

30

YEARS OF  
DISCOVERY

1988 - 2018

# Welcome to Our 30<sup>th</sup> Anniversary Celebration

*It is with great pleasure that I welcome you to LSU Pennington Biomedical's 30th-anniversary celebration publication. This special edition was developed to honor the 30-year journey that has advanced C.B. "Doc" Pennington's vision to "build the biggest and best nutrition research center in the country."*

*Highlights from Pennington Biomedical's scientific discoveries are displayed here along with a few reminders of the broader cultural events that impacted us and the world within which we traveled. But it is the science that takes center stage in this story. Our scientific research reveals the benefits of exercise, good nutrition and related medical therapies for improving physical and mental health throughout our lives. We continue to improve health in Louisiana and across the globe every day. Additional details about the studies are available on our [pbrc.edu/30years](http://pbrc.edu/30years) website. We invite you to peruse the historic photo gallery and delve into the volumes of health wisdom.*

*Our work depends on the support of so many to whom we are indebted. As I don the executive director mantel at Pennington Biomedical, I have had the great good fortune of meeting the many members of this committed, broad and steadfast base of supporters who have sustained the center throughout the years. Although the list is too long to enumerate here, I want you to know that your contributions touch our lives and work on a daily basis. I would like to highlight the backing received from the State of Louisiana, Louisiana State University, our foundations, donors, grantors, corporate project sponsors, clinical trial participants, health research collaborators and the Baton Rouge and broader Louisiana community. I also wish to thank all the faculty and staff of the past three decades who have contributed so much of their lives' energy to producing the brilliant scientific research that is being used to improve health throughout the human lifespan.*

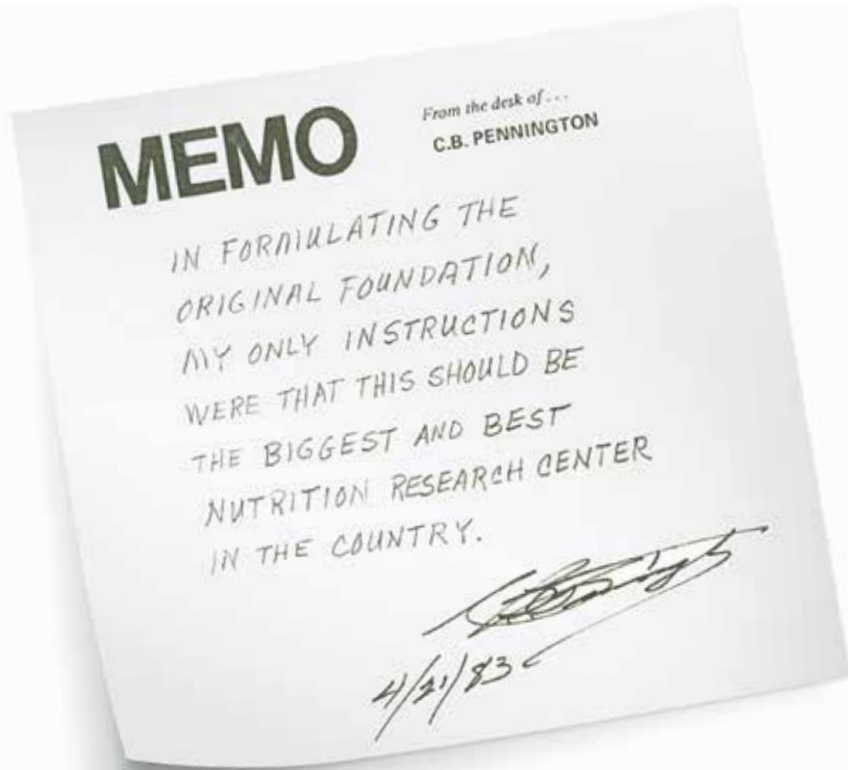
*We are also forever indebted to the Pennington family members for their unwavering belief and ongoing assistance to help achieve Doc Pennington's vision. As we face increasing numbers of our population suffering from the effects of chronic diseases such as diabetes, heart disease and dementia, the course Doc set for our scientists 30 years ago is even more relevant for our work today, tomorrow and into the future.*

Sincerely,



— John Kirwan, PhD  
Executive Director, 2018 —

# 1980 - 1986



C.B. "Doc" Pennington and his wife, Irene, pledge \$125 million to build a nationally renowned nutrition research center at LSU. It is the largest gift from an individual to a public institution of higher learning.



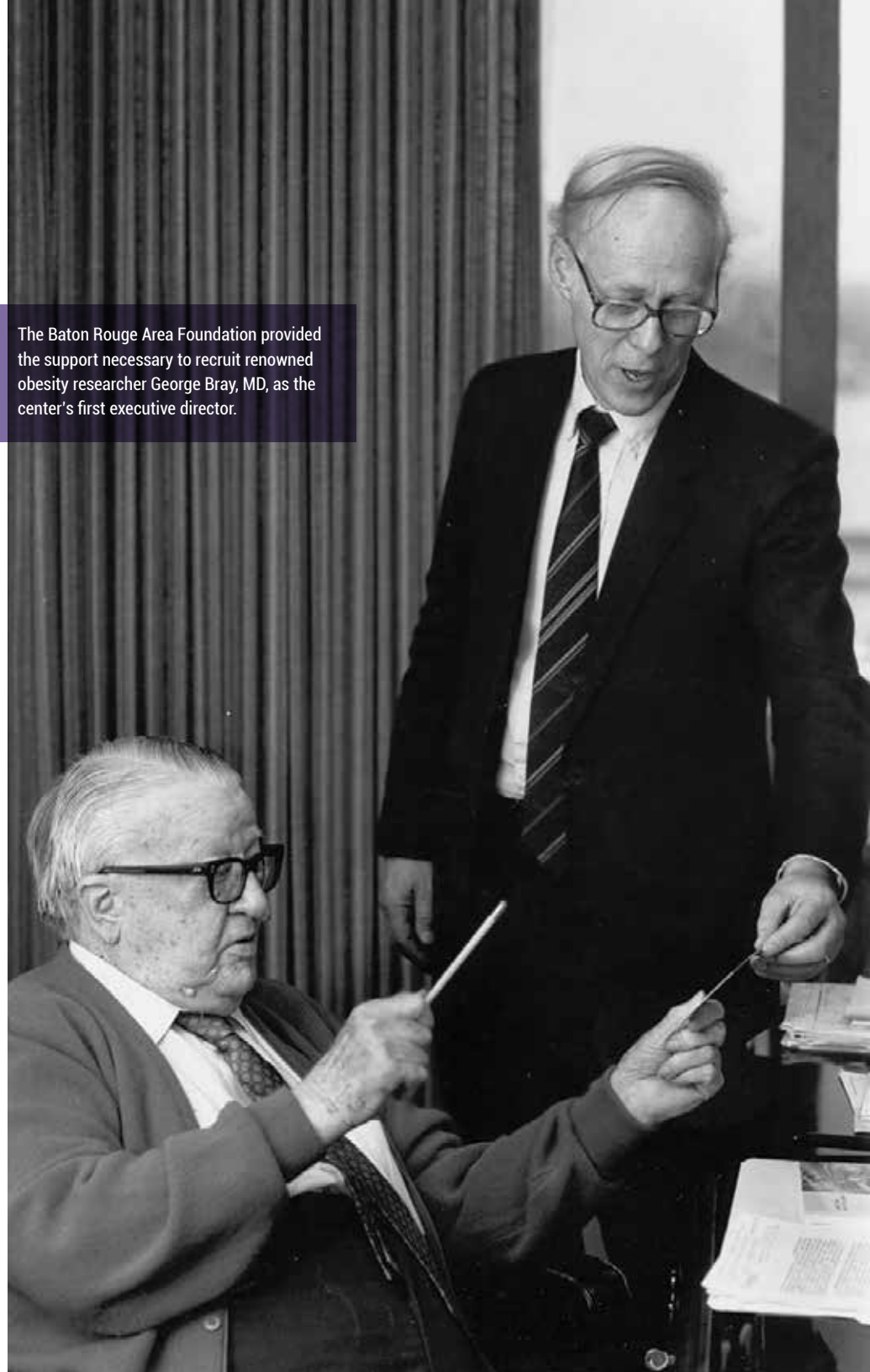
Photos on the bottom of the previous page from left:

