

NUTRITION MATTERS



FALL 2004

Pennington Biomedical Research Center and Foundation

DID YOU Know?

People support the Pennington Biomedical Research Center for many reasons. Yes, they want to lose weight, adopt healthier lifestyles and learn about their health status, but one recurring motivation among our research participants is the desire to help other people by advancing scientific knowledge of nutrition and preventive medicine.

Our clinical research has yielded new knowledge and impacted many lives during our first 15 years. These findings include :

- A healthy lifestyle program can reduce the risk of type 2 diabetes mellitus. Of all participants in the Diabetes Prevention Program (who had symptoms of pending type 2 diabetes), 60 percent avoided diabetes through a specialized diet and exercise routine.
- A diet rich in fruits, vegetables and low fat dairy products can lower blood pressure equivalent to medications for hypertension.
- Being physically fit is advantageous to the body's ability to adapt to dietary fat increases.

We invite people of all ages and backgrounds to participate in the exciting research studies being conducted at the Pennington Center. (See "Get Read!" this page). The studies are free, and many of them offer compensation for volunteers who participate. If you would like to be a part of the Pennington experience, visit the clinical trials web page at www.pbrc.edu. You can also support the work of the center through the Pennington Biomedical Research Foundation at www.pbrf.org or by calling 225-763-2511.

"GET READ!" - It's a Family Affair

Wende and Ercelle Anthony share a special bond. As sisters, they not only live together, but together they've endured a 10-week controlled feeding study called "GET READ!" at the Pennington Biomedical Research Center (PBRC) designed to look at heart disease risk factors in African-Americans.

"Get Read!" stands for Gene-Environment Trial of Response in African-Americans to Dietary Interventions (GET READ!) for Heart Health. GET READ! is a 12-week research study that examines African-American participants, ages 18-65. Participants are provided food for the course of the study. Each participant must have a biological family member. Specifically, the family member must be a brother

or sister, willing to donate blood, and each participant will be required to give blood samples on a regular basis. This is what made the study so appealing to the sisters — they were in it together. "The main motivation was my sister," Wende said. "If I didn't stay, she couldn't. The other motivating factor was that I had agreed to take part and it was for only a short time."

After finishing the program with positive results, the sisters have become outspoken recruiters for the study, touting the center's commitment to their health and



Ercelle and Wende Anthony

acknowledging the importance of preventing heart disease in African Americans. "More people need to know about the study and have the chance to be involved," Wende said.

"We are very close friends as well as sisters," Ercelle said. "It was my

continued on page 11

GET ON THE MOVE, LOUISIANA Pennington Biomedical Research Center Invites You to Join

Louisiana is on the move as citizens and organizations prepare to launch a statewide initiative to promote daily walking and healthy eating. *Louisiana on the Move*, an affiliate of America on the Move, is a program aimed at attacking the current obesity crisis.

Led by Dr. Donna Ryan of the Pennington Biomedical Research Center, more than two-dozen representatives from schools, government, businesses and civic organizations are leading an effort to launch *Louisiana on the Move* this fall." You and your family are invited to join and to encourage friends and extended family to get

involved along with you," Ryan said. It's free.

The premise of the program is simple: increase the number of steps taken per day by 2,000 (approximately one mile) and eat 100 fewer calories per day in order to maintain current weight.

Louisiana on the Move is a free activity, which allows participants to log in to the *Louisiana on the Move* website (www.americaonthe.move.org) and record their weight, caloric intake and number of steps they've taken for the day. After registering, participants will receive discounts from health and exercise

related companies and may also sign up to receive e-mail newsletters that include recipes, tips and support.

continued on page 11

Soaring to
New Heights —
Event Benefits
Work of the
Pennington Center

page 8

Message from the Executive Director of the Pennington Biomedical Research Center



Dr. Claude Bouchard
Executive Director

My colleagues and I of the Pennington Biomedical Research Center are pleased to join the Pennington Biomedical Research Foundation to bring you *Nutrition Matters* – a new publication. Combining our previously separate newsletters is both a concrete and symbolic step into the future of the center and supporting foundations. Our vision is to work together in innovative ways to achieve our scientific mission: *"to promote healthier lives through research and education in nutrition and preventive medicine."*

That mission guided us to create our first five-year strategic plan - *Vision 2005*. As we approach the new year and the end of that plan's time span, we are also nearing the completion of *Vision 2010*, a strategic plan for our next five years. Although a few goals have not been fully met, we have made considerable progress on most fronts. We have increased substantially the size and quality of our faculty, the number of postdoctoral fellows, the number of adjunct faculty from other institutions collaborating with our scientists, and the size of our scientific and support staff. We are attracting record amounts of dollars from the National Institutes of Health, the U.S. Department of Agriculture, the Department of Defense, and from a variety of companies. Early in our five-year plan, we also obtained a significant increase in state funding for the operation of the center.

We also created a Division of Education, which has already established a record of success and excellence. The division has secured a training grant from the National Institutes of Health, created a series of highly focused international scientific symposia, supported a variety of conferences and community activities, and has forged a partnership with the LSU Ag Center in a number of nutrition education initiatives.

One central piece of *Vision 2005* was the construction of a 187,000 sq. ft. Basic Science Laboratory Building entirely funded by the Pennington Medical Foundation. Completed in January of this year, the remarkable facility has allowed us to recruit new faculty. We have added scientists with expertise in

- stem cell biology and re-programming of genetic information in the nucleus of cells,
- the biology of the barrier between the blood and the brain,
- the communication between the gut and the brain,
- the molecular mechanisms underlying complications in tissues and organs caused by diabetes,
- mechanisms regulating adipose (fat) tissue growth and adipose cell death,
- and the abilities of skeletal muscles of lean, obese, active and sedentary people to oxidize a variety of fuels from food.

These areas of research help us understand the role of specific nutrients and may shed light on

the relationship between nutrition and the prevention of diseases.

