

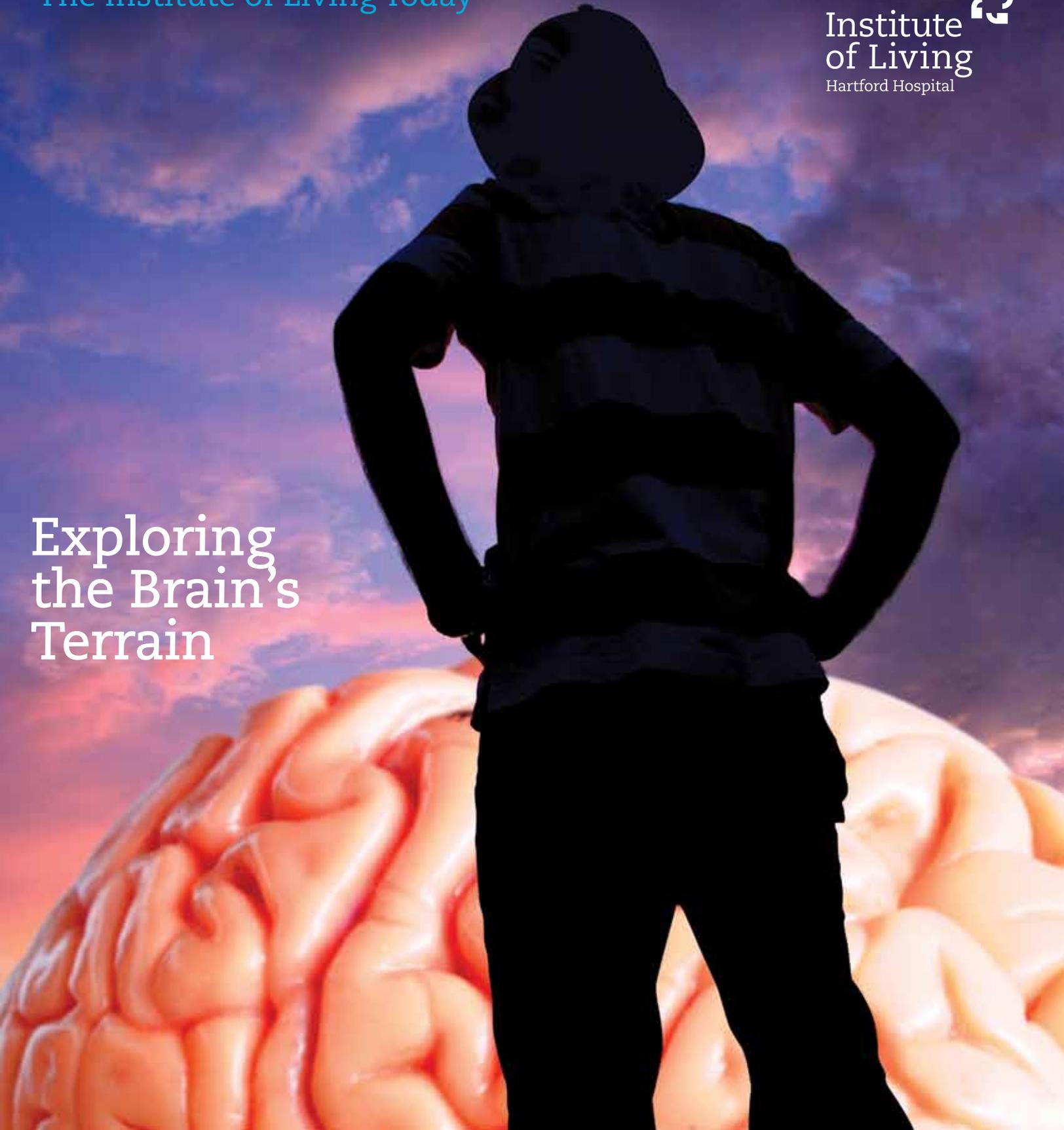
# The Record

FALL 2011

The Institute of Living Today

Institute  
of Living   
Hartford Hospital

Exploring  
the Brain's  
Terrain



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**Institute  
of Living**   
Hartford Hospital

200 Retreat Avenue  
Hartford CT 06106



# In Review

Exciting things are happening here at the Institute of Living, and we hope you'll enjoy reading about some of them in this issue of *The Record*.

The IOL today is an innovator in both psychiatric research and clinical care. The feature story on page 10 highlights the groundbreaking research we're conducting in the field of neuroscience. Our renowned Olin Neuropsychiatry Research Center, founded a decade ago, has helped propel the IOL to the top tier of institutions engaged in this vital work.

Research is part of the mission of every department at the Institute, and faculty and staff quickly translate findings into improved clinical care. In the article, "A Culture of Healing," you'll see how a team used research to create a best-practice, patient-focused model of care that is reducing violent behavior—and therefore seclusion and restraint—on inpatient units.

IOL clinicians and investigators are frequently on state, national and international stages, garnering prestigious awards and grants and presenting numerous papers at professional gatherings. We highlight some of these distinctions on page 15.

Naturally, not every item of interest from the past year is detailed in this publication, so we'd like to briefly mention a few of them here:

- **Young Adult Program**—This intensive outpatient program, which focuses on meeting the unique needs of young adults with psychotic illnesses, has seen enormous success and growth in its first year. We're now preparing to help another Hartford HealthCare partner hospital establish a similar program.
- **Center for Cognitive-Behavioral Therapy**—This newly established center builds on our exceptional expertise in CBT. It will allow us to tailor services to individuals' unique needs and establish groups for people who share a common problem.
- **Health Psychology Expansion**—We are expanding our Health Psychology program with the recruitment of a half-time health psychologist to work with patients in Hartford Hospital's growing Transplant Program. We have also recruited a health psychologist, Danielle Colby, PhD, to work with patients who exhibit symptoms of epileptic seizure but have negative EEGs. These two new positions are in addition to health psychology services provided to Hartford Hospital's Pain Treatment and Neurosurgery services.
- **Hartford HealthCare Research Institute Grants**—This new institute plans to award \$9 million over three years to HHC researchers. We are proud to report that, of the first four grants awarded, three will fund projects involving the IOL's Olin Center.

Thank you for your interest in the exciting developments taking place at the Institute of Living. We invite you to contact us if you'd like to know more.



Harold I. Schwartz, MD  
Psychiatrist-in-Chief



Robert B. Goode Jr.  
Acting Chairman of the Board

# about The Institute of Living

The Institute of Living, founded in 1822, was one of the first mental health facilities in the United States and the first hospital of any kind in Connecticut. Today, as Hartford Hospital's Division of Psychiatry, the Institute is one of America's leading centers for comprehensive patient care and a nationally recognized research center. With more than 4,000 inpatient admissions annually, the Institute excels at linking cutting-edge research programs with outstanding clinical care.

