Inside PENNINGTON
News from the Pennington Biomedical Research Center
FALL 2002

NIH awards $12.4 million for seven-year study of nutrition and aging

The Pennington Biomedical Research Center of the Louisiana State University System has been awarded a seven-year, $12.4 million grant from the National Institutes of Health (NIH) to study the possible benefits of a long-term reduction of calories on aging. The grant is the largest ever given by the NIH to the Pennington Biomedical Research Center.

The study will look at whether a two-year calorie deficit reduces the risks of age-related chronic diseases—such as heart disease, hypertension and type 2 diabetes—and leads to longer and more productive lives.

The theory is based on animal studies that show restricting calories from birth to early adulthood prolongs life. Animals that receive a quality, low-calorie diet live longer than those consuming more daily calories.

The mechanisms through which caloric restriction in animals act to extend life are unclear, and scientists do not know whether this same effect occurs in humans.

"It is important to understand that we are talking about restricted-calorie diets that are high-quality and nutrient-dense," said the study's principal investigator, Dr. Eric Ravussin. "If the quality of the diet is poor and insufficient in some vitamins and essential nutrients, we wouldn't see any benefits, but rather the same problems observed when poor nutrition is practiced."

This program will expand understanding of the relationship between caloric restriction and health in humans, since there have been only two previous studies, both of which were limited in scope.

One, a survey of the residents of the Japanese island of Okinawa, found that the incidence of individuals 100 years or older is two to four times greater than the general Japanese population. The total energy, however, consumed by school children in Okinawa is only 62 percent of the recommended calorie intake for Japan. For adults, intake was about 20 percent less than the national average.

Another study compared individuals receiving 2,300 calories per day with another group receiving only 1,500 calories per day over three years. The results were mixed. Visits to the infirmary were reduced considerably in the restricted-calorie group, but mortality rates were not significantly changed.

A key part of the Pennington Center study will be to use a variety of techniques for analyzing the impact of caloric restriction on metabolism, which is the system the body uses to burn energy and function day-to-day.

"The thinking is that caloric restriction may change how the body's metabolism handles the food," said Dr. Ravussin, professor and chief of the Pennington Center's Division of Health and Performance Enhancement. "These changes may play significant roles in the aging process."

Additionally, the program will observe if similar results can be achieved by increasing activity levels. Genes that may control responses to caloric reduction, effects on aging, and chronic diseases will also be examined.

Pennington Center Executive Director Dr. Claude Bouchard said the NIH grant provides the resources for the facility's first step into studying caloric restriction. "This area holds enormous promise for health and prevention of chronic disease. But counseling volunteers in this study to eat fewer calories each day than they need to feel full and satisfied will be an enormous challenge."

Dr. Bouchard said the question of whether quality of life can be improved, and perhaps even prolonged by eating less, is a fundamental biological and behavioral issue that needs answering. "I am pleased and excited that the Pennington Center was chosen to play a leadership role in this important field of research."

The study seeks to recruit healthy, slightly-overweight volunteers to participate in a seven-month study testing the effect of diet on healthy aging.

For more information visit http://calerie.pbrc.edu.
New construction reflects progress and continued quest for excellence

As I drive into work each morning, the construction at the rear of the Pennington Biomedical Research Center reminds me of the progress we have achieved during the past year. Our new Basic Sciences building is rising above the existing complex, and as of October, is 35 percent complete.

Later this fall, a four-floor, 80,000-square-foot addition to our Clinical building, representing a 200 percent expansion to the clinical facilities, will break ground. Throw in the paving of several new parking lots to provide some 420 new spaces, and you can see that there will be plenty of construction activity at the Pennington Center during the next year or so.

The construction is made possible by the generosity of the C.B. Pennington family and the Pennington Medical Foundation, and we are grateful for their support. The new projects should be completed by October 2003, and we are eager for these expansions to be wrapped up as we continue our efforts to recruit new world-class scientists and to attract new grants and research contracts.

The Basic Sciences and Clinical buildings are under construction at a fortuitous time. Existing laboratories are crowded, and our physicians and clinicians are stretched for working space. We desperately need the new buildings to absorb our expansion and growth. In the last several months, we’ve hired five new faculty members, a molecular geneticist and new behavioral scientists.

We now have 64 faculty members, easily putting us on pace to reach the goal of 90 faculty members by 2005, which was established in our five-year Vision plan two years ago. At that time, we had 45 faculty members and forecasted doubling the number in five years.