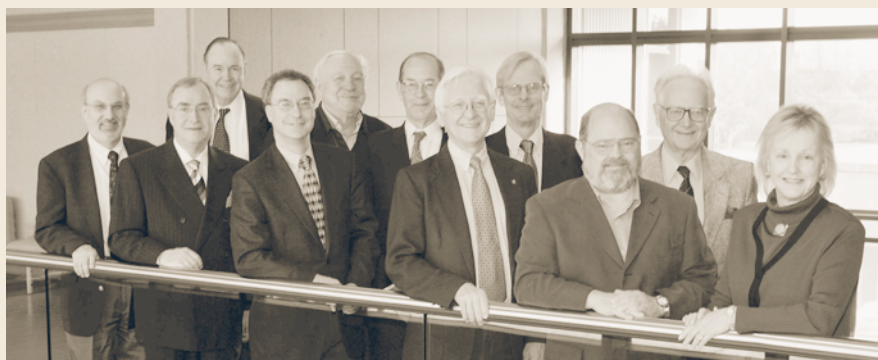
Our science programs are growing in sophistication. The biological, chemical, genetic and neurological processes we are revealing in our basic science laboratories are complex. On one hand, they have a great potential to increase our knowledge of the relationship between nutrition and health. On the other hand, research of this nature can raise difficult societal and ethical issues. To help us in our planning and decision-making process, we have added an expert in the philosophy of science and ethics to our faculty in recent months. His valuable guidance and support will help ensure that every project undertaken with human volunteers, with animal models or even in the test tube, meets the highest ethical standards.

Over the last two years, we have devoted a considerable amount of time to achieving a goal that is yet unmet - expansion of our clinical research space. Here we depend entirely on the resources of the trust fund managed by the Pennington Medical Foundation and, as we know, the last few years have not been particularly kind for investments. However, thanks to the persistence of the leadership of the foundation and several of my colleagues at the center, we now seem to have a strategy that will allow us to complete a substantial component of the clinical research expansion. This would greatly help us in our efforts to attract new clinical and population research investigators, an essential step if we are to be as productive in these areas as we are becoming in the basic sciences.

Reviewing the goals we set and have met, we are proud of our accomplishments envisioned by our first strategic plan, but it is now time to look ahead and re-focus our energy on a new set of goals. Faculty and upper management have spent many hours since last January on *Vision 2010* and look forward to releasing it with the new year. I am personally excited about the emerging challenges of *Vision 2010*. It is a blueprint for our future, and I look forward to reporting its contents to you and updating you on our progress in the months and years to come as we transform that vision into reality.

Claude Bouchard, PhD
Executive Director

EXTERNAL ADVISORY BOARD



The center's external advisory board was pleased with growth in faculty, facilities and research. Following its biannual visit, the board, comprised of distinguished nutrition and research experts, strongly advised an expansion of clinical research facilities, stating, "PBRC is approaching a critical period that will greatly influence its impact and further success as a leading biomedical research institution in this country." The board also stated, "The future growth of the center's extramural research funding is critically dependent on a proportionate increase in state support." (Learn more about funding; see "Partnership of Support", page 3).

Pennington Biomedical Research Center Continues To Be Built on "Partnership of Support"

NEW PRESIDENT AND CEO PRAISES LOUISIANIANS FOR THEIR VISION

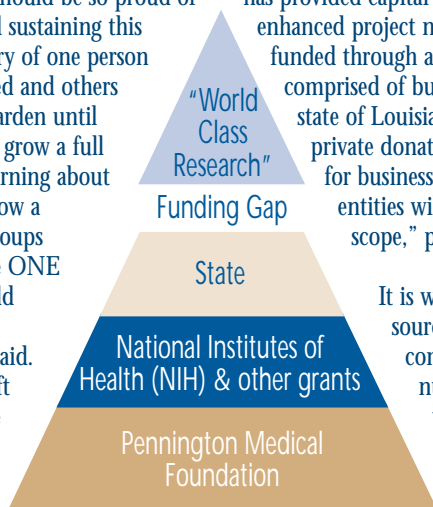
"The work of the Pennington Biomedical Research Center is of international scope," said Jennifer Winstead, newly appointed president and chief executive officer of the Pennington Biomedical Research Foundation (PBRF), an organization dedicated to supporting the groundbreaking work of the center.

"The people of Louisiana should be so proud of themselves for creating and sustaining this great institution. It is a story of one person providing an important seed and others adding their seeds to the garden until finally we are beginning to grow a full orchard. As I have been learning about the center's history, I see now a remarkable tale of many groups coming together to achieve ONE important mission for world renowned nutrition and education programs," she said. "Each and every seed or gift is vital," she added. "There is an ongoing need for funding for new, high tech, and increasingly complex nutrition studies, projects and educational programs."

Kevin Reilly, Sr., chairman of the PBRF board of directors, and himself a tireless advocate for the center, said "Winstead is adamant about her support and dedication to the organization, and her enthusiasm is contagious. Our board of directors and other interested volunteers will be working hand in hand with her to develop new

and far-reaching results to help Pennington become the TOP center in the world," he added.

The center's founder, the late C.B. "Doc" Pennington, provided the basic foundation or gift for the start of the Pennington Biomedical Research Center more than 16 years ago. Since that time, the Pennington Medical Foundation has provided capital funds for building and enhanced project needs. Today, the center is funded through a "partnership of resources" comprised of business and industry, the state of Louisiana, federal grants, and private donations. "New opportunities for business and industry and private entities will continue to grow in scope," promised Winstead.



It is with these enhanced funding sources that the center now competes with the largest nutrition research centers in the nation and has achieved international recognition for its research achievements.

"Additional funding sources from individuals, foundations, and businesses and industry are imperative to "bridging the gap" in resources needed to fully fund the work of the faculty in the development of groundbreaking nutrition and health promotion programs," says Winstead. "From the time a project is conceived until a grant is approved can be as much as 18 months," says Winstead.

continued on page 5

SI BROWN NAMED NEW PBRF BOARD MEMBER



J. S. "Si" Brown, III was recently named to the board of directors of the Pennington Biomedical Research Foundation.

Mr. Brown is the President of Bruce Foods Corporation, which operates five manufacturing plants located in Louisiana, Texas, North Carolina and The Netherlands.

He was born in New Iberia, Louisiana, and has been a life long resident there with the

exception of his college education and military service. For all of his service to the community, Brown received New Iberia's Outstanding Citizen Award in 1999.

Brown has a long history of expertise in international business and has served on numerous national committees, including the Louisiana Export Council, the Industry Sector Advisory Committee on U.S. Trade Policy Matters, and numerous U.S. Department of Agriculture committees.

PENNINGTON BIOMEDICAL RESEARCH FOUNDATION NAMES NEW PRESIDENT AND CHIEF EXECUTIVE OFFICER

The Pennington Biomedical Research Foundation (PBRF) board of directors recently named Jennifer Glass Winstead as president and chief executive officer, according to board chairman Kevin Reilly, Sr.



"Our board of directors set a goal to place a professional development and management director at the helm of the Pennington Biomedical Research Foundation before year's end. We are now moving forward under her leadership to shape and enlarge our outreach efforts," said Reilly. He said that Winstead has designed programming and initiatives to raise millions of dollars for juvenile diabetes research in her former position.