## Clinical Services

The Institute's spectrum of services includes outpatient, partial hospital, residential (supervised living), inpatient, and consultation, as well as the Grace S. Webb School for elementary, middle, and high school students. Its many Specialty Centers (see page 3) offer an exceptional array of mental health resources. The Institute has launched a significant "Depression Initiative," a fund development drive to establish new research and clinical programs in the mood disorders, and was the first facility in Connecticut to offer transcranial magnetic stimulation for treatment of depression.

## Research Activities

The Institute of Living has a stellar reputation as a research institution conducting groundbreaking studies to gain a deeper understanding of severe mental disorders. The Institute also conducts clinical trials of investigational new drugs and is a leader in outcome studies. This research occurs in four main centers: the Olin Neuropsychiatry Research Center, the Burlingame Center for Psychiatric Research and Education, the Braceland Center for Mental Health and Aging, and the Anxiety Disorders Center. IOL researchers were awarded \$5.5 million in new grants this year.

## National Prominence

The Institute is well-known in the international psychiatric community and among the general public. Institute physicians and researchers are frequent contributors to prestigious journals and presenters at important professional meetings. Last year alone, Institute faculty members published more than 90 scientific publications. Institute staff presented at 64 conferences in the U.S., Canada, Argentina, France, Spain and China.

# programs & services

## Services

Child and Adolescent  
Consultation/Liaison  
Evan Fox, MD  
Crisis Intervention/Emergency  
David Pepper, MD  
General Adult  
Geriatric  
Inpatient  
Outpatient  
Partial Hospital (PHP/IOP)  
Psychological Testing/  
Neuropsychological Testing  
Residential Services  
Therapeutic Special Education

## Institute of Living Leadership

Harold I. Schwartz, MD  
Psychiatrist-in-Chief, IOL  
Vice President for  
Behavioral Health, Hartford Hospital

Theodore F. Mucha, MD  
Medical Director

Annetta K. Caplinger, MSN, CS  
Director of Clinical Operations

Ellen Blair, APRN, NEA-BC  
Director of Nursing Services

## Clinical Departments

Nursing  
Ellen Blair, APRN, NEA-BC

Psychology  
Leslie M. Lothstein, PhD, ABPP

Rehabilitation  
Nancy Hubbard, LCSW (acting)

Social Services  
Eugene P. Hickey, LCSW

## Resident Education

General Psychiatry  
Adrienne L. Bentman, MD

Psychosomatic Medicine  
Carl Washburn, MD

Child & Adolescent Psychiatry  
Robert Sahl, MD

## Specialty Centers

Autism Consultation Service  
Robert Sahl, MD

Center for Cognitive-Behavioral  
Therapy (CBT)  
David F. Tolin, PhD

Center for Couples and Families  
Carole Mucha, PhD

Dialectical Behavior Therapy (DBT)  
Cheryl Crowe, LCSW

Eating Disorders  
Paula Holmes, MSN, APRN  
Sara Niego, MD

Family Resource Center  
Lawrence Haber, PhD

Grace Webb Schools  
Kikke Levin-Gerdner, MEd

Mood Disorders  
John W. Goethe, MD

Program for Professionals  
Lee Albert, LCSW  
Alfred Herzog, MD

Schizophrenia Early Intervention  
and Young Adults  
Steven Madonick, MD

Schizophrenia Rehabilitation  
Warren Thime, PhD

Somatic Therapies (ECT & TMS)  
Joanna Fogg-Waberski, MD

## Research Centers

Burlingame Center for Psychiatric  
Research and Education  
John W. Goethe, MD

Anxiety Disorder Research and  
Treatment Center  
David F. Tolin, PhD

Braceland Center For  
Mental Health and Aging  
and Memory Disorders Center  
Karen Blank, MD

Olin Neuropsychiatry  
Research Center  
Godfrey Pearlson, MD

## Clinical Program Directors

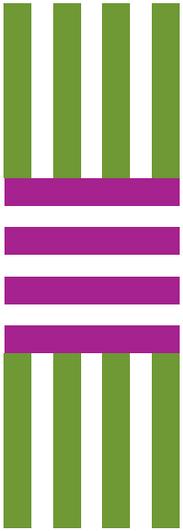
Adult Services  
Beth Pizzuto, RN, MSN

Quality and Managed Care  
Olga Dutka, MSN, MBA

Child and Adolescent Services  
Mary B. Gratton, PhD, LCSW  
Robert Sahl, MD

Geriatric Services  
Eugene Hickey, LCSW  
Joanna Fogg-Waberski, MD

# on & off campus



## Grant Funds Innovative Young Adult Services

The Hartford Foundation for Public Giving recently awarded the Institute of Living a \$300,000 grant for a program aimed at helping people ages 17 to 26 rebuild their lives following treatment for acute mental illness.

The Young Adult Services Outreach Program is the first of its kind in the region. It will provide outpatient treatment for young adults who no longer require hospitalization or intensive outpatient care, but need support to continue the life transitions that must take place during this developmental stage. The program will also include community outreach, both to identify those needing services and to work with individuals and families in their homes to tailor the interventions to individual needs.

“We saw that there was a significant gap between the level of care provided by our intensive outpatient program and that available from community practitioners,” says Steven Madonick, MD, medical director for Young Adult Services. “These patients’ development as young adults has been derailed by their illnesses. They need help resuming their lives—going back to college or work, establishing relationships, living independently and more. If people don’t complete the developmental tasks they need to do at this age, they may end up with chronic mental illness and dependency.”

“Young adulthood is beginning to be recognized as a new stage of development that has previously been ignored,” says Lawrence Haber, PhD, director of the Institute’s Family Resource Center. “They have many needs related to transitional issues.”

The funding has enabled the Institute to hire an outreach worker and a social worker to expand the scope and reach of its services.

Steven Madonick, MD

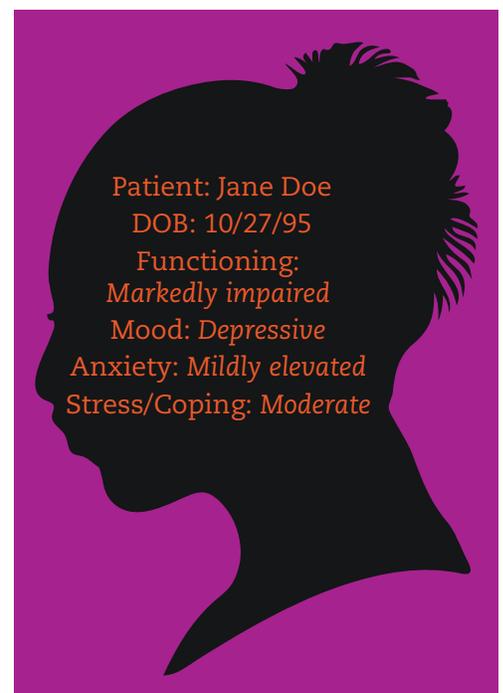


## REACH Clinic Launched

The Institute has established a new clinic aimed at discovering best practices in the treatment of children and adolescents with mood disorders. The Reynolds Enhanced Assessment for Children’s Health (REACH) Clinic was made possible by a generous grant from Rod and Janice Reynolds.

