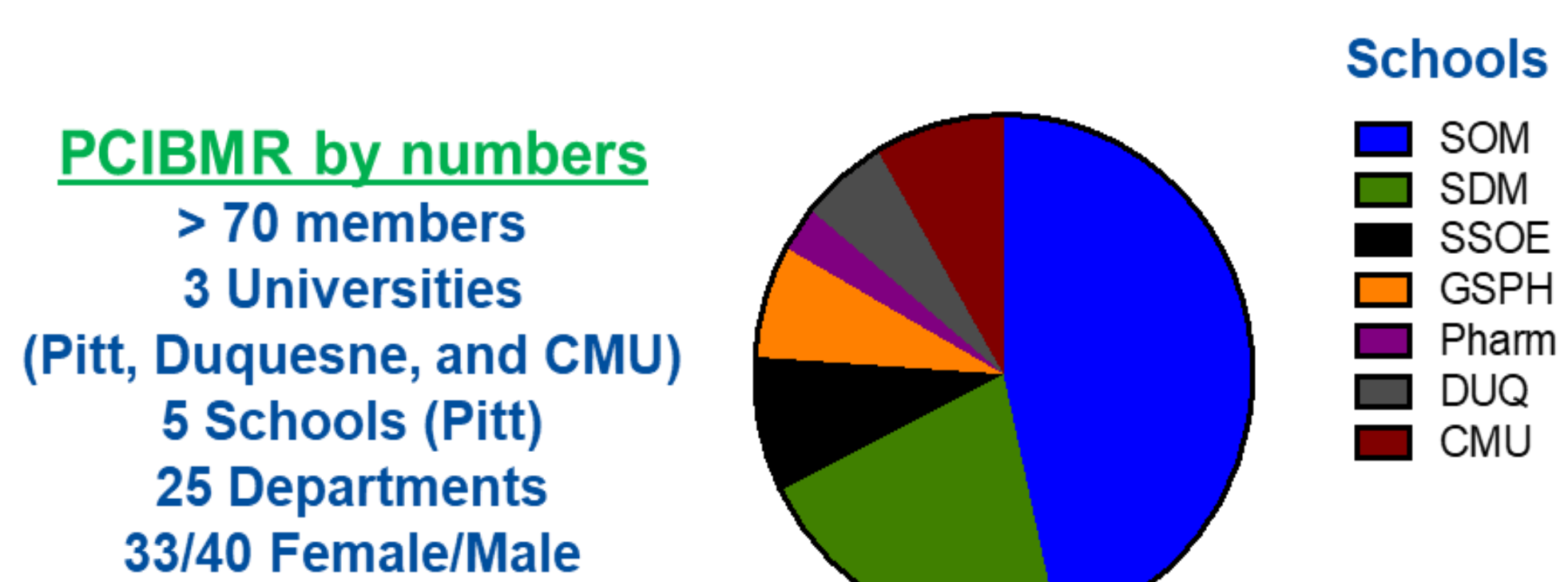


Advancing the Pittsburgh Center for Interdisciplinary Bone and Mineral Research (PCIBMR)