Winstead worked as the director of regional development with the Diabetes Research Institute Foundation (DRIF) of Hollywood, Florida and as an area director for the American Heart Association in Virginia Beach, Virginia. In these positions, she directed fundraising campaigns, corporate sponsorship programs and educational and volunteer activities.

At the DRIF, Winstead was instrumental in planning and implementing growth programming and in expanding the organization geographically and financially in its launch to become a national organization.

In welcoming Mrs. Winstead to the PBRF, Pennington Biomedical Research Center Executive Director, Dr. Claude Bouchard, recently said, "Her experience with other academic-based research institutions, like the Diabetes Research Institute Foundation, is a tremendous asset to our ongoing work with foundations, corporations, medical and research institutions, and other organizations in the health and nutrition arenas."

As president and chief executive officer of the PBRF, Winstead oversees the foundation operations, including the 100,000 square foot conference center. According to Winstead, "The Foundation was established in May 1990 after the center's initial buildings were constructed, to provide funds to support the operation of the Pennington Biomedical Research Center. The initial gift provided by the Irene W. and C.B. Pennington Foundation

continued on page 9

Scientific Dinner Series Features
Dr. Robert Schwartz, M.D.
Aging and the Effects of Exercise

The Pennington Biomedical Research Foundation hosted the first 2004 Scientific Dinner Series in March at the Pennington Biomedical Research Center and honored noted gerontologist Robert S. Schwartz, M.D., of the University of Colorado Health Sciences Center.

Dr. Schwartz, a specialist in geriatric medicine, spoke on "Geriatrics 101". His presentation included data from research findings on the aging process and the effect of exercise on extending functionality in the elderly. Dr. Schwartz has conducted numerous research studies on the effects of



Pictured here at the event were Dr. Claude Bouchard, executive director of the Pennington Biomedical Research Center, Dr. Robert Schwartz, M.D. of the University of Colorado Health Sciences Center, Paula Pennington de la Bretonne, chair of the Pennington Medical Foundation, Dr. Eric Ravussin, faculty host for the event, and Mike Wack, Southwest Commercial Regional Manager/Executive Vice President of Hibernia National Bank.

exercise training and dietary weight loss on improving strength, endurance and body composition in the elderly. His in-depth presentation demonstrated the strong correlation between exercise and its impact on aging function capabilities. He recommended weight lifting and walking to retain muscle mass.

The 2004 Dinner Series is hosted by the Pennington Biomedical Research Foundation to highlight medical research and its impact on improving and enhancing quality of life issues. The series is underwritten by Hibernia National Bank.

TRAILING A MYSTERY: WHY DO WE REJECT FOOD?

When airplane pilots face an emergency, they go on "automatic," working through a series of procedures to recover control. Our bodies often do the same thing when we are sick, trying a series of changes that includes sensitive skin (painful to the touch), an increased body temperature (fever), increased fatigue or sleepiness, loss of appetite and nausea.

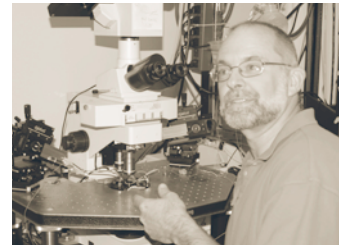
Researchers think each bodily change has a role in recovery: sensitive skin and fatigue prompts us to remain still and sleep, allowing energy reserves to fight off infection; a fever makes it harder for illness-causing bacteria to flourish; and nausea leads to vomiting, a great way to get rid of a possible cause of illness - spoiled food, bacteria or other toxic substance we may have ingested.

This barrage of gastro-intestinal responses - triggered by chemicals produced by our immune system - is the result of a fascinating and highly complex set of signals passed between the blood and brain. These signals allow the brain to detect infection, disease or chemical agents anywhere in the body and to muster a massive counter attack, commanding various systems and organs to get in the fight.

Because we are born with extremely strong survival instincts, especially the drive to eat, researchers are quite interested in how so many diseases shut down that drive - something that is harmful in the long run. Seriously ill patients, especially the terminally ill, can actually waste away quickly through lack of nutrition as their bodies close down and reject eating.

True to the Pennington Biomedical Research Center's mission "to promote healthier lives through research and education in nutrition and preventive medicine," Dr. Rick Rogers and his wife Dr. Gerlinda Hermann are investigating the exact causes of the disease-related shutdown of gastrointestinal processes. They are painstakingly tracing the exact chemical messengers that communicate disease to the brain, where in the brain those chemicals report their findings, and the contorted path of nerve cells the brain uses to receive the messages and send out responses. In this business, progress is measured cell-by-cell, molecule-by-molecule. It is work that is invisible to the naked eye.

"We've only just finished the description phase," said Rogers. That means he has outlined the general way chemicals of our immune system regulate eating behavior.



Dr. Rick Rogers

"We still need to show this does happen," he said, "where it happens, know exactly what parts of the brain it happens on and know the specific neurons involved."

He has narrowed the search to a specific protein-based signal and is currently charting out its route as a chemical messenger to halt normal eating and digestive processes. As slow as the work is - Rogers has been working on the brain-gastrointestinal connection for 20 years - each tiny step he takes is leading the way.

Since Rogers' general belief is that our immune system uses the protein - dubbed TNF - to fight disease, as well as turn off normal eating behavior, a natural question arises: "Do you really have to know exactly how and where TNF works, or is there simply a drug to block its nauseating affects?" The straight answer is "Yes," there is a drug to block TNF, but that course is fraught with danger.

Thalidomide, a drug used primarily in Europe in the 50s, specifically stopped TNF's affects. Pregnant women used the drug to reduce nausea. The problem is TNF does more than shut down normal eating processes by causing nausea, it also has the positive role of stimulating the formation of blood vessels in human fetuses. Without proper vessel formation, babies were born with highly deformed limbs or without limbs altogether.

Thus the mystery Rogers is trying to solve; how exactly does TNF work and where. "If we can't turn off TNF all together," Rogers said, "if we know how, when and where it works in the central nervous system, we can start working there to turn off its unwanted effects."

continued on page 11

PBRF Hosts Scientific Dinner Speaker Dr. Andrea Kriska On Importance of Exercise

(During a recent visit to the Pennington Biomedical Research Center, Dr. Andrea Kriska shared her thoughts and this article on the need for physical activity for disease prevention.)