REACH fully integrates research and clinical care by gathering detailed information on every child seen in the Institute’s Child and Adolescent Psychiatry clinics and tracking each one’s treatment and outcomes. The result will be an extensive clinical and genetic database that can be used to develop evidence-based treatment guidelines for use by physicians both here and nationwide.

The clinic’s concept originated with Michael Stevens, PhD, director of child and adolescent research at the IOL. “The beauty of this is that it builds on the excellent care our physicians already provide,” Dr. Stevens says. “By creating this infrastructure, we will not just be following guidelines; we will become one of the few places in the world helping to create the guidelines.”



## Residency Program Flourishing

In 2002, the Institute of Living decided to re-establish its independent, four-year Adult Psychiatry Residency Program under the leadership of Residency Training Director Adrienne Bentman, MD. It was an ambitious undertaking, but it succeeded. The program attracts exceptional candidates, and today enjoys a national reputation for excellence that elicits hundreds of applications annually.

The program has a number of features that make it unique. “Because the Institute has both a large clinical Department of Psychiatry and several centers where important research is being conducted, we have a mixture of the clinical and the academic that makes us different from most academic medical centers. We are unique—a hybrid,” Dr. Bentman says. “In addition, we are a program that continues to value and teach psychotherapy, as well as psychopharmacology and neuroscience.”

The program has also developed a distinctive culture. Residents come from a wide array of backgrounds and experiences, yet, Dr. Bentman says, “There is a terrific *esprit de corps*. The residents come together to create a community within each class and within the residency as a whole.”

Healthy communication characterizes the relationships among residents, their elected officers and the director. “They feel comfortable speaking openly with me about their concerns. They offer ideas that improve both the residency and the institution,” Dr. Bentman says. “We have become a better place and better people because we can have conversations in difficult times. I am grateful that the opportunity to lead this program came my way.”



Residency Program Director Adrienne Bentman, MD (right), meets with residents.

## Burlingame Winner Announced

Jeffrey A. Lieberman, MD, has been named the recipient of the Institute of Living’s 2011 C. Charles Burlingame, MD, Award. Given annually since 1988, the Burlingame Award recognizes an individual who has demonstrated outstanding leadership and lifetime achievement in psychiatric research and education.

Dr. Lieberman is the Lawrence C. Kolb professor and chairman of psychiatry at Columbia University College of Physicians and director of the New York State Psychiatric Institute. He also holds the Lieber Chair for Schizophrenia Research in the Department of Psychiatry at Columbia and serves as psychiatrist-in-chief at New York-Presbyterian Hospital/Columbia University Medical Center.



A physician and scientist highly regarded for his teaching and research skills, Dr. Lieberman has spent his career studying the nature and treatment of severe mental illness. His research, much of it supported by grants from the National Institutes of Health and other national foundations, has focused on the neurobiology, pharmacology and treatment of schizophrenia and related psychotic disorders.

Dr. Lieberman was presented with the Burlingame Award in October during ceremonies at the Institute of Living, where he also gave two lectures. In presenting the award, IOL Psychiatrist-in-Chief Harold (Hank) Schwartz, MD, said, “Dr. Lieberman’s contributions have been profound and exemplify the values of excellence in clinical care, research, teaching and administration which the Burlingame Award represents.”

# A Culture of Healing

*Clinicians at the Institute of Living are implementing a best practices model of inpatient care that enhances comfort, safety and recovery.*



*Ellen Blair, APRN*

**Innovation** in psychiatric care is part of the DNA of the Institute of Living. The IOL was founded in 1822 specifically to offer an approach to care that was revolutionary at the time. Known as “moral treatment,” this innovative approach replaced the shackles, squalor and abandonment of previous centuries with comfortable surroundings, constructive activities and, most importantly, an emphasis on respect for the dignity and individuality of each patient. This tradition of innovation continues today, most recently with the implementation of a multifaceted initiative called “The Institute of Living’s Best Practices Model of Care,” which is already having a positive impact on both patients and staff.

When veteran IOL psychiatric nurse Ellen Blair, APRN, became director of nursing at the IOL in late 2009, she and her colleagues on the collaborative management team—Psychiatrist-in-Chief Harold (Hank) Schwartz, MD; Medical Director Theodore Mucha, MD; and Director of Clinical Operations Annetta Caplinger—undertook to create a model of care that ensured the use of evidence-based best practices in the Institute’s inpatient care setting.

“Our goals included reducing the need for seclusion or restraint, calming agitation, and preventing violence and suicide,” says Ms. Blair. “We wanted to build on our existing strengths and incorporate the best new ideas so as to create a therapeutic setting where patients and staff could all feel safe and comfortable and that would help patients get well.”

Part of the challenge was to ensure that care continued to embody the fundamental principles of moral treatment on which the Institute was founded, while dealing with the realities of today’s health care environment, with its emphasis on short-term hospital stays.

The team used a continuous quality improvement process, involving staff at every level and organizing workgroups to focus on key areas.

## Identifying Best Practices

Ellen Blair loves a challenge as much as she loves psychiatric nursing. Recently named by the Connecticut Advanced Practice Registered Nurse Society as APRN of the Year, Ms. Blair regularly conducts research to enhance clinical practice. So her first step was to delve into the literature to learn what the evidence shows are best practices in psychiatric inpatient care. She and team members also visited several other psychiatric hospitals and reached out to colleagues near and far to gain their perspectives. All the participants then gathered at a retreat to share information and define the components that would constitute the Institute of Living’s Best Practices Model of Care. Ms. Blair then conducted a variety of sessions to educate staff about the model and how to put it into practice on a daily basis.

## Elements of the Institute’s Model of Care

The end result of the team’s work is a model that employs a number of concepts that work together to enhance patient care, promote safety and foster healing, both during the patient’s stay and after discharge. These elements include:

### *Milieu Therapy*

Staff work to ensure that the milieu—or environment—is itself conducive to healing. Maintaining a positive atmosphere and building good relationships between patients and staff members are priorities. The environment is also structured, with patients participating in various groups on a regular basis.

“It used to be thought that very challenged patients couldn’t take part in groups,” says Sharon Clark, RN, a nurse on the Donnelly 2 South unit, where many patients have chronic schizophrenia. “But we’ve found that when patients are in groups they tend to feel less agi-

tated. They love the structure. We give them the structure they have trouble giving themselves.”

Nurses and other staff members also spend most of their time out on the unit, among the patients, rather than behind a desk.

“One of the beautiful things about psychiatric nursing is that nurses use themselves as therapeutic tools in daily practice,” says Ms. Blair. “The nurse’s presence in the milieu is very powerful, even if you’re just sitting down among patients in the day room.”