**1983** LSU Chancellor Allen A. Copping, DDS (from left); Gov. David C. Treen; Irene and Doc Pennington; and LSU Board of Supervisors Chairman Sheldon D. Beychock symbolically break ground.

LSU provides the land for the center. Called the Quail Farm and used by the LSU poultry science and agronomy departments, the land was occupied by experimental cotton fields and large chicken coops.

**1983** The Pennington grandchildren attend the groundbreaking with Doc and Irene. Pictured: Paula Pennington de la Bretonne (from left); Doc Pennington; Claude Pennington, III; Irene Wells Pennington; and Daryl Pennington.

The Baton Rouge Area Foundation provided the support necessary to recruit renowned obesity researcher George Bray, MD, as the center's first executive director.

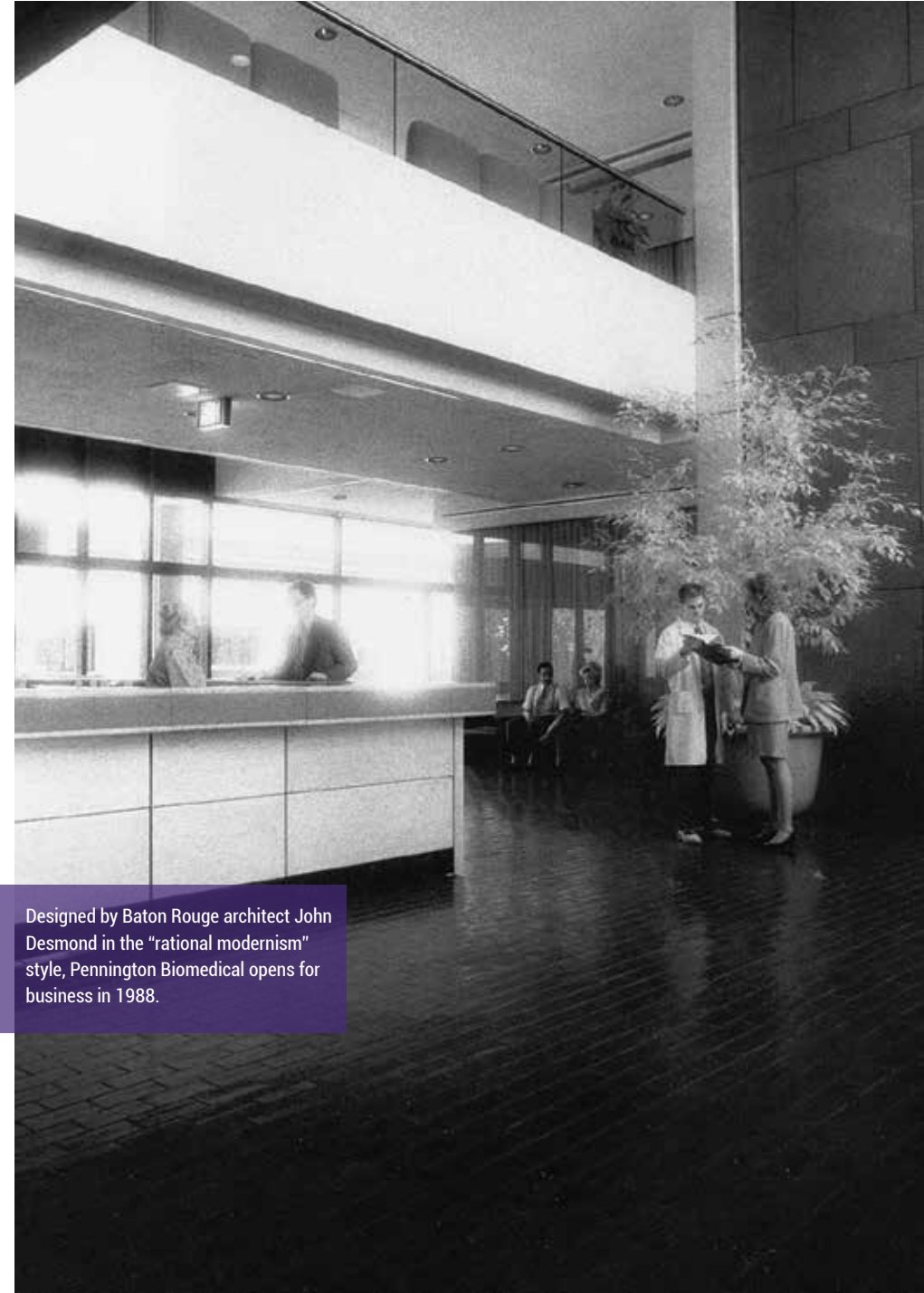


The new research center construction is completed in 1986 with five buildings and 223,000 square feet of operating space sitting on 222 acres.