Raw numbers alone, however, mean little. I’m most enthusiastic about the quality of our research and our scientists. Pennington Center faculty have published approximately 2,700 scientific peer-reviewed papers in their careers and have been cited more than 70,000 times.

I am also gratified by two of our scientists being ranked in the top 15 most-cited scientists of all time in the field of obesity and metabolism. This reflects an active, productive, and influential faculty.

Our research garners respect and attention from other scientists around the world. One example is our participation in the landmark Diabetes Prevention Program, which demonstrated definitively that at least 10 million Americans at high risk for type 2 diabetes can lower their chances of getting the disease by as much as 50 percent through a physically active lifestyle and modest changes in diet. Also, over the last several months our geneticists identified several genes that may play significant roles in the development of obesity.

Meanwhile, our scientists are proving their abilities to compete nationally and internationally for grants and contracts. Total annual external awards have increased from $17 million in fiscal 1999/00 to $26 million last fiscal year.

For another example, look at the $12.4 million secured over seven years by Dr. Eric Ravussin from the National Institutes of Health to study nutrition and aging (see story on page 1).

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In addition, the Pennington Biomedical Research Foundation continues to attract philanthropic contributions, particularly in regards to establishing new chairs and professorships. The Louisiana Board of Regents recently provided $400,000 in match funds to create the Louisiana Public Facilities Authority (LPFA) Chair in Nutrition award, and we received a $500,000 grant toward a $1 million chair in Maternal Biology and the Risk of Obesity. I want to thank Kevin Reilly Sr., chairman of the Pennington Biomedical Research Foundation, for his hard work and dedication since taking the post in January.

I am pleased, yet not satisfied, with our progress as a research institution. I firmly believe that we must grow or lapse into mediocrity. Thanks to the support we receive from Governor Mike Foster, LSU System President William Jenkins, the LSU Board of Supervisors, the Louisiana Board of Regents, our two foundations, and the local community, I am confident that we can maintain the momentum we have established over the last year and continue to attract recognition and research dollars to Louisiana.

By Claude Bouchard, Ph.D.,

Executive Director
Pennington Biomedical Research Center

Claude Bouchard, Ph.D., is Executive Director of the Pennington Biomedical Research Center.
Delay the onset of type 2 diabetes through diet and exercise

P R E V E N T I O N

Here's now a proven strategy available for some 10 million Americans at high risk for type 2 diabetes that lowers the risk of getting the disease by more than half. According to the findings of the Diabetes Prevention Program, a major clinical trial conducted at the Pennington Biomedical Research Center of Louisiana State University, and 26 other medical centers nationwide, lowering risk is a matter of making lifestyle modifications through diet and exercise.

"Every year a person lives free of diabetes means an added year of life free of the suffering, disability and the medical costs incurred by this disease," said Dr. George Bray, the Pennington Center's principal investigator on the project.

Participants randomly assigned to intensive lifestyle intervention reduced their risk of getting type 2 diabetes by 58 percent. On average, this group maintained their physical activity at 30 minutes per day, usually by walking or other moderate exercise, and lost from 5 to 7 percent of their body weight.

"The Diabetes Prevention Program findings represent a major step toward the goal of containing and ultimately reversing the epidemic of type 2 diabetes in this country. We are grateful to the 200 volunteers from the Baton Rouge area who participated in this national study," said Dr. Bray.

The same study found that treatment with the oral diabetes drug metformin (GlucoPhage), also reduces diabetes risk, though less dramatically in people at high risk for type 2 diabetes.

Participants randomized to treatment with metformin reduced their risk of getting type 2 diabetes by 31 percent.

The Diabetes Prevention Program (DPP), funded by the National Institute of Diabetes and Digestive and Kidney Diseases, compared diet and exercise to treatment with metformin in 3,234 people with impaired glucose tolerance, a condition that often precedes diabetes. On the advice of the DPP's external data monitoring board, the trial ended a year early because the data had clearly answered the main research questions.

Smaller studies in China and Finland demonstrated that diet and exercise can delay type 2 diabetes in at-risk people. The DPP, however, conducted at 27 centers nationwide, is the first major trial to show that diet and exercise can effectively delay diabetes in a diverse American population of overweight people with impaired glucose tolerance (IGT). IGT is a condition in which blood glucose levels are higher than normal but not yet diabetic.