### ***“Modern” Moral Treatment***

The team chose the term Modern Moral Treatment to describe the way the tenets of moral treatment are manifested in today’s health care environment. It emphasizes treating—and describing—patients as individual human beings, not as embodiments of a particular disorder. Staff, for example, avoid referring to a patient by his or her disease.

Patients are also encouraged to make important choices in their own recovery. “Often, patients feel helpless and hopeless, but the more they choose for themselves, the more their autonomy is enhanced,” says Ms. Clark.

### ***Risking Connections***

Staff members help patients recover from traumatic experiences by building “RICH” relationships with them, that is, relationships characterized by respect, information sharing, connections and hope. The focus is on relationships as healing.

### ***Recovery Model***

This approach is based on the understanding that the goal of psychiatric care is for individuals to recover and go on to lead meaningful lives. Staff offer hope to patients and take a holistic approach to care, focusing on the person, rather than the symptoms. Care aims to prepare patients for life outside the hospital. With sensory modulation (below), for example, “We try to identify individual coping skills that people can learn and practice in the hospital and then carry into their everyday lives,” says Donnelly 3 South Nurse Manager Barbara Emery, RN, MS, APRN.

### ***Sensory Modulation***

Staff members work with patients to help them gain self-awareness and develop personalized techniques for coping with stress, anxiety, anger or other powerful emotions. Staff and patients, together, complete a sensory modulation tool that results in a list of things the patient finds calming, so both can draw on it when needed. “Comfort rooms” featuring soft objects; cozy, weighted blankets; soft colors and lighting; gentle music and more are available to patients who need this sort of experience to calm themselves when they’re having trouble coping.

### ***Broset Violence Checklist***

This tool helps staff members determine whether a patient is experiencing feelings that may progress to violent behavior. Clinicians score every patient on every shift every day. If a patient’s score is high, staff members check on that patient every five to 15 minutes or, if necessary, remain with the patient at all times.

“It’s easier to deal with somebody who’s irritated early, rather than wait until they’re extremely agitated to do an intervention,” says Ms. Clark.

Ellen Blair has received a grant from Hartford Hospital for a research project aimed at

measuring the effectiveness of the Broset tool. “We are studying violence intensively and analyzing every incident,” Ms. Blair says.

### **Psychopharmacologic Model**

Developed by Drs. Evan Fox, John Goethe, Raveen Mehendru, Theodore Mucha and David Pepper, this protocol provides for rapid medication response to deal with extremely agitated patients who represent an imminent threat to themselves or others. It is part of a highly individualized treatment plan. If rapid tranquilization is used, staff review the situation afterward to see whether they may have missed early signals that an alternative intervention was needed.

### **Suicide Prevention**

The Institute has developed age-appropriate suicide assessment forms based on the well-known SAFE-T model of suicide prevention. Clinicians assess a patient’s level of suicide risk at admission, during multidisciplinary team meetings, at critical points in treatment, when the level of care changes and at discharge and take appropriate precautions.

### **Debriefing of Seclusion and Restraint Events**

When a patient must be restrained or secluded, the care team and administrators immediately come together to determine how to quickly end the restraint or seclusion. They also discuss what could be done to avoid having to resort to these methods with that particular patient in the future.

### **Promising Results**

The model appears to be achieving its goals.

“I feel there has been a significant change on the units,” says Barbara Emery. “The emphasis is on connecting more with patients, helping them help themselves and reducing the number of times we need to use restraint or seclusion—our last steps for helping someone stay in control. The staff have really embraced this as part of everyday practice.”

Sharon Clark says that “By implementing the daily schedule, groups, more contact with patients and the Broset scores, we have been able to reduce restraint and seclusion immensely.”

Despite the successes, the work of ensuring best practices will never be finished, says Ellen Blair.

“The model will continue to evolve,” Ms. Blair says. “We will keep teaching it and talking about it and getting feedback from staff on how it’s going. We’ll research and monitor it so we’ll keep getting better and better.”

### **International Connections**

While researching the Broset Violence Checklist that is now part of the IOL’s Best Practices Model of Care, Ellen Blair began corresponding with Dutch nurse, professor and researcher Roland van de Sande, RN, MSc., PhD-C. Mr. van de Sande is active in the European Psychiatric Nurses Organization, an international association of nurse researchers focused on best practices in psychiatric nursing, and in the European Violence in Psychiatry Research Group, which is an offshoot of it.

In May 2010, at Ms. Blair’s invitation, Mr. van de Sande came to the IOL to give a grand rounds presentation on his research into structured risk management in psychiatric inpatient care. Mr. van de Sande returned to the IOL later in the year, joined by Professor Dr. John Cutcliffe of Canada, another member of the group and an expert in suicide prevention. The two spent the day with the Institute’s clinical leadership, discussing risk assessment, therapeutic interventions, violence, and seclusion and restraint in the acute psychiatric inpatient setting.

“The European group is doing a great deal of work in reducing violence and preventing seclusion and restraint,” says Ms. Blair. “This global networking was very valuable and gave us more evidence that we are taking the right steps here at the IOL.”

# EXPLORING the Brain's Terrain

The Institute of Living is home to some of the most cutting-edge neuroscience research being conducted in the world today.

A visitor to the Institute of Living's historic campus might be surprised to learn that, amid the famous Olmsted landscaping and the 19th century facades, scientists employing sophisticated technology are busy discovering new knowledge that is advancing the world's understanding of the human brain.

The Institute has long been involved in research aimed at improving diagnosis and treatment of mental illnesses. Its neuroscience research capabilities expanded dramatically with the 2001 founding of the Olin Neuropsychiatry Research Center. The Olin Center specializes in translational neuroscience of schizophrenia and other severe psychiatric disorders. Its broad capabilities include functional, structural, and spectroscopic magnetic resonance imaging. For brain-imaging purposes, it has a research-dedicated 3-Tesla MRI scanner. In addition to conducting its own research, the Olin Center collaborates with numerous other centers and departments throughout the Institute and Hartford Hospital and other academic centers around the country and the world, to investigate ways to improve care.

Through numerous research initiatives, some of which are highlighted here, the Institute of Living is breaking new ground in the field of neuroscience.

## The Biology of Mental Illness

Godfrey Pearlson, MD, founding director of the Olin Center, is an internationally known neuroscience researcher. He is the principal investigator for B-SNIP (Bipolar-Schizophrenia Network on Intermediate Phenotypes), a large-scale, five-site study funded by the National Institute of Mental Health (NIMH). The B-SNIP study aims to discover how the risk for schizophrenia and psychotic bipolar disorder is transmitted in families, to identify the most important risk genes and to measure the impact of genetic and environmental factors. The goal is to identify endophenotypes, that is, biological markers of a predisposition to develop these disorders. Evaluation of subjects includes testing of eye movements and

sensory-motor integration, structural and functional MRI scanning, EEG and DNA analysis. The DNA analysis is conducted by Genomas, a Hartford-based bioscience company partnering with the Institute on several research initiatives.