The Basic Science Lab Building and interior courtyard are among first spaces opened for use.

- » Halley's Comet orbits by the Earth on Feb. 9, 1986, for its second visit in the 20th century.
- » In 1987, the FDA approves a statin drug, lovastatin, for the first time.
- » **The U.S. Department of Agriculture (USDA) awards \$9.4 million in 1987 to Pennington Biomedical for the purchase of lab equipment.**
- » In 1988, the average life expectancy for a man is 71.4 years, for a woman, it is 78.3 years.
- » **Pennington Biomedical wins a \$3.5 million research grant from the U.S. Military Nutrition Program in 1989. Donna Ryan, MD, and team begin their first clinical research to study the effects of diet upon soldiers' performance.**
- » The internet becomes available for unrestricted commercial use.
- » In 1991, the Apple Corporation releases the PowerBook, the first modern laptop.
- » **A bond issuance from the Louisiana Public Facilities Authority (LPFA) provides operating funds that play a key role in opening the center.**



Designed by Baton Rouge architect John Desmond in the "rational modernism" style, Pennington Biomedical opens for business in 1988.

# 1991 - 1996



Catherine Champagne, PhD, in underwater weighing tank, the gold standard for determining body composition before dual-energy X-ray absorptiometry (DEXA) scanners.

- » The Dow Jones Average tops 3000 for the first time during the early 1990s.
- » **The center's first major expansion, 93,000 square feet, is completed. The three buildings are the Claude B. Pennington, Jr. Nutrition Conference & Education Center, a residence center for visiting scientists and an exercise facility. They line the bank of a newly constructed lake.**
- » The genome of *Haemophilus influenzae* is the first genome of a free-living organism to be sequenced.
- » The cost of a gallon of gasoline tops \$1.15 in 1995.
- » LSU baseball wins three College World Series national championship titles.
- » Amazon sells its first book in 1995, Douglas Hofstadter's *Fluid Concepts and Creative Analogies: Computer Models of the Fundamental Mechanisms of Thought*.
- » **U.S. Sen. J. Bennett Johnston, who was instrumental in helping secure initial equipment funding, retires in 1996.**

The Claude B. Pennington, Jr. Nutrition Conference & Education Center



Pennington Biomedical Residence Center (left) and Pennington Biomedical Health and Fitness Center



1991 - 1996 SCIENTIFIC MILESTONES

**First National Grants Awarded. Studies of Nutrition and Exercise Effects on Heart Disease, Metabolism, Muscle and Bones, and Diabetes Begin.**

**1991**

**The Metabolic Kitchen** (photo page 8) and Whole Room Calorimeters are funded by the Pennington Medical Foundation.

**Pennington Biomedical** renowned faculty and state-of-the-art facilities begin attracting federal agency attention and support.

**The USDA awards Pennington Biomedical scientists a five-year grant** to study dietary fat and human disease.

**The center's first clinical trial volunteers** enroll in an investigation of the effects of dietary patterns in overweight women. The study examines the effects of eating habits on body weight and metabolism.

**1992**

**Pennington Biomedical** is selected by the National Institutes of Health (NIH) to study the effects of diet on risk factors for heart disease. The center also publishes its first scientific report.

**1993**

**Pennington Biomedical** is selected by the National Aeronautics and Space Administration (NASA) to study the role of nutrition and metabolism in preventing bone and muscle loss during long-term space flight.

**The NIH chooses Pennington Biomedical** to study the effects of diet on blood pressure. The study is called the DASH (Dietary Approaches to Stop Hypertension) trial.

**Pennington Biomedical** is also named an official nutritional institute by the U.S. Dairy Council.

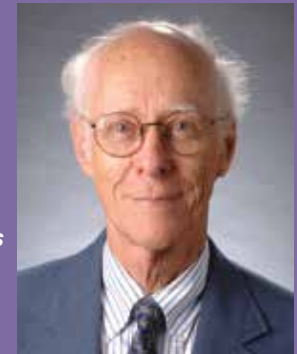
**1995**

**The USDA funds a multicenter nutrition intervention study** of the rural Mississippi River Delta regions of Arkansas, Louisiana and Mississippi. It is called the Lower Mississippi River Delta Nutrition and Health Initiative.

**1996**

**The landmark Diabetes Prevention Program (DPP) trial** recruitment begins, funded by the National Institute for Diabetes and Digestive and Kidney Diseases (NIDDK).

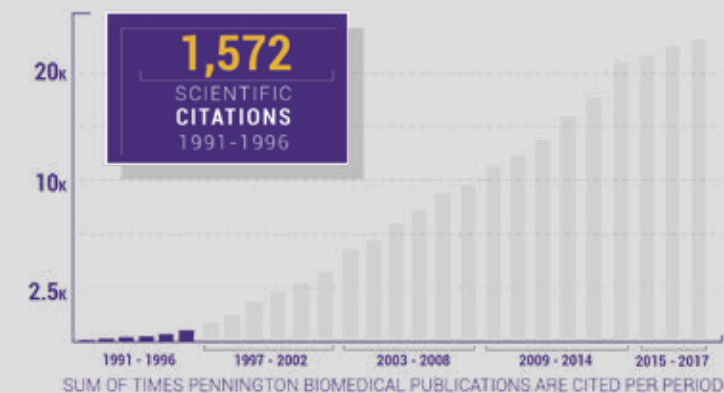
*Happy 30th birthday to the Pennington Biomedical Research Center! Following the largest-ever gift to a university by Doc and Mrs. Pennington, University President Copping used his wisdom to build a facility that gave LSU one of the largest, but empty, nutrition research facilities in the world. On an auspicious day in 1988, Gov. Buddy Roemer opened the buildings, and we are now celebrating the 30th anniversary of that opening.*



*From a large, highly sophisticated building with no scientific identity in 1988, Pennington Biomedical has grown to international recognition as one of the finest nutrition research centers in the world!*

*As its first executive director, I look back with pride on the growth we have seen, and I look forward to the accession of the sixth executive director, Dr. John Kirwan, who will lead this magnificent facility into its 30th year and beyond. Happy birthday to all who have contributed to the excellence of the Pennington Biomedical Research Center.*

– George Bray, MD  
Executive Director, 1988-1999  
Boyd Professor Emeritus  
Professor of Medicine



# 1997 - 2002

» **C.B. "Doc" Pennington, the center's benefactor, passes away. He was 97.**

- » The rate of obesity in Louisiana tops 22% of the adult population.
- » Obesity reaches such a level in the United States that the Surgeon General initiates a campaign to promote its prevention and treatment.

