



THE HEINZ C. PRECHTER BIPOLAR RESEARCH FUND

Bipolar Genes Project & Gene Repository

AT THE UNIVERSITY OF MICHIGAN DEPRESSION CENTER

Fall / Winter 2010 • Volume3 Issue1

OUR MISSION

To support research into psychiatric genetics, bipolar disorder, neuroimaging and neuroscience in order to find genetic solutions for individuals with bipolar illness to help them live an excellent quality of life.

○ *The Prechter Fund provides direct support for the first independently funded bipolar genetics repository in the nation. Repository investigators are hunting for the genetic component of the illness.*

○ *The Fund established a longitudinal study on bipolar disorder to help identify predictors of the course of the illness and how it will respond to treatment.*

○ *Additionally, the Fund is working toward a personalized approach to mental health care, with the ultimate goal of creating a "customized" approach to treating an individual's bipolar illness.*

1-877-UM-GENES

www.prechterfund.org



Matching Challenge a Success

The search for a cure for bipolar disorder is one step closer with the conclusion of the matching grant challenges on December 31, 2009. The challenges raised close to \$1.4 million in these hard economic times through charitable donations from 490 individuals, foundations and corporations. The funds raised in the effort were matched by two generous patrons: a \$500,000 grant pledged by an anonymous donor and a \$1 million grant from the World Heritage Foundation-Prechter Family Fund, allowing gifts and pledges to be matched dollar-for-dollar. This brings the grand total raised for bipolar research at the University of Michigan to nearly \$2.8 million. Every dollar received as part of the challenge will be dedicated exclusively to fuel the search for the specific genes that make a person vulnerable to developing bipolar disorder, and to finding better treatments for those who have this disease. Our sincere thanks to everyone who contributed for your support and generosity.

BIPOLAR RESEARCH

PRECHTER BIPOLAR RESEARCH FUND

The grand total raised for bipolar disorder research at the University of Michigan is nearly \$2.8 million.



Dr. Pescovitz (left), U-M Executive Vice President for Medical Affairs, and Dr. McNis (right), Principal Investigator for the Prechter Fund, honor Mrs. Prechter's dedication and support at a reception in her honor on July 20, 2010.



**“We make a living by what we get;
we make a life by what we give.”**

Sir Winston Churchill

Dear Supporters of the Prechter Bipolar Research Fund:

Thank you so much for your continued support over the last nine years! With your help, the Fund has been able to thrive and grow as a unique model of scientific collaboration and medical research focused exclusively on the intricacies of bipolar illness.

My personal goal for the Fund is to be the premier place for bipolar disorder research in the nation and to acquire the world's most comprehensive database of bipolar samples in the Prechter Genetic Repository. I have a vision of having even more universities join the Prechter Fund to bring about a greater level of awareness of this illness, more collaboration on the research, greater efficiency and ultimately faster results for patients who suffer from bipolar disorder.

The Prechter Bipolar Research Fund has the potential to become the destination place for all questions regarding bipolar illness and treatments. Together we can make it happen!



Waltraud E. Prechter

Message from

John F. Greden, M.D.,
Executive Director
U-M Depression Center
and Founding Chair, NNDC

Bipolar disorders continue to produce staggering consequences for millions of Americans. We definitely are developing better diagnostic and treatment strategies, but diagnoses still occur too late, treatments still fail to produce recovery in too many, and side effects are still a barrier. We also need preventive approaches.

The only way these breakthroughs will be obtained is through innovative research programs. The Prechter Bipolar Program and Genetic Repository is a national prototype for such programs. What a blessing this initiative has been and what wonderful progress it is catalyzing! However, to ensure the breakthroughs, we need thousands – rather than hundreds – of individuals with bipolar illness to be enrolled in our programs. Happily we now have the means to emphasize the needed rapid growth. The National Network of Depression Centers (NNDC) consists of 18 esteemed universities with expertise in bipolar research and treatment and additional NNDC members are poised to begin collaborating with Drs. McInnis, Akil and the wonderful Prechter team at U-M. We are well-positioned to make great strides, but more support is needed. With champions like Mrs. Prechter and the best of the nation's scientists working together with patients and families, we WILL conquer bipolar illnesses. Thank you for helping.



