As we grow older, our bodies are less able to fight off illness and disease. As our immune system ages and becomes less able, we face a range of maladies from pneumonia, to heart disease to cancers. Dr. Deep Dixit wants to change that.

Dr. Dixit is a specialist in the study of the thymus gland, an important gland located above the heart that manufactures specialized immune cells, called “T” cells, that fight off infections and cancer. In simple terms, our bone marrow creates pre-immune cells. These cells travel from bone marrow through the blood system to the thymus gland, which turns them into T cells. The thymus then educates the new T cells to fight infectious microbes and mutating cancer cells. This T cell factory works well when we are young. However, as we age, our thymus gland becomes filled with fat cells. This increasing number of fat cells does not allow the pre-immune cells to develop into T cells, so as we grow older, fewer new T cells are produced.

According to Dr. Dixit, by age 40 our thymus is already seriously impaired by fat cell formation and by 50 years of age roughly 80% of thymus is replaced with fat.

The goal, according to Dr. Dixit, is to learn how to stop or reverse the fat accumulation in the thymus. He has already made one key finding that a diet with significantly fewer calories (called caloric restriction) slows the fatty build-up in the thymus. Dr. Dixit has since identified a hormone, called Ghrelin, which reduces the fatty build-up in the thymus. Caloric restriction increases the amount of Ghrelin in our body. Dr. Dixit believes his future work could demonstrate that use of Ghrelin may lead to the development of a new therapy to stimulate immune function and enhance healthy life-span.

To quote Paul Harvey, “Now here’s the rest of the story.” Dr. Dixit, like most university-based research scientists had to convince someone to fund his work. It’s quite expensive.
As we passed the half-way point in our 20th year, we reached another milestone. We received a vote of confidence from our Governor and the legislature as they granted us $50 million dollars in construction and improvement funds. Coupled with $20 million in construction financing from last year’s regular session, we now have the necessary funding to construct our new clinical research facility and imaging center, as well as make significant improvements in instrumentation, software, and other physical facilities. We are now managing the details for putting the money to work as quickly as possible.

However, as generous as the legislature was in our physical plant needs, we did not receive any increase in operating revenue. Traditionally, the Center functions well with only about 20-percent of our operating revenue supplied by state allocation, because our researchers are so successful at attaining research funds from granting organizations. We sought a $3 million annual increase from the legislature to match the increases we’ve seen in research funds, trying to maintain a 20-percent share from state allocations. We were not successful. Soon we may face the unusual problem of completing major renovations and construction to make room for more research and researchers, yet see our progress slowed by a scarcity of operating funds.

Undaunted, we continued to our next milestone: our first state-wide public health conference, which focused on childhood obesity. We assembled an international panel of experts, complete with our own researchers, to focus on this very real problem and probe for solutions derived from the halls of science. A key feature of the conference was the release of a “Report Card” on the state of children’s health here in Louisiana. This was a powerful tool to examine policies and procedures in subsequent years. This is a significant moment for us and helps us fill our mission to “promote healthier lives through research and education in nutrition and preventive medicine.” We know the report card is highly useful to educators, and helps us fill our mission to “promote healthier lives through research and education in nutrition and preventive medicine.”

In regards to our mission, many individuals we come across ask how they may help us achieve it. In this issue you will learn about pilot grants. This is not a well known subject, but an immensely important one to young faculty we hope will develop into the many policy makers, healthcare professionals and school personnel.

In this issue, you will read about several of our researchers who are well on their way to success, in part because of these small pilot grants. I hope you enjoy reading about them and that their success stories leave you with an entirely new way of thinking of how individuals can support research in a very significant way with small, targeted grants.