» **Planning begins at Pennington Biomedical for the first Scientific Symposium.**

- » The National Institutes of Health and its partners hand over the gift of the human genome to the world with most of the code written in DNA accurately sequenced and put in its proper order. Many believe it is modern science's greatest achievement.

» **The inaugural Men's Health Conference is held at Pennington Biomedical.**

- » The U.S. spends around \$100 billion to prepare for Y2K.
- » By the year 2000, 7% of adults in Louisiana are diagnosed with diabetes.
- » The use of mobile phones continues to grow as they move from being perceived as a "Yuppie device" to an essential consumer product.

» **The Army H.E.A.L.T.H. program at Pennington Biomedical begins in 2002 (logo pictured).**



Metabolic Kitchen registered dietitians weigh food to the tenth of a gram to ensure all nutrients are correct for trial participants.



The first annual Irene W. Pennington Wellness Day for Women is launched in 2000.





1997 - 2002 SCIENTIFIC MILESTONES

Calorie Reduction and the Genetics of Obesity Take Center Stage.

1997

Results from the NIH-funded DASH research trial studying the effects of diet on high blood pressure are published in The New England Journal of Medicine. Results reveal the DASH diet significantly lowers blood pressure.

The Transgenic Core Facility is established to create genetically engineered mice that allow scientists to better understand the role genes play in disease.

1999

The multicenter HERITAGE Family Study coordinating center and related NIH-funding transfer to Pennington Biomedical with Claude Bouchard, PhD, as principal investigator and Tuomo Rankinen, PhD, as project director. The researchers prove response to regular exercise is highly individual. Some people experience only marginal gains in fitness, while others improve quite substantially. Pervasive individual differences in response to regular exercise are observed not only for gains in fitness but also for the changes in cardiovascular and diabetes risk factors. Also, the study found that how humans vary in response to regular exercise has a strong familial component. It can be explained in part by DNA sequence differences and muscle gene expression profile.

2000

The Louisiana Board of Regents awards a five-year, \$6 million grant to Pennington Biomedical scientists to discover genes associated with obesity.

2001

Pennington Biomedical sharpens its focus on genes. "We recognize that susceptibility to disease, whether it is cancer or obesity, shows great individual variability and clearly shows familial traits... the Genomics core is established which offers high throughput DNA sequencing, real-time PCR analysis of mRNA and provides microarray technologies in-house to study more than 10,000 genes simultaneously," - David York, PhD, associate executive director for basic research, message in the 2001-2002 Pennington Biomedical Scientific Report.

2002

The New England Journal of Medicine publishes DPP trial results showing type 2 diabetes is preventable through modest weight loss, exercise and lifestyle interventions. At the end of the study, the participants had cut their risk of developing the disease by more than 50 percent.

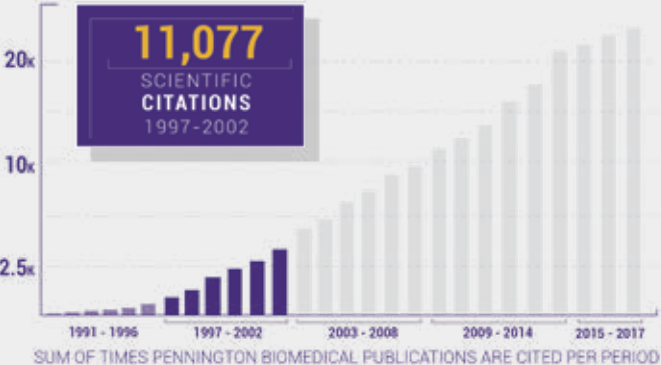
The NIH awards a seven-year, \$12.4 million grant to study the possible benefits to aging of a long-term reduction of calories (CALERIE). The grant is the largest NIH grant in the center's history to date.

Pennington Biomedical opens its inpatient unit to serve the needs of clinical investigators and volunteers participating in clinical studies of obesity, diabetes and metabolism. The unit consists of 10 beds and 24/7 staffing by registered and advanced practice nurses.

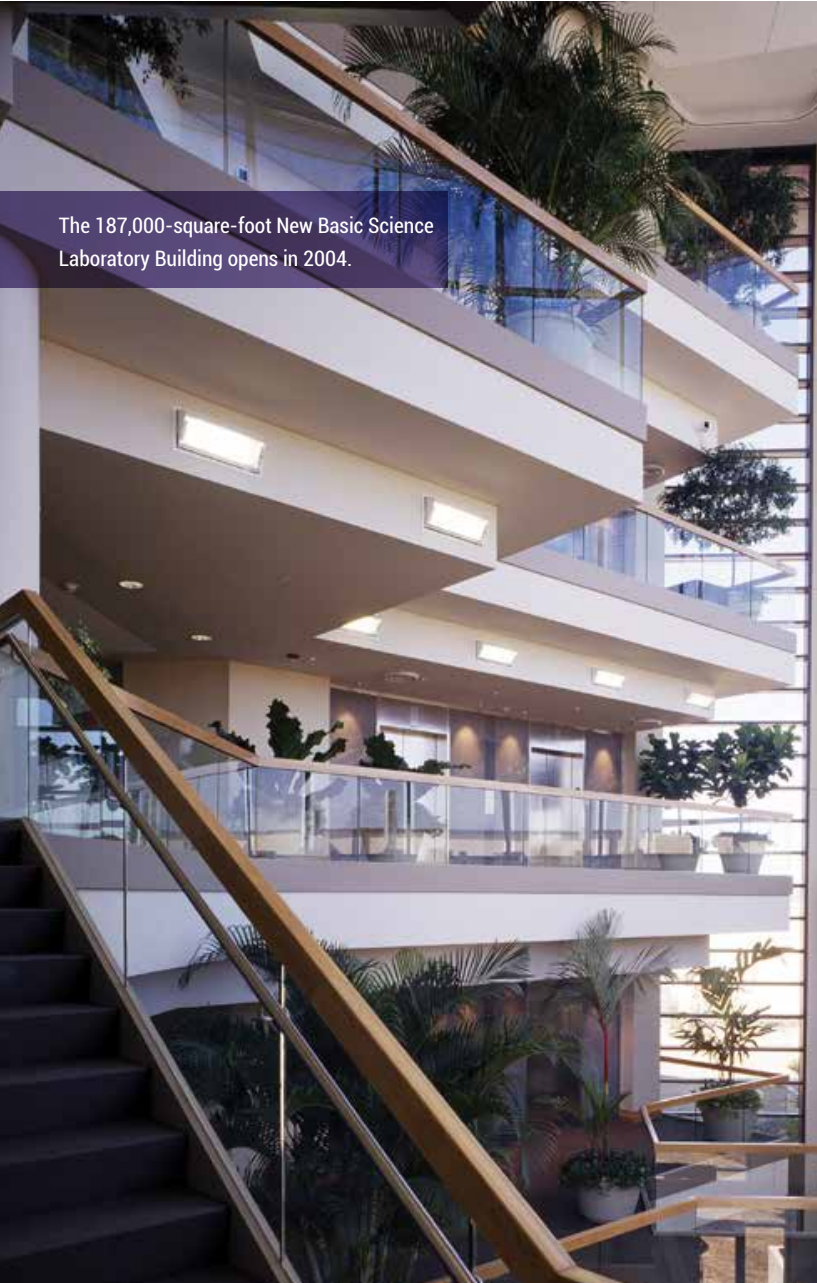
Congratulations to Pennington Biomedical Research Center on its 30th birthday! The center has become a major player on the world stage in the primary prevention of obesity, diabetes, cardiovascular diseases, dementia and cancer, as well as in the secondary prevention of these conditions in people already affected by them. Scientific advances made by the center's faculty have improved quality of life and increased longevity in millions of people worldwide. Even though much has been accomplished in the past three decades by Pennington Biomedical scientists, more needs to be done in the pursuit of its mission. I am proud to have been closely associated with the growth of the center and its pursuit of excellence in basic, clinical and population sciences. At the dawn of a new decade in the life of the center and with the arrival of a new leader, the center is poised to tackle new challenges and aim for new heights. We hope that Pennington Biomedical will become the uncontested leader in the science of common chronic disease prevention. Congratulations on past achievements and best wishes for a prosperous future.