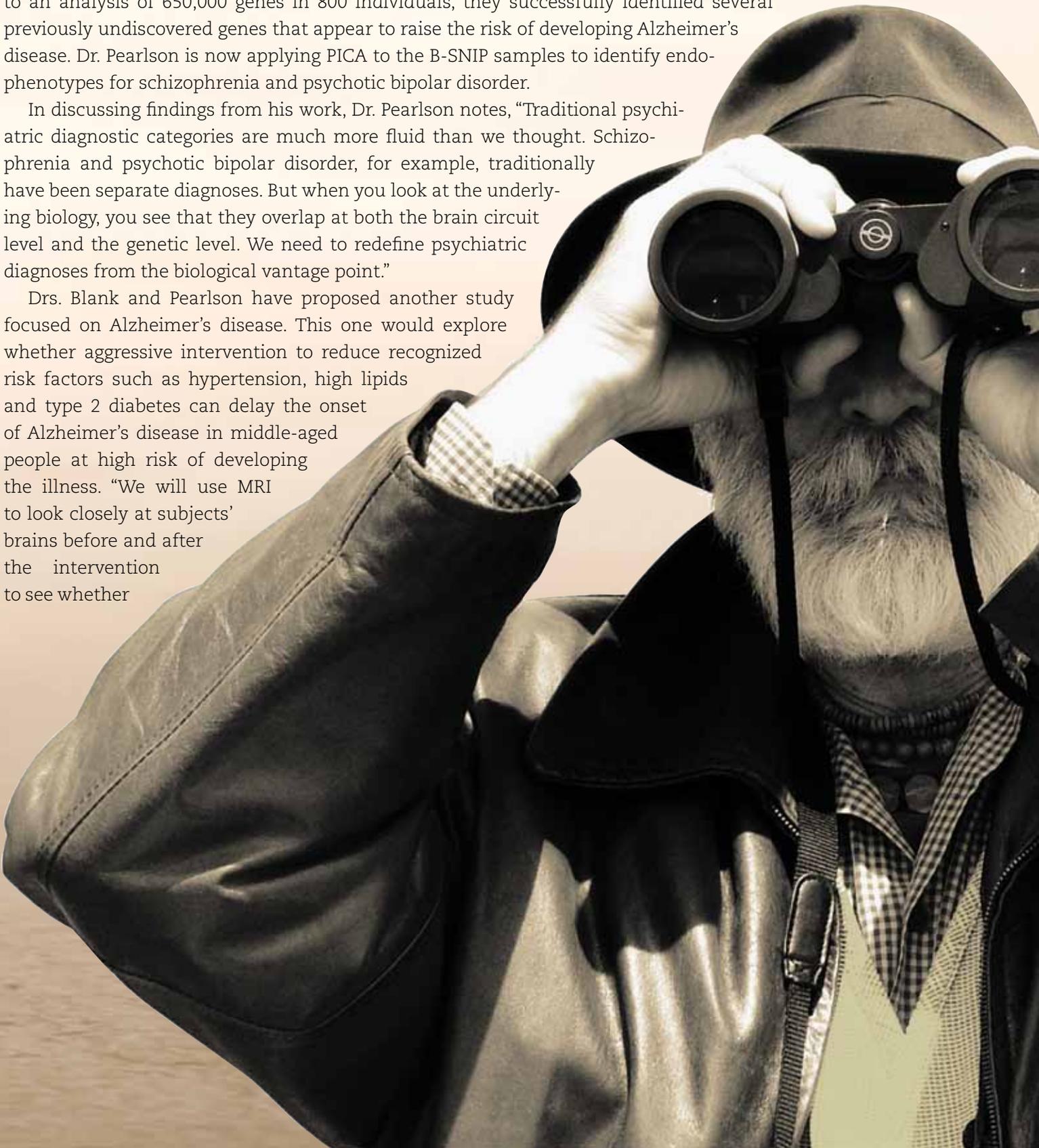
Dr. Pearlson and Karen Blank, MD, medical director of the Institute's Memory Disorders Center, collaborate on the ADNI (Alzheimer's Disease Neuroimaging Initiative) study. The study, with 50 sites nationwide, seeks to identify risk genes for Alzheimer's Dis-



ease. A major innovation they contributed was the development of a completely new statistical procedure called Parallel Independent Component Analysis (PICA). Applying PICA to an analysis of 650,000 genes in 800 individuals, they successfully identified several previously undiscovered genes that appear to raise the risk of developing Alzheimer's disease. Dr. Pearlson is now applying PICA to the B-SNIP samples to identify endo-phenotypes for schizophrenia and psychotic bipolar disorder.

In discussing findings from his work, Dr. Pearlson notes, "Traditional psychiatric diagnostic categories are much more fluid than we thought. Schizophrenia and psychotic bipolar disorder, for example, traditionally have been separate diagnoses. But when you look at the underlying biology, you see that they overlap at both the brain circuit level and the genetic level. We need to redefine psychiatric diagnoses from the biological vantage point."

Drs. Blank and Pearlson have proposed another study focused on Alzheimer's disease. This one would explore whether aggressive intervention to reduce recognized risk factors such as hypertension, high lipids and type 2 diabetes can delay the onset of Alzheimer's disease in middle-aged people at high risk of developing the illness. "We will use MRI to look closely at subjects' brains before and after the intervention to see whether



## Participants Wanted

The Institute of Living is conducting the first-ever study to see exactly what changes in the brains of teens who use a specially designed video game to reduce symptoms of attention deficit hyperactivity disorder (ADHD). Olin Center senior research scientist Michael Stevens, PhD, heads the NIMH-funded study.

Earlier studies have shown that young people with ADHD can improve their working memory—and in doing so, reduce ADHD symptoms—by playing the special video game almost daily for five weeks. Having to focus on increasingly more difficult drills that require memory seems to reduce players' impulsivity.

Using brain imaging in the current study, Dr. Stevens says he can actually see certain brain regions increase activation after five weeks of treatment. Although there is evidence to show the treatment works, he hopes to learn how it works—and for whom.

Most importantly, the therapy doesn't involve medication. "If we can figure out how non-medication-based treatment works, the implications are profound," says Dr. Stevens. "We hope to validate alternative treatments that really do work."

*The study seeks participants ages 13 to 18 who have been diagnosed with ADHD and who have significant hyperactive and impulsive behavior. For more information: [www.harthosp.org/adhd](http://www.harthosp.org/adhd).*

there is better blood flow, enhanced connectivity in brain structures and more," says Dr. Blank.

With several grants from NIMH, IOL investigator David Glahn, PhD, is using fMRI and genetic analysis to try to discover the abnormalities that give rise to bipolar disorder. "One of the advantages of this work is that it will give a new set of targets that we can develop treatments to focus on," says Dr. Glahn.

### Understanding Addiction

With a grant from the National Institute on Alcohol Abuse and Alcoholism, Dr. Pearlson and his team are also seeking endophenotypes for alcoholism risk through the BARCS (Brain and Alcohol Research with College Students) study.

