New MISSION

The mission of the Heinz C. Prechter Bipolar Research Fund is to provide a repository of longitudinal clinical, genetic, and biological data to investigators worldwide for collaborative research on the causes, prevention, and treatment of bipolar disorder.

New VISION

To personalize treatment of bipolar disorder and prevent recurrences to enable those with bipolar disorder to lead healthy and productive lives.

Bold New CAMPAIGN

To build upon our exciting discoveries and provide greater hope for the future. For more information about how you can get involved, please contact Kat Bergman at kbergman@umich.edu or 734-763-1440.

Pilot Projects Take Flight

Pilot projects are concept phase research projects. Each project starts with ideas that are untested and have major potential for success. Science is about ideas that lead to innovation and breakthroughs. The Prechter Fund has supported many pilot projects. Examples include the induced pluripotent stem cell project for cellular modeling in bipolar disorder, the analysis of acoustic patterns as a predictor of mood changes, and the brain wave project that uses EEG measures of brain electrical activity. These are examples of projects that are now established and have been successful in procuring additional funding.

These pilot projects all got their start with the generous support of the Prechter Research Fund. Research projects are not considered competitive for additional funding if there is no pilot data to support the research concept, yet pilot data requires resources. The University of Michigan is an incubator of new ideas and our investigators are exploring opportunities for integrating technology in assessment and prediction of moods. Can computerized facial, voice and gesture recognition of mood change during treatment of depression? How can we adapt our smart phones to monitor our moods with little or no effort from the person being monitored? The challenge is: How can we integrate data from many sources (biology, acoustics, physiology and imaging) to assess current mood states, and predict and prevent incapacitating mood changes?

On the humanistic side there are many questions surrounding the ethics and impact of accessibility of personal information in predicting outcomes of health. This includes genetic testing and the discovery of incidental findings that may not be related to mood disorders (such as knowledge of cancer-related genes). Continued on back cover
Dear Friends:

As we mark the close of our 12th year, we can reflect on the many significant accomplishments achieved by the Heinz C. Prechter Bipolar Research Fund.

Our longitudinal study, the largest in the nation, has close to 1,000 research participants. Our genetics repository is now home to 1,800 samples. What’s more, our stem cell study, perhaps the most promising piece of the program, is building momentum. Findings from this study will eventually help us understand how brain cells from people with bipolar disorder are affected by different medicines. Additionally, to date, 13 other significant projects are being supported by the Prechter Fund.

As a catalyst for the largest study of bipolar illness in the nation, our research initiatives—in collaboration with four other universities—have become synonymous with attracting global attention and funding. For example, our “voice patterns” study, which is conducted in concert with the University of Michigan College of Engineering and researchers in Shanghai, China, is enabling us to understand and identify a patient’s state and stage of bipolar disorder. Furthermore, we are proud to be collaborating with the College of Pharmacy, initiating research funded by the FDA that is investigating the bioequivalence and pharmacogenomics of a psychiatric drug and its generic equivalent.

In the end, it is the ultimate goal of the Heinz C. Prechter Bipolar Research Fund to decipher this deadly illness and help find customized and personalized treatment approaches, including ECT, for individuals living with this illness so they can enjoy a greater quality of life.

Your contributions have made it possible for the Fund to come this far and your support is even more critical now as we are embarking on a bold fundraising campaign to build upon the exciting discoveries and provide greater hope for the future.

Thank you for your continued support.

Most sincerely,

Walter Prechter
Founder, Heinz C. Prechter Bipolar Research Fund

AN OVERVIEW

The Heinz C. Prechter Bipolar Research Fund

by Melvin McInnis, M.D., Principal Investigator

Melin McInnis, M.D., Thomas B. and Nancy Ujohn Woodworth Professor of Bipolar Disorder and Depression and Principal Investigator of the Prechter Bipolar Research Fund

Waltraud “Wally” Prechter established the Heinz C. Prechter Bipolar Research Fund in 2001, after the tragic death of her husband. The Prechter Fund has supported a plethora of research projects over the years, all aimed at finding a cure for bipolar disorder.