- Claude Bouchard, PhD Executive Director 1999 - 2010 John W. Barton Sr. Endowed Chair in Genetics and Nutrition Boyd Professor



# 2003 - 2008



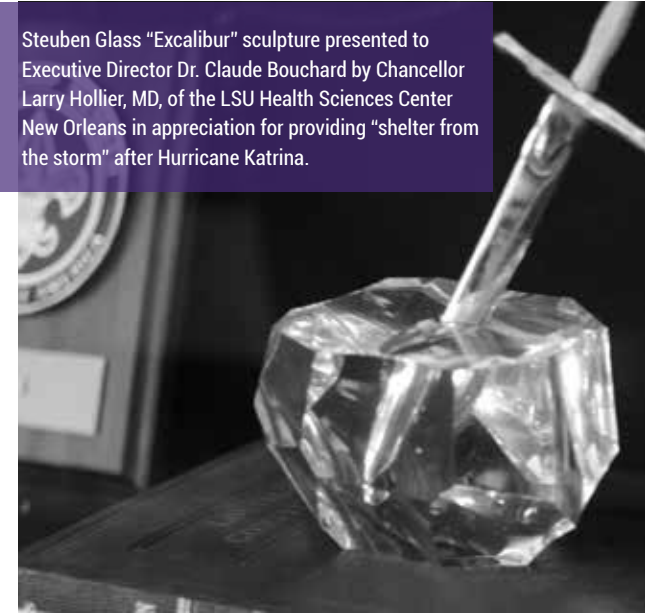
The 187,000-square-foot New Basic Science Laboratory Building opens in 2004.



LSU System President William Jenkins, PhD, DVM (from left); Kevin Reilly Sr.; Paula Pennington de la Bretonne; Pennington Biomedical Executive Director Dr. Claude Bouchard; and John Barton Sr. cut the ribbon on the New Basic Science Laboratory Building.

- » The rate of diabetes in Louisiana rises 94% over the previous 10 years to 10% of the adult population by 2007.
- » Over 85% of Louisiana's adult population with diabetes are self-reporting they are either overweight or obese.
- » The Alzheimer's Association publishes a report in 2008 predicting Alzheimer's disease incidence in Louisiana will grow to 83,000 people by the year 2010—a 14% jump since 2000.
- » **Hurricane Katrina devastates New Orleans, and Pennington Biomedical provides LSU Health Sciences Center New Orleans with a temporary base of operations.**
- » Apple introduces the iPhone on June 29, 2007.
- » As of 2008, life expectancy in the U.S. is at the highest level ever reported, according to the National Center for Health Statistics. On average, women can expect a lifespan of almost 81 years compared to about 75 years for men.

Steuben Glass "Excalibur" sculpture presented to Executive Director Dr. Claude Bouchard by Chancellor Larry Hollier, MD, of the LSU Health Sciences Center New Orleans in appreciation for providing "shelter from the storm" after Hurricane Katrina.



Dr. Claude Bouchard (from left); Paula Pennington de la Bretonne; and Dr. Donna Ryan present NIH Division Director Van S. Hubbard, MD, PhD, with Pennington Biomedical Founder's Medal.



2003 - 2008 SCIENTIFIC MILESTONES

**The New Basic Science Laboratory Is Completed. The Center Begins to Attract NIH Center of Excellence Grants Further Establishing Its National and International Leadership in the Metabolic Research Field.**

**2003**

**Pennington Biomedical receives an NIH institutional training grant** from NIDDK to prepare young scientists to acquire funding and establish their own research labs.

**2005**

**A Botanical Research Center to study botanicals and metabolic syndrome** is established and funded by an NIH Center of Excellence grant to Pennington Biomedical. The grant supports basic research into whether botanical extracts can effectively treat type 2 diabetes and metabolic syndrome. It is one of only five such research centers in the nation.

**A Pennington Biomedical team** wins its second NIH Center grant to establish an NIH NIDDK Clinical Research Unit to focus on prenatal causes of obesity.

**2006**

**The Pennington Center of Biomedical Research Excellence (COBRE)** is established with an award from the National Center for Research Resources at NIH. The COBRE provides support for outstanding junior faculty as they transition from training to independence and establish their own research programs.

**Pennington Biomedical** scientists observe how genetically identical laboratory animals raised in a similar environment can vary considerably in their level of fat tissue. Study data published in the *PLOS Gene Journal* also suggest environmental influences may be triggering fat gene expression in certain adults. These data are leading to new paths of research around the world aimed at understanding the causes of obesity and how to design more personalized approaches to preventing it.

**2007**

**Building on its strengths in basic and clinical science**, Pennington Biomedical expands its focus by establishing the Division of Population and Public Health Sciences.