Message from the Executive Director of the Pennington Biomedical Research Center

Claude Bouchard, Ph.D.
PBRC Executive Director,
George A. Bray, Jr. Endowed Super Chair in Nutrition

New Faculty:

Stephanie Broyles, Ph.D.
Dr. Broyles joins the PBRC faculty as an Assistant Professor in the Population Science area. She will develop a program in contextual risk factors affecting health behaviors and outcomes and will lead the “Social Epidemiology Laboratory.” Dr. Broyles received her B.S. in Zoology from Duke University in 1991. During 1992 and 1993, she completed coursework in evolutionary biology and mathematical statistics at the University of Chicago. Dr. Broyles then went to Tulane University where she received her M.S. in Biostatistics in 1998 and her Ph.D. in Biostatistics in 2004. Prior to joining PBRC, Dr. Broyles was on the faculty of the LSU Health Science Center in New Orleans.

Catriona Tudor-Locke, Ph.D.
Dr. Tudor-Locke joins the PBRC faculty as an Associate Professor in the Population Science area. She will develop the “Laboratory of Walking Behavior.” Dr. Tudor-Locke received her B.A. in Physical Education from the University of Lethbridge in 1985, her M.Sc. in Kinesiology from Dalhousie University in 1992, and her Ph.D. in Health Studies and Gerontology in 2000 from the University of Waterloo. She also received post-doctoral training at the University of South Carolina, School of Public Health Prevention Research Center. Since then, Dr. Tudor-Locke has held several faculty positions in the Arizona State University System.

Jie Zhou, M.D., Ph.D.
Dr. Zhou joins the PBRC faculty as an Instructor in the Mechanisms of Diabetes Complications Laboratory. She will work under the guidance of her mentor, Dr. Irina Obrosova. Dr. Zhou received her M.D. from Beijing Medical University in 1986 and her Ph.D. from Indiana University in 2000. For the last few years, she has been working as a Senior Research Associate/Instructor at Duke University.
The Pennington Biomedical Research Center (PBRC) recently convened a first-ever statewide public health conference titled, *Childhood Obesity and Public Health: A Lifespan Approach to Prevention*. With 20-years of leadership in nutrition and preventive medicine research, the Center was the premier organization to lead this effort to address childhood obesity as well as spearhead the evaluation process of existing public policies and the recommendations of new policies relating to childhood obesity and the health of Louisiana children.

According to the national Child Policy Research Center and the Child and Adolescent Health Measurement Initiative/Data Resource Center, 36% of Louisiana children ages 10-17 years are overweight or obese compared to the national percentage of 31%. The Pennington Biomedical Research Center wants to positivity transform this statistic.

PBRC leadership gathered a panel of state, national and international advisory experts who collaborated together to create a children’s health report card titled Louisiana’s Report Card on Physical Activity and Health for Children and Youth. During the conference, the advisory team, lead by PBRC Associate Executive Director for Population Science Dr. Peter Katzmarzyk, released the unfortunate news that Louisiana had received an overall grade of “D”. Using the theme “Put Active Play in Every Child’s Day”, the panel followed with specific recommendations for improvements:

1. Increase opportunities for children and youth to engage in moderate-to-vigorous physical activity through active play and structured activity.
2. Reduce ethnic and socio-economic disparities in childhood physical activity and health.
3. Improve population assessment of physical activity and health in Louisiana.

The Report Card assigned grades to several indicators of health activities and state policies and procedures, which included:

- **Physical Activity** (D)
- **Amount of Time Watching TV or Passive Interaction with a Computer** (D)
- **Sports Participation** (F)
- **Weight & Obesity** (F)
- **Physical Activity in School** (D)
- **Training of School Personnel in Physical Activity** (incomplete)
- **Physical & Psychosocial Wellbeing** (incomplete)
- **Government Strategies & Policy** (B-)
- **Government Investment** (incomplete)
- **Industry & Philanthropic Investment** (incomplete)
- **Family Perceptions & Roles Regarding Physical Activity** (incomplete)

Looking ahead, this initial statewide children’s physical health report card will become an important resource that will provide benchmark measurements and recommendations to improve the grade and to track future progress.

