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NORC Director's Corner



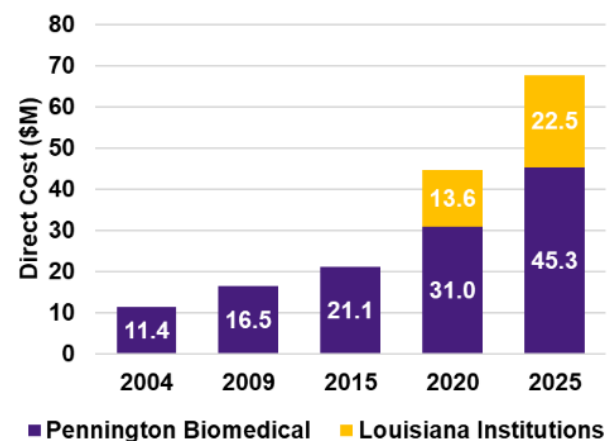
Leanne Redman, PhD

Associate Executive Director
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It continues to be an exciting and productive season for the Pennington-Louisiana NORC. On behalf of our 215 members, in June, the Executive Committee submitted our application to renew the NORC's funding for its 21st through 25th years. Our application highlighted the exemplary growth of our membership not only in the number of members but in its extramural funding of nutrition and obesity research.

Our 215 members include 71 Regular Members who contribute to the Research Base and have increased 3.5-fold in the past 20 years, another 108 Collaborating Members who actively participate in research with our Regular Members, and 36 Trainee Members in mentorship roles. Among our Regular Members, approximately 50% are full professors, with 26% at the

associate professor level and 24% at the assistant professor level.



As shown, our Regular Members have exponentially increased their nutrition and obesity research portfolio from an initial \$11.4 million in active grant annual direct costs (\$438,000 per member) when our NORC began in 2004, to more than \$67.8 million from 196 active grants (\$955,000 per member in 2025) in 2024/25. Importantly, 65% of the active grants — \$45.5 million — are from the NIH, with the largest proportion of R/U/P grants awarded by NIDDK. Equally important, 82 of the 196 grants are held by Assistant or Associate Professors, which shows the success of the NORC Early-Stage Investigators.

I would like to give a personal shout-out to the members of the Executive Committee who rallied over many months to produce our renewal application and to our esteemed External Advisory Board for another informative visit to Pennington. The success of our NORC is owed to many of our members who elevate and amplify the important work in nutrition and

obesity happening in Louisiana, and through their participation in nationally visible activities and other accomplishments. I would like to acknowledge a few notable achievements:

- Drs. Lydia Bazzano (Tulane) and Steven Heymsfield (Pennington) were both members of the 2020-2025 U.S. Dietary Guidelines Committee,
- Dr. M. Tonette Krousel-Wood (Tulane) is a current member of the US Preventive Services Task Force,
- Dr. Jacqueline Stephens (Pennington) is President-Elect for The Obesity Society,
- Dr. Ursula White (Pennington) is the Secretary Elect for The Obesity Society,
- Drs. John Kirwan, Phillip Schauer, and Eric Ravussin (Pennington) were part of the 2025 Lancet Commission on the Definition and Diagnostic Criteria of Clinical Obesity,
- Dr. Amanda Staiano (Pennington) served on the Clinical Practice Guideline for the Evaluation of Children and Adolescents with Obesity 2023 and, Dr. Leanne Redman serves as Editor-In-Chief of *Obesity*.

In this issue we also highlight many other activities supported by our NORC in the past six months including two newly awarded Center grants; the first to LSU Health Shreveport on Post-Transcriptional Regulation of Metabolism (funded by NSF) and the second was a COBRE focused on Metabolic Basis of Disease awarded to Pennington Biomedical, a community outreach event that provided free health screenings and nutrition education to over 300 men at Pennington, a transnational 4-day course on clinical methods in nutrition and obesity held at Pennington in October. These accomplishments are rounded out by another exceptional lineup of invited speakers during the William Hansel Fall Seminar Series, and the December 1.5-day symposium on *Brain-Body Communication and Metabolic Diseases* being chaired by Dr. Heike Muenzberg of Pennington Biomedical and Dr. Brad Lowell of Harvard University.

Our NORC and its cores and programs are connecting basic, clinical, and population scientists to train translational researchers in this important field of research since obesity and associated

chronic diseases of aging are the major threats to public health in the 21st century. With exceptional research facilities and outstanding institutional support, we are ideally positioned to lead the advancement of nutrition and obesity science at the regional, national, and even international levels for many years to follow.

