Place **Pitt** on the national map as a **leader** in musculoskeletal research and innovation.

**Context**
- Bone and mineralized tissues are central in the etiology of many human conditions and diseases.
- One in two Americans have a musculoskeletal condition, costing an estimated $213 billion each year in treatment and lost wages.
- With the rapid aging of the American population, the burden of musculoskeletal diseases is growing larger.

**Project Description**
- Organize a Bone and Mineral Tissue Symposium featuring research at Pitt, Duquesne, and CMU.
- Enable faculty, fellow, and student training through a workshop.
- Create new research cores in Bioengineered Models and Mechanosensing and strengthen existing cores for Bone and Mineral research.
- Development of a lab-on-chip model of cancer cell-osteoclast interaction and live cell imaging of gene regulatory activities.

**Project Deliverables**
- A multidisciplinary and translational musculoskeletal symposium
- Two new Bioengineered Models and Mechanosensing Cores
- A hands-on training workshops on bioengineered models
- Resubmission of a P30 Resource Center Grant Application to NIH (NIAMS) in 2023.

**Motivation**
**Strong and diverse research base at Pitt, yet:**
- Relatively low funding for bone related research at Pitt;
- Difficulties with resource access for bone related research.

**Potential Impact**
- Increased collaborative research and funding from NIAMS (NIH), large federal entities, and industry.
- Innovative research and therapeutics for mineralized tissue injury and diseases.
- Novel intellectual property and commercialization.
- Worldwide recognition for Pittsburgh.

**References and/or Acknowledgements**
- [www.pcbmr.pitt.edu](http://www.pcbmr.pitt.edu)
- [https://www.boneandjointburden.org](https://www.boneandjointburden.org)