“We’re excited about the conference and this first annual report card,” said Peter Katzmarzyk, Ph.D., head of Population Science at the Center, “We hope the recommendations we presented will help improve the health of our state’s children, fulfilling a great part of our mission.”

The Pennington Biomedical Research Center and Foundation would like to extend a special acknowledgement of appreciation to all the sponsors mentioned below who helped make the conference and the report card a reality.

To obtain a copy of the complete report card go to www.pbrc.edu or www.louisianareportcard.org.
2008 Amedisys Soaring to New Heights

EVENT A GREAT SUCCESS

The Pennington Biomedical Research Foundation gratefully recognizes the organizations and many individuals who helped make the 2008 Amedisys Soaring to New Heights event a success with their generous financial and volunteer support. Nearly 900 individuals attended the spectacular evening that raised more than $140,000 for vital funding for nutrition-based and preventive medicine research. PBRF extends a special thanks to Amedisys, Inc., a Baton Rouge-based home health company, for being this year’s title sponsor of the 2008 Amedisys Soaring to New Heights.

1. **Amedisys, Inc.:** Mike Pitts, Amedisys VP of Tax; Paula P. de la Bretonne, PBRF Board Member and Irene W. and C.B. Pennington Foundation Trustee; Jennifer Winstead, PBRF President and CEO; Dr. Claude Bouchard, PBRC Executive Director

2. **OLOL:** Ann and John Paul Funes with their daughter and friends, Nicole and Matt Colvin

3. **Blackstone family and friends:** Chris and Alyce Blackstone with children and family friends

4. **Amedisys Team Photo:** Left to right – Mark Phillips and family – Christen Foundation Board of Directors; Chris Huff and family – VP of Accounting; Tom Dolan and his family – SVP of Finance; Michael Pitts and family – VP of Tax; Kim Carroll and family – VP of Marketing; David Johnson and family – VP of Risk Management.

5. **2008 Amedisys Soaring to New Heights Committee:** Front row – Paula P. de la Bretonne, Natalie Church, Anne Duke, Tena Roemer, Sylvia Duke, Jennifer Winstead; Back row – Melissa Bell, Blaine Grimes, Pam Fisher, Buddy Tucker and Melanie Boyce (Co-chairs), Page Silvia and Maxine Cormier. Other committee members not present for the photo: Annette Barton, Kathy Kirby, Sancy McCool, Millie Presley and Leslie Son.

6. **Roemer and Family:** Governor Buddy Roemer, his wife Scarlett, and their grandchildren enjoying the balloon basket

7 & 8. **Campus Federal Volunteer Hospitality Teams**
2008 Amedisys Soaring to New Heights

Soaring to New Heights

Pennington Biomedical Research Foundation Recognizes:

- Soaring Title Sponsor: Soaring Presenting Sponsor Soaring Silver Sponsors


2008 Soaring Committee: Melanie Boyce (Co-Chair), Buddy Tucker (Co-Chair), Annette Barton, Laurinda Calongne, Natalie Church, Maxine Cormier, Paula de la Bretonne, Anne Duke, Sylvia Duke, Pam Fisher, Judy Gaudin, Blaine Grimes, Kathy Kirby, Sancy McCool, Mille Presley, Tena Roemer, Page Silvia, and Leslie Son

Soaring Volunteer Support

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five
using highly trained lab personnel, specialized equipment, and expensive chemical and biological agents in a costly-to-maintain laboratory. It is a dilemma all young investigators face... how to run a few preliminary experiments to generate enough data and results to convince the National Institutes of Health (NIH) that funding further work would be fruitful. After all, Dixit is competing with scientists from around the country for limited dollars.

“In my case, we could generate compelling evidence in favor of our proposal and were fortunate to be funded right away by the NIH,” Dixit said. “In general, biomedical researchers today face the reality that only about 10-percent of top grant applications can be awarded due to budgetary constraints.”

The key to long-term funding success is often to start with small, pilot grants – from individuals, corporations, or even from a much-larger grant funded center that has money for such initial research.