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Scientists at the Pennington Biomedical Research Center, in collaboration with researchers at Louisiana State University, have discovered a new approach to a possible treatment for prostate and breast cancers.

They hit upon the idea of combining part of an important reproductive hormone with a cell membrane destroying peptide, which is a type of protein. They found that this combination targets prostate and breast cancer cells.

This "conjugate" binds to docking sites for a reproductive hormone known as luteinizing hormone or LH, which is found on the membranes of breast and prostate cancer cells. The conjugate only binds to cells that have the LH docking sites.

When human prostate and breast cancer cells were grafted to laboratory mice, the treatment was "remarkably effective in destroying the tumors," with 60 percent to 80 percent of the tumors destroyed by the treatment, said Dr. William Hansel, one of the principal researchers on the project and chief of the Pennington Center's Reproductive Biotechnology Laboratory.

Other key contributors are Drs. Carola Leuschner and Barbara Kozak of the Pennington Center, and Dr. Fred Enright of the LSU Veterinary Science Department. Dr. Mark McLaughlin of the LSU Chemistry Department developed the membrane disrupting peptides, called PHOR 14, and Dr. Martha Juban of the LSU Protein facility produced the conjugates to LH.

Since the treatment is dependent on the number of LH receptors on the cancer cell surface, a pre-treatment can be used to increase the number of receptors, improving the effectiveness of the treatment.

The beauty of this strategy is the treatment produces few side effects in the treated mice. The only side effect observed was sterility, which is also a side effect of currently used chemotherapies.

The treated animals maintained their body weight, and none of them suffered from the weight loss and emaciated condition observed in the untreated mice.

Treatments currently in use for prostate and breast cancers exert their effects only on fast-growing tumor cells, while slow-growing cancer cells respond poorly. "Our new agents target and destroy both the fast-growing tumor cells and metastases," said Dr. Hansel. "We believe this approach offers considerable promise and plan to license it for testing in human patients."

"Treatments now available for breast and prostate cancer are only marginally effective," said Dr. Hansel. "Newer agents are needed to effectively kill the cancer cells. We believe this approach offers considerable promise."

Dr. Hansel added that the method has been licensed for testing in human patients. He said further studies are underway to determine the treatment's effectiveness with other cancers that contain LH receptors, such as ovarian and uterine.

The research was supported by grants from the Gordon and Mary Cain Foundation. *continued on page 5*
Television commercials aired during children's shows now emphasize larger fast food portions compared with Saturday morning ads in the 1970s, which focused mainly on sugary breakfast cereals, according to a study presented at the American Heart Association's Asia Pacific Scientific Forum. Researchers say this trend may contribute to the rise in childhood obesity.

Physical inactivity during leisure activities, including television viewing, has been implicated as a contributor to the prevalence of obesity in children and risk for heart disease later in life.

"This study cannot confirm an association between the products advertised and the health status of children and teens," said Dr. Marlene M. Most, Ph.D., R.D., associate professor of research, Pennington Biomedical Research Center. "However, our findings suggest that if young people were to consume many of the products being advertised to them, and also had a decrease in physical activity, this could contribute to obesity and heart disease."

In 1976, most of the commercials directed at young people on Saturday mornings were for breakfast cereal (43 percent of total commercials). The next largest category was candy commercials, followed by advertisements for fast food restaurants, said Dr. Most. "Although breakfast cereal commercials remain popular during Saturday morning programming, we noticed a real surge in commercials for fast food restaurants over the past 25 years," she said.

Dr. Most said not only has the number of fast food commercials increased, the type of commercials has changed over the years as well. In 1976, fast food restaurants emphasized the food itself, with lots of pictures of hamburgers, french fries and soft drinks. In 1992, however, the emphasis changed to "fun" atmosphere of fast food restaurants.

In 2001, the focus shifted again to emphasize the value of larger "kid-sized" portions now available. "As a dietician, it's disturbing to see even larger food portions being directed at young people, since most Americans already eat portions way beyond what is healthy," she said.

Dr. Most and her colleague, John W. Windhauser, Ph.D., Manship School of Mass Communication, Louisiana State University, studied commercials aired during Saturday morning children's television in 1976, 1984, 1992 and 2001. They analyzed the commercials aired during a three-hour time block on Saturday mornings over a 10-week period.