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

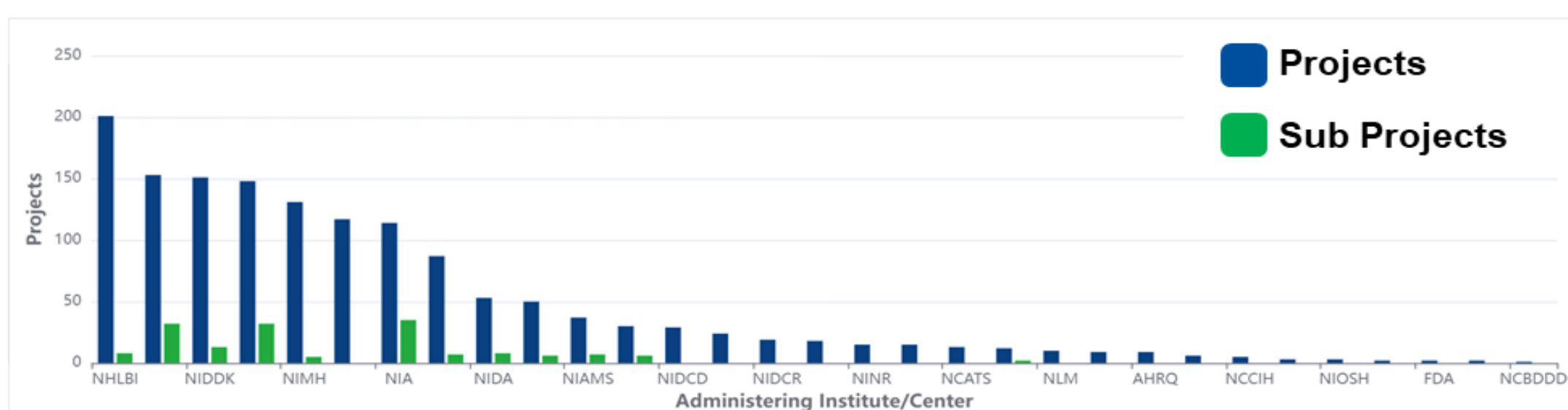


Motivation

Strong and diverse research base at Pitt, yet:

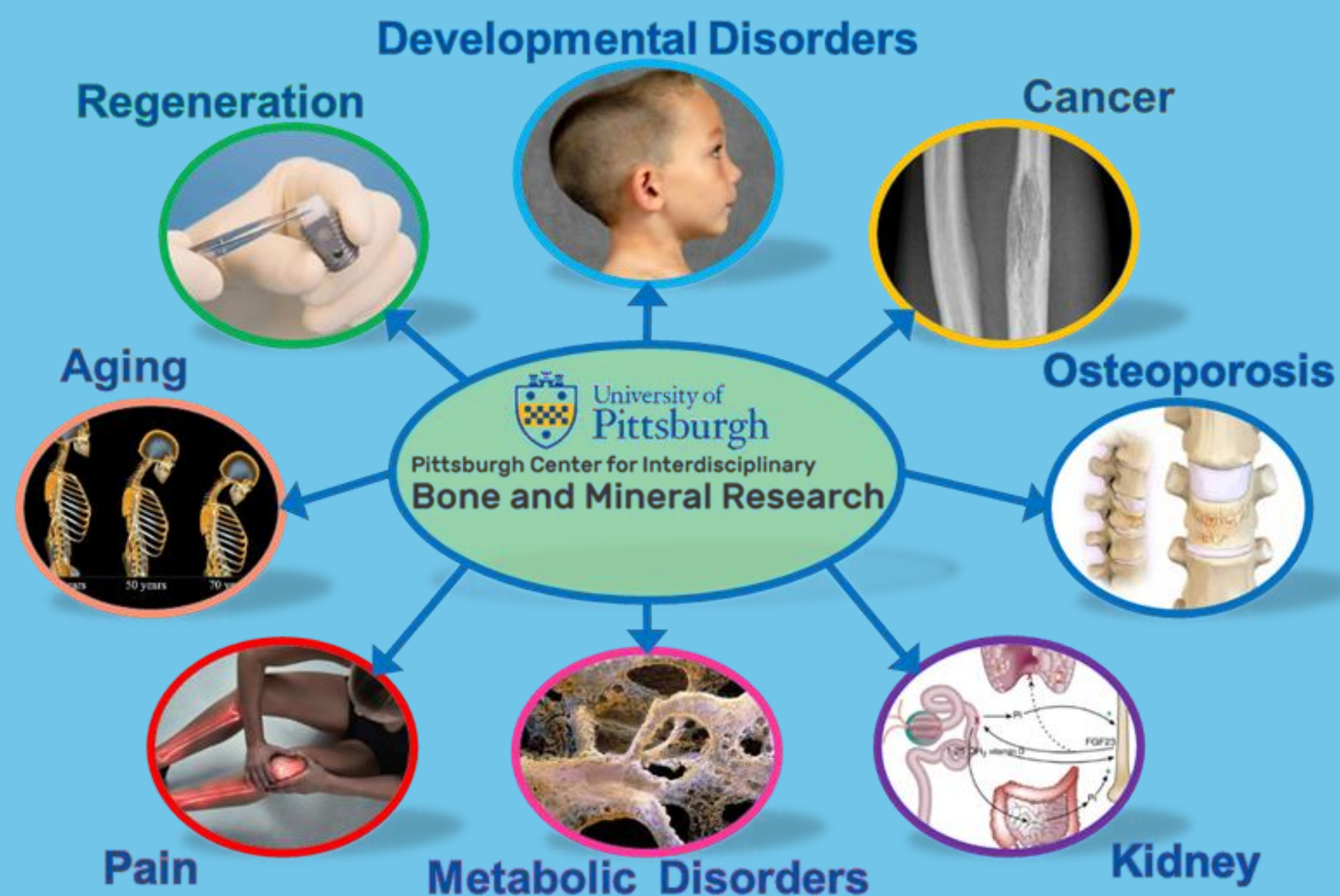
- Relatively low funding for bone related research at Pitt;
- Difficulties with resource access for bone related research.