In Dr. Dixit’s case, the Coypu Foundation in Louisiana offered $150,000 – key pilot funding – for Dr. Dixit to conduct his first experiments. The data was convincing; Dr. Dixit has been awarded $1.2 million in funding from the National Institutes of Health to forge ahead.

The Coypu Foundation saw promise in Dr. Dixit’s work. Following a long history of supporting work at the Center and in seeing results, like those of the Botanical Research Center in which it also provided substantial support, the Coypu Foundation provided the critical funds to create data ultimately presented by Dixit to the Experimental Biology conference and the American Aging Association.

**PILOTING Research TO SUCCESS**

Co-Pilots

Dr. Corby Martin is also a Center researcher who turned a small pilot grant into significant research dollars. Dr. Martin is a specialist interested in human eating behavior. Many people in our society are overweight, and Dr. Martin is exploring ways to accurately measure what people eat in order to help people eat healthier diets. He faces a serious challenge: how to document exactly what, and how much, people eat as they go about their normal daily routines. Up to now, researchers relied on the memory and diaries of their study participants as well as their ability to estimate food quantity.

Dr. Martin is working on a way to improve all of that. Using cell phones with digital cameras, Dr. Martin is developing a way for participants to send photos of their meals to his research team. A specialized software application then analyzes the photos to estimate the amount of food that the participant has eaten. This could be the first “real time,” highly accurate means available, and Dr. Martin needed to convince the National Institutes of Health that it was a worthy pursuit. He won a small pilot grant – $24,700 – from the Clinical Nutrition Research Unit of the Pennington Biomedical Research Center; performed some simple, meaningful early experiments; then used the data to convince NIH he was on to something. He has since won $670,000 for a larger field trial. Those results could lead to a much larger grant of $1 million or more for a true, large-scale clinical trial that would be needed to convince the scientific community his new methods are useful in large intervention studies.

“The small pilot grant really helped my research and the Center,” Dr. Martin said, “That small pilot grant was the key, and I’m hopeful this new field of study will lead to more long-term funding.”

Another PBRC researcher, Dr. Andrew Butler, has his own pilot – to – large grant success story. He and his team have discovered a gene that doesn’t seem to function in animals that are obese. When a gene is functionality, it produces proteins, and those proteins go on to build the cells and tissues necessary for life; some proteins serve as signals between cells to maintain normal body function. In his experiments, Butler naturally concluded that a decline in the function of a gene normally creating a protein important in weight regulation may contribute to the development of metabolic diseases associated with obesity. So he devised some simple early experiments – paid for partially with a pilot grant of only $25,000. He proved that by artificially supplying the missing protein, he improved the function of insulin and decreased fatty liver disease – two outcomes that could extend lives in people with diabetes.

Dr. Butler’s work can be expensive. He estimates a scientist in his field would require $100,000 to $200,000 per year for up to three years to produce enough good results to win a major (million dollars and up) grant from NIH, or attract significant capital from venture funds.

Dr. Butler has since netted $750,000 in research funds from a pharmaceutical company called Biomeasure, inc., and the American Diabetes Association, and is investigating the possibility of winning significant funding from the NIH. In addition, if Dr. Butler’s work produces a meaningful treatment for the symptoms of diabetes, his pharmaceutical grant includes a licensing agreement that could produce more revenue for the LSU System.
LOOKING AHEAD

Don Arceneaux is a retired Baton Rouge firefighter who knows how to help others.

Now 79 years old, Mr. Arceneaux is trying to help others in a different way. He participates in a clinical trial at the Pennington Biomedical Research Center designed to learn how people with Type 2 diabetes can lose weight and keep it off. The trial uses education, diet, exercise or a combination and then measures the long-term effects on the health of participants. The hope is to find a treatment for Type 2 diabetes.

Researchers hope to see a great improvement on cardiovascular health, including reducing the chance of strokes and heart attacks.

Dubbed Look Ahead, the trial is at the halfway point of its nearly 12 year length.