Nutritional information for the food products being advertised was obtained from product labels and also from USDA and Continuing Survey of Food Intake by Individuals databases. The food products being advertised to children were analyzed for major nutrients as well as fat, cholesterol, sugar and sodium content.

"This study cannot confirm an association between the products advertised and the health status of children and teens, but no one had really studied looking at almost 3,000 commercials aimed at children and teens and really got a good idea of not only what was being advertised, but how commercials aired during children's programming had changed over the past 25 years," said Dr. Most.

For 1976, 1984, and 1992, only commercials shown during Saturday morning kid's programming on the big three U.S. networks—ABC, CBS and NBC—were analyzed. The Fox network was added in 2001.

Another trend in commercials aimed at children is that candy commercials, which had been the second most frequent type of advertising in 1976, accounted for less than 10 percent of overall advertising during children's programming in 2001.

"This study cannot confirm an association between the products advertised and the health status of children and teens, but no one had really studied looking at almost 3,000 commercials aimed at children and teens and really got a good idea of not only what was being advertised, but how commercials aired during children's programming had changed over the past 25 years," said Dr. Most.

"With this study we felt it was important to continue the examination of messaging to young people who are at an impressionable age in making food choices. Many of these patterns in food choices may continue for many years, influencing an individual's health outlook for years to come," she said.

The research funds were provided by an order of the United States District Court for the Eastern District of Michigan as the result of the settlement of a product liability class action suit regarding an appetite suppressant manufactured by Metabolife International. The grants are administered by the Community Foundation for Southeastern Michigan, which distributed approximately $5 million to four institutions: Stanford University, Brown University, the University of Michigan, and the Pennington Biomedical Research Center.

Obesity... continued from page 4 establish a new research program at the Pennington Center aimed at targeting the transmission of chronic disease risk between generations.

"We know that impairments in metabolism can predispose the fetus to risk for diabetes and other chronic diseases in adulthood. Scientists are regarding the maternal influences during pregnancy as important determinants of adult health, independent of genetic factors," Dr. Ryan said.

"This topic is of particular importance in a period in which we're experiencing an unprecedented increase in the prevalence of childhood and adulthood obesity, as well as the development of obesity-related complications such as type 2 diabetes, which is now being seen during adolescence," she said.

Meanwhile, Dr. Greenway will examine an herbal weight-loss treatment based on a combination of caffeine and ephedrine, compounds found in green tea called catechins, and the amino acid tyrosine, all supplements that are popular for over-the-counter use in the United States and Europe. The longest clinical trial of these combinations is eight weeks.

"Because of their widespread use, it is important that we evaluate their long-term safety and efficacy. The Dietary and Supplement Health and Education Act allows marketing these products without such testing," Dr. Greenway said. "Our studies will be among the first legitimate assessments of these widely used products."

He will also collaborate with Dr. Smith, who is examining why energy expenditure is increased in about half of patients receiving caffeine and ephedrine, while the other half does not respond. "We know very little of why this treatment is effective in some patients and not others. But molecular fingerprinting is being used to predict the prognosis of cancer patients, and we'll use similar genetic techniques to separate obese individuals into those who will respond to caffeine and ephedrine and those who won't."
A much-needed 187,000-square-foot expansion to the Pennington Biomedical Research Center of the Louisiana State University System is quickly taking shape at the rear of the existing complex.

The fifth and final floor of the Basic Sciences building will be laboratory space, while the third and fifth floors will house mechanical equipment and plumbing. The layout allows easy access for maintenance and improvements. "This is a very complex structure," said Facilities Manager Robert McNeese. "The design makes it easy to service the building without interrupting research in the laboratories."

The Basic Sciences building is about 35 percent complete and projected to be wrapped up in May 2003. Once finished, it will provide working space for 34 principal investigators and 300 support staff. Construction of yet another building, an expansion to the Clinic, is expected to begin in October.

"We are extremely excited and can’t wait to take possession of the new buildings," said Executive Director Claude Bouchard. "Our existing laboratories are filled to capacity and we need the additional space to bring in outstanding new researchers and their staffs.

"The additions will give us the state-of-the-art facilities that we need to keep competitive. It’s a pleasure to drive into to work each morning and to see the construction moving steadily forward," he said.

Once completed and equipped, the Basic Sciences building will be a $40 million project, funded primarily by the Pennington Medical Foundation. "We are most grateful to the Pennington Medical Foundation for their continued support of the Pennington Biomedical Research Center," Dr. Bouchard said. "Their contributions to our success are immeasurable.