By: Andrea M. Kriska

The fact that a physically active lifestyle is important in the prevention of many chronic diseases and conditions is well accepted. Physically active individuals appear to have a lower risk of a variety of diseases and health conditions such as Type 2 diabetes, cardiovascular disease, mental health, cancer and obesity when compared to sedentary individuals. Yet, despite the growing body of evidence identifying the health benefits of physical activity, there are a huge number of individuals who continue to lead sedentary lifestyles. In an attempt to address the critical problem of a high prevalence of sedentary lifestyle throughout the nation, a group of us were brought together in early 1993 by the US Centers for Disease Control and Prevention and the American College of Sports Medicine to review the pertinent scientific evidence and to develop a clear, concise "public health message" regarding physical activity. One of the important concerns identified at this meeting was in regards to the public misconception that, in order to gain any health benefits from physical activity, one must engage in vigorous, continuous exercise. We (as a society) have made exercise an elite sport, requiring extensive knowledge, equipment, and training.

The outcome of this meeting was a major revamping of the national public health recommendations for physical activity. Physical activity, as defined by the new set of

recommendations, can be more easily incorporated into the daily routine of all individuals, regardless of income or race. The major thrust of these recommendations are to encourage sedentary individuals of all ages, race and ethnic background to increase their levels of moderate, feasible physical activity such as walking for 20-30 minutes throughout the day (on most days). Few individuals have large blocks of time free, but many are able to fit short bouts of activity in throughout a day. The flexibility of the types of physical activities recommended are much more realistic for the currently sedentary. And it is the sedentary that these new public health recommendations were geared towards. For those that are currently active, they are strongly encouraged to keep up the good work. For those that are sedentary, the time to move is now.

The purpose of the revamping of the physical activity public health message was to be more approachable and doable for the masses. But will this level of physical activity make a difference? Based upon the results of several landmark clinical trials of type 2 diabetes prevention that took place in the US and abroad, the answer is YES.

In the US Diabetes Prevention Program (DPP) tested at PBRC, for example, participants that were part of the lifestyle intervention arm of the program were asked to reduce their weight by 7 percent through a low fat diet and to exercise for 150 minutes per week of moderate activity. This activity goal was similar to the public health recommendations and was achieved by the majority of the DPP participants throughout the course of the program. Most importantly, the DPP demonstrated a significant decrease in the progression to Type 2 diabetes in the lifestyle intervention groups and seemed to work across all age groups, gender groups and all ethnic/racial groups. This would suggest that the activity goal for the general public is adequate to prevent diabetes and/or to increase weight loss that, in turn, results in the prevention of diabetes in those overweight individuals that are at high risk for diabetes.



So why did the activity portion of the Diabetes Prevention Program work? In a nutshell, the activity program was achievable, flexible, and appropriate for each and every participant. Everyone can be a winner! Given a minimum weekly requirement of 150-175 minutes per week of moderate intensity activity, exactly how you do it, where you do it, when you do it, and with whom you do it is entirely up to you. There are only two requirements. One is that you do it! The other is that you keep doing it!

"Partnership of Support"

continued from page 3

"Your donation ensures that the Pennington Center's laboratories can begin vital work more quickly on new and promising projects. Your help is also needed to fund education programs: faculty chairs, professorships, postdoctoral fellowships, research symposia, visiting faculty scholars, student programs and scholarships, lecture series, library support, public nutrition education programs, and state-of-the-art equipment," she added.

"We hope you catch Jennifer's enthusiasm," says Reilly, "because she intends for us to support Pennington in meaningful ways. That's my goal and I invite you to join me," said Reilly.

"No gift is too small," said Reilly. "The work of the Center is at a crossroads with tremendous growth and potential and each and every donation is important to unlocking the secrets of nutrition to improve quality of life and longevity."

A postage paid envelope has been provided within this publication or call Jennifer Winstead at 225-763-2511 to make a pledge.



Hibernia National Bank's Mike Wack, Dr. Andrea Kriska, PBRC Associate Director Dr. Donna Ryan, and PBRF board member Dr. Roy Kadair.

E · D · U · C · A · T · I · O · N
 SPRING SCIENTIFIC
 SYMPOSIUM

World's researchers converge at Pennington Symposium

The recognition that metabolic syndrome is reaching epidemic proportions has led the world's obesity and nutrition researchers into many promising new areas looking for answers. "Metabolic syndrome" describes a human condition characterized by the



Sponsored by the Pennington Biomedical Research Foundation and Mars Incorporated, more than 40 scientists from around the world gathered here for a conference on the origins of metabolic syndrome.

presence of several risk factors for cardiovascular disease such as hypertension, glucose intolerance, obesity, insulin resistance, inflammatory processes and abnormalities of the blood coagulation system. Although the cause of metabolic syndrome is not specifically known, obesity and insulin resistance are generally present. Insulin resistance, the condition in which normal or elevated insulin levels gain only an impaired biologic response, is considered to be a hallmark for the presence of metabolic syndrome.

**FROM GRAFTING
 TO GROWING**

Pennington Research Promising for Bone Injury



When basic research scientists are free to go where their experiments lead, exciting things can happen. Take the recent work of Dr. Jeffrey Gimble, for example. Gimble is a specialist in human fat formation—a natural thing to study at a center for nutrition research, but is fast becoming an expert in bone growth as well.

Currently, modern medicine can help victims of bone crushing accidents by harvesting bone from other parts of the body to fill in gaps. Now, discoveries made by Gimble have shown human fat to hold some promise as an emerging source of new bone. Gimble and colleagues have witnessed stem cells from human fat, when slipped under the skin of mice, automatically convert into bone. Gimble found and collected adult stems cells from liposuctioned human fat, attached them to chips of artificial bone, and implanted them into mice. His are among the first experiments to prompt human fat stem cells to convert to human bone once implanted into a live animal.

Stem cells, found in all animals, are unspecialized cells that convert to the many specific cells we need. Researchers had earlier determined that various chemical signals in a growing animal cause stem cells to develop into bone, nerve, muscle, fat and other tissue types. This process was recently duplicated in the lab when, earlier this year, Gimble and colleagues

at Duke University announced the results of experiments which demonstrated that individual stem cells from human fat, under the right laboratory environment, could convert to muscle, cartilage, bone or perhaps even nerve cells.

Now, taking the step from the lab to nature, Gimble has seen the spontaneous conversion of fat to bone in a live animal.