As of September 2013, there are 927 research participants in the Prechter bipolar research program. There are 36 faculty and staff providing expertise from answering the phones to growing stem cells. This makes for almost 1,000 individuals that compose the team of the Prechter Fund’s program. In his business career, Heinz Prechter was known for building successful teams. These teams did great work, reached out to the world and made a difference. We now carry on the legacy of making a difference with our many research projects.

Success emerges from teams. The Prechter program’s successes begin with the individual who enrolls in our research studies. I have heard consistently from individuals who say “I am doing so much better because I am involved in this research.” Research volunteers are the fabric of our work, as without them, we would not be able to advance this research.

Let’s talk about the research. We are going strong and have a team of highly motivated investigators and research staff with an exuberant morale that probably mirrors that of Heinz’s enterprise. We are continuously building—big ideas and big data. Our motivation comes from the patients with bipolar disorder that we treat and from our collaborating research participants.

We are searching for better ways to treat, manage, and prevent bipolar disorder. The big idea is to engage individuals with bipolar and learn what relates to illness and wellness factors such as substance abuse, anxiety, suicide, and stressors. We engage in specific projects within specialties such as genetics, biology, and technology to build a large data repository. We collaborate with colleagues in engineering, cell and molecular biology, computational medicine and bioinformatics, pharmacy, and psychology. As our MISSION states, the Heinz C. Prechter Bipolar Research Fund aims to provide a repository of longitudinal data to investigators worldwide for collaborative research on the causes, prevention, and treatment of bipolar disorder.

Most physicians, scientists, and the educated public with an interest in bipolar disorder know that it is a complex disease. There is not one gene that contributes solely to the illness, but many. Just like there are multiple factors influencing the complex emotions and behaviors that drive suicide distress has many facets. We need the depth and detail of information of the Prechter research program to understand this disease. If bipolar disorder were easy to comprehend, it would already be solved.

This brings me to the VISION of the Prechter Fund, which is to personalize treatment of bipolar disorder and prevent recurrences to enable those with bipolar disorder to lead healthy and productive lives. With all our research projects, we are on our way there—thank you to all of you for being our supporters and collaborators!
medications for psychiatric illness were developed. By the late 1960s and into the 1970s, ECT use was declining, in part due to increase in stigma and negative media portrayals, despite the fact that through that same period modern anesthetic techniques and other advances markedly reduced patient discomfort and increased safety of the procedure. Through the 1980s, recognition of the limited efficacy of medication in some patients as well as a general increase in acceptance of the need to treat mental illness allowed ECT to make a comeback of sorts, again taking a place amongst legitimate, effective treatments for patients who otherwise would suffer severely.

ECT is performed either in the pre-operative/post-anesthesia (PACU) area of the hospital or in a separate ECT suite. The patient is under the care of an anesthesiologist or nurse anesthetist and an attending psychiatrist throughout the entire procedure. Monitors are attached to the patient to assess vital signs and brain function (EEG) during the procedure. Intravenous sedative is administered at a dose that causes the patient to be completely asleep. A muscle relaxant is then administered to prevent the patient from having physical convulsions during the seizure. Once everything is ready, a small electrical current is run through one part of the patient’s brain to another, depending on the specific type of ECT being performed. This current — the “stimulus” — results in a generalized, whole brain seizure. The seizure is monitored via the EEG and usually lasts between 30 and 60 seconds. The whole procedure from administration of medication to the “stimulus” and the last signs of the seizure takes about 5 minutes.

