenology. In parallel, brain lesion studies, functional imaging, and neurophysiology have advanced our knowledge of the neural basis of dreaming. It is now possible to start integrating these two strands of research in order to address some fundamental questions that dreams pose for cognitive neuroscience: how conscious experiences in sleep relate to underlying brain activity; why the dreamer is largely disconnected from the environment; and whether dreaming is more closely related to mental imagery or to perception.

Mind, Brain and Consciousness in Cardiac Arrest: Emerging Lessons from the Front Line

Sam Parnia, M.D., Ph.D.

Recent advances in the care of cardiac arrest, which is medically synonymous with death have led to major improvements in the care of patients with this condition. Discoveries in resuscitation science over the last 50 years have also inadvertently shed light on one of the oldest and most profound questions to have faced humankind; what happens when we die? Current evidence suggests that after the point of death and cardiac arrest is reached, conscious processes as well as mental and cognitive activities appear to continue. Current research has enabled scientists to continue studying the processes of death for the first tens of minutes to a couple of hours after death has begun, and this has led to the realization that our understanding of life and death as well as what happens after death may be further amenable to scientific exploration. In this talk we will review both the history of the subject as well as the current findings that have begun to shed light on this fascinating and novel area of science.

A Reductionist's Foundation for Understanding Brain Function

David E. Nichols, Ph.D.

One of the huge questions of neuroscience today is: What is consciousness? There are many hypotheses, but none has been proven or has achieved acceptance. The great difficulty in understanding the nature of consciousness has led some to invoke ideas about nonlocality and quantum effects, but the discussion for this talk will take a reductionist approach, and assume that consciousness somehow emerges out of the interplay of ordinary biological systems. In this approach, one might say that the whole is greater than the sum of its parts in a way that thus far eludes our comprehension. To lay the groundwork for some fundamental understanding, this presentation will

discuss the general architecture of the brain, and how incoming sensory information is processed and incorporated into our conscious awareness. There will be a particular focus on a principal receptor that is involved in cognition and consciousness, namely, the serotonin 5-HT2A receptor. This receptor appears to be the chief target for the so-called psychedelic drugs such as LSD, which are extremely potent modifiers of consciousness. These receptors are quite ancient, probably differentiating from the larger serotonin receptor family about 600-700 million years ago. Thus, they have been around since nervous systems began to evolve and, one may appreciate, have therefore been integrated into mammalian brain function at a very fundamental level. These receptors are expressed in all of the key areas of the brain that involve vigilance, level of awareness, and gating and processing of sensory information. The explanatory gap between physical brain processes and consciousness is not one that will be easily bridged, but understanding how some of the component brain processes are affected by psychedelics may provide a glimpse of the difficulty of understanding the basis for consciousness.

The Neurobiology of Psychedelic Drugs: Implications for the Treatment of Mood Disorders

Franz X. Vollenweider, M.D.

Current advances in our understanding of the neurobiology of classic psychedelics such as psilocybin and dissociative drugs such as ketamine have led to renewed interest in the clinical potential of psychedelics in the treatment of various psychiatric disorders. Recent behavioural and neuroimaging data indicate that both classes of drugs enhance glutamatergic neurotransmission in prefrontal cortex and modulate neural circuits that have been implicated in affective disorders, and can reduce the clinical symptoms of these disorders. Dr. Vollenweider will review new data from neuroimaging and ERP brain mapping studies demonstrating that both psilocybin and ketamine increase prefrontal and anterior cingulate activity and reduce amygdalar activity in normal subjects, and that both classes of drugs abolish the response to fearful emotional stimuli. Given that reduced prefrontal activity and decreased top-down control of amygdala activity have been implicated in depression, these findings suggest that a normalization of this network through a glutamate-dependent neuroplastic adaptation may be the common therapeutic mechanism of the acute and outlasting antidepressant effects of these drugs seen in depressed patients. Moreover, these findings raise the possibility that pretreatment anterior cingulate cortex activity could provide a putative biomarker to identify a subgroup of patients who will respond favorably to psilocybin's or ketamine's antidepressant effects.

The Action of Mind on Brain

Henry Stapp, Ph.D.