"Because human fat is abundant and simple to obtain by liposuction, this finding holds the promise that patients in need of bone grafts could potentially use their own fat as a source of new bone cells," Gimble said. To grow human bone, Gimble and team extracted human fat through liposuction, identified and extracted just the stem cells and multiplied them in the lab. Next, they attached the growing stem cells onto a chip of artificial bone and implanted the chip under the skin of mice for six weeks. When Gimble removed the bone chip, he found the stem cells had converted to living human bone cells and had begun to grow on their own.

"These are exciting, but preliminary, findings," said Gimble. He cautioned that further experiments in animal models would be needed before this science can be used in a clinical setting.

NEW FACULTY

In a year of remarkable research growth, the center has actively sought specialists in the fields of diabetes, nutrition and the brain, insulin resistance and metabolic syndrome (precursors to diabetes) and the means by which the brain detects and responds to nutrients in food.



Abba Kastin, M.D., Ph.D.; Professor; Endowed United Companies/Harris J. Chustz Chair; how the brain and blood communicate across the

blood/brain barrier and how the region is impacted by nutrients and the role in energy balance. A senior researcher and faculty member, Dr. Kastin brings extensive training and experience from the Harvard Medical School and Tulane University, where he published more than 800 papers.



Ken Eilertson, Ph.D. Associate Professor; the genomics of nutrition and developmental biology as revealed by nuclear transplantation and stem cell development. Dr. Eilertson joins PBRC from Infigen, Inc. where he was director of molecular biology and genomics.



Irina Obrosova, Ph.D., Associate Professor. Joining us from the University of Michigan, Dr. Obrosova will study the the mechanisms of chronic metabolic complications of diabetes.



Weihong Pan, M.D., Ph.D.; how the brain collects nutrient information from the blood. Dr. Pan brings with her research support from the National Institutes of Health and a private biotech grant. Dr. Pan was formerly with Tulane University.



Alberto Travagli, Ph.D. Professor, neuroscience and pharmacology. Dr. Travagli brings with him grant support from the National Institutes of Health and the National Science Foundation. Dr. Travagli is formerly with the department of Internal Medicine and department of Physiology at the University of Michigan.



Kirsteen Browning, Ph.D., Assistant Professor, pharmacology. Dr. Browning, also coming from the University of Michigan, will work in Dr. Travagli's lab investigating how the nervous system detects sensations in the stomach and gut, and by what means we may mistakenly feel "full" or "bloated" or inappropriately nauseous or experience pain.

Louisiana Board of Regents Creates Endowed Chairs with gifts from Our Lady of the Lake Foundation, the Coypu Foundation and the Irene W. and C.B. Pennington Foundation

The Louisiana Board of Regents recently approved matching funds for three Endowed Chairs at the Pennington Biomedical Research Center through the Louisiana Endowment Trust Fund for Eminent Scholars.

One million two hundred thousand dollars in matching funds have been provided by the Louisiana Board of Regents for the following endowed chairs:

- **Marie Edana Corcoran Endowed Chair in Pediatric Diabetes and Obesity funded by Our Lady of the Lake Foundation;**
- **John S. McIlhenny Endowed Chair in Health Wisdom funded by the Coypu Foundation, and the**
- **Peggy M. Pennington Cole Endowed Chair in Maternal Biology and the Risk of Obesity funded by the Pennington Family Foundation and the Community Foundation for Southeastern Michigan.**

"We are deeply indebted to these generous donors who have earmarked major funding for the recruitment of outstanding faculty in specialty research areas that will enhance the center's core research for years to come," said

Dr. Claude Bouchard, executive director of the Center.

"We have been meeting with outstanding researchers and scientists in these medical areas

Dr. Donna Ryan, Dr. David York, and Ralph Underwood represented the Pennington Biomedical Research Center before the Board of Regents' Chairs & Professorships review panel during the funding selection process.

This panel is a group of national consultants who review the endowed chair and professorship proposals each year and recommend to the Louisiana Board of Regents which programs should receive state match funding for that particular year.

"We are grateful to the state of Louisiana for this matching funding as it enables us to move forward to establish new, targeted research programs," said Kevin Reilly, Sr., chairman of the Pennington Biomedical Research Foundation.

"We are deeply indebted to these generous donors who have earmarked major funding for the recruitment of outstanding faculty in specialty research areas"

and will now escalate our program development and recruitment process," he added.



Beth Floyd, PhD., Instructor; joining Dr. Jeff Gimble's lab in stem cell biology (see article on Gimble in this issue).



Kevin Elliott, Ph. D. Instructor; ethics, research design, policy. Dr. Elliot holds a joint appointment in the Department of Philosophy at LSU.



Matt Hulver, Ph.D. Assistant Professor; how skeletal muscles are impacted by exercise and nutrients; performance enhancement.



Zhong Wang, PhD., Insulin resistance in the obese and diabetics, especially the affects of calorie restriction and alternative medicines.

Help us "Unlock the Secrets" by volunteering

Pennington Researchers are currently seeking citizen volunteers for the following clinical studies.

Get Ready -

A study of the genetic factors in heart disease among African-Americans

Volunteers must be:

- Age 18-65
- African American only
- Not taking medication
- Non-diabetic
- Have a biologic sibling willing to participate

Diabetes -

The clinic is currently seeking volunteers for numerous clinical studies on the treatment of diabetes

Volunteers typical need to be:

- Type II Diabetic
- Over age 18
- Normal to Overweight
- Not Pregnant

Act Now

This study will test the drug Actos as a means of preventing diabetes.

- Age 18 or older
- Overweight
- Do not have diabetes
- No heart disease or hepatitis
- No lung or kidney disease
- No prescription medications for diabetes control
- Not pregnant
- Not on medication for weight loss

Inhaled Insulin

Can inhaled insulin replace injections? This study is designed to find out.

To qualify:

- Age 18-80
- Normal weight to overweight
- Diagnosed with Type II diabetes for at least 6 months
- Taking oral diabetes medication

Please call for specific information, 763-2500.

Louisiana Ballooning Foundation Presents Donation to Pennington Biomedical Research Foundation



The Louisiana Ballooning Foundation recently made a \$10,000 donation to the Pennington Biomedical Research Foundation to support the ongoing work of the Pennington Biomedical Research Center.



Bob McNeese, Jennifer Winstead, George Richard, Kevin Reilly, Sr., and Paula Pennington de la Bretonne

The check was presented to Kevin Reilly, Sr., PBRF chairman, board member Paula Pennington de la Bretonne, and PBRF Chief Executive Officer Jennifer Winstead, by George Richard, executive director of the Louisiana Ballooning Foundation, and Bob McNeese, chairman of Louisiana Ballooning Foundation, at a recent PBRF board of directors meeting. The funds were generated from the 2003 Pennington Hot Air Balloon Championships.