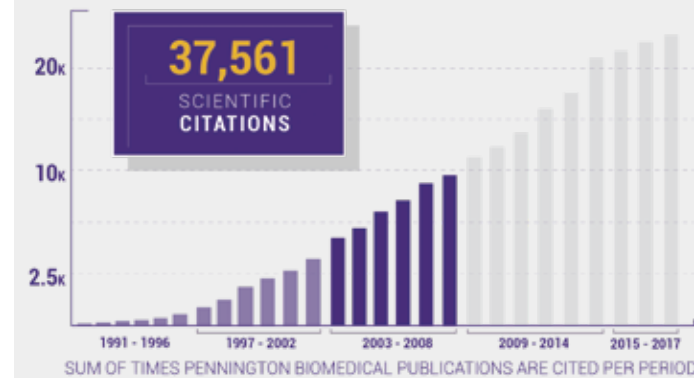
**2008**

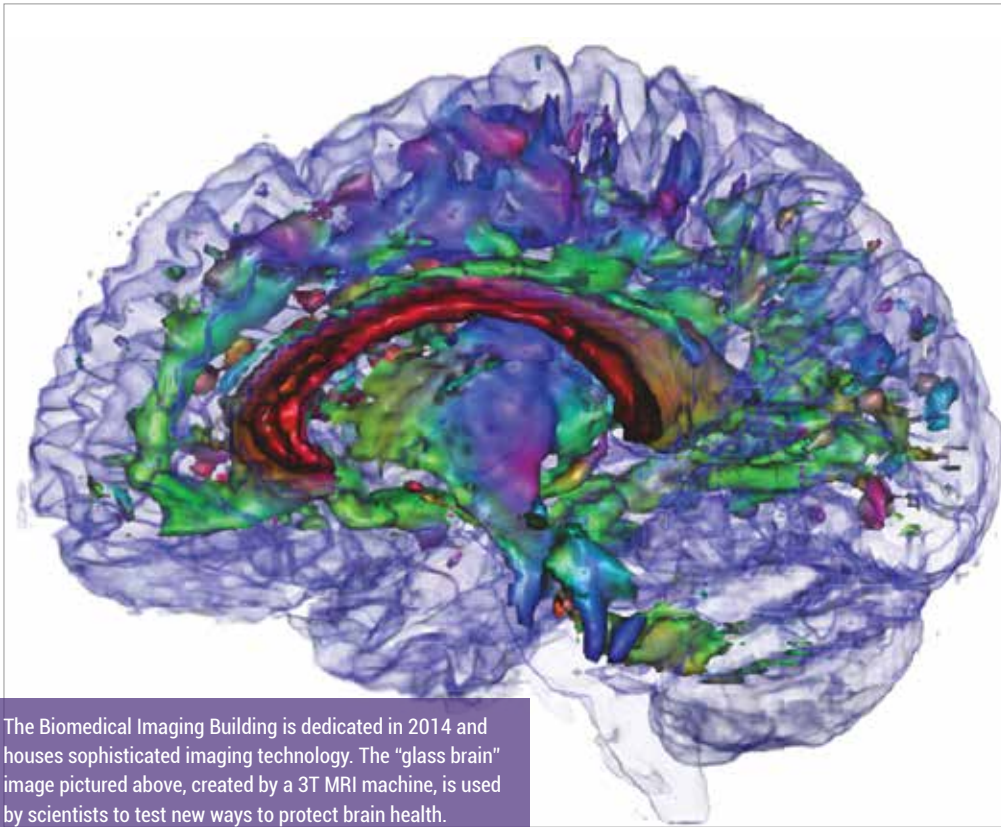
**Research published by Pennington Biomedical's scientists** in the *International Journal of Obesity* provides crucial evidence needed to continue public health efforts for healthier living and working communities. The data reveals physical activity protects against the tendency to store excessive amounts of fat in the presence of a diet rich in fat.

*From vacant walls to filled halls, I know that my grandfather, C.B. "Doc" Pennington, would be so proud of what Pennington Biomedical has grown into over the past 30 years. His vision to build the biggest and best health research center of its kind – right here in Louisiana – has been realized. Doc's vision has grown into my passion and I cannot wait to see the great things in store for the center over the next 30 years.*



— Paula Pennington de la Bretonne, elected Chair of the Pennington Medical Foundation Board of Trustees Nov. 25, 2003  
Ms. de la Bretonne is the only trustee who has served on the board since its inception (38 years).





The Biomedical Imaging Building is dedicated in 2014 and houses sophisticated imaging technology. The "glass brain" image pictured above, created by a 3T MRI machine, is used by scientists to test new ways to protect brain health.



The Translational Research Center for Children (TReCC) opens in 2014.



Retired Col. Michael J. Borrel, Louisiana Army National Guard (LANG) (from left); Tiffany Stewart, PhD; Sen. Mary Landrieu; Executive Director Steven Heymsfield, MD; Jennifer Rood, PhD; and Sergeant Major Denise Newton (LANG) review the key Pennington Biomedical projects for the U.S. Department of Defense: Army H.E.A.L.T.H. and Collaborative Research to Optimize Warfighter Nutrition (CROWN).

- » **The Institute for Dementia Research and Prevention (IDRP) opens at Pennington Biomedical in 2009.**
- » In April of 2010, the Deepwater Horizon oil rig explodes and sinks, spilling 3.19 million barrels of oil into the Gulf of Mexico.
- » **The Clinic Research Building opens to trial participants in 2010.**

- » NASA successfully lands the \$2.5 billion Mars Curiosity Rover on the red planet in 2012.
- » Global initiatives begin targeting the brain. The BRAIN Initiative (Brain Research through Advancing Innovative Neurotechnologies) is announced in 2013.
- » The rate of obesity in Louisiana rises to 34.9% in 2014—one in every three adults. The chronic disease burden costs rise to \$10 billion per year.

2009 - 2014 SCIENTIFIC MILESTONES

**Global Interest in Nutrition, Chronic Disease and Obesity Quickly Expands. Pennington Biomedical Widens Its Research Focus to Include Childhood Obesity and Alzheimer's Disease.**

**2009**

**Using data from** a sample of 17,013 adults, Pennington Biomedical researchers are the first to conclusively show higher levels of sitting time contribute to higher risk of death from cardiovascular disease.

**The POUNDS Lost Trial**, conducted at Pennington Biomedical, reveals all major "popular" diets that target proportions of carbohydrate, protein and fat have equal effects on long-term weight loss.

**2010**

**Pennington Biomedical researchers** identify human genome features that influence the effect of aerobic exercise on an individual's health.

**Scientists at Pennington Biomedical** show maternal diabetes may also cause neural tube defects in the fetus that later lead to spina bifida in children.