“I once weighed 230 pounds. Now I’m down to 154,” Don said, “It was the best thing to ever happen to me.”

He credits his success with attitude. “I take it serious,” he said. “I watch what I eat and walk two miles a day on a treadmill.”

Joining Don, and nearly 350 others in the trial, is retired educator Arthur Lamm, now 80 years old.

“I saw an ad where the Center needed old, fat, diabetic men,” he said. “I was all three.”

Just a few minutes with Arthur tells the tale: “I’m full of vim, vigor and vitality. It’s great. I lost 25 pounds and needed to buy new clothes. I have a new lifestyle.”

Both Don and Arthur say they have an automatic support group; they see each other, correspond, and even have an annual dinner together.

“I have a new circle of friends. I share their experiences; feel good about the good things that happen to them, and they enjoy the good things that happen to me,” said Arthur.

Both credit the Look Ahead trial with their new outlook, and they look forward to the next six years.

“I learned to keep track of what I eat, avoid certain foods (no diet) and exercise. I walk one hour a day,” Arthur said.

Do they tell their story to others?

“Everyone who asks,” said Arthur, “They say what happened; you look wonderful, and I tell them.”

“I tell everyone I can,” Don said, “I’m a believer in Pennington.”

The EAT study will determine how the size of fat cells impact a person’s health. This study will examine fat cell sizes and how each individual responds to an increase in calories to help identify increases of health risks.

You may qualify based on:
Age (18-35 years), Weight
Receive benefits such as: Free medical testing, free PBRC meals and earn up to $3800

LIPOTHERA

Lipomas are benign fatty tumors on the body. This study will test whether injected medications will increase the amount fat released by a fat cell and shrink the size of lipomas.

You may qualify based on:
Age (18-60 years), Weight
Receive benefits such as: Free medical testing and earn up to $500

LIPOMAS

Lipomas are benign fatty tumors on the body. This study will test whether injected medications will increase the amount fat released by a fat cell and shrink the size of lipomas.

You may qualify based on:
Age (18-60 years), Weight
Receive benefits such as: Free medical testing and earn up to $500

Blueberries contain nutrients that have been shown to play a beneficial role in heart disease, sharpness of vision, cancer, and age-related declines in brain function. This 10 week study will evaluate the effect of a beverage containing blueberries on controlling your blood sugar levels and improving insulin function.

You may qualify based on:
Age (over 20 years), Weight
Receive benefits such as: Free medical testing

Clinical trials provide opportunities for researchers to test new treatments, medications, and medical devices. If you are interested in participating in these or other research studies, call our recruiting department at (225)-763-3000, or visit www.pbrc.edu or email clinicaltrials@pbrc.edu.
Pennington Biomedical Research Foundation
6400 Perkins Road
Baton Rouge, LA 70808-4124
www.pbrf.org
www.pbrc.edu
(225) 763-2511

DID YOU KNOW…

PBRC has expanded its research programs to look for the basis and prevention of dementia.

You can help by supporting this effort – find out how by contacting the Foundation office today.

YOU CAN MAKE A DIFFERENCE!

Make your gift during the Annual Giving Campaign

Please make a gift today to help continue the vital funding for nutrition-based research. PBRC is striving to prevent premature death from chronic diseases such as heart disease, diabetes, cancer and obesity. Your support will provide funds for vitally needed research equipment, expanded laboratory facilities and resources for recruitment of world-class faculty members.

WAYS TO MAKE YOUR GIFT:

- Make a gift online at www.pbrf.org
- Call us at (225) 763-2646 to make your gift by phone
- To mail your gift, use the enclosed postage-paid envelope or send to:
  Pennington Biomedical Research Foundation
  6400 Perkins Road
  Baton Rouge, Louisiana 70808

Please remember the Pennington Biomedical Research Foundation in your estate plans.

Thank you for supporting the work of PBRC with your gift to the Pennington Biomedical Research Foundation.