Additional funds raised, above and beyond the operations of the Festival through 2006, will benefit the Pennington Biomedical Research Foundation to promote and support the research conducted at the Pennington Biomedical Research Center.

The Pennington Biomedical Research Foundation extends a special thanks to Blue Cross Blue Shield of Louisiana for its ongoing corporate support, particularly through its generous in kind donation of the printing of Nutrition Matters and other materials to enable the Foundation to grow in its mission to support the ongoing work of the Pennington Biomedical Research Center.

“Soaring to New Heights”

EVENT: A GLOWING SUCCESS FOR THE PENNINGTON BIOMEDICAL RESEARCH FOUNDATION

The Pennington Biomedical Research Foundation held a "Soaring to New Heights" Hot Air Balloon Championship fundraising event during the national ballooning competition held at the Pennington Center in early August.



Paige Pennington and Grandmother, Peggy Cole

More than 500 friends joined with other supporters of the Pennington Biomedical Research Foundation for fireworks and fun under two large white tents in a VIP area, giving participants direct access to balloon viewing and a front row seat for the spectacular fireworks show, sponsored by the Baton Rouge Clinic.



Bill Silvia, Jr, Annette Barton, Dr. Claude Bouchard, Peggy Jenkins, Dr. Bill Jenkins.

Sponsors and underwriters of the event included Annette Barton, as a thank you gift in honor of the work of William Silvia, Jr., executive vice president of the LSU System. Special thanks to board members Terrell Brown and Jim Bailey for their gift as a Spirits Sponsor.

The members of the Host Committee were Annette Barton, Pat Cheramie, Paula de la Bretonne, Mary Delarosa, Sunny McCoy, Nanette Noland, Page Silvia, and Carmen Williams.

Proceeds from the event benefit the work of the Pennington Biomedical Research Center.



Pennington Biomedical Research Center staff members supported the fundraising event.

Staff and Volunteers Introduce the Pennington Center to Balloon Enthusiasts

Staff and volunteers offered free water, blood pressure checks, and clinical study/volunteer information to individuals attending the recent Pennington Hot Air Balloon Championship, held on the grounds of the Pennington Biomedical Research Center. The Championship was held last month.

Individuals visiting the tent were also able to join the *Louisiana On the Move* organization via laptop computer and were introduced to the website for the soon-to-be-launched new organization. (See story on page 1: *Louisiana On the Move*.)

Individuals attending the event were able to enjoy a refreshing reprieve from the heat as well as to learn more about their health and the clinical trials and work of the Pennington Biomedical Research Center.

For more information on *Louisiana On the Move* or clinical trials for volunteers, please visit www.americaonthemove.org or www.pbrbc.edu.



Irene W. and C.B. Pennington Foundation Underwrites John Folse Soup Nutrition Project At St. Joseph's Academy

What do you get when you mix a handful of teenage girls, a premier Cajun chef and a world-class nutrition center? The recipe for success - and healthier eating in schools.

A group of students at St. Joseph's Academy in Baton Rouge has teamed up with Chef John Folse and the Pennington Biomedical Research Center to cook up tasty but nutritious fare for area schools.

Working together with an initial pilot grant of \$16,200, Chef Folse will create a line of healthy Louisiana soups, in collaboration with Pennington nutrition expert and food analyst, Dr. Catherine Champagne, and her associates, Dawn Turner and Marlene Afton. A large part of the St Joseph girls' job will be the critical test - to taste and critique the creations - a favorite pastime of Louisianans.

"Students will always go with foods they grew up with - foods that taste good," Folse remarked at a kickoff reception for the pilot study.

The team hopes to expand their efforts this fall, to effectively create, test and eventually introduce their foods into diocesan Catholic schools and cafeterias across the country. The students will also work with Folse and his staff as they develop the recipes and with the Baton Rouge Diocese School Food Service to develop a marketing plan to make them a regular menu item in area schools.

"There is enormous interest across the country in improving the healthfulness of high school cafeteria lunches," Champagne said. "This project is unique in its partnership with high school students, its educational components and in its goal to develop a workable plan for introduction into local high schools, and eventually take on a larger audience."

Last October, St. Joseph's Academy students were pleasantly surprised when they were informed of a new menu item. Chef John Folse & Company added



Chef John Folse, Dr. Catherine Champagne, SJA sophomore Shannon Berryhill and Sr. Judith Brun

soups to the cafeteria salad bar each Wednesday and Friday asking students who consumed the soup to fill out an online evaluation.

"Soup days are my favorite," said St. Joseph's Academy freshman, Anne LeBlanc. "Each week we get new soups and each week the soups are absolutely delicious."

Pleased with the results, representatives from John Folse's company and St. Joseph's then met with Dr. Catherine Champagne to try and extend the program to nutritionally enhance school lunches.

Since that original meeting, funding through the Foundation has been provided to conduct an initial pilot program. This fall, the Healthy Soups for Schools Project hopes to expand its mission by introducing several new food items into the St. Joseph's lunch program and eventually all Catholic schools in the Baton Rouge area. This larger-scale introduction would also gather information on school eating habits and nutrition.

"It's my life-long business to feed people - now we've come to a bend in the road - it's now about creating foods that make us healthier, live longer but not give up the flavor," Folse said.

Champagne, Chef Folse and the students began the pilot test work this summer in the kitchen and the lab.

MULTIPLYING YOUR GIFT

If you are employed by a participating matching gift company, you can double the value of your gift. Many companies offer varying levels of corporate match for their employees, spouses, and retirees. You will be recognized for the full amount of your gift as well as the amount of your corporate match. To multiply your contribution, ask for a matching gift application from your company. Fill it out and send it in with your contribution in the postage paid envelope enclosed in this newsletter.

New President & Chief Executive Officer

continued from page 3

was designated and earmarked predominately for the construction of the facilities.

"Today, we aim to retain and enhance the Pennington Center nationally and internationally, particularly in the area of obesity, research and education," said Winstead. "It takes individuals interested in making a difference, those who want to help fill the research funding gap and who recognize the work of the center as a world leader-one that is in step with the concerns of today's society regarding the nutritional link to healthy lifestyles and the epidemic in diseases related to obesity," she added.

Winstead is a 1990 marketing and business graduate of Texas Tech University. She has been a resident of Baton Rouge for four years.

You can reach the Foundation office by calling 225-763-2511 or via the Web site at www.pbfrf.org.