Shoutouts Across the NORC Network

LSU Health Shreveport Awarded \$7.5M NSF Grant to Launch New Center for Post-Transcriptional Regulation

LSU Health Shreveport received a \$7.5 million, five-year grant from the National Science Foundation (NSF) to establish the Center for Post-Transcriptional Regulation, led by Dr. Oren Rom and Dr. A Wayne Orr. The center will study how RNA and protein synthesis regulate cellular responses to nutrients, aiming to understand obesity, diabetes, and metabolic disorders.

This initiative also emphasizes workforce development through research opportunities for high school students, undergraduates, graduate students, and postdoctoral fellows across North Louisiana. As LSU's first NSF-funded center, it enhances regional scientific leadership, marking a significant milestone in regional capacity and scientific excellence.

Collaborative COBRE Initiative Targets Obesity-Cancer Link in Louisiana

At the south end of the state, a collaborative COBRE Phase I application is underway, involving LSU Health Sciences Center–New Orleans, LSU-LCMC Cancer Center, Pennington Biomedical, and LSU School of Veterinary Medicine. Led by Dr. Hari K. Koul, the effort aims to establish a Center of Excellence on the obesity–cancer link. The COBRE will create a multidisciplinary environment supporting early-career investigators researching how obesity and metabolic syndrome contribute to cancer development. With positive feedback from initial review, the team is confident the center will become a national leader in obesity-cancer research, emphasizing discovery, prevention, and therapeutics.

Pennington Biomedical COBRE Secures \$10.9M NIH Renewal to Expand Metabolic Research Infrastructure

Pennington Biomedical has received a five-year, \$10.9 million renewal of the Metabolic Basis of Disease COBRE from the NIH, aimed at bolstering its metabolic research and supporting early-career scientists in Louisiana. This award builds on the center's initial funding phase, launched in 2020, and is led by Dr. Jackie Stephens.

In its first phase, the COBRE supported seven early-career investigators who generated over \$6 million in independent funding. The renewed focus in Phase 2 includes bioinformatics capacity-building and continued support in advanced imaging and molecular techniques through cores led by Drs. David Burk, Christopher Morrison, Sujoy Ghosh, and Michael Salbaum. Additionally, the center will allocate up to \$150,000 annually for Pilot and Feasibility projects to expand metabolic health research across the Pennington-Louisiana NORC network.

Training & Enrichment Updates

NIDDK-Sponsored Course Brings Early-Career Researchers to Pennington

Pennington Biomedical hosted the second iteration of the NIDDK Clinical Methods for Nutrition and Obesity Research Course in early October, bringing together a cohort of 31 early-career investigators from 18 institutions across the U.S. and Canada. The nationally recognized course, funded by the NIH's R25 mechanism, offers immersive training in state-of-the-art clinical research methods relevant to nutrition, metabolism, and obesity science.



October 2025 Cohort

The course's geographic reach was impressive, drawing participants from institutions coast to coast—from the University of Washington to Harvard University. The University of Alabama at Birmingham (UAB) led with eight attendees, followed by Pennington Biomedical with four, and Texas Tech University with three. Several other institutions, including Tulane

University and Vanderbilt University sent multiple attendees.

This fall's session featured strong representation from NORC institutions around the country. Of the 31 attendees, 10 or 32% were affiliated with NORC institutions—six from the UAB NORC, three from the Pennington–Louisiana NORC, and one from the University of Washington NORC. As a host site, Pennington Biomedical not only contributed faculty expertise and training infrastructure but also helped create a collaborative environment where researchers could build connections across disciplines, institutions, and regions. Following the success of the October session, Pennington is gearing up to host the next installment of the Clinical Methods Course in February 2026.

T32 Trainees in Obesity Research

Pennington Biomedical's NIDDK-supported T32 in Obesity Research entered its 22nd consecutive year of funding in 2025, continuing its long-standing commitment to training the next generation of leaders in metabolic and obesity science.

Over the past year, two trainees completed the program. Dr. Sora Kim secured an NIH F32 Postdoctoral Fellowship to study the gut–brain axis of protein sensing, focusing on how intragastric protein is detected in the brain and its potential effects on dopaminergic signaling. Dr. Semira Ortiz also graduated from the program and is continuing her postdoctoral training at Pennington in Cancer Precision Medicine, working under the mentorship of Dr. Bob Kesterson.