**Study results published** in the *Journal of the American Medical Association* prove that combining aerobic exercise and resistance workouts can improve diabetic blood glucose control much better than just doing one type of exercise.

**The Botanical Research Center is awarded** NIH renewal funding after substantial productivity highlighting discoveries related to the effects of botanicals on metabolic syndrome.

**2011**

**Louisiana Report Card on Physical Activity and Health for Children and Youth** is released for the first time as a kick-off to Pennington Biomedical's childhood obesity initiative.

**The Louisiana State Office of Group Benefits** funds a Pennington Biomedical study on the health benefits and cost-effectiveness of medical and surgical treatments for obesity.

**Researchers at Pennington Biomedical** discover the mechanism that leads to an inflammatory response in individuals with obesity.



**The DASH diet** is selected for the first time as *U.S. News & World Report's* #1 Best Diet Overall, reinforcing research proving diet can control blood pressure.

**2012**

**Pennington Biomedical** researchers and colleagues publish results in *The Lancet* that firmly establish the public health impact of physical inactivity.

**The Louisiana (LA) Health Study** results reveal how school based interventions can lower obesity risk in middle-school children.

**Pennington Biomedical** is named an Alzheimer's Disease Cooperative Study (ADCS) site, making it the only site within a tri-state area with the designation.

**Participants begin enrolling** in the NIH-funded D2d Study at Pennington Biomedical. The center joins 19 clinical trial sites across the U.S. investigating whether Vitamin D supplementation may prevent or delay type 2 diabetes in adults who are at high risk for diabetes.

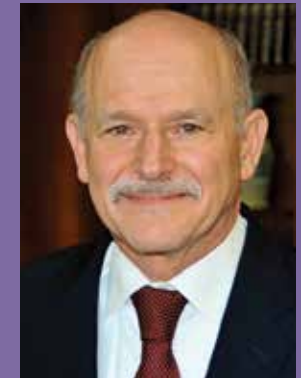
**Game-changing data** is published in the *Journal of Clinical Investigation* exposing how FGF21 is regulated by protein restriction — not just calorie deprivation (fasting).

**A \$20 million NIH grant is awarded** to Pennington Biomedical to establish the Louisiana Clinical and Translation Science Center (LA CaTS) and fund collaborative research among seven Louisiana institutions.

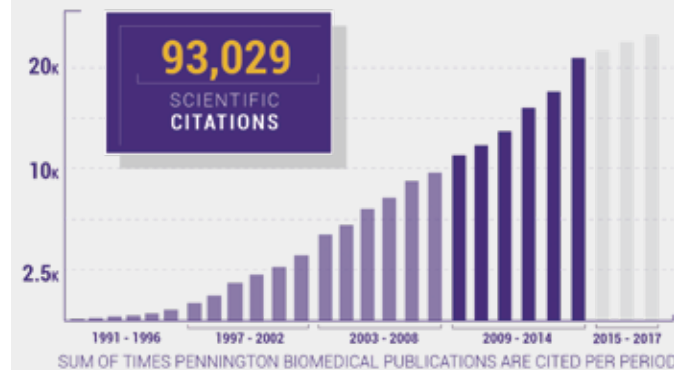
**2014**

**PROPEL, a five-year, \$10 million research grant**, is awarded by Patient-Centered Outcomes Research Institute (PCORI) to study obesity treatment options for underserved populations delivered in primary care settings.

*A new world without chronic disease ... that is the horizon Pennington Biomedical's trailblazing scientists march toward every day. Great discoveries from the past 30 years are the foundation for more breakthroughs ahead. We are already reducing the toll of human suffering that is a side effect of diabetes, obesity, heart disease and dementia. Our goal is to eradicate it. What a great time it is to be a leader at Pennington Biomedical.*



— Steven Heymsfield, MD  
Executive Director, 2010-2013  
Professor of Clinical Medicine



# 2015 - 2018



*Congratulations, Pennington Biomedical, for an incredible 30 years of groundbreaking research. Your collective body of research, especially the pivotal landmark trials, has been vital in developing effective strategies to help manage and prevent chronic, deadly diseases like diabetes. Your potential to continue cutting-edge*

*research and improve human health remains great!*

– William Cefalu, MD  
Executive Director, 2013-2017  
Professor Emeritus



*It's hard to believe that 30 years ago, I crossed the threshold at Pennington Biomedical as one of the very first employees! I owe so much to Doc Pennington for his incredible gift (over the years, more than \$180 million). When I heard George Bray give his vision for the center back in 1989, I knew we would be successful.*

*Happy anniversary, Pennington Biomedical! It's been a great 30 years and may there be 300 more.*

– Donna Ryan, MD  
Interim Executive Director 2017  
Professor Emerita



The Institute for Dementia Research and Prevention begins a first-of-its kind study aiming to slow memory loss caused by Alzheimer's disease.

» In 2017, the Pennington Biomedical Division of Scientific Education announces 126 postdoctoral fellows have been trained at the center over the previous 10 years.

» Alzheimer's disease is linked to inflammation in the brain in 2015.

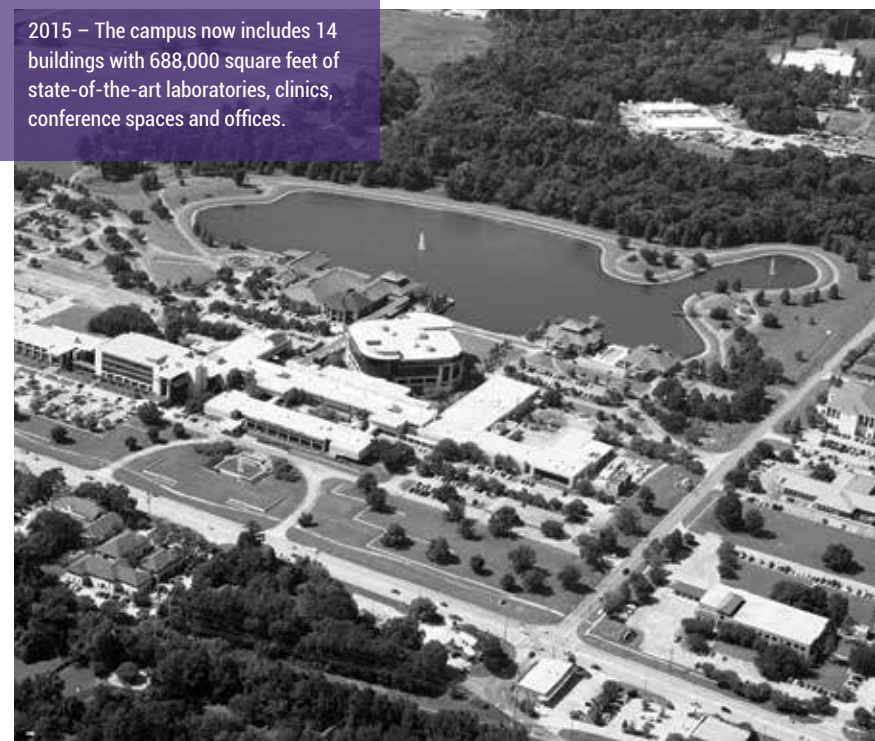
» Massive floods sweep through Louisiana in 2016. Tens of thousands of people are forced to flee from their homes.