"Alcoholism is another of these complicated, multi-determined behaviors in which genetic risk and the environment both play big roles," Dr. Pearlson says.

The team is using brain scans and other information from incoming college freshmen, such as DNA, family history, prior drinking and drug use, IQ and measures of impulsivity (an endophenotype for alcoholism), then following the students over two years.

"If we can identify the genes behind the endophenotype of impulsivity, we can find genes that constitute risk for dysfunctional drinking," Dr. Pearlson says.

Obesity, too, is a complex condition arising from multiple factors, including genetics, environment and how one responds to stimuli such as food cues and stress. As with addiction to substances, eating involves reward centers in the brain. Dr. Pearlson and his colleagues are working with Hartford Hospital's Bariatric Surgery Program to study patients' impulsivity, history, hormone levels, brain function and genetic makeup before and after surgery. They hope to identify different subgroups of patients who share common attributes. This would allow clinicians to tailor treatment and counseling more closely to individual needs and identify appropriate candidates for surgery.

## Driving, Drugs and Virtual Reality

IOL research scientist Beth Anderson, PhD, is using fMRI, combined with high-quality virtual reality driving simulation software, to examine marijuana's effect on a person's driving ability. Dr. Anderson conducted a pilot study in 2009, and has now obtained two grants from the National Institute on Drug Abuse to conduct a larger-scale study.

"The subject is given a dose of marijuana or placebo, and then goes into the scanner to do the driving simulation," Dr. Anderson explains. "We image the subject's brain while he or she is driving. We create circumstances such as having cars pull out in front of the driver or having pedestrians step into the road. We can pull out what the brain is doing during each of those events."

Dr. Anderson's hypothesis is that the more driving is complicated by sudden changes or adverse circumstances such as snow or darkness, the more the subjects' driving ability will be impaired by marijuana.

"This study is unique because it is an acute challenge study," Dr. Anderson says. "We're studying, not long-term effects, but effects from an immediate dose of marijuana."

In a separate study that began in August, subjects are given varying doses of marijuana, and then tested at 30-minute intervals with a driving simulation, attention assessment and lane-change task.

"Our hypothesis is that the attention assessment will be more sensitive to marijuana impairments than actual driving," Dr. Anderson says.

## Collaboration Enhances Care

The Institute's neuroscience expertise is helping clinicians in several disciplines enhance patient care.

Senior research scientist Michal Assaf, MD, is working with Hartford Hospital neurosurgeon Inam Kureshi, MD, and his colleagues to more precisely locate functional areas of the brain before surgical removal of brain tumors. By knowing exactly where language or motor areas are located in the patient's brain, surgeons can remove as much of the tumor as possible, without impairing the patient's function.

"We have the patient come in for fMRI be-



fore surgery, and we try to measure the function we're looking for," says Dr. Assaf. "When you identify the area, you can integrate it into the neuronavigational systems in the OR, so the surgeon can see what areas to avoid during surgery."

The technique is not yet at the point where surgeons can rely exclusively on fMRI images, so patients are typically awakened during surgery to verify functionality in a procedure called "awake craniotomy." But awake craniotomy has disadvantages, including taxing the patient and prolonging the surgery. Dr. Assaf's research is helping to refine the imaging technique so that in the future awakening the patient will not be necessary.

"fMRI is an excellent technique," says Dr. Kureshi. "It's just a matter of time before we're able to understand the functional areas of the brain without having to verify while the patient is awake."

Hartford Hospital's Division of Cardiology, under Director Paul Thompson, MD, is collaborating with the Olin Center on two studies. One, funded by the National Institutes of Health, is exploring why a subset of patients report cognitive impairment while taking statin drugs. The researchers are comparing brain activation patterns in people on and off statins and doing cognitive testing. According to the Cardiology Division's Beth Parker, PhD, "This type of information will help us better weigh the risks and benefits of statins, because right now, the paradigm is that statins are always good."

Cardiology also seeks to follow up on a pilot study done with the Olin Center to see if physical exercise increases the volume of the hippocampus, the area of the brain most affected by Alzheimer's disease.

"The great thing about the Institute is that its capabilities can be applied to many different aspects of health," says Dr. Parker.

## Addressing Anxiety Disorders

More people suffer from anxiety disorders than from any other category of psychiatric illness. The Institute's neuroscience expertise is helping the psychiatric community better understand how to treat these disorders.

The IOL's Olin Center, Anxiety Disorders Center and Burlingame Center for Research and Education recently obtained a joint grant from Hartford HealthCare to study the effectiveness of transcranial magnetic stimulation in treating generalized anxiety disorder, the most common of anxiety disorders. The Institute began offering TMS for depression in 2009 and is one of 20 sites studying its long-term effects. The new grant also provides for the development of structural and functional MRI navigation capabilities for TMS.

David Tolin, PhD, director of the Anxiety Disorders Center, is collaborating with the Olin Center to use neuroimaging to study what happens in the brains of people with phobias. Patients' brains are scanned before, during and after therapy. "We can chart the course of treatment and see when brain patterns start to normalize," says Dr. Tolin. "We can not only see that patients are getting better; we can see how they're getting better. This kind of information is helpful as we try to develop new therapies or medications to improve patients' lives."

# Distinctions



**Adrienne Bentman, MD**, an adult psychiatrist and director of the Institute's Adult Psychiatry Residency Program, was recently named a member of the Accreditation Council for Graduate Medical Education's Milestones Project Working Group.

In this capacity, she will be one of approximately a dozen people writing developmental milestones for psychiatry residents. These will represent psychiatry's national competency expectations for its residents during the course of their training. Dr. Bentman is also program chair for the 2012 annual meeting of the American Association of Directors of Psychiatric Residency Training. Last fall, she was honored with the American Academy of Child and Adolescent Psychiatry's prestigious Robert Cancro Academic Leadership Award. The peer-nominated award recognizes a general psychiatry training director, medical school dean, training institution CEO, or a Department of Pediatrics or Psychiatry chair for his or her outstanding support for and promotion of the field of child and adolescent psychiatry.



**Ellen Blair, APRN**, director of psychiatric nursing at the Institute, was named APRN of the Year by the Connecticut Advanced Practice Registered Nurse Society. The award recognizes excellence in patient care and practice advocacy by an advanced practice nurse.



**David Glahn, PhD**, received the 2011 Theodore Reich Young Investigator Award from the International Society of Psychiatric Genetics. The award recognizes Dr. Glahn as an outstanding professional

for his research and published work in the field of psychiatric genetics. Dr. Glahn has published more than 100 peer-reviewed scientific articles, including his recent research to help find genes that influence schizophrenia, bipolar disorder and major depression. Dr. Glahn was also the recipient of the 2010 A.E. Bennett Research Award from the Society of Biological Psychiatry. He was honored for his research into the genetic roots of mood and psychotic disorders.

