



Teresita Bellido, PhD

Advancing Musculoskeletal Research

Dr. Teresita Bellido's Leadership and the UAMS Creativity Hub

Dr. Teresita Bellido, Professor and Chair of the Department of Physiology and Cell Biology at the University of Arkansas for Medical Sciences (UAMS), is renowned for her leadership in bone research. She has joint appointments in the Department of Medicine, Division of Endocrinology and Metabolism, and the Department of Orthopaedics, College of Medicine at UAMS.

Dr. Bellido's groundbreaking research in signal transduction pathways in bone and muscle has illuminated new avenues for understanding and treating musculoskeletal disorders. Her seminal work on osteocyte biology, a cell type crucial for bone health, has garnered international acclaim and reshaped paradigms in the field. Osteocytes were traditionally viewed as passive placeholders within bone tissue, but Dr. Bellido's research has challenged this notion, revealing osteocytes to be active regulators in bone health.

Dr. Bellido's leadership roles, including her service as past president of the American Society for Bone and Mineral Research (ASBMR), are a testament to her influence and impact on the global scientific community. She is the leader of the UAMS Creativity Hub for Musculoskeletal Health and Disease, which aims to increase collaboration and research in key areas, building on the expertise of researchers across UAMS, Arkansas Children's, and other partner institutions.

The Challenge

Diseases such as osteoporosis, osteoarthritis, and various cancers profoundly impact the skeletal system, posing significant challenges in healthcare. Osteoporosis, characterized by weakened bones prone to fractures, affects millions worldwide, particularly the elderly and postmenopausal women.

Osteoarthritis leads to joint cartilage deterioration and bone deformities, causing chronic pain and disability, with millions affected globally. Additionally, cancers such as bone metastases compromise bone integrity, leading to complications like fractures and spinal cord compression, significantly impacting patients' quality of life.



Recognizing the urgency of addressing these challenges, UAMS has prioritized musculoskeletal research for over two decades. Despite significant progress, a comprehensive understanding of the underlying causes of these diseases still needs to be discovered, which hinders the development of effective prevention strategies and therapies. Further exploration of the intricate molecular and cellular processes driving musculoskeletal disorders is required.

The Solution

In 2022, UAMS launched the Musculoskeletal Health and Diseases Creativity Hub, led by Dr. Bellido, to address these challenges. This initiative harnesses the existing expertise within UAMS and its partner institutions to better understand musculoskeletal conditions, including osteoporosis, osteoarthritis, developmental skeletal abnormalities, and cancers impacting the skeleton. The Creativity Hub encourages interdisciplinary collaboration and provides financial support to propel groundbreaking research, strengthen existing programs, and attract new talent to UAMS.

This initiative aims to leverage UAMS's investment and the achievements of musculoskeletal researchers to bolster focus areas. This strategy seeks to foster collaboration between musculoskeletal investigators, cancer research counterparts (also a key focus area at UAMS), and researchers at the Arkansas Children's Nutrition Center (ACNC).

Next Steps

The Creativity Hub's continuation and growth are crucial in moving these groundbreaking research programs forward. The Hub's next steps include engaging with legislators and the community to garner support and future funding to recruit personnel (faculty and postdocs). This funding would also allow the Hub to collect preliminary data needed to secure future funding. Community involvement will advance scientific understanding and foster trust and advocacy for continued funding.

An endowment of \$1 million annually would support personnel retention and recruitment to advance Arkansas's health needs (diabetes, fracture healing, osteoarthritis, bone and muscle, cancer, and nutrition) and programmatic needs (bioinformatics, genetics, researchers, and educators).

By capitalizing on existing strengths, fostering collaboration, and engaging stakeholders, Dr. Bellido's Musculoskeletal Health and Diseases Creativity Hub is poised to make significant strides in understanding and combating musculoskeletal diseases, ultimately improving healthcare outcomes and advancing scientific knowledge.

Contact

 tmbellido@uams.edu