Three of the five floors of the Basic Sciences building will be laboratory space, while the third and fifth floors will be largely supported by the Pennington family established in the Vision 2005 Plan. It forecasted a doubling of the number of faculty, from 45 to 90 by 2005. The five-year plan also calls for a doubling of the total number of employees to 750 and doubling of the working research and clinical space. There are currently 425 scientists and 750 support staff working at the Pennington Biomedical Research Center.

McNeese expects to take bids in October for a new four-floor, 80,000-square-foot Clinical Research building that will increase the working space by 200 percent. The Clinical Research Building will front Perkins Road on what is now a parking lot adjoining the existing clinic.

Construction is less technical than of the Basic Sciences building and is expected to take only one year. Passersby on Perkins Road will see work begin on new parking lots. The Clinical Research building will displace approximately 90 spaces, but new parking lots will result in 420 additional spaces.

The final piece of the construction program is a $3.2 million upgrade of the central plant, and is needed to absorb the additional demands of the new buildings. That project is complete and doubles the Pennington Center’s chilled water and boiler capacity. It also offers new cutting-edge compressed air and vacuum systems for the laboratories.

The expansions are in keeping with goals established in the Pennington Biomedical Research Center’s Vision 2005 Plan. It forecasted a doubling of the number of faculty, from 45 to 90 by 2005. The five-year plan also calls for a doubling of the total number of employees to 750 and doubling of the working research and clinical space. There are currently 425 scientists and 750 support staff working at the Pennington Biomedical Research Center.

"I’m pleased that we are on track to meet or exceed the goals established in the Vision 2005 Plan," Dr. Bouchard said. "This growth is essential to our continuing to build on the leadership role we have attained in the fields of preventive medicine and nutrition."

Linoleic acid, found in vegetable oils and soybeans, appears to protect against strokes, researchers report in Stroke: Journal of the American Heart Association. Linoleic acid is an important essential fatty acid found in corn, sunflower oil, safflower oil, and soybeans. Researchers believe linoleic acid may reduce the risk of ischemic stroke (stroke caused by blood clots) because it can lower blood pressure and improve circulation in small blood vessels. The researchers examined frozen blood samples from 7,450 Japanese men and women, aged 40 to 85 years. Researchers identified 197 strokes - 122 ischemic, 75 hemorrhagic - that occurred within this group. They found that a 5 percent increase of linoleic acid was associated with a 28 percent reduction in total stroke risk; a 34 percent reduction in ischemic stroke, 37 percent reduction in lacunar infarction (strokes involving the many small arteries that supply the deeper parts of the brain) and 19 percent reduction in hemorrhagic stroke risk.

Worrying about looking good on the beach and by the pool on a full-time basis may contribute to eating disorders, according to a recent study at Temple University. Women at a Florida university weighed less, but engaged in more behaviors such as bingeing and purging than women at a Pennsylvania university. Only 5 percent of women in Pennsylvania scored high on a scale to measure bulimia, compared to 20 percent in Florida. Students in Florida were also more likely to be concerned about their bodies than their counterparts in Pennsylvania.

Excess body weight is strongly and independently associated with an increased risk of heart failure. This risk, which increases continuously with increasing degrees of body weight, is 34 percent higher for overweight individuals and 104 percent higher for persons classified as obese. After adjustment for known risk factors, there was an increase in the risk of heart failure of 5 percent for men and 7 percent for women for each increment of 1 in the body mass. As compared to normal weight individuals, obese women had a doubling of the risk of heart failure, and obese men had a 90 percent increase in the risk of heart failure.
Eric Ravussin, Ph.D., has been awarded the Douglas L. Gordon Endowed Chair in Diabetes and Metabolism at the Pennington Biomedical Research Center.

The Ravussin Family

The Edward G. Schlieder Educational Foundation established the chair. It is in memory of Dr. Gordon, a Baton Rouge endocrinologist, whose lifelong work in diabetes, medical care, and education made him a much-loved leader among Louisiana physicians. He died in 1997.

Ravussin was appointed professor and chief of the Pennington Center's Health and Performance Enhancement Division in 2000. He is developing a program aimed at understanding the interactions of diet, physical activity, and genetics on the development of obesity and type 2 diabetes. The Edward G. Schlieder Educational Foundation created the Douglas L. Gordon Chair in Diabetes and Metabolism. Established in 1949, the foundation is dedicated to supporting educational institutions in Louisiana.