In the current grant year (Year 22), the program has recruited and appointed one new trainee, who is highlighted below.



Katie Spring received her Ph.D. from Auburn University. Dr. Spring began training in the T32 program in July 2025 and will pursue research on technology-based tools for adult weight management under the mentorship of Corby Martin, PhD.

Pennington is currently fielding applications for open postdoctoral positions on the T32 in Obesity Research. **Interested candidates are encouraged to apply at pbrc.edu/human-resources/careers.**

Hansel Visiting Scientist Seminars- Fall 2025

Each semester, the Pennington/Louisiana NORC sponsors prominent scientists from national and international universities, as well as from governmental and industrial labs. These seminars are available to all NORC members. Listed below are those invited for the Fall 2025 semester.

Date:	Speaker:	Title/Topic:
Sep. 4	Evan Rosen, MD, PhD <i>Harvard Medical School</i>	Oxytocin: New Metabolic Roles for an Ancient Hormone
Oct. 2	Sayed Ikramuddin, MD, MHA <i>University of Minnesota Medical School</i>	Comparative Effects of VSG & Medical Management
Oct. 16	Philipp Scherer, PhD <i>University of Texas Southwestern Medical Center</i>	Hormonal Harmonies: Adipocytes as Conductors in the Weight Loss Orchestra
Oct. 23	Randy Seeley, PhD <i>Michigan Nutrition Obesity Research Center University of Michigan Medical School</i>	Changing the Set Point: Pharmacologic Versus Surgical Weight Loss
Nov. 13	Jonathan Little, PhD <i>University of British Columbia</i>	From Sport Performance to Clinical Application: The Facts and Fictions of Exogenous Ketones
Dec. 4	Gary J. Schwartz, PhD <i>Albert Einstein College of Medicine</i>	Vagal And Sympathetic Controls of Lipid Metabolism- A Tale of Two Cities

Outreach Updates

2025 Men’s Health Summit

In August, the Men’s Health Summit was a record-breaking success, drawing 356 attendees—a 19% increase from 2024—and demonstrating growing community engagement in preventive health. Held in collaboration with local partners and nonprofits, the event featured 1,203 health screenings (a 52% increase from 2024), 110 vaccinations, and 44 individuals signed up for PBRC clinical trials. With 26 exhibitors, interactive fitness and self-defense demos, educational sessions, and even a Corvette Club car show, this year’s summit offered something for everyone. The event continues to serve as a powerful platform to advance men’s health awareness, promote local health resources, and connect the community to ongoing clinical research and care.

2025-2026 Pilot & Feasibility Awards

The goal of the NORC P&F program is to support young investigators by providing research funding to explore innovative hypotheses related to nutritional programming and other pilot studies connected to NORC's function. Below are the 2025-2026 P&F awardees.

Elucidating the Specific Effects of Estrogen on Skeletal Muscle Integrity During Menopause (ESTEEM)



Hannah Cabré, PhD, RDN

T32 Postdoctoral Researcher in Reproductive Endocrinology & Women’s Health

Pennington Biomedical

Menopause is an age-related biological process that impacts the quality of life, emotional well-being, and daily function of over 75 million women in the U.S. During menopause, women experience adverse changes in energy metabolism and body composition, leading to declines in skeletal muscle quality, including increased intramyocellular lipid content and reduced contractile function. Preclinical and clinical studies show that prolonged estrogen deficiency decreases estrogen receptor activity in muscle, contributing to smaller myofibers, impaired contractile function, and disrupted metabolic pathways. Estrogen replacement therapy may help counteract muscle loss, yet only 5% of postmenopausal women use it due to potential adverse health risks. To develop effective, non-pharmacological alternatives, we must understand the structural and molecular mechanisms underlying skeletal muscle loss in postmenopausal women.

This NORC pilot and feasibility grant addresses this by comparing skeletal muscle from postmenopausal women with and without estrogen replacement to that of a young, premenopausal cohort, providing critical insights to optimize exercise and dietary interventions for long-term muscle health. This approach will

isolate menopause-specific effects on skeletal muscle histopathology (Aim 1) and gene expression (Aim 2). This study will provide a 3-group comparison of estrogen concentrations that has not been done before. Successful completion of these aims will provide translational evidence for preclinical findings on the putative role of estrogen in the pathophysiology and gene expression of skeletal muscle. This research will provide translational evidence of estrogen's mechanistic role in skeletal muscle biology, paving the way for targeted interventions to prevent muscle loss and improve health during the menopause transition.