Classical mechanics is the physical theory initiated by the sixteenth century work of Isaac Newton. It reigned supreme as our basic scientific theory until the twentieth century, when it was found to be incompatible with a host of empirical data, and was replaced by quantum mechanics. According to classical mechanics, you are essentially a mechanical automaton: your every action is determined by mindless mechanical processes alone, with your mind having no causal effect beyond what is determined by purely physical processes alone. Your intuitive feeling that your mental intentional willful efforts influence your physical actions is deemed “The Illusion of Conscious Will”. The switch from classical mechanics to quantum mechanics exchanges the roles of the mental and physical aspects of nature in the sense that in classical mechanics the aim is to describe connections between physical events whereas in quantum mechanics the aim is to describe connections between mental events. The theory contains the psychophysical processes that account in a completely natural way for the conversion of our mental intentions into matching physical actions. I shall describe how this action of mind upon brain works.

Psilocybin, Mystical-type Experience, and Quantum Behavioral Change

Roland Griffiths, Ph.D.

Quantum behavioral change refers to sudden, distinctive, benevolent, and enduring experiences resulting in personal transformations that affect a broad range of personal emotions, cognitions and behaviors. Although

the phenomenon of quantum change has been well described for over 100 years, it has rarely been addressed within modern psychology and there are few meaningful prospective experimental studies because such experiences usually occur at low rates and often unpredictably. Recent studies at Johns Hopkins showed that, under carefully controlled conditions, psilocybin can occasion profound personally and spiritually meaningful experiences (i.e., mystical-type experiences) in the majority of healthy participants. Analysis showed that mystical-type experiences mediate sustained positive changes in behavior, attitudes, and personality. An ongoing study in novice meditators is exploring whether psilocybin-occasioned mystical-type experiences facilitate engagement in and enhance the positive persisting effects of meditation and other spiritual practices. A planned collaborative study between Johns Hopkins and the University of Wisconsin will characterize in long-term meditators the acute effects of psilocybin on different types of meditation, and the persisting effects of psilocybin on meditation practice, psychological and social functioning, and on the neural correlates of attention and emotion regulation. Another exciting direction for research is the exploration of possible therapeutic benefits of incorporating such psilocybin-occasioned experiences in the context of treatment for challenging psychological and behavioral conditions. One ongoing therapeutic study is investigating psilocybin-facilitated treatment of anxiety and depression among patients struggling with cancer. An ongoing pilot study is investigating psilocybin-facilitated cigarette smoking cessation using a cognitive-behavioral approach. Thus, further research with psilocybin can be expected to provide unique information about the biology and psychology of mystical experience, and may hold promise as a paradigm-shifting treatment approach.

Easing the Transition at the End of Life with Psychedelics

Stephen Ross, M.D.

This talk will begin with an overview of the state of palliative care treatment for patients with advanced or terminal cancer in the United States. Palliative care is a field still in its infancy. Most physicians are poorly trained in this type of treatment modality and have limited core competency clinical skills in how to attend to the emotional, psychological and spiritual needs of patients at the end of life. Patients with advanced or terminal cancer experience an enormous amount of psychological distress with a high prevalence of mood, anxiety and adjustment disorders, in addition to significant existential or psycho-spiritual distress. The palliative care literature has emphasized the need for a greater focus on spiritual and existential therapeutic interventions in end of life care for cancer patients and these types of interventions form the basis for emerging novel therapeutic modalities to meet this growing need. Spiritual well-being and a sense of meaning, purpose, peace and secure attachments appear to substantially benefit individuals suffering psychological distress at the end of life and may buffer hopelessness and a hastened desire for death. In this talk, I will discuss an ongoing double-blind, placebo-controlled clinical trial at the New York University (NYU) School of Medicine examining psilocybin-assisted psychotherapy to treat patients with anxiety, depression, pain, and existential distress associated with advanced or terminal cancer. I will review the history of the use of serotonergic hallucinogens to treat end of life psychological distress in cancer patients by focusing on the data from the Spring Grove Experiment led by Dr. Stanislav Grof from the late 60s to early 70s and then focusing on recently published data (within the last several months) from a double-blind, placebo-controlled trial at UCLA, led by Dr. Charles Grob, that demonstrated potential efficacy of psilocybin-assisted psychotherapy in reducing anxiety and depression in patients with terminal cancer and psychological distress. I will finish by discussing the design of the NYU Psilocybin Cancer Project and give a report of our positive clinical and anecdotal findings so far in a small sample of subjects.

The Emergence of Contemplative Neuroscience

Richard J. Davidson, Ph.D.

This talk will begin with a description of the unique convergence in science that has provided the foundation for the emergence of contemplative neuroscience. Two key elements of that convergence include research on neuroplasticity and on epigenetics. Both of these domains underscore the possibility of transformation. Research from our laboratory and others will be presented that illustrates how systematic mental training can produce alterations in neural function and structure and how these central changes can induce peripheral biological changes that may be consequential for health.