*The high caliber of professionals and the quality of research being done at the Institute of Living have been underscored in recent months by the Institute's prominence on the international, national and state levels.*

*IOL researchers had seven papers selected for presentation at the American Psychiatric Association's 2011 annual meeting. They also had a total of five symposia and 26 posters at the 2011 meetings of the Society of Biological Psychiatry, the Research Society on Alcoholism and the International Neuropsychological Society.*



**John Goethe, MD**, director of the Institute's Burlingame Center for Research and Education, presented a paper on health care research in the United States at the World Psychiatric Association's 15th World Congress of Psychiatry in

Buenos Aires in September. More than 11,000 people attended the event.

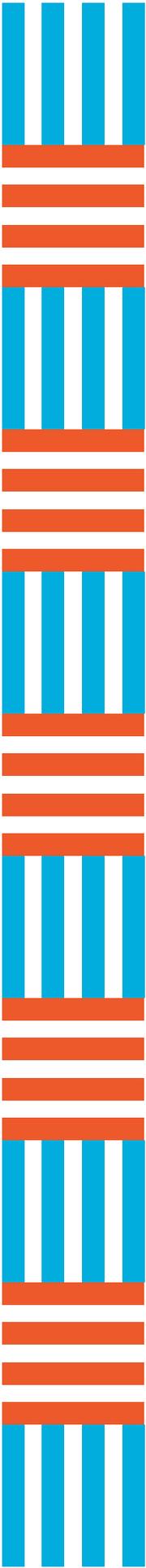


**Godfrey Pearlson, MD**, director of the Olin Neuropsychiatry Research Center, received an award from the journal *NeuroImage* for having one of the top 10 most cited articles of the year.



**Harold Schwartz, MD**, psychiatrist-in-chief at the Institute, co-authored a groundbreaking article that appeared in the American Psychiatric Association journal *Psychiatric Services* and received national attention.

In it, Dr. Schwartz and his collaborators challenge the therapeutic value of today's "ultrashort" inpatient stays and propose a model of inpatient psychiatric care designed to achieve not simply crisis stabilization but recovery. The article prompted journal editor Howard H. Goldman, MD, PhD, to call for research to provide empirical evidence to guide inpatient care policies and practices. Writing in *Connecticut Psychiatrist* about Dr. Schwartz's article, psychiatrist John Santopietro, MD, agrees with the authors that much has been lost through the move to ultrashort hospitalizations and that patient care has suffered. While this is widely known, he says, "What is new and noteworthy ... is that three prominent psychiatrists who have authority on the subject of inpatient psychiatry have stood up and spoken up about it."



## Federal

*Anderson, Beth PhD*, Effects of Marijuana on Driving: a Standardized Assessment, National Institute of Drug Abuse, \$86,500. Simulated Driving under the Influence of Marijuana: an fMRI Study, NIDA, \$255,084.

*Pearlson, Godfrey MD*, Genetic Markers of White Matter Integrity in Schizophrenia: Relationship to Clinical Severity, The MIND Research Network, \$61,174.00. Alcohol and Drug Use in College Students, Yale University/National Institute on Alcohol Abuse, \$224,755. Ventral Striatal Functional Deficits and Familial Alcoholism Risk, \$14,720

*Schwartz, Harold MD*, Olin Research Center: Addition for New MRI Scanner and Research Staff, NIH, \$3,427,373.

*Stevens, Michael PhD*, Adolescent Maturation of Brain Network Integration for Executive Control Abilities, NIMH, \$326,789. Neural Correlates of Treatment Induced Language Recovery, UConn Storrs, \$29,813.

*Wilber, Charles MEd*, Benefits Management for People with Psychiatric Disabilities. Yale University, \$169,459.00. Improving Clinician Ratings of Money Mismanagement: Addictions Impact, Yale University, \$190,800.

## State

*Kurtz, Matthew PhD*, Comparing Two Methods for Improving Verbal Memory in Schizophrenia, Wesleyan University, \$900.

## Foundation

*Stevens, Michael PhD*, Functional Magnetic Resonance Imaging (fMRI) in Patients with Sickle Cell Disease and Healthy Controls, Connecticut Children's Medical Center, \$3,100.

*Anderson, Beth PhD*, Alcohol Cue Reactivity as a Predictor of Future Alcohol Use Disorders, ABMRF/The Foundation for Alcohol Research, \$100,000.

## Industry (Multi-Center)

*Winokur, Andrew MD*, A Randomized, Double-Blind, Parallel Group, Active- and Placebo-Controlled Study to Assess the Efficacy and Safety of JNJ26489112 in Adult Subjects With Treatment-Resistant Major Depressive Disorder, Johnson & Johnson PRD, \$307,037. Otsuka Pharmaceutical: A Multicenter, Randomized, Double-Blind Study to Evaluate the Efficacy, Safety and Tolerability of an Oral Aripiprazole/Escitalopram Combination Therapy in Patients With Major Depressive Disorder, Otsuka America Pharmaceutical, Inc., \$377,320. An Eight-Week, Placebo-Controlled, Double-Blind, Randomized, Fixed-Dose Efficacy and Safety Trial of Asenapine in Adolescent Subjects with Schizophrenia - Gemini-S8, Schering-Plough, \$59,716. A 26-Week, Multi-Center, Open-Label, Flexible Dose, Long-Term Safety Trial of Asenapine in Adolescent Subjects with Schizophrenia (Protocol No. P05897), Schering-Plough, \$58,966.

## Industry

*Goethe, John MD*, NeuroStar TMS (Transcranial Magnetic Stimulation) Therapy System: Data Management, Analysis and Reporting for Clinical Treatment Utilization and Outcomes, Neuronetics, \$83,000.

*Rahim, Umme MD*, Safety and Efficacy of Aripiprazole in the Long-Term Maintenance Treatment of Pediatric Patients with Irritability Associated with Autistic Disorder, Bristol-Myers Squibb, \$90,917.

*Winokur, Andrew MD*, A Phase III, Multi-Center, Randomized, 24-week, Double-Blind, Parallel-Group, Placebo-Controlled Study to Evaluate Efficacy and Safety of RO4917838 in Stable Patients with Persistent, Predominant Negative Symptoms of Schizophrenia Treated with Antipsychotics Followed by a 28-Week, Double-Blind Treatment Period, Hoffman-LaRoche, \$1,046,944. Phase III, Multi-Center, Randomized, 12-week, Double-Blind, Parallel-Group, Placebo-Controlled Study to Evaluate the Efficacy and Safety of RO4917838 in

Patients with Sub-Optimally Controlled Symptoms of Schizophrenia Treated with Anti-Psychotics Followed by a 40-week Double-Blind, Parallel-Group, Placebo-Controlled Treatment Period, Hoffman LaRoche, \$976,924.

## Small Grant

*Anderson, Beth PhD*, Evaluation of Food Cue Reactivity with Functional MRI in Patients with Adjustable Gastric Band, Hartford Hospital, \$9,975.

*Blair, Ellen APRN*, Prevention of Violence in Inpatient Psychiatric Settings: A Pilot Study, Hartford Hospital, \$14,555.