1630 NIH Projects and Sub Projects at the University of Pittsburgh
 44 are bone related



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.

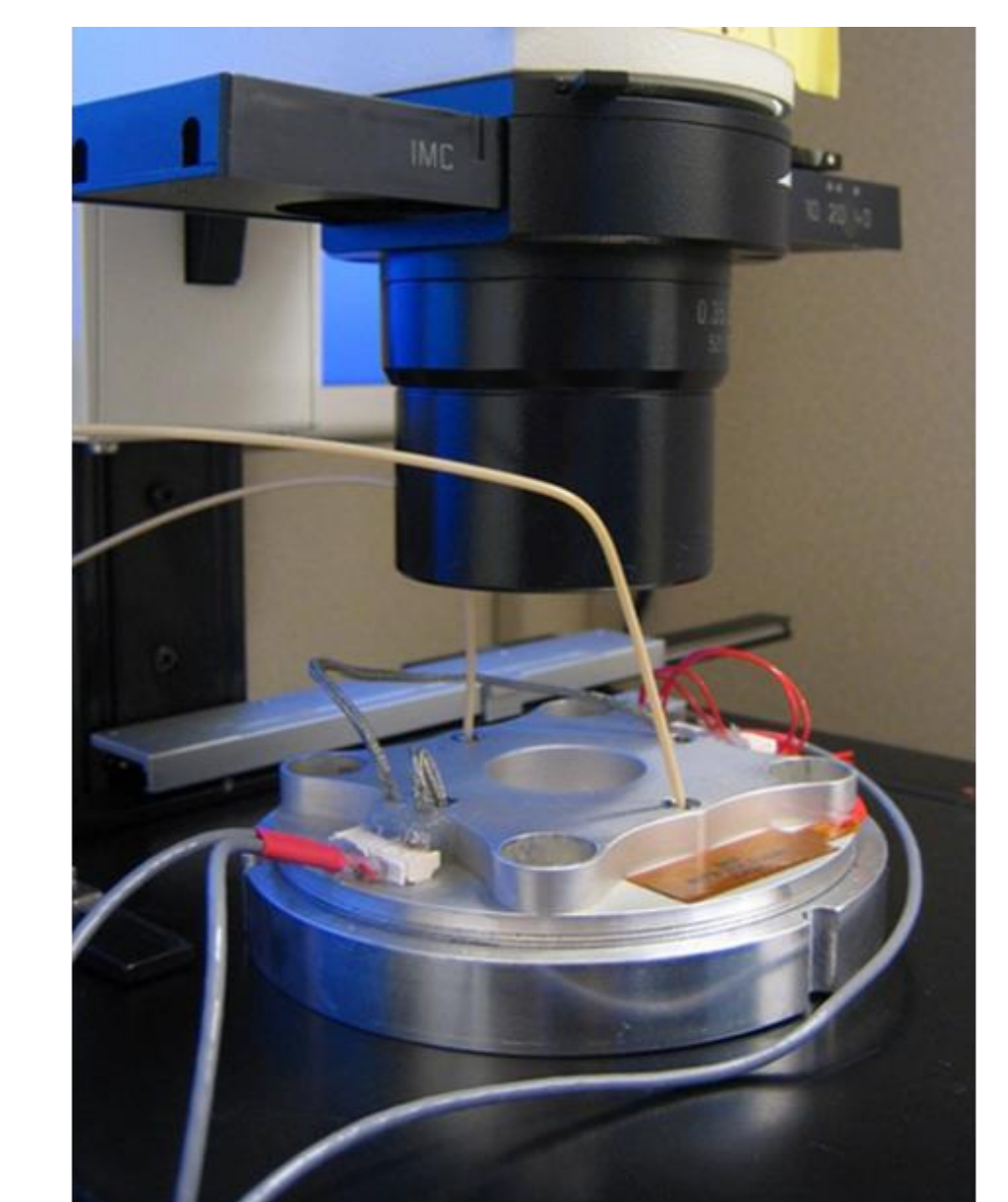


Project Description

- 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.



Cancer cell-osteoclast co-culture in a 3D "Mechanically Tunable" bioreactor

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.pcibmr.pitt.edu

* <https://www.boneandjointburden.org>