Digestive Health Foundation Holds Benefit To Support the Pennington Biomedical Research Foundation

The third annual Digestive Health Foundation of Louisiana (DHFL) Wine Tasting, La Famiglia de Vino, was held on April 23 at the C.B. Pennington, Jr. Conference Center. Funds raised at the wine tasting benefit the Pennington Biomedical Research Center in following the DHFL mission to find opportunities to aid in research and community education in the area of digestive health. The corporate sponsors for the event were AstraZeneca, Janssen Pharmaceutica, and Tap Pharmaceuticals. This year's Italian theme was coordinated by the efforts of Chuck LaLonde from The Wine & Cheese Shop of Baton Rouge, Unique Cuisine, and Richard Lucas and Lynn Ross of DHFL. DHFL board members Dr. William Anderson, president of DHFL, made the check presentation to Dr. Claude Bouchard, executive director of Pennington Biomedical Research Center.

WNRP FOCUSES ON Women's Research Health Issues

**Women's Wellness Day Scheduled
Saturday, October 2
7:30 am - 2:00 pm
FREE**

Since 1992, the Women's Nutrition Research Program (WNRP) at the Pennington Biomedical Research Center has been sponsoring events to encourage women to focus on healthy living through education and health promotion events. The center's Women's Nutrition Research Program is an avenue devoted to that path. Led by Catherine Champagne, PhD, nutritional specialist and director of the Women's Nutrition Research Program, the program has sponsored seminars, workshops, and wellness events at various times during the year.

This fall, the Irene W. Pennington Wellness Day for Women, will focus on women's health at the C.B. Pennington, Jr. Conference Center, on Saturday, October 2, from 7:30 a.m. to 2 p.m. The event is free and open to women of all ages.

This year's presenting sponsor is Our Lady of the Lake Regional Medical Center. The medical

center will offer several free screenings including a free lipid panel blood test (for the most accurate results, participants should fast for at least 8 hours), blood pressure and height/weight assessment. In addition, we will offer "Women's Heart Health" computerized assessments which gives participants an easy to understand report of risk factors for coronary heart disease with recommendations for improving heart health.

Our Lade of the Lake will provide educational sessions on "Women and Heart Disease" and other related health issues for women.

The Pennington Biomedical Research Center will conduct free testing for body fat content and metabolism testing. McRae's will host a lunchtime fashion show, a cosmetic booth exhibition, cooking demonstrations, and provide numerous incentive gifts.

Presenting sponsor:



This year, McDonald's is donating free salads to participants. Seminars, information booths, and exercise demos are also part of the program. Educational seminars start at 8 a.m. Topics include: "Women and Depression," "Body Image: Meaningful Reflections," "Exercise," "Cancer Research: Breast and Ovarian," "Louisiana On The Move - weight maintenance program," and "Financial Advice."

Plan on attending and bring along a relative or friend. Also participating in the event are exhibitors and non-profit organizations.

Other major underwriters for the event are BlueCross BlueShield of Louisiana, Pennington Biomedical Research Foundation the Irene W. and C. B. Pennington Foundation, and the Reilly Family Foundation.

The WNRP program is dedicated to promoting education and community outreach on women's health issues and to encourage the inclusion of women in clinical research trials at the Pennington Biomedical Research Center.

PENNINGTON'S WOMEN'S NUTRITION RESEARCH PROGRAM AND YMCA SUPPORT HUMP DAY RUN



Hump Day Runners

Kinsey Dinnel led the crowd at the Pennington Biomedical Research Center for the Club South Runner's "Hump Day 2-Mile and .5 Mile Youth Event" this summer. The run, an ongoing

effort of Pennington's Women's Nutrition Research Program (WNRP) and the YMCA helps promote the benefits of exercise. Dr. Catherine Champagne, director of the WNRP and a professor of nutrition and chronic diseases at Pennington, organized the event with the help of the staff.

The event kicked off with an exercise clinic sponsored by YMCA staff that emphasized the

importance of exercise in contributing to overall health. Allan Wellington, fitness instructor at A.C. Lewis YMCA, Chris Goff, wellness director at Paula G. Manship YMCA and Donna Chustz, fitness director at A.C. Lewis YMCA, fielded questions on exercise as well as offering tips for maintaining a healthy regimen.

"Only 12 percent of people regularly exercise," Wellington said. The YMCA experts suggested that a three-day a week program was best to start off with. "You have to crawl before you walk," Wellington said. The first event was a .5 mile youth run for children of all ages followed by a two-mile adult race around the lake. Kinsey Dinnel was the overall male winner with a time of 10.18 while Lindsey Day was the overall female winner with a time of 12.22. Other top runners included Inder Sehgal, Lisa Evans, Randy Ellis, Janice

Burnette and Jacob Joiner. Following the race, drinks, watermelon and Dr. Champagne's smoothie recipe were served. "I had a lot of fun making up gallons of banana blueberry smoothies to give to the participants of the event. I wanted something nutritious and easy,"



Smoothies (see recipe page 11) were just the right after-race treat!

Champagne said. "There are only four ingredients: orange juice, low fat yogurt, bananas, and blueberries, which are packed

full of nutrients and phytochemicals. Once those folks started tasting the smoothies, my hand never left the dispenser. What a hit!"

GET READI

continued from page 1

idea to take part in the study and she (Wende) trusted me enough to get involved." The Anthony sisters knew that heart disease might be an issue in their family. Their maternal grandfather died of a heart attack in his early 60s, and Ercelle had been advised by her doctor to follow a heart healthy diet in order to avoid cholesterol medication.

According to the sisters, their parents also submitted blood samples for part of the study, and in the process, discovered that their father had high blood pressure. "He's now on medication and doing great," said Ercelle, "If I hadn't been part of this study, he would have gone untreated until his next physical. In a way, my participation in this study possibly saved his life."

Dr. Mike Lefevre, director of Pennington Biomedical Research Center's lipoprotein laboratory, and his collaborators at PBRC have been awarded a four-year, \$9.5 million research grant to study the link between a healthy diet, genetic factors and biological mechanisms to combat cardiovascular disease (CVD) in African-Americans.

Pennington Biomedical Research Center is one of only five grant recipients, which include, Tulane University, Johns Hopkins University, University of Maryland and University of Minnesota, funded by the National Heart,

Banana-Blueberry Smoothies

(This was the recipe for the Smoothies provided to Hump Day Run race participants)

8oz Container of low fat fruited yogurt
8oz orange juice
1 medium banana
1/3 cup blueberries

For best results, peel, slice, and freeze bananas (a great way to store bananas that are a little too ripe). Blueberries are best frozen as well. Blend all ingredients together and enjoy.