The most common indication for ECT is “treatment-resistant depression.” Such an episode can be part of bipolar disorder or major depressive disorder. Usually ECT is only recommended after a patient has tried several, even many, medications — hence the term “treatment-resistant.” However, there are situations in which ECT is recommended as a first-line treatment. These are cases in which either medications are potentially more dangerous than ECT (pregnant or elderly patients) or when the symptoms are so severe that the quickest response possible is desired (extreme malnutrition or strong suicidal urges). ECT can also be helpful in patients suffering from the manic phase of bipolar disorder or an acute psychotic episode in schizophrenia.

Against the forces of stigma, less drastic treatment interventions, and regulatory obstacles, ECT continues to offer hope for thousands of patients suffering from mood disorders and their disabling symptoms. The safety and tolerability of the treatment have improved markedly over the years. I hope that the availability of this important treatment modality continues to improve and that more individuals will be able to gain relief from lives of intense suffering. While I also hope for further advances in other therapies, and eventually for treatments that are as effective as ECT without the complexity and historical “baggage,” for now I will continue to encourage my patients and their families to proceed with ECT in cases where all else has failed or where ECT is the safest and most effective treatment regardless of alternatives.

“ECT brought my 19-year-old daughter out of a long psychotic episode when medications were not working. The decision to proceed with ECT was heart wrenching, but it allowed her to get back to her life as a college student, which was extremely important to her, in a relatively short time.”

Ann Hendrick, mother of Lauren Hendrick

Meet OUR TEAM

Simon Evans, Ph.D.
Assistant Research Professor, Department of Psychiatry

Dr. Evans is interested in how dietary patterns may help patients with mental illness respond better to treatment. He has been with the Prechter team for the past four years, coming from a background in neurochemistry and molecular neuroscience.

“Dr. Evans is also a recipient of career development awards from the Michigan Institute of Clinical Research and the National Institute of Mental Health (NIMH) that have allowed him to further train in nutritional science and public health over the past few years.”

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“What’s clear is that the foods we eat affect the way we feel. The question is, can dietary patterns actually contribute to mental illness or aid in treatment paradigms to better control these chronic conditions,” says Dr. Evans. His research, supported by the Prechter Fund and the NIMH, focuses on how some foods and nutrients may be metabolized differently in people with bipolar disorder and how that may contribute to disease management.

Dr. Evans asks bipolar and control research subjects to track what they eat and then uses a technology called ‘metabolomics’ to investigate hundreds of metabolites in the blood. Preliminary analyses suggest that bipolar subjects might metabolize specific omega-6 fatty acids differently than non-affected controls. Dr. Evans is also finding that bipolar subjects eat less of certain omega-3 and omega-6 fatty acids that are important for brain function.

Omega-6 fatty acids work in balance with omega-3 fatty acids to maintain proper immune function, inflammatory systems and a host of neurochemical signals in the brain. Interestingly, previous research by a group at the National Institutes of Health suggests that specific omega-6 fatty acids interact with mood stabilizer medications, which bipolar patients are often prescribed, to help them stabilize. The direction of the research is to help bipolar patients change their diet to see if that helps them better manage their disease.

“Can we find dietary patterns that seem to make the illness worse, and avoid them? And can we find patterns that help the medications work better, even reduce or eliminate the need for some medications?” asks Dr. Evans. “The Prechter Longitudinal Study and its hundreds of participants are an amazing resource to address these questions.”

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**Lecture SERIES**

**7th Annual Prechter Lecture**

**MANAGING MOODS**

The Human Computer Interface

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Please join us for an innovative discussion of the current status of bipolar disorder research, specifically highlighting human-centered computing. HCC is the science of decoding human behavior. A new study from the Prechter research program uses special computer software to analyze speech patterns to see if mood changes in people with bipolar disorder can be predicted. For this year’s lecture, we are pleased to announce Emily Mower Provost, Ph.D., as the keynote speaker. She is one of the co-investigators of this new study.