*DiMauro, Jennifer BA*, Cognitive Remediation for Neuropsychological Impairment in Compulsive Hoarding, Hartford Hospital, \$9,850.

*Jamadar, Sharna PhD*, Using SenseCam for Neurocognitive Rehabilitation with Memory-Impaired Patients, Hartford Hospital, \$9,305.

## Hartford HealthCare

*Diefenbach, Gretchen PhD*, The Transcranial Magnetic Stimulation Research Program, \$837,129.

*Pearlson, Godfrey MD*, Hartford Hospital Interdisciplinary Center on Obesity Research, \$881,671.

*Assaf, Michal MD/Kureshi Inam MD*, Functional Neurosurgery Research Program, \$750,872.

## Departmental

*Assaf, Michal MD*, The Social Brain of Patients with Autism Spectrum Disorders and Schizophrenia, Hartford Hospital, \$8,400.

*Nave, Andrea*, Exposure, D-cycloserine Enhancement, and fMRI in Snake Phobics, Hartford Hospital, \$1,070.

*Pearlson, Godfrey MD*, Hyperscanning of Domino Task, Hartford Hospital, \$3,000.

*Stevens, Michael PhD*, The Effects of a Perspective Taking Intervention on Brain Activity of Angry Youth, Hartford Hospital, \$3,600. How Do SSRI Medications Work to Change Brain Function in Depressed Adolescents?, Hartford Hospital, \$3,800. Neurobiological Correlates of Treatment-Resistance in Depressed Adolescents, Hartford Hospital, \$11,400. An fMRI Study of the Neurocorrelates of Truth Versus Lies, Hartford Hospital, \$1,440.

*Tolin, David PhD*, Enhancing Attention in Adults with Compulsive Hoarding: A Pilot Study, Hartford Hospital, \$1,003.

## Unfunded

*Caley, Charles PharmD*, Psychotropic Medication Use and Tolerability in Young Adult Outpatients with Psychosis.

*Corbin, Joan* The Effects of Music on the Negative Symptoms of Schizophrenia

*Lothstein, Leslie PhD*, Assessment of Object Relations in Borderline Personality Disordered Patients Using the Selected Story TAT.

*Nave, Andrea*, Exposure, D-cycloserine Enhancement, and fMRI in Snake Phobics.

*Stevens, Michael PhD*, Chart Review Study of CYP450 Genotype In Pediatric Major Depressive Disorder.

*Tolin, David PhD*, Augmenting CBT for Hoarding with Cognitive Remediation, Pilot Study of Neural Correlates of CBT Treatment for Hoarding. Extension of the Anxiety Disorders Outcome Protocol.

# Famed Therapist Discloses Her Own Struggles



Nationally known mental health expert Marsha Linehan, PhD, developer of the first evidence-based treatment for people with suicidal impulses, gave a major address at the Institute of Living on June 17 in which she revealed her own early struggles with mental illness. In choosing the IOL as the site of her talk, Dr. Linehan, now 68, came full circle, returning to the place where she was hospitalized for more than two years as a teenager with severe mental illness.

A film crew and a reporter and photographer from the *New York Times* accompanied Dr. Linehan on her visit. An article based on the event was featured on page 1 of the newspaper's June 23 edition.

More than 275 people—including friends of Dr. Linehan and staff and patients at the IOL—crowded into the Institute of Living's Commons Building to hear the founder of Dialectical Behavior Therapy, or DBT, discuss for the first time publicly her experiences as a young person suffering from mental illness and how her own experiences in the “hell” of mental illness led to her development of DBT.

Early in her remarks, Dr. Linehan noted that, while DBT is recognized as having begun in 1980, “In reality, it started in 1962. At age 18 I made a vow to God that I would get out of hell—because I was in hell—and that when I got out, I'd help others get out.... I made that vow on a locked ward at the Institute of Living.”

## Radical Acceptance

Dr. Linehan described how, as the child of a “not particularly dysfunctional family,” she nevertheless always felt unloved and as if she didn't fit in. She became increasingly troubled and withdrawn. Finally, when she was 17, her parents sought the help of a psychiatrist. He recommended that she be admitted to the IOL.

Once at the IOL, Dr. Linehan said, “I went crazy,” engaging in self-harming behaviors so relentlessly that the staff, as a last resort, placed her in seclusion for an extended period.

The symptoms Dr. Linehan experienced are today recognized as borderline personality disorder, an illness often characterized by suicidal impulses. In the 1960s, the psychiatric community did not know how to treat patients with this disorder. However, Dr. Linehan credits John O'Brien, MD, the IOL psychiatrist who cared for her, with saving her life. “He was the first person who loved me. This kept me alive,” she said.

Dr. Linehan was a patient at the IOL for two years and three months. The years immediately following were difficult ones, including a suicide attempt and another hospitalization. Then, in 1967, while on a retreat, Dr. Linehan had a deeply spiritual experience during which, she said, she felt God's love for her. She remembers that this allowed her to love herself just as she was. This idea of what she now calls “radical acceptance” became a chief tenet of DBT. DBT, she said, “is the synthesis of radical acceptance with effective change.”

The resulting therapy, which evolved over time, has given mental health professionals



a powerful tool, the first to prove highly effective in reducing suicidal impulses. Using the same approaches that she incorporated in DBT, and with the help of therapists and spiritual directors, Dr. Linehan was able to overcome her own mental health challenges. She went on to earn advanced academic degrees and today is on the faculty of the University of Washington and director of the Behavioral Research and Therapy Clinics, a consortium of research projects developing and evaluating new treatments for severe mental illnesses.

### Coming Full Circle

While touring the IOL facilities with Psychiatrist-in-Chief Hank Schwartz, MD, Anxiety Disorders Director David Tolin, PhD, and others during her June 17 visit, Dr. Linehan returned to the building and floor where she had been in seclusion. Ironically, it is now an area used to administer DBT.

“It was a remarkable turn of events for Dr. Linehan to return almost 50 years later and find that the unit on which she was hospitalized is dedicated to a program that uses the methodologies and philosophy she created,” says Dr. Schwartz. “That is truly coming full circle.”

Dr. Schwartz commends Dr. Linehan’s decision to talk about her experiences. “It’s important for anyone with severe mental illness who is successful in life—particularly as a practitioner in mental health—to come forward and help to eliminate the stigma of mental illness,” Dr. Schwartz says.

“We couldn’t be more delighted that Dr. Linehan chose the Institute of Living as her venue for this talk,” says Dr. Tolin. “It speaks to the fact that, although she suffered some of her worst moments here, it has held a special place in her heart for the quality of care she received. She was treated with compassion, kindness and love here, and that always stayed with her.”

*Above top: IOL Psychiatrist-in-Chief Harold Schwartz, MD, with Marsha Linehan, PhD, at her announcement.*

*Above bottom: Dr. John O’Brien, the Institute of Living psychiatrist who treated Dr. Linehan in the early 1960s.*

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