



## McKay Orthopaedic Research Laboratory

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The McKay Orthopaedic Research Laboratory of the Department of Orthopaedic Surgery in the Perelman School of Medicine continues to explore important problems in musculoskeletal research. The research facility, including labs and offices, occupies just over 15,000 square feet of space on the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> floors of Stemmler Hall. There are over 95 full- and part-time staff and trainees now in the labs. It is an active, thriving

research and educational environment.

Currently, the lab has an annual research budget from extramural grants, gifts, and endowments of over \$6.5 million and continues to rank within the top 5 orthopaedic programs in the country in terms of funding from the National Institutes of Health (NIH). This past year has seen a very impressive and continued rise in new grant activity among the faculty.

We have had several new grants awarded this year. These include:

- Robert Mauck, PhD, received a new 2014 Cellular and Molecular Bioengineering (CMBE) Conference grant.
- Ling Qin, PhD, is PI of a NIH R01 titled, "Role of EGFR signaling in bone formation and the anabolic actions of PTH." Dr. Qin is also the PI of an ASBMR grant titled, "The novel role of EGFR in PTH anabolic actions in bone."
- Eileen Shore, PhD, is PI of a Morphotek Inc. grant titled, "ACVR1 Antibodies and HO - an Initial In Vivo Evaluation."
- Eileen Shore, PhD, and Robert Mauck, PhD, are dual PIs of a NIH supplement titled, "The Cellular and Molecular Basis of FOP Lesions."
- Lachlan Smith, PhD, is PI of a National MPS Society grant titled, "Pathogenesis of Bone Disease in Mucopolysaccharidosis Disorders."
- Joseph Bernstein, MD, Robert Mauck, PhD, and Louis Soslowsky, PhD, are PIs of a VA grant titled, "The Role of Local NSAID Administration and Inflammation on Tendon Healing."
- Louis Soslowsky, PhD, is PI of a NIH R01 titled, "Challenging Treatment Paradigms for Achilles Tendon Ruptures in an Animal Model," and a renewed NIH T32 titled, "Training in Musculoskeletal Research," along with a supplement titled, "Mechanisms of Joint Damage Following Tendon Injury." Dr. Soslowsky is also PI of a subcontract with CHOP titled, "Stimulation of Tendon Repair by Retinoid Nuclear Receptor Agonists" and a SRA with DJO Surgical titled, "Rotator cuff tendon to bone healing using P<sup>2</sup> porous coating."

In addition to the above-mentioned new grants this year, each of the McKay Laboratory faculty remains well-funded

through existing research grants not identified in this new grants list. Further, there were several new grants and clinical trials for our surgeon faculty this year. These include:

- Joshua Gordon, MD, is PI of an OREF grant titled, "The Effect of Early Mobilization After Surgical Repair of an Achilles Tendon Rupture in a Rat Model."
- G. Russell Huffman, MD, received a Surgical Shoulder and Elbow Fellowship from DePuy.
- Craig Israelite, MD, received a Residency Enhancement Grant from OREF.
- Gwo-Chin Lee, MD, is PI on a SRA from CD Diagnostics titled, "Acquisition of Synovial Fluid Samples: Creating a Repository for Biomarker Research" and a clinical study from CEM-102 Pharmaceuticals titled, "An Open-Label, Multi-Center, Randomized Study to Evaluate the Safety and Efficacy of Oral Fusidic Acid (CEM-102) in Combination with Oral Rifampin for Prosthetic Joint Infection, in Comparison with Standard of Care Intravenous Antibiotic Treatment Regimens, during Two-Stage Prosthesis Exchange."
- L. Scott Levin, MD, is PI of a DOD subcontract with CHOP titled, "Novel Immunomodulatory Therapies for Vascularized Composite Allotransplantation."
- Samir Mehta, MD, is PI of clinical trials from Synthes titled, "Patellofemoral Changes following Tibial Nailing: Does Approach Matter," from the AO Foundation titled, "DLS 5.0: A Multi-Center Randomized Controlled Pilot Study of Dynamic Locking Screws 5.0 vs. Standard Locking Screws in Fractures of Distal Femur Treated with Locked Plate Fixation," and from McMaster University titled, "Fixation Using Alternative Implants for the Treatment of Hip Fractures (FAITH): A Multi-Centre Randomized Trial Comparing Sliding Hip Screws and Cancellous Screws on Revision Surgery Rates and Quality of Life in the Treatment of Femoral Neck Fractures."
- Brian Sennett, MD, received a fellowship grant from DePuy Mitek.
- We have also received several grants from Synthes for residents to attend various courses as well as educational grants from Zimmer and Stryker.

This year, we have recruited Dr. Lachlan Smith, linking Neurosurgery and Orthopaedic Surgery, and Dr. Foteini "Faye" Mourkioti will join our faculty on 7/1/14, adding expertise in muscle stem cell biology. Growing musculoskeletal research, not only within the Department of Orthopaedic Surgery but across the Penn campus has been a primary objective for our program, and these efforts have been particularly successful thus far. We look forward to another exciting year.