Fundraising EVENT

Benefit Luncheon: Margaret Trudeau as Keynote Speaker

The Heinz C. Prechter Bipolar Research Fund is pleased to announce a luncheon featuring keynote speaker Margaret Trudeau, former first lady of Canada and international mental health advocate. The luncheon is taking place on **October 14, 2010** at The Henry (formerly the Ritz-Carlton) in Dearborn, Michigan, and will serve as a fundraising event for the research fund.

As a longtime mental health advocate, Margaret Trudeau will offer inspirational words about her own battle with bipolar disorder and her message of hope in finding a balance of mind, body and spirit. The widow of former Canadian Prime Minister Pierre Trudeau, Margaret Trudeau was one of the world's most fascinating women in the 1970s. Diagnosed just a few years ago, she has suffered from bipolar illness all of her adult life. This event will be Mrs. Trudeau's first visit to the United States in her role as a mental health advocate, sharing her life story and experiences with bipolar disorder.

All proceeds raised by the luncheon will benefit the Fund's gene repository, the largest privately funded repository in the nation. The repository collects DNA samples from individuals with and without bipolar disorder. The DNA is evaluated to find clues to early diagnosis and a roadmap to understanding causes and identify more effective treatments. It is our goal to become the most comprehensive bipolar gene repository in the world.

To purchase tickets to the luncheon or to become a sponsor of this event, please call Leslye Martin at (734) 675-2200.

Our thanks to the following underwriters of this event:

*Comerica Bank, Huron Valley Steel Corporation,
and Scott Snow (financial advisors) LLC*



Photo credit: Heidi Hollinger

Neiman Marcus



Special thanks to Neiman Marcus for their gracious show of support for the Prechter Fund. Neiman Marcus hosted an evening of "Fall Fashion and Frivolity" on August 19, 2010 to kick-off and promote the benefit luncheon. The Fund's Honorary Co-Chairs, Honorary Committee members, and the media were invited to this wonderful event that raised everyone's excitement about the luncheon on October 14.

**BIPOLAR
RESEARCH**
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Prechter Data Supports Exciting New Analyses

Tragically, many individuals afflicted with bipolar disorder are unable to maintain work obligations, family ties or social relationships, resulting in a major impact on their lives. New analysis of neuropsychological data from the **Prechter Longitudinal Study of Bipolar Disorder** reveals considerable variation from person to person in the disorder's overall impact. We are finding that high personal impact of illness is associated with greater disruptions in personality and functional cognitive (thinking) measures; those with measures near the population average generally have a lesser impact of the disorder on their lives. The obvious questions are: How can we decrease the impact of bipolar illness on individuals and their families, and what determines the outcome and impact of the illness? We now believe the answers will be found in an integrated, detailed approach involving biological, psychological, genetic and environmental interactions.

Our work attracted considerable attention at the *Society for Biological Psychiatry Conference* in May 2010. Kelly Ryan, Ph.D., presented her research on "Cognition and Functional Health among Patients with Bipolar Depression, Mania, and Euthymia" (non-depressed mood). Dr. Ryan's research focused on the impact of disrupted cognition (thinking) on day to day functioning and well-being across different phases (depressed, hypomanic, or euthymic) of bipolar disorder. She found that performance on several cognitive and functional measures was compromised in bipolar individuals, depending often on the phase of illness. In addition, Dr. McInnis, Lead Investigator of the Prechter Genes Project, organized and chaired a symposium at the conference where the emphasis was on longitudinal studies in bipolar disorder. The Prechter study was showcased as a unique combination of level of assessment detail, number of

individuals already in the study and duration of study. Dr. McInnis compared the Prechter Bipolar study to the Framingham Heart study, which is in its third generation and continues to provide critical and practical data on heart disease for the world. The Prechter Longitudinal Study is the catalyst for such a long-term study in bipolar disorder, and, with the collaboration of the National Network of Depression Centers, will foster the much-needed longitudinal research on this illness.