KEYNOTE SPEAKER

**Emily Mower Provost, Ph.D.**

Assistant Professor, Computer Science and Engineering, University of Michigan

Dr. Provost will present “Human Behavior Understanding and Engineering: A Partnership”

Paula Goldman and Erica Prochaska

Second-year medical students at the University of Michigan Ms. Goldman and Ms. Prochaska will present: “Depression and Cancer in Quito, Ecuador — Integrating Technology in Assessing Moods and Support Systems”

John Piette, Ph.D.

Professor of Public Health and Medicine, University of Michigan Dr. Piette will present “High Tech & High Touch: Advances in Mobile Health Systems for Managing Mood Disorders”

Melvin McInnis, M.D.

Thomas B. and Nancy Upjohn Woodworth Professor of Bipolar Disorder and Depression; Director of the Bipolar Research Program, Department of Psychiatry; Associate Director, University of Michigan Depression Center

As the principal investigator of the Prechter Bipolar Research Fund, Dr. McInnis will present a synopsis of the afternoon’s program.

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**Why My Support Matters**

**An interview with PAT WAGNER, a long-time donor and advocate**

**How did you first find out about the Prechter Bipolar Research Fund?**

Many years ago, I attended a conference in Los Angeles sponsored by the Depression and Bipolar Support Alliance. It was at this conference that I heard presentations by well-known mental health advocate and clinical psychologist Dr. Kay Redfield Jamison, who herself has a bipolar diagnosis, and by the University of Michigan’s own Dr. John Greden, who is the executive director of the Depression Center. He talked about the mission of the center — to detect depression and bipolar disorders earlier, treat more effectively, prevent recurrences and progression, counteract stigma, and improve public policy — which really resonated with me. That’s where I first heard about the Prechter Bipolar Research Fund. Of course, I had heard about Hewlett Prechter before, since I have lived in the greater Detroit area for all my life. When he died in 2001, it was all over the news. However, nobody knew about his struggles with mental illness. Upon my return to Detroit, my husband Jerry and I decided we wanted to be a part of the Depression Center’s efforts.

**What motivated you to become involved with the Prechter Bipolar Research Fund?**

In our family, we have many members who live with mental illness. Several of them have bipolar disorder/depression so we know first-hand how hard this disease is for an individual and how it really affects the whole family. I have seen the daily struggles my loved ones are faced with, the different medication regimens they have undergone throughout the years, and I know how hard it is to find balance in a life with bipolar disorder. I have witnessed first-hand family members who have tried to self-medicate with alcohol/drugs, who have considered or tried to end their suffering with suicide, and who have been faced with the stigma that surrounds those dealing with mental illness. But bipolar disorder is a physical illness as well, as the brain is part of our physical makeup. It deserves just as much attention as other debilitating diseases, such as cancer or cardiovascular disease, with equality in funding and research. As a donor to our research program, how has your family dealt with these challenges?

Jerry and I are supporting this research because we believe that it is so urgently needed. Down the line, when research advances are made and better treatments have been found, things will be easier for people who have bipolar disorder. They will enjoy a better quality of life. I am especially interested in the research project where you use cell phones to analyze participants’ voice patterns, in order to detect changes in their mood. I know from experience that I can tell in my own loved ones’ voices when they are not doing well. I am also very excited about the stem cell work that’s being done — this is cutting-edge science that will have a huge impact for generations to come.

**How has your family dealt with these challenges?**

Jerry and I believe that it is so important for people to have a strong support network of family members and friends. Loved ones who listen to them and are there in times of stress and times of need make all the difference! I’ve learned that it’s imperative to be open about your challenges, to talk about your feelings and let people know what you are going through, and conversely, to really seek to understand the other person and put yourself in their shoes. It is also helpful when the person with the mental illness is proactive about their treatments and therapy, and really engaged in their recovery. Being an active participant makes a big difference, and educating yourself is paramount. Finally, I have come to know that pets can really have a positive influence on someone’s well-being. The fact that they are nonjudgmental and give unconditional love can make so much difference in the life of someone dealing with a chemical imbalance.