The Impact of Obesity on Central Fibroblast Growth Factor (FGF21) Signaling



Sora Kim, PhD

Postdoctoral Researcher in
Neurosignaling

Pennington Biomedical

Fibroblast Growth Factor 21 (FGF21) is a hepatokine with well-established metabolic benefits, including weight loss, improved glucose regulation, and reduced dyslipidemia. Importantly, it is robustly upregulated in response to dietary protein restriction. Our lab has shown that FGF21 largely mediates the metabolic improvements observed during protein restriction, as these effects are absent in FGF21 knockout mice and in mice with neuron-specific deletion of β -Klotho (the FGFR co-receptor).

Paradoxically, circulating FGF21 levels are elevated in obese individuals despite its beneficial effects, suggesting a state of "FGF21 resistance." While peripheral FGF21 resistance is documented, it remains unclear whether similar impairments occur in the brain, despite evidence of FGF21's central action. This NORC P&F study aims to determine whether long-term diet-induced obesity leads to brain FGF21 resistance and diminishes the metabolic and behavioral benefits of dietary protein restriction. We will assess central FGF21 signaling by comparing FGF21 receptor (β -Klotho) expression, neural activation (c-Fos), and the excitability of KLB-expressing neurons (via electrophysiology) in lean vs. obese mice using β -Klotho-reporter models. In parallel, we will test whether obesity blunts protein restriction-induced changes in nutrient preference,

energy expenditure, and glucose sensitivity.

Together, these experiments will test the novel hypothesis that obesity impairs central FGF21 action, thereby disrupting nutrient-driven metabolic regulation. This research will provide critical insight into why individuals with obesity may struggle to regulate macronutrient intake and could help explain the limited clinical efficacy of FGF21-based therapies in weight management.

How Obesity Influences Autoimmune Events Leading to Type 1 Diabetes



Hongyan Sun, PhD

Postdoctoral Researcher
in Islet Biology

Pennington Biomedical

Type 1 diabetes (T1D) is an autoimmune condition characterized by the infiltration of immune cells into the pancreatic tissue, leading to the destruction of β -cells in the pancreatic islets and a reduction in circulating insulin levels. Obesity is widely known for its role in type 2 diabetes, but emerging evidence suggests it may also worsen autoimmune responses that lead to type 1 diabetes (T1D). This study aims to uncover how obesity accelerates pancreatic β -cell failure in non-obese diabetic (NOD) mice, the gold standard preclinical model for T1D. Building on our recent findings showing that NOD mice fed a high-fat diet develop diabetes earlier than those on a low-fat diet, this project investigates how excess dietary fat increases the workload of insulin-producing cells. We hypothesize that obesity amplifies β -cell dysfunction through altered energy metabolism and heightened cellular stress, ultimately leading to accelerated autoimmune events. Using advanced molecular tools, the study will reveal how environmental factors like diet interact with genetic susceptibility to trigger autoimmune diabetes. These discoveries could transform our understanding of the obesity-T1D connection and inform new prevention strategies to protect

at-risk youth who are exposed to increasingly obesogenic environments.

Save the Date!

The following are Enrichment Core events for 2025, partially sponsored by our NORC.

Fall Visiting Scientist Seminars

- **November 13:** Jonathan Little, PhD, University of British Columbia
- **December 4:** Gary J. Schwartz, PhD, Albert Einstein College of Medicine

December 8-9, 2025 - Scientific Symposium

PBRC's Fall Scientific Symposium, ***Brain-Body Communication and Metabolic Diseases***, is right around the corner on December 8 and 9! Dr. Heike Muenzberg of Pennington Biomedical and Dr. Brad Lowell of Harvard University will co-chair the symposium. This meeting will also specifically honor Dr. Hans-Rudi Berthoud and his extraordinary scientific contributions to understanding the gut-brain system.

February 23-26, 2026- NIDDK Clinical Methods for Nutrition and Obesity Research

This 4-day course at Pennington Biomedical Research Center will train advanced doctoral students, postdoctoral fellows, and early-career faculty in gold-standard and cutting-edge research methods for conducting obesity- and nutrition-related research. The course curriculum will cover modules central to metabolic research, including body composition, carbohydrate metabolism (including the hyperinsulinemic clamp), exercise testing, and energy requirements and expenditure (including the metabolic chamber).



Follow the QR to the application!