The capacity to focus on the depth of data and build a solid base of clinical data over the years is the hallmark of the Prechter study.

The Prechter Fund is supporting the work of emerging investigators in the field, including Masoud Kamali, M.D. and Alan Prossin, M.D., U-M junior faculty members sponsored in part by the Fund. Dr. Prossin is researching biological markers of bipolar disorder found in the blood, as well as integrating neuroimaging into his research, comparing images from many disorders. His goal is to find biological markers of bipolar disorder that may predict immediate and long-term outcomes. Dr. Kamali is looking at elevated levels of stress hormones in saliva in relation to number of suicide attempts, hoping that this may lead to discovery of a new phenotype, or biological characteristic of the illness, associated with a higher level of suicide risk.

Erika Saunders, M.D., formerly at U-M and now at Penn State University, is studying the effect of personality on bipolar disorder using results of the NEO-PI, a personality inventory designed to measure five dimensions of normal adult personality and their relationship to moods. Many aspects of personality are related to specific mood states, but others are not. Many clinicians confuse mood disorders with personality disorders, and it is essential to identify and treat the mood disorder before passing judgment on personality.



Lecture SERIES

Foundations and Frontiers

4th Annual Prechter Lecture

September 27, 2010

1:00 p.m. - 5:00 p.m.

Rackham Graduate School

Amphitheater, 4th Floor

915 East Washington Street

Ann Arbor, Michigan, 49109

Please join us as we present a scientific summary and discussion on the current status of bipolar disorder research. This year, we are pleased to announce:

- Keynote speaker **Akira Sawa**, M.D., Ph.D., Professor of Psychiatry; Director, Program in Molecular Psychiatry, Johns Hopkins University who will present on "The Molecular and Cellular Biology of Mood, Emotion and Perception"
- **Huda Akil**, Ph.D., Co-Director and Research Professor, MBNI; Distinguished University Professor and Quanton Professor of Neurosciences, Department of Psychiatry, University of Michigan who will present on "Neuronal Circuits and the Neurobiology of Bipolar Disorder"
- **Jon-Kar Zubieta**, M.D., Ph.D., Research Professor, MBNI; Phil F. Jenkins Research Professor of Depression; Professor, Dept. of Psychiatry; Professor, Dept. of Radiology, University of Michigan who will present on "Integrating Neuroimaging and Neurocognition in Bipolar Research."

The entire program is free and open to everyone; however, online registration on www.prechterfund.org/register is required. Of particular interest to the general public is a synopsis of the afternoon's program at 3:30 p.m. presented by **Melvin McInnis**, M.D., Thomas B. and Nancy Upjohn Woodworth Professor of Bipolar Disorder and Depression; Director of Bipolar Research Program, Department of Psychiatry; Associate Director, U-M Depression Center. A reception (from 4 p.m. to 5 p.m.) will follow the lecture.



Dr. Akira Sawa of Johns Hopkins University will be the keynote speaker for the 4th Annual Prechter Lecture.

The Prechter Lecture Series at the U-M Depression Center is sponsored by:

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We are grateful to these sponsors.

Meet Our TEAM

New Dedicated Marketing and Communications Specialist

Welcome to **Kat Bergman** as the Prechter Bipolar Research Fund's new Marketing and Communications Specialist, filling a newly-created position. Kat is spearheading the integrated marketing communications efforts to increase program awareness and donor cultivation for the Prechter Fund. In her new role, Kat will develop, implement, evaluate and execute strategic communications plans and coordinate all data, events, stewardship and communications for the Fund.