**As a donor to our research program, what gives you this hope?**

Jerry and I are supporting this research because we believe that it is so urgently needed. Down the line, when research advances are made and better treatments have been found, things will be easier for people who have bipolar disorder. They will enjoy a better quality of life. I am especially interested in the research project where you use cell phones to analyze participants’ voice patterns, in order to detect changes in their mood. I know from experience that I can tell in my own loved ones’ voices when they are not doing well. I am also very excited about the stem cell work that’s being done — this is cutting-edge science that will have a huge impact for generations to come. All this contributes to the optimism my husband and I feel about the future for our family and anyone else dealing with this problem.

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October 28, 2013
1:00 p.m. – 5:00 p.m.
University of Michigan Depression Center Auditorium
Rachel Upjohn Building
4250 Plymouth Road
Ann Arbor, Michigan 48109

The entire program is free and open to the public; however, online registration at www.prechterfund.org/lecture is required.

The Prechter Lecture Series is supported through the generosity of the following sponsors:

Comerica Bank; Dearborn Sausage Company, Inc.; Fritz Enterprises, Inc.; Holbrook’s Roofing Co., Inc.; and Scott Snow Financial Advisors, LLC.
Continued from cover

PILOT PROJECTS

We are on the vanguard of major changes in health care, technology, and the interface with scientific knowledge. It’s abuzz in the news and is the air we breathe here at the University of Michigan.

Pilot projects cost money and may be privately funded anywhere in the range of $10,000-$60,000 over a period of one to two years. This money helps pay for participant incentives, project coordinators and technology costs and supplies required to complete a pilot project. We are centered around bipolar disorder and have ideas and questions in the realms of technology that assess and predict moods, biology where we examine the genetics and modeling of diseases with stem cells, as well as the humanistic side that asks about the implications of the research. Support us – become a co-pilot!

WALLY PRECHTER and the Fight Against BIPOLAR DISORDER

Recently, Ora H. Pescovitz, M.D., U-M Executive Vice President for Medical Affairs and CEO of the U-M Health System, featured our founder Wally Prechter and the fight against bipolar disorder on her blog medicinethatspeaks.org. Dr. Pescovitz wrote: “Wally is an extraordinary woman of remarkable courage, passion, zeal and determination. She is a great partner to our Health System, and she is one of my personal heroes. (…) Wally and the incredible UMHS team associated with The Heinz C. Prechter Bipolar Research Fund are working together to prevent others from experiencing the pain she and her family have experienced. I am in awe of Wally’s dedication and passion to making a lasting difference in the fight against bipolar disorder and to making the world a better place.”

HELP FIND A CURE FOR BIPOLAR DISORDER. ONE LINK AT A TIME.

ELLA Jewelry Sales to Benefit the Prechter Fund

Our loyal supporter Elizabeth Guz is selling beautiful jewelry to help find a cure for bipolar disorder: In memory of her son Michael, Liz partners with her daughter Lauren to create the original jewelry designs under the name ELLA (“EL” stands for “Elizabeth,” “LA” stands for “Lauren”). Fifty percent of all ELLA profits will be donated to the Prechter Research Fund. “Every donation brings us closer to a cure,” says Liz. If you live in the Greater Detroit area and would like to host a jewelry party in your home, please contact Liz at lcguz13@gmail.com.

Executive Officers of the University of Michigan Health System: Ora Hirsch Pescovitz, M.D., U-M Executive Vice President for Medical Affairs and CEO of the U-M Health System; James O. Woolliscroft, M.D., Dean, U-M Medical School; Douglas Strong, Chief Executive Officer, U-M Hospitals and Health Centers; Kathleen Potempa, Dean, School of Nursing.

The Regents of the University of Michigan: Mark J. Bernstein, Julia Donovan Darlow, Laurence B. Deitch, Shauna Ryder Diggs, Denise Ilitch, Andrea Fischer Newman, Andrew C. Richner, Katherine L. White, Mary Sue Coleman (ex officio)

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