Hint: Peach Yogurt is best.

Servings per recipe: 2

Nutrition information per serving:

Calories: 230
Fat, g: 1.7
Saturated fat, g: 0.9
Cholesterol, mg: 5
Carbohydrate, g: 50
Protein, g: 6.5
Sodium, mg: 70
Calcium, mg: 190

Lung and Blood Institute of the National Institutes of Health.

Dr. Lefevre, who also serves as chief of the Division of Functional Foods Research, acknowledges the importance of a good diet as a treatment for cardiovascular disease — "Diet is the first line of treatment for cardiovascular disease patients. A prudent diet can lower blood pressure to the same extent as many medications. You can lower your cholesterol by 10 percent through diet."

"My cholesterol went down 50 points during the 5 weeks I was on the heart health phase of the diet," Ercelle said.

The researchers hope to examine about 400 participants during the course of the three-year study. Clinical trial recruiters will work with the African-American community to generate enthusiasm and participation in this project.

"Go into it with an open mind. Leave your food issues at home and try something different," Ercelle said. "Think of it this way; you are doing something for a greater good, not just your health, but that of your family's and others you may never meet."

To see if you might be eligible to participate, call 225-763-2596 or visit http://www.pbrc.edu/clinical_trials/clinical_trials.htm

Dr. Lefevre is a member of the Kraft Food's Worldwide Health and Wellness Advisory Council, initiated last year to help the company develop a response to the global challenge of obesity. He also serves on the American Heart Association's Nutrition Committee which is currently revising dietary guidelines for heart disease prevention, and other national initiatives.

TRAILING A MYSTERY

continued from page 4

A huge advance Rogers has made along these lines, is how he tracks which nerve cells are involved in the TNF messaging network. The cells are simply too small to physically hook to a device to record their electronic action, but Rogers applied a technique he learned elsewhere to his current work. He uses molecular "dye" and a highly specialized microscope. Under the scope, active nerve cells glow, tracing the pathways used by TNF. The price tag for such technology? Rogers says you might get an "off-the-shelf" device for about a quarter million dollars. So goes the cost and the pace of cutting-edge research. According to Rogers, "No one else is doing this sort of work in this area of the brain."

So why is the work important? First, according to Rogers, it leads us to understand more about the ways our bodies accept or reject nutrition, and "In these days of rapid advancements in treatment, if you can buy a terminally ill patient more time through continued nutrition, he or she might live to see a permanent, life-saving treatment."

GET ON THE MOVE

continued from page 1

According to Dr. Heli Roy, a Pennington expert and *Louisiana on the Move* committee member, nearly one-third of adults in Louisiana are obese and one-third of school children are also obese. While fad diets are just that — a fad — *Louisiana on the Move* aims to target all demographics with an easy program suitable for all lifestyles.

"We know, of course, that walking is a highly effective way to use the extra energy we eat, it's easy to do, requires no special skill or training, and provides a great way to get to know each other through group walks," Dr. Ryan said. "So, we are anxious to get started by announcing the formation of *Louisiana On the Move* and recruiting schools, businesses and individuals to sign-on and get started walking."

The program, which is quickly catching on around the nation, is set to kick off on Friday, October 1 with press conference.

The official public kickoff will be held on Saturday, October 2, during the Irene W. Pennington Women's Wellness Day. Participants can take their first 2,000 steps and register via laptop computers at the event.

Earlier this year, a group of Baton Rouge businessmen got together and challenged Baton Rouge to lose one million pounds during the summer months. The premise of *Louisiana on the Move* is the same, but is a sustaining program offering support and diet involvement. *Louisiana on the Move's* initiative is to get Louisiana residents to accept a permanent healthier routine to counter obesity and its side effects.

For more information on upcoming events or to log on, please visit the *Louisiana on the Move* web site: www.americaonthemove.org.



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PENNINGTON BIOMEDICAL RESEARCH CENTER
 LOUISIANA STATE UNIVERSITY SYSTEM

THE FACTS

The Pennington Biomedical Research Foundation supports the Pennington Biomedical Research Center and its mission.

Mission:
 Promoting healthier lives through research and education in nutrition and preventive medicine.

Size: Main research facility, 575,000 square feet, Conference Center, 96,000 square feet; grounds, 234 acres.

Staff: 70 faculty members and more than 500 physicians, scientists, technicians and support personnel.

5 Research Divisions: Functional Foods, Experimental Obesity, Clinical Obesity and Metabolic Syndrome, Nutrition and Chronic Diseases, Health and Performance Enhancement and Education. The center has also established an Education Division.

Laboratories: 13 laboratories and 16 core service laboratories including genomics, proteomics, clinical chemistry, mass spectrometry, cell culture, comparative biology, transgenic, body composition, and food analysis laboratories.

Clinic: Outpatient examination and interview rooms, inpatient rooms for 14 research volunteers, metabolic kitchen, metabolic procedure room, two whole-room indirect calorimeters, dual energy X-ray absorptiometry, and ultrasound imaging.

*Printing compliments of
 BlueCross BlueShield of Louisiana*



CALENDAR OF EVENTS

Mark Your Calendar Upcoming Events

SEPTEMBER

Thursday, September 16

Diabetes Lecture Series
 6:15-7:30 p.m.

C.B. Pennington, Jr. Conference Center
 FREE

Thursday, September 16

School Health Awards
 Governor's Mansion

Friday, September 17

Endowed Chair Matching Funds Presentation
 1:30 p.m.
 Lod Cook at Louisiana State University

OCTOBER

Saturday, October 2

Irene W. Pennington Wellness Day for Women

7:30 a.m.-2 p.m.

C.B. Pennington, Jr. Conference Center
 Exhibits, Health Screenings, Programs, Lunch & Style Show; *Louisiana on the Move* Kick-off and Signup
 FREE

Wednesday, October 20

Visiting Scientist Dinner Series
 Featuring Dr. Deborah Cohen
 Sponsored by Hibernia National Bank

Thursday, October 21

Diabetes Lecture Series
 6:15-7:30 p.m.
 C.B. Pennington, Jr. Conference Center
 FREE

NOVEMBER

Thursday, November 18

Diabetes Lecture Series
 6:15 p.m.-7:30 p.m.
 C.B. Pennington, Jr. Conference Center
 FREE

DECEMBER

Wednesday, December 8

Visiting Scientist Dinner Series
 Featuring Dr. Ralph DeFronzo
 Sponsored by Hibernia National Bank

COMING IN THE SPRING

March 19

Louisiana Men's Health Conference
 8 a.m.-11 a.m.