» Pennington Biomedical sounds the alarm that three-quarters of American children are at risk for future chronic disease because they are not meeting physical activity recommendations.

» The first-ever direct observation of gravitational waves predicted by Albert Einstein occurs at both twin Laser Interferometer Gravitational-wave Observatories (LIGO) in 2015. One of the LIGO sites is located in Livingston, Louisiana and is associated with LSU.

» Life expectancy of males born in the U.S. in 2017 rises to 76 years while life expectancy for females remains steady at 81 years.

2015 – The campus now includes 14 buildings with 688,000 square feet of state-of-the-art laboratories, clinics, conference spaces and offices.



Pennington Biomedical is home to one of the world's only operating infant metabolic chambers.



2015 - 2018 SCIENTIFIC MILESTONES

As Chronic Disease Rates Skyrocket, the Center Redoubles Its Efforts to Translate Scientific Knowledge into Daily Health Practices That Improve Health for All.

2015

**The CALERIE study** results reveal a low-calorie diet can add healthy years to human life and adults on calorie-restricted diets don't have as many aging biomarkers such as high insulin blood levels.

**Basic science researchers discover** two new molecules that can reduce inflammation without inducing diabetes, as some steroids do after long-term use.

**The results of the SPRINT study** disclose more intensive management of high blood pressure significantly reduces rates of cardiovascular disease and lowers risk of death in a group of adults 50 years and younger with high blood pressure.

**The Botanical Dietary Supplements Research Center**, currently one of three in the U.S., is awarded NIH renewal funding. This second renewal grant (\$9.2 million) continues the work of investigating botanical extracts and metabolic disease states.

2016

**The BabyEE Pilot study** launches March 1. This is the first study at Pennington Biomedical to use the infant metabolic chamber.

**In partnership with** the U.S. Department of Defense, Pennington Biomedical launches a groundbreaking study to explore how maintaining normal testosterone levels can preserve warfighter endurance in extreme conditions.

**NIH reaffirms its support** of the Pennington Center of Biomedical Excellence (COBRE) with a \$5.5 million award bringing total funding over 15 years to \$24.6 million. COBRE faculty have advanced metabolic disease research through more than 300 peer-reviewed publications in high-impact scientific journals.

**Moving one step closer to personalized medicine**, the NIH partners with Pennington Biomedical and 20 other sites to study the molecular mechanisms underlying the benefits of exercise.

**To find out** if controlling blood pressure through aerobic exercise and/or medication might reduce the risk of Alzheimer's disease, the NIH National Institute on Aging asks Pennington Biomedical to begin the landmark rrAD (Reducing the Risk for Alzheimer's Disease) trial.

2017

**Pennington Biomedical scientists** publish first study of its size (16,000 participants) that shows early weight gain during pregnancy correlates with childhood obesity.

**A better body mass index (BMI) calculator** for adolescents called a triponderal mass index (TMI) is outlined by Pennington Biomedical scientists and their colleagues in an issue of the *Journal of the American Medical Association*.

**The U.S. Department of Defense** continues a 29-year partnership with Pennington Biomedical by choosing the center to lead a new \$6.7 million multiyear study of military nutrition and metabolism.

**Pennington Biomedical** publishes pivotal research that helps the medical community understand how to evaluate gastric bypass surgery's therapeutic effects on type 2 diabetes and someday replicate those benefits through nonsurgical pathways.

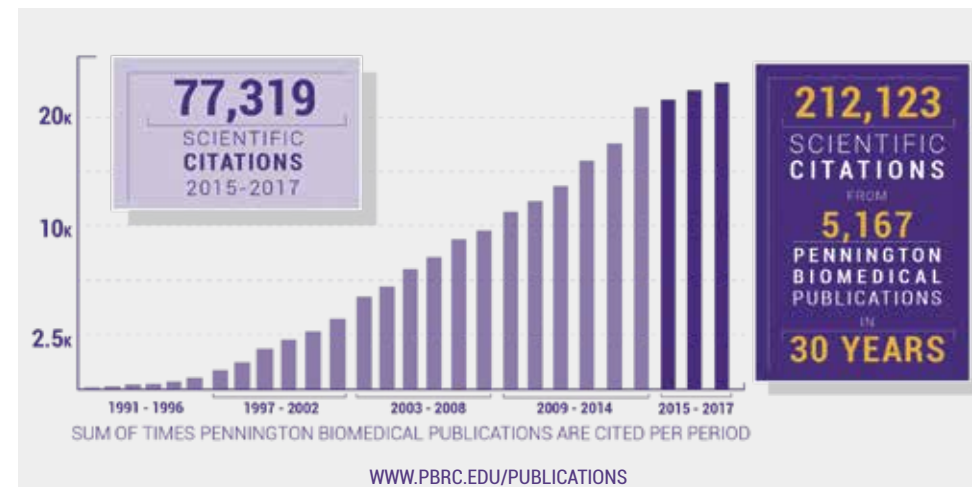
**The Pennington Nutrition and Obesity Research Center (NORC)** receives its third renewal of a five-year grant from the NIH to explore "nutrition and metabolic health through the lifespan."

**The LA CaTS Center** receives a renewal grant of \$20 million from NIH to continue collaboration with seven Louisiana health research institutions.

**The DASH diet** is selected as *U.S. News & World Report's* #1 Diet for the seventh year.

2018

**By January 1, the center has received \$257 million** in state support and returned \$826 million to the state economy from federal and private grant expenditures. A new executive director, Dr. John Kirwan, begins his leadership focused on continuing to fulfill the promise made 30 years before: "to build the biggest and best nutrition research center in the county."



As of 2017, Pennington Biomedical research study results have been cited over 30,000 times in the prestigious journals **NEJM, JAMA, Nature** and **Science**. These journals are used to guide scientists as they aim to solve the health challenges of our time.



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