"I am very excited to work with Wally Prechter and be part of the team here at the U-M Depression Center. It is my goal to increase the level of awareness about bipolar disorder and the Prechter Bipolar Research Fund and its gene repository. My main objective for 2011 is to focus on promoting the Fund on a national level and to find new sources of funding. I will work on establishing and deepening relationships with editors who can feature the Fund and the world-class research done here at the University of Michigan."

For questions or comments, please email Kat at kbergman@umich.edu



Prechter Bipolar Research Lab and its Associates

The Prechter Bipolar Research Lab, led by Dr. McInnis, is the coordinating center for several studies, primarily longitudinal studies of bipolar disorder. Daily tasks vary, and the Research Associates' (RA) main role is to ensure that the projects run smoothly on a day-to-day basis. The RAs are the primary connection between the research team and participants; the toll-free phone number and email address reach them directly. They recruit, screen, and schedule potential research participants, as well as personally guide them throughout their study visit. They also assist investigators in presenting research findings by entering, managing, and analyzing data, resulting in easy data collection for the research team. The Prechter Bipolar Research Lab team members are integral to the operation of each study, as they provide support to both research participants and investigators.

Chris Russell joined the Prechter Bipolar Research Team as a Data Entry Operator in January 2009 while still attending Eastern Michigan University for a B.S./M.S. in Computer Information Systems. He is interested in the infrastructure and evolution of data management systems predominantly in the health care field. Chris is continuing to work on his MS degree and plans to become a Systems Analyst/Programmer.

Sarah Greenberg joined the Prechter Bipolar Research Team as a Research Technician Associate in June 2009 after graduating with a B.A. in Psychology from Michigan State University. Research in bipolar and depression related illnesses is her specific area of interest; she is particularly interested in how psychiatric illnesses and interpersonal relationships interact. Sarah plans to further her education by pursuing a Ph.D. in clinical psychology and aims to start a graduate program in the fall of 2011.

Lauren Grove joined the Prechter Bipolar Research Team as a Research Technician Associate in May 2010 after graduating with a B.S. in Brain, Behavior, and Cognitive Science from the University of Michigan. She is interested in bipolar disorder from a variety of perspectives, especially those with a biological emphasis. Lauren plans to continue on to medical school after working with the research team.

< Prechter Bipolar Research Lab RAs Chris Russell, Sarah Greenberg and Lauren Grove



Bob Thompson, Ph.D.

What happens to all those blood and saliva samples collected from people enrolled in the Heinz C. Prechter Longitudinal Study of Bipolar Disorder? We asked **Robert (Bob) Thompson**, Ph.D., a research assistant professor in the Department of Psychiatry and in the U-M's Molecular and Behavioral Neuroscience Institute.

Thompson coordinates and supervises the work of staff technicians who process the blood and saliva to remove genomic DNA and establish what scientists call "immortal" cell lines. The DNA and cell lines are frozen and stored in the Heinz C. Prechter Bipolar Genetic Repository where they are available to scientists conducting research on genetic factors involved in bipolar disorder.

"The repository is like a library of genomic data," says Thompson. "Our job is to build the library, so investigators worldwide will have access to the biological material they need to do their research."

As of August 2010, the Prechter Repository included samples from more than 1,300 study participants recruited by investigators at the University of Michigan, Johns Hopkins University, Stanford University and Weill Cornell. About 530 of these individuals were enrolled in the Longitudinal Study of Bipolar Disorder.

Since study participants include people diagnosed with bipolar disorder, as well as people with no history of mental illness, researchers can compare the DNA sequence in genes between these two groups. Scientists look for small individual variations, called single nucleotide polymorphisms or SNPs, which can change the gene's effect on brain neurons or signaling pathways. If variations in a specific gene are more prevalent in people with bipolar disorder, that gene may play a role in development of the disease.

Researchers know that bipolar disorder runs in families, so the genes we inherit from our parents are certainly one factor – but not the only factor – responsible for who gets the disease. Like most complex diseases, bipolar is likely the cumulative result of many genes interacting with environmental, or lifestyle, factors. Identifying all the genes involved in bipolar disorder, and determining how variations in these genes affect the human brain, could be a major step toward more effective treatments, or even a cure, for the disease.