The Louisiana Board of Regents provided $400,000 in matching funds through the Louisiana Education Quality Support Fund to complete the $1 million Louisiana Public Facilities Authority (LPFA) Chair in Nutrition at the Pennington Biomedical Research Center.

Louisiana Board of Regents Commissioner E. Joseph Savoie presented $400,000 in matching funds to establish the Louisiana Public Facilities Authority (LPFA) Chair in Nutrition at the Pennington Biomedical Research Center of Louisiana State University at a reception held at the Pennington Center on August 19.

The state-funded portion of the endowed chair represents only a portion of more than $7 million in matching grants distributed by the Board of Regents in August. This money helps fund seven new endowed chairs and 77 new endowed professorships, and matches $10.6 million in private donations.

The matching funds are provided through the Louisiana Educational Quality Support Fund, which has allowed the Regents to award $136 million in matching grants since the program was established in 1986. This, in turn, has led to the creation of approximately 203 endowed chairs and 1179 endowed professorships.

"I applaud the campuses hard work in raising these matching gifts from generous individuals and corporations—people who value higher education and understand its role in Louisiana's economic future," said Commissioner Savoie. "I must also acknowledge the steadfast support of Gov. Mike Foster and our legislature in promoting the value of higher education."

Sen. John Breaux (D-La.), chairman of the Senate Special Committee on Aging, held a hearing at the Pennington Biomedical Research Center on August 15 to explore current scientific research in the areas of healthy aging, nutrition, and longevity.

Breaux said he held the hearing at the Pennington Center to focus attention on work the facility does in disease prevention and longevity. "I want to help make this a national center for this work," Breaux said. Witnesses discussed the need for further research into caloric restriction to determine its efficacy and safety in helping humans live longer, more productive lives.

Witnesses who testified included: Pamela Starke-Reed, Ph.D., National Institutes of Health; Robert N. Butler, M.D., International Longevity Center; Claude Bouchard, Ph.D., Pennington Biomedical Research Center; and William H. Patrick, Jr., Ph.D., Louisiana State University.

Claude Bouchard, Ph.D., is the recipient of the American College of Sports Medicine's 2002 Honor Award, the organization's highest recognition for lifetime achievement in sports medicine and exercise science. According to the ACSM, "his scientific productivity is legendary" and "the breadth and depth of his experience and contributions are outstanding."

The Pennington Biomedical Research Center's internationally recognized obesity research program was featured on a recent Discovery Channel program, "Big as Life: Obesity in America."

The Discovery Channel producers interviewed many of the Pennington Center's world-class obesity scientists. Those interviewed include Pennington Center Executive Director Dr. Claude Bouchard; Dr. David York, associate executive director of Basic Science; and research scientists Drs. George A. Bray, Melinda Sothern; Don Williamson; Hans Berthoud; Lilian de Jonge; Michael Hamilton; and Steve Smith.

The Pennington Biomedical Research Foundation (PBRF) Board of Directors has named Deborah Caldwell as its Director of Development. Ms. Caldwell previously served in Memphis as development director for the University of Tennessee Health Science Center, the Porter Leath Children's Center, and the Dixon Gallery and Gardens. She also has extensive experience in media communications and marketing.

"Ms. Caldwell's marketing and medical development expertise will enhance our continuing efforts to assist the expanding scope of work at the Pennington Biomedical Research Center," said Kevin Reilly, Sr., chairman of the PBRF board of directors.

Ms. Caldwell is a graduate of Trinity University in San Antonio and is an active member of the Association of Fund-Raising Professionals and the Council for the Advancement and Support of Education.
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Irene W. Pennington
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Saturday, November 2
8:30 a.m.-3 p.m.
Pennington Biomedical Research Center
Conference Center
(Follow the signs, free parking, free admission, relax

Special thanks to our Presenting Sponsor: Blue Cross Blue Shield of Louisiana, and to our Pavilion Sponsors: Reilly Family Foundation, Pennington Family Foundation, Paris Parker Salon, and Spectrum Fitness; Contributing Sponsors: Bank One, Associated Food Stores, P.J.'s Coffee, and Coca Cola; and our Media Sponsors: WJBO-AM, 96.1 The River, Lamar and The Advocate.

For more information on sponsorships, booths, or details on the program call 763-2511.

www.penningtonfoundation.org

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