"At this point, we don't know how many points of genetic variation are required to create an illness like bipolar disorder,"



explains Thompson. "To make things even more complicated, genes have different effects in different individuals, so it's important to evaluate genetic differences in the context of lifestyle factors and clinical parameters of disease."

Thompson credits Melvin McInnis, M.D., the lead scientist who directs the Prechter Bipolar Genetics Repository, with establishing strict controls on who can enroll in the study and what types of clinical data are collected and recorded for later analysis.

"The depth of clinical information collected for the Prechter Repository makes it especially valuable to solving the bipolar puzzle," adds Thompson. "No other genetic repository of its size has the same degree of detail about people from whom the samples were collected."

After receiving his M.S. and Ph.D. degrees from Oregon Health Sciences University, Thompson joined the U-M faculty in 1995. In addition to his work for the Prechter Repository, he is a research assistant professor in the U-M's Molecular and Behavioral Neuroscience Institute.

Science is a big part of Bob Thompson's life outside the laboratory, as well. He teaches a Sunday school class on science and religion at his Ann Arbor church, and met his wife, Audrey Seasholtz – a scientist at the U-M's Molecular & Behavioral Neuroscience Institute – when they were lab partners in their freshman chemistry class at college. A father with two children in college, Thompson also is president of his church congregation and an avid amateur photographer.

NEWS

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as of August 2010



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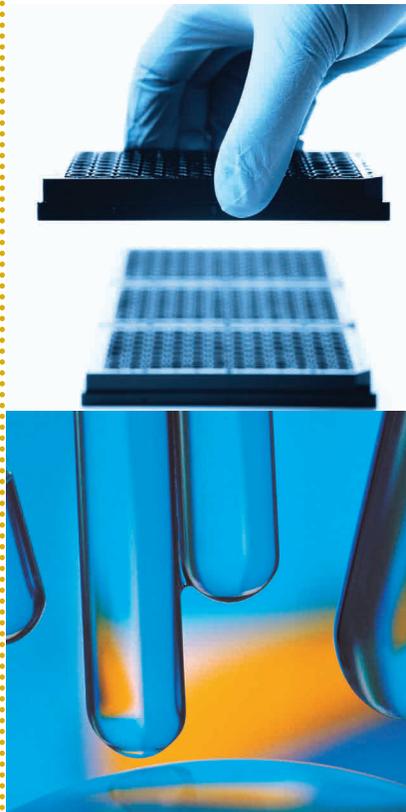
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- **Have you been to our website recently?** Please visit www.prechterfund.org regularly for updates on what's new in the research world, announcements about events and fundraisers, scientific papers that have been published, personal accounts of people living with bipolar disorder, and much more. We have added a lot of new content over the past months and always welcome your suggestions!
- **The Prechter Fund is now on Facebook!** When logged into www.facebook.com, you can search  for "Heinz C. Prechter Bipolar Research Fund" and become a "fan." This is an easy way to keep up with the Fund and it connects the research team, research participants, donors and friends. Help us spread the word – suggest the Fund's page to your Facebook friends.
- **The Prechter Fund extends a warm welcome** to our two newest advisory board members:
 - Mary-Kay Crain
 - Sue Ferus-Mancuso
(*Sue organized the Brighter Days 'n' Nights Bipolar Disorder Awareness Benefit at Andiamo's Restaurant in Warren, MI on August 29. Thank you, Sue, for all your hard work!*)
- **A scientific paper entitled** "Intermediate: Cognitive Phenotypes in Bipolar Disorder" has recently been published in the *Journal of Affective Disorders*. The authors are several of our researchers: Scott A. Langenecker, Ph.D., Erika F.H. Saunders, M.D., Allison M. Kade, B.A., Michael T. Ransom, Ph.D. and Melvin G. McClinnis, M.D. To read the abstract or the whole paper, please go to our website (www.prechterfund.